

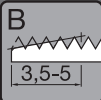
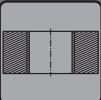
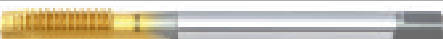


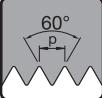
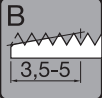
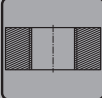
# UNIVERSELLE WERKZEUGE

UNIVERSAL TOOLS  
OUTILS UNIVERSELS  
UTENSILI UNIVERSALI

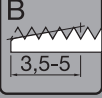
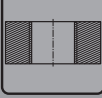
**2025**

| M | Typ<br>UNI    | HSSE<br>V3 | 60°<br>P | DIN<br>13 | B<br>3,5-5 |           | ≤ 1200<br>N/mm <sup>2</sup> |    |
|---|---------------|------------|----------|-----------|------------|-----------|-----------------------------|----|
|   |               |            |          |           |            |           |                             |    |
|   | UB00TI        |            |          | DIN 371   | 6HX        | M 1 – M10 | 9                           |    |
|   | UB00TI        |            |          | DIN 376   | 6HX        | M 3 – M30 | 9                           |    |
|   | UB00TI-6GX    |            |          | DIN 371   | 6GX        | M 2 – M10 | 9                           |    |
|   | UB00TI-6GX    |            |          | DIN 376   | 6GX        | M12 – M24 | 9                           |    |
|   | UB00TI-7GX    |            |          | DIN 371   | 7GX        | M 2 – M10 | 9                           |    |
|   | UB00TI-7GX    |            |          | DIN 376   | 7GX        | M12 – M16 | 9                           |    |
|   | UB00TI-6H+0,1 |            |          | DIN 371   | 6H<br>+0,1 | M 2 – M10 | 9                           |    |
|   | UB00TI-6H+0,1 |            |          | DIN 376   | 6H<br>+0,1 | M12 – M16 | 9                           |    |
|   | UB00TI-LH     |            |          | DIN 371   | 6HX        | LH        | M 3 – M10                   | 10 |
|   | UB00TI-LH     |            |          | DIN 376   | 6HX        | LH        | M12 – M24                   | 10 |
|   | UB00TI-LS     |            |          |           | 6HX        | LS        | M 3 – M10                   | 10 |
|   | UB00TI-LS     |            |          |           | 6HX        | LS        | M 3 – M20                   | 10 |

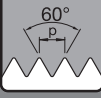
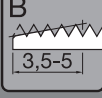
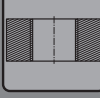
| EG-M                                                                                             | Typ<br>UNI | HSSE<br>V3 | DIN<br>40435 |  | DIN<br>8140 |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|--------------------------------------------------------------------------------------------------|------------|------------|--------------|-------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| <br>UB00TI-EG |            |            |              |                                                                                     |             | 6H<br>mod                                                                           | EG-M 2 –<br>EG-M 8                                                                    | 11                          |                                                                                       |
| <br>UB00TI-EG |            |            |              |                                                                                     |             | 6H<br>mod                                                                           | EG-M10 –<br>EG-M20                                                                    | 11                          |                                                                                       |

|           |                   |                   |                                                                                   |                  |                                                                                   |                                                                                   |                             |                                                                                     |
|-----------|-------------------|-------------------|-----------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|
| <b>MF</b> | Typ<br><b>UNI</b> | <b>HSSE</b><br>V3 |  | <b>DIN</b><br>13 |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|-----------|-------------------|-------------------|-----------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|

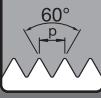
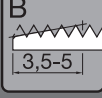
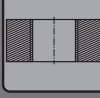
|                                                                                                         |                                                                                   |                                                                                     |                                                                                     |                                 |           |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------|-----------|
| <br><b>UB00TI-MF</b>    |  |  |                                                                                     | <b>M 2,5x0,35 –<br/>M30x1,5</b> | <b>12</b> |
| <br><b>UB00TI-MF-LH</b> |  |  |  | <b>M 8x1 –<br/>M24x1,5</b>      | <b>12</b> |
| <br><b>UB00TI-MF-LS</b> |  |  |  | <b>M 8x1 –<br/>M20x1,5</b>      | <b>13</b> |

|          |                   |                   |                                                                                   |                       |                                                                                   |                                                                                   |                             |                                                                                     |
|----------|-------------------|-------------------|-----------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|
| <b>G</b> | Typ<br><b>UNI</b> | <b>HSSE</b><br>V3 |  | <b>DIN</b><br>ISO 228 |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|----------|-------------------|-------------------|-----------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|

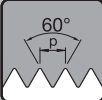
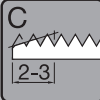
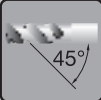
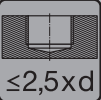
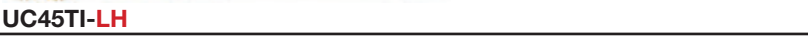
|                                                                                                        |                                                                                   |                                                                                     |  |                     |           |
|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|---------------------|-----------|
| <br><b>UB00TI-G</b>    |  |                                                                                     |  | <b>G 1/16 – G 1</b> | <b>14</b> |
| <br><b>UB00TI-G-LS</b> |  |  |  | <b>G 1/8 – G 1</b>  | <b>14</b> |

|            |                   |                   |                      |                                                                                    |                      |                                                                                    |                                                                                     |                             |                                                                                       |
|------------|-------------------|-------------------|----------------------|------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| <b>UNC</b> | Typ<br><b>UNI</b> | <b>HSSE</b><br>V3 | <b>DIN</b><br>2184-1 |  | <b>ANSI</b><br>B 1.1 |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|------------|-------------------|-------------------|----------------------|------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|

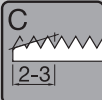
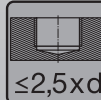
|                                                                                                         |                                                                                     |  |  |                                |           |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|--------------------------------|-----------|
| <br><b>UB00TI-UNC</b> |  |  |  | <b>UNC #2-56 –<br/>UNC 1-8</b> | <b>15</b> |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|--------------------------------|-----------|

|            |                   |                   |                      |                                                                                     |                      |                                                                                     |                                                                                      |                             |                                                                                       |
|------------|-------------------|-------------------|----------------------|-------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| <b>UNF</b> | Typ<br><b>UNI</b> | <b>HSSE</b><br>V3 | <b>DIN</b><br>2184-1 |  | <b>ANSI</b><br>B 1.1 |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|------------|-------------------|-------------------|----------------------|-------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|

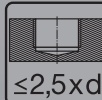
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|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|---------------------------------|-----------|
| <br><b>UB00TI-UNF</b> |  |  |  | <b>UNF #2-64 –<br/>UNF 1-12</b> | <b>15</b> |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|---------------------------------|-----------|

| M                                                                                   | Typ<br>UNI    | HSSE<br>V3 |  | DIN<br>13                                                                             |  |      |  |  | ≤ 1200<br>N/mm² |  |
|-------------------------------------------------------------------------------------|---------------|------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|
|    | UC45TI        |            |                                                                                   | DIN<br>371                                                                            | 6HX                                                                               |                                                                                       |                                                                                     | M 1 – M10                                                                           | 16              |                                                                                     |
|    | UC45TI        |            |                                                                                   | DIN<br>376                                                                            | 6HX                                                                               |                                                                                       |                                                                                     | M 3 – M30                                                                           | 16              |                                                                                     |
|    | UC45TI-6GX    |            |                                                                                   | DIN<br>371                                                                            | 6GX                                                                               |                                                                                       |                                                                                     | M 2 – M10                                                                           | 16              |                                                                                     |
|    | UC45TI-6GX    |            |                                                                                   | DIN<br>376                                                                            | 6GX                                                                               |                                                                                       |                                                                                     | M12 – M24                                                                           | 16              |                                                                                     |
|    | UC45TI-7GX    |            |                                                                                   | DIN<br>371                                                                            | 7GX                                                                               |                                                                                       |                                                                                     | M 2 – M10                                                                           | 16              |                                                                                     |
|    | UC45TI-7GX    |            |                                                                                   | DIN<br>376                                                                            | 7GX                                                                               |                                                                                       |                                                                                     | M12 – M16                                                                           | 16              |                                                                                     |
|    | UC45TI-6H+0,1 |            |                                                                                   | DIN<br>371                                                                            | 6H<br>+0,1                                                                        |                                                                                       |                                                                                     | M 2 – M10                                                                           | 16              |                                                                                     |
|    | UC45TI-6H+0,1 |            |                                                                                   | DIN<br>376                                                                            | 6H<br>+0,1                                                                        |                                                                                       |                                                                                     | M12 – M16                                                                           | 16              |                                                                                     |
|    | UC45TI-LH     |            |                                                                                   | DIN<br>371                                                                            | 6HX                                                                               | LH                                                                                    |                                                                                     | M 3 – M10                                                                           | 17              |                                                                                     |
|  | UC45TI-LH     |            |                                                                                   | DIN<br>376                                                                            | 6HX                                                                               | LH                                                                                    |                                                                                     | M12 – M24                                                                           | 17              |                                                                                     |
|  | UC45TI-LS     |            |                                                                                   |  | 6HX                                                                               | LS                                                                                    |                                                                                     | M 3 – M10                                                                           | 17              |                                                                                     |
|  | UC45TI-LS     |            |                                                                                   |  | 6HX                                                                               | LS                                                                                    |                                                                                     | M 3 – M20                                                                           | 17              |                                                                                     |
|  | UE45TI        |            |                                                                                   | DIN<br>371                                                                            | 6HX                                                                               |  |                                                                                     | M 2 – M10                                                                           | 18              |                                                                                     |
|  | UE45TI        |            |                                                                                   | DIN<br>376                                                                            | 6HX                                                                               |  |                                                                                     | M12 – M24                                                                           | 18              |                                                                                     |

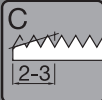
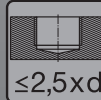
| EG-M                                                                                | Typ<br>UNI | HSSE<br>V3 | DIN<br>40435 | 60°<br>P | E<br>1,5-2 | 45°                | VH | ≤ 1200<br>N/mm² |  |
|-------------------------------------------------------------------------------------|------------|------------|--------------|----------|------------|--------------------|----|-----------------|--|
|  | UE45TI-EG  |            |              |          | 6H<br>mod  | EG-M 2 –<br>EG-M 8 | 18 |                 |  |
|  | UE45TI-EG  |            |              |          | 6H<br>mod  | EG-M10 –<br>EG-M20 | 18 |                 |  |

|    |            |            |            |                                                                                   |           |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                             |                                                                                     |
|----|------------|------------|------------|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|
| MF | Typ<br>UNI | HSSE<br>V3 | DIN<br>374 |  | DIN<br>13 |  |  |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|----|------------|------------|------------|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|

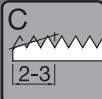
|                                                                                  |              |             |                         |    |
|----------------------------------------------------------------------------------|--------------|-------------|-------------------------|----|
|  | UC45TI-MF    | 6HX         | M 2,5x0,35 –<br>M30x1,5 | 19 |
|  | UC45TI-MF-LH | 6HX LH      | M 8x1 –<br>M24x1,5      | 19 |
|  | UC45TI-MF-LS | WEXO 6HX LS | M 8x1 –<br>M20x1,5      | 20 |

|   |            |            |             |                                                                                   |                |                                                                                   |                                                                                    |                                                                                     |                             |                                                                                     |
|---|------------|------------|-------------|-----------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|
| G | Typ<br>UNI | HSSE<br>V3 | DIN<br>5156 |  | DIN ISO<br>228 |  |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|---|------------|------------|-------------|-----------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|

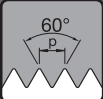
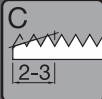
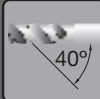
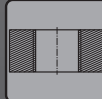
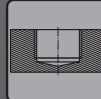
|                                                                                  |             |                                                                                             |                |    |
|----------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------|----------------|----|
|  | UC45TI-G    | C          | G 1/16 – G 1   | 20 |
|  | UE45TI-G    | E          | G 1/8 – G 1    | 21 |
|  | UC45TI-G-LS | WEXO C  | LS G 1/8 – G 1 | 21 |

|     |            |            |               |                                                                                     |               |                                                                                       |                                                                                      |                                                                                       |                                                                                       |                             |                                                                                       |
|-----|------------|------------|---------------|-------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| UNC | Typ<br>UNI | HSSE<br>V3 | DIN<br>2184-1 |  | ANSI<br>B 1.1 | C  |  |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|-----|------------|------------|---------------|-------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|

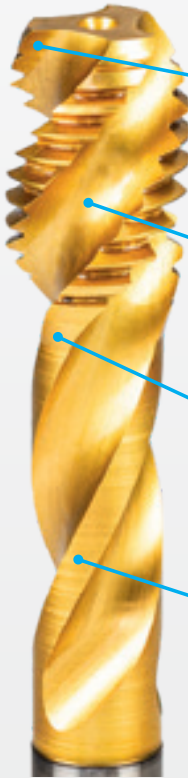
|                                                                                    |            |     |                        |    |
|------------------------------------------------------------------------------------|------------|-----|------------------------|----|
|  | UC45TI-UNC | 2BX | UNC #2-56 –<br>UNC 1-8 | 22 |
|------------------------------------------------------------------------------------|------------|-----|------------------------|----|

|     |            |            |               |                                                                                     |               |                                                                                       |                                                                                      |                                                                                       |                                                                                       |                             |                                                                                       |
|-----|------------|------------|---------------|-------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| UNF | Typ<br>UNI | HSSE<br>V3 | DIN<br>2184-1 |  | ANSI<br>B 1.1 | C  |  |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|-----|------------|------------|---------------|-------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|

|                                                                                    |            |     |                         |    |
|------------------------------------------------------------------------------------|------------|-----|-------------------------|----|
|  | UC45TI-UNF | 2BX | UNF #2-64 –<br>UNF 1-12 | 22 |
|------------------------------------------------------------------------------------|------------|-----|-------------------------|----|

|     |            |            |               |                                                                                     |                 |                                                                                       |                                                                                      |                                                                                       |                                                                                       |                             |                                                                                       |
|-----|------------|------------|---------------|-------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| NPT | Typ<br>UNI | HSSE<br>V3 | DIN<br>2184-1 |  | ANSI<br>B1.20.1 | C  |  |  |  | ≤ 1200<br>N/mm <sup>2</sup> |  |
|-----|------------|------------|---------------|-------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|

|                                                                                    |            |  |                             |    |
|------------------------------------------------------------------------------------|------------|--|-----------------------------|----|
|  | UC40TI-NPT |  | NPT 1/16-27 –<br>NPT 1-11,5 | 23 |
|------------------------------------------------------------------------------------|------------|--|-----------------------------|----|



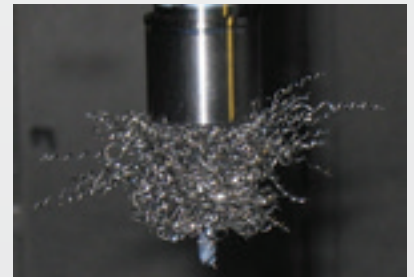
- Spezielle Anschnittgeometrie sorgt für stabile Spanform ·  
Special chamfer geometry for stabilized chip form ·  
Géométrie spéciale du chanfrein pour une forme stabilisée des copeaux ·  
La speciale geometria dell'imbocco del punto di iniezione garantisce una forma stabile del truciolo
- Variable Spiralsteigung für beschleunigte Spanabfuhr ·  
Variable helix for accelerated chip evacuation ·  
Hélice variable pour une évacuation accélérée des copeaux ·  
Elica a passo variabile per un'evacuazione accelerata dei trucioli
- Verschleißfeste TiN-Beschichtung ·  
Wear resistance with TiN-Coating ·  
Résistance à l'usure avec le revêtement TiN ·  
Rivestimento TiN resistente all'usura
- Verschleißfester Vanadium HSSE-V3 ·  
Wear resistant Vanadium HSSE-V3 ·  
Résistance à l'usure Vanadium HSSE-V3 ·  
HSSE-V3 resistente all'usura

| TOP 3 Probleme beim Gewindeschneiden · Tapping troubles ·<br>Problèmes de taraudage · Problemi di maschiatura        |      |
|----------------------------------------------------------------------------------------------------------------------|------|
| ① Bruch und Schneidenausbrüche · Breakage an chipping ·<br>Casse et écaillage · Scheggiature e rotture del tagliente | 26 % |
| ② Maßfehler (Lehrenhaltigkeit) · Dimensional errors ·<br>Défauts dimensionnels · Errore dimensionale                 | 17 % |
| ③ Materialaufklebungen · Galling · Grippage ·<br>Incollamento del materiale                                          | 14 % |
| Sonstiges · Others · Autres · Altro                                                                                  | 43 % |

Hauptursache sind Spänewickler!  
Main factor is chip packing!



Le principal facteur est l'enroulement  
des copeaux!  
La causa principale è la matassa  
di truciolo!



Die häufigsten Probleme beim Gewindeschneiden werden durch eine unkontrollierte Spanbildung hervorgerufen. Die UTOP-Gewindebohrer-Serie löst genau diese Probleme und ist in einer großen Bandbreite von Materialien und Schnittgeschwindigkeiten einsetzbar. UTOP-Gewindebohrer bringen ihre Gewindeschneidoperationen auf ein neues Level!



Most tapping troubles are caused by unstable chip evacuation. The UTOP Tap Series resolves such troubles and is applicable to a wide range of different work materials and cutting conditions. UTOP-TAPS takes your tapping operations to another level!



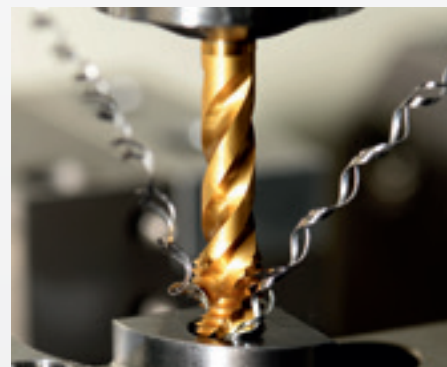
La plupart des problèmes de taraudage sont dus à une évacuation instable des copeaux. La série de tarauds UTOP résout ces problèmes et s'applique à une large gamme de matériaux et de conditions de coupe. Le taraud UTOP fait passer vos opérations de taraudage à un autre niveau!



La maggior parte dei problemi di maschiatura sono causati da un'evacuazione instabile del truciolo. La serie di maschi UTOP risolve esattamente questi problemi e può essere utilizzata in un'ampia gamma di materiali e velocità di taglio. I maschi UTOP portano le tue operazioni di maschiatura a un nuovo livello!



Konventioneller Gewindebohrer · Conventional tap ·  
Taraud conventionnel · Maschiatura convenzionale



UTOP-Gewindebohrer · UTOP-Tap ·  
Taraud UTOP · Maschiatura UTOP

### Schnittgeschwindigkeit und Spanform · Cutting speed and shape of chips · Vitesses de coupe et formes des copeaux · Velocità di taglio e forma del truciolo

|                                                                                  |                                                                     |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Werkzeug · Tool · Utensile                                                       | UC45TI M8x1,25 6HX DIN371/C                                         |
| Werkstoff · Work material · Matière · Materiale                                  | C45                                                                 |
| Kernloch-Ø<br>Core hole dia<br>Diamètre du trou<br>Diametro pre-foro             | Ø 6,8 x 18 mm<br>(Salo · Blind · Trou borgne · Foro cieco)          |
| Gewindetiefe<br>Depth of thread<br>Profondeur du filet<br>Profondità del filetto | 12 mm (1,5xD)                                                       |
| Kühlmittel · Coolant · Lubrifiant · Lubrificante                                 | Emulsion 10%                                                        |
| Maschine · Machine · Machine · Macchina                                          | BAZ vertikal · Vertical M/C ·<br>Centre vertical · Centro verticale |

| Schnittgeschwindigkeit · Cutting speed · Vitesses de coupe · Velocità di taglio |           |           |
|---------------------------------------------------------------------------------|-----------|-----------|
| 5 m/min.                                                                        | 10 m/min. | 15 m/min. |
|                                                                                 |           |           |
| 30 m/min.                                                                       | 50 m/min. | 75 m/min. |
|                                                                                 |           |           |



Empfohlene Vc · Recommended Vc · Vc recommandée · Velocità raccomandata



- Stabile Spanform auch bei hohen Schnittgeschwindigkeiten.
- Stabile Spanform Schnittgeschwindigkeiten < 10 m/min.; jedoch würde sich die Spanbildung durch Erhöhung der Drehzahl und somit der Zentrifugalkraft deutlich verbessern.



- The shape of chips is stable even if the tapping speed is high.
- Shape of chips is stable even if the tapping speed is 10 m/min. or less; however, separation of chip would improve tremendously by increasing the speed and centrifugal force.

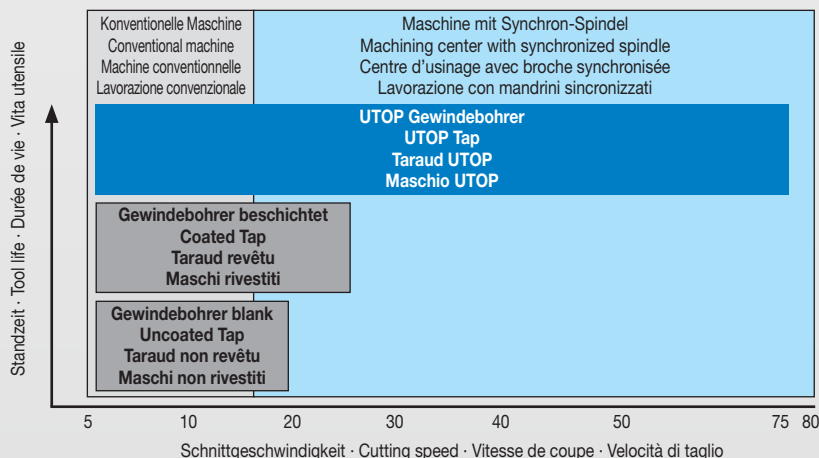


- Forme de copeau stable, même à des vitesses de coupe élevées.
- La forme des copeaux est stable même si la vitesse de coupe est de 10 m/min ou moins, mais la séparation des copeaux s'améliore considérablement en augmentant la vitesse et la force centrifuge.



- Forma stabile del truciolo anche ad alte velocità di taglio.
- Velocità di taglio a forma di truciolo stabile anche con velocità < 10 m/min. o meno; tuttavia, la dimensione del trucioli sarebbe ridotta aumentando la velocità e la forza centrifuga

### Vergleich der Schnittdatenbereiche · Comparison of cutting speed ranges · Comparaison des gammes de vitesses de coupe · Confronto tra gamme di dati di taglio



- Schnittdatenbereich in Kohlenstoffstahl mit Emulsion
- Bearbeitungszentrum mit synchronisierter Spindel ist zu empfehlen für Vc > 15 m/min.
- Die Ergebnisse können variieren. Bitte die Daten entsprechend wählen.



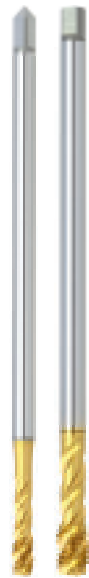
- Cutting range in medium and high carbon steel with water-soluble coolant
- Machining center with synchronized feed and rotation is recommended for more than 15 m/min.
- Results may vary based on cutting condition. Please adjust speeds and feeds accordingly.



- La plage de données de coupe dans l'acier au carbone avec émulsion
- Un centre d'usinage avec broche synchronisée est recommandé pour des Vc > 15 m/min.
- Les résultats peuvent varier. Veuillez sélectionner les données en conséquence.



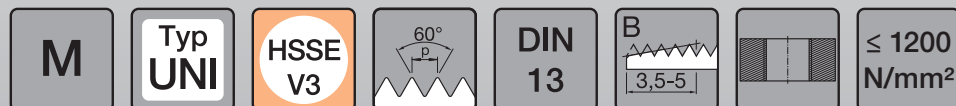
- Gamma di taglio per acciai a medio e alto contenuto di carbonio con emulsione
- Centro di lavoro con avanzamento e rotazione sincronizzata, raccomandata con parametri superiori a 15 m/min.
- Il risultato dipende molto dalle condizioni di taglio. Per favore regolare giri e avanzamento consigliati.

|                                                                           |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                           |  |  |  |  |  |  |
| Katalog-Nr. · Catalogue no. · Catalogue n° · Nr. di catalogo              | UB00TI                                                                            | UB00TI-LS                                                                          | UC45TI                                                                              | UE45TI                                                                              | UC45TI-LS                                                                           | UC40TI-NPT                                                                          |
| Schneidstoff · Cutting material · Matériau de coupe · Materiale di taglio | HSSE-V3                                                                           | HSSE-V3                                                                            | HSSE-V3                                                                             | HSSE-V3                                                                             | HSSE-V3                                                                             | HSSE-V3                                                                             |
| Anschnitt · Chamfer · Entrée de coupe · Imbocco                           | B                                                                                 | B                                                                                  | C                                                                                   | E                                                                                   | C                                                                                   | C                                                                                   |
| Beschichtung · Coating · Revêtement · Rivestimento                        | TiN                                                                               | TiN                                                                                | TiN                                                                                 | TiN                                                                                 | TiN                                                                                 | TiN                                                                                 |

|                                                                                                                                                                                |                                                                              |       |               |    |    |    |    |    |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------|---------------|----|----|----|----|----|----|
| Werkstoffgruppen ·<br>Classification of work materials ·<br>Groupes de matériaux ·<br>Gruppo materiali<br><br>Gewindeart · Type of thread ·<br>Type de filet · Tipo di filetto | Katalogseite ·<br>Catalogue page ·<br>Page du catalogue ·<br>Pagina catalogo | M     | 6HX           | 9  | 10 | 16 | 18 | 17 |    |
|                                                                                                                                                                                |                                                                              | M     | 6GX           | 9  |    | 16 |    |    |    |
|                                                                                                                                                                                |                                                                              | M     | 7GX           | 9  |    | 16 |    |    |    |
|                                                                                                                                                                                |                                                                              | M     | 6H+0,1        | 9  |    | 16 |    |    |    |
|                                                                                                                                                                                |                                                                              | M LH  | 6HX           | 10 |    | 17 |    |    |    |
|                                                                                                                                                                                |                                                                              | EG-M  | 6H mod.       | 11 |    |    | 18 |    |    |
|                                                                                                                                                                                |                                                                              | MF    | 6HX           | 12 | 13 | 19 |    | 20 |    |
|                                                                                                                                                                                |                                                                              | MF LH | 6HX           | 12 |    | 19 |    |    |    |
|                                                                                                                                                                                |                                                                              | G     |               | 14 | 14 | 20 | 21 | 21 |    |
|                                                                                                                                                                                |                                                                              | UNC   | 2BX           | 15 |    | 22 |    |    |    |
|                                                                                                                                                                                |                                                                              | UNF   | 2BX           | 15 |    | 22 |    |    |    |
|                                                                                                                                                                                |                                                                              | NPT   | ANSI B 1.20.1 |    |    |    |    |    | 23 |

| 1 Stähle · Steels · Aciers · Acciai                                                                                           |                                                                                                                                                                                                                                                                                         |       |       |       |       |       |     |  |  |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-----|--|--|
| 1.1/1.2                                                                                                                       | Baustähle, unlegierte und niedriglegierte Stähle (Rm < 800 N/mm²) · Structural steels, unalloyed and low-alloyed (Rm < 800 N/mm²) · Aciers de construction, aciers non alliés et faiblement alliés (Rm < 800 N/mm²) · Acciai da costruzione, non legati e basso legati (Rm < 800 N/mm²) | 15–30 | 15–20 | 15–20 | 10–15 | 10–15 | 2–5 |  |  |
| 1.3                                                                                                                           | Legierte Stähle (Rm < 800 N/mm²) · Alloyed steels (Rm < 800 N/mm²) · Aciers alliés (Rm < 800 N/mm²) · Acciai legati (Rm < 800 N/mm²)                                                                                                                                                    | 15–30 | 15–20 | 15–20 | 10–15 | 10–15 | 2–5 |  |  |
| 1.4                                                                                                                           | Legierte, vergütete Stähle (Rm 800–1200 N/mm²) · Alloyed, pre-hardened steels (Rm 800–1200 N/mm²) · Aciers alliés, traités (Rm 800–1200 N/mm²) · Acciai legati, temprati (Rm 800–1200 N/mm²)                                                                                            | 10–20 | 10–15 | 10–15 | 8–15  | 8–15  | 2–5 |  |  |
| 1.5                                                                                                                           | Werkzeugstähle (Rm < 1300 N/mm²) · Tool-steels (Rm < 1300 N/mm²) · Aciers à outils (Rm < 1300 N/mm²) · Acciaio per utensili (Rm < 1300 N/mm²)                                                                                                                                           | 5–15  | 5–10  | 5–10  | 5–10  | 5–10  | 2–5 |  |  |
| 1.6                                                                                                                           | Rost-, säure- und hitzebeständige Stähle · Stainless, acid- and heat-proof steels · Aciers résistants à la chaleur, aux acides et à l'oxydation · Acciai resistenti alla ruggine, agli acidi, al calore                                                                                 | 5–15  | 5–10  | 5–10  | 5–10  | 5–10  | 2–5 |  |  |
| 2 Gusseisen · Grey cast iron · Fonte · Ghisa                                                                                  |                                                                                                                                                                                                                                                                                         |       |       |       |       |       |     |  |  |
| 2.3/2.4                                                                                                                       | Kugelgraphitguss/Gusseisen mit Vermikulargraphit · Nodular cast iron/Compacted graphite iron · Fonte à graphite sphéroïdale/Fonte à graphite vermiculaire · Ghisa a grafite sferoidale/Ghisa a grafite vermicolare                                                                      | 15–30 | 15–20 | 15–20 | 10–15 | 10–15 | 2–5 |  |  |
| 3 Kupfer/Kupferlegierungen · Copper/Copper alloys · Cuivre/Alliages de cuivre · Rame/Leghe di rame                            |                                                                                                                                                                                                                                                                                         |       |       |       |       |       |     |  |  |
| 3.1/3.3                                                                                                                       | Kupfer (unlegiert, niedriglegiert, langspanend) · Copper (unalloyed, low-alloyed, long-chipping) · Cuivre (non allié, faiblement allié, à copeaux longs) · Rame (non legato, basso legato, trucioli lunghi)                                                                             | 10–20 | 10–15 | 10–15 | 8–15  | 8–15  | 2–5 |  |  |
| 3.4                                                                                                                           | Kupfer-Sonderlegierungen (< 200 HB) · Copper alloys (< 200 HB) · Alliages spéciaux de cuivre (< 200 HB) · Leghe speciali di rame (< 200 HB)                                                                                                                                             | 5–15  | 5–10  | 5–10  | 5–10  | 5–10  | 2–5 |  |  |
| 3.5                                                                                                                           | Kupfer-Sonderlegierungen (200–300 HB) · Copper alloys (200–300 HB) · Alliages spéciaux de cuivre (200–300 HB) · Leghe speciali di rame (200–300 HB)                                                                                                                                     | 5–15  | 5–10  | 5–10  | 5–10  | 5–10  | 2–5 |  |  |
| 4 Aluminium/Aluminiumlegierungen · Aluminium/Aluminium alloys · Aluminium/Alliages d'aluminium · Alluminio/Leghe di alluminio |                                                                                                                                                                                                                                                                                         |       |       |       |       |       |     |  |  |
| 4.1/4.2                                                                                                                       | Aluminium (unlegiert, niedriglegiert) · Aluminium (low-alloys) · Aluminium (non allié, faiblement allié) · Alluminio (non legato, basso legato)                                                                                                                                         | 15–30 | 15–20 | 15–20 | 10–15 | 10–15 | 2–5 |  |  |
| 4.4                                                                                                                           | Aluminium-Legierungen (10%–15% Si) · Aluminium alloys (10%–15% Si) · Alliages d'aluminium (10%–15% Si) · Leghe di alluminio (10%–15% Si)                                                                                                                                                | 15–30 | 15–20 | 15–20 | 10–15 | 10–15 | 2–5 |  |  |
| 4.5                                                                                                                           | Aluminium-Legierungen (> 15% Si) · Aluminium alloys (> 15% Si) · Alliages d'aluminium (> 15% Si) · Leghe di alluminio (> 15% Si)                                                                                                                                                        | 10–20 | 10–15 | 10–15 | 8–15  | 8–15  | 2–5 |  |  |

\* Fett = optimal geeignet · \* Bold = recommended use · en gras = optimal · \* grassetto = ideali per l'utilizzo



**DIN 371**  
M 1 – M10

**DIN 376**  
M 3 – M30

6HX

6GX

7GX

6H  
+0,1

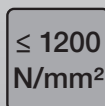
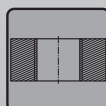
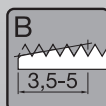
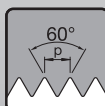
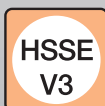
**M**

**HSSE-  
V3**

| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |           |                        |                        |                        |                        |           |   |           |                                                                                        | UB00TI <sup>840</sup> |                                                                                        | UB00TI-6GX <sup>840</sup> |                                                                                        | UB00TI-7GX <sup>840</sup> |                                                                                        | UB00TI-6H+0,1 <sup>840</sup> |  |
|-----------------------------------------------------------------------------------------------------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|----------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------|------------------------------|--|
|                                                                                                                       |           |                        |                        |                        |                        |           |   |           |                                                                                        | TiN                   |                                                                                        | TiN                       |                                                                                        | TiN                       |                                                                                        | TiN                          |  |
| d <sub>1</sub><br>[mm]                                                                                                | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] |  Code | €                     |  Code | €                         |  Code | €                         |  Code | €                            |  |
| M 1*                                                                                                                  | 0,25      | 40                     | 5                      | –                      | 2,5                    | 2,1       | 2 | 0,75      | 950 001                                                                                | 30,00                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 1,1*                                                                                                                | 0,25      | 40                     | 5                      | –                      | 2,5                    | 2,1       | 2 | 0,85      | 950 002                                                                                | 30,00                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 1,2*                                                                                                                | 0,25      | 40                     | 5                      | –                      | 2,5                    | 2,1       | 2 | 0,95      | 950 003                                                                                | 30,00                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 1,4*                                                                                                                | 0,3       | 40                     | 7                      | –                      | 2,5                    | 2,1       | 2 | 1,1       | 950 004                                                                                | 26,75                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 1,6                                                                                                                 | 0,35      | 40                     | 8                      | –                      | 2,5                    | 2,1       | 2 | 1,25      | 950 005                                                                                | 26,75                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 1,7                                                                                                                 | 0,35      | 40                     | 8                      | –                      | 2,5                    | 2,1       | 2 | 1,3       | 950 006                                                                                | 25,25                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 1,8                                                                                                                 | 0,35      | 40                     | 8                      | –                      | 2,5                    | 2,1       | 2 | 1,45      | 950 007                                                                                | 25,25                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 2                                                                                                                   | 0,4       | 45                     | 8                      | –                      | 2,8                    | 2,1       | 2 | 1,6       | 950 008                                                                                | 22,50                 | 950 050                                                                                | 27,00                     | 950 065                                                                                | 27,00                     | 950 079                                                                                | 29,25                        |  |
| M 2,2                                                                                                                 | 0,45      | 45                     | 9                      | –                      | 2,8                    | 2,1       | 2 | 1,75      | 950 009                                                                                | 22,50                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 2,3                                                                                                                 | 0,4       | 45                     | 9                      | –                      | 2,8                    | 2,1       | 2 | 1,9       | 950 010                                                                                | 22,50                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 2,5                                                                                                                 | 0,45      | 50                     | 9                      | –                      | 2,8                    | 2,1       | 2 | 2,05      | 950 011                                                                                | 22,50                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 2,6                                                                                                                 | 0,45      | 50                     | 9                      | –                      | 2,8                    | 2,1       | 2 | 2,1       | 950 012                                                                                | 21,50                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 3                                                                                                                   | 0,5       | 56                     | 11                     | 18                     | 3,5                    | 2,7       | 3 | 2,5       | 950 013                                                                                | 20,25                 | 950 051                                                                                | 24,25                     | 950 066                                                                                | 24,25                     | 950 080                                                                                | 26,25                        |  |
| M 3,5                                                                                                                 | 0,6       | 56                     | 12                     | 20                     | 4                      | 3         | 3 | 2,9       | 950 014                                                                                | 21,25                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 4                                                                                                                   | 0,7       | 63                     | 13                     | 21                     | 4,5                    | 3,4       | 3 | 3,3       | 950 015                                                                                | 20,50                 | 950 052                                                                                | 24,50                     | 950 067                                                                                | 24,50                     | 950 081                                                                                | 26,75                        |  |
| M 4,5                                                                                                                 | 0,75      | 70                     | 16                     | 25                     | 6                      | 4,9       | 3 | 3,7       | 950 016                                                                                | 27,50                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 5                                                                                                                   | 0,8       | 70                     | 16                     | 25                     | 6                      | 4,9       | 3 | 4,2       | 950 017                                                                                | 21,25                 | 950 053                                                                                | 25,50                     | 950 068                                                                                | 25,50                     | 950 082                                                                                | 27,50                        |  |
| M 6                                                                                                                   | 1         | 80                     | 19                     | 30                     | 6                      | 4,9       | 3 | 5         | 950 018                                                                                | 21,50                 | 950 054                                                                                | 25,75                     | 950 069                                                                                | 25,75                     | 950 083                                                                                | 28,00                        |  |
| M 7                                                                                                                   | 1         | 80                     | 19                     | 30                     | 7                      | 5,5       | 3 | 6         | 950 019                                                                                | 29,00                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 8                                                                                                                   | 1,25      | 90                     | 22                     | 35                     | 8                      | 6,2       | 3 | 6,8       | 950 020                                                                                | 24,75                 | 950 055                                                                                | 29,25                     | 950 070                                                                                | 29,25                     | 950 084                                                                                | 32,25                        |  |
| M 10                                                                                                                  | 1,5       | 100                    | 24                     | 39                     | 10                     | 8         | 3 | 8,5       | 950 021                                                                                | 30,00                 | 950 056                                                                                | 36,25                     | 950 071                                                                                | 36,25                     | 950 085                                                                                | 39,25                        |  |
|                                                                                                                       |           |                        |                        |                        |                        |           |   |           |                                                                                        |                       |                                                                                        |                           |                                                                                        |                           |                                                                                        |                              |  |
| M 3                                                                                                                   | 0,5       | 56                     | 11                     | –                      | 2,2                    | –         | 3 | 2,5       | 950 040                                                                                | 21,50                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 4                                                                                                                   | 0,7       | 63                     | 13                     | –                      | 2,8                    | 2,1       | 3 | 3,3       | 950 041                                                                                | 22,00                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 5                                                                                                                   | 0,8       | 70                     | 16                     | –                      | 3,5                    | 2,7       | 3 | 4,2       | 950 042                                                                                | 22,75                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 6                                                                                                                   | 1         | 80                     | 19                     | –                      | 4,5                    | 3,4       | 3 | 5         | 950 043                                                                                | 23,75                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 8                                                                                                                   | 1,25      | 90                     | 22                     | –                      | 6                      | 4,9       | 3 | 6,8       | 950 044                                                                                | 25,25                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 10                                                                                                                  | 1,5       | 100                    | 24                     | –                      | 7                      | 5,5       | 3 | 8,5       | 950 045                                                                                | 30,00                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 12                                                                                                                  | 1,75      | 110                    | 28                     | –                      | 9                      | 7         | 3 | 10,2      | 950 022                                                                                | 38,50                 | 950 057                                                                                | 46,25                     | 950 072                                                                                | 46,25                     | 950 086                                                                                | 50,00                        |  |
| M 14                                                                                                                  | 2         | 110                    | 30                     | –                      | 11                     | 9         | 3 | 12        | 950 023                                                                                | 46,25                 | 950 058                                                                                | 55,50                     | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 16                                                                                                                  | 2         | 110                    | 32                     | –                      | 12                     | 9         | 3 | 14        | 950 024                                                                                | 53,50                 | 950 059                                                                                | 64,00                     | 950 073                                                                                | 64,00                     | 950 087                                                                                | 69,50                        |  |
| M 18                                                                                                                  | 2,5       | 125                    | 34                     | –                      | 14                     | 11        | 3 | 15,5      | 950 025                                                                                | 71,00                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 20                                                                                                                  | 2,5       | 140                    | 34                     | –                      | 16                     | 12        | 3 | 17,5      | 950 026                                                                                | 85,00                 | 950 060                                                                                | 102,00                    | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 22                                                                                                                  | 2,5       | 140                    | 34                     | –                      | 18                     | 14,5      | 3 | 19,5      | 950 027                                                                                | 93,50                 | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 24                                                                                                                  | 3         | 160                    | 38                     | –                      | 18                     | 14,5      | 3 | 21        | 950 028                                                                                | 120,00                | 950 061                                                                                | 144,00                    | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 27                                                                                                                  | 3         | 160                    | 38                     | –                      | 20                     | 16        | 4 | 24        | 950 029                                                                                | 166,00                | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |
| M 30                                                                                                                  | 3,5       | 180                    | 45                     | –                      | 22                     | 18        | 4 | 26,5      | 950 030                                                                                | 191,00                | –                                                                                      | –                         | –                                                                                      | –                         | –                                                                                      | –                            |  |

\* M 1 – M 1,4 = 4HX

Ø UB00TI-6H+0,1 = + 0,1 mm

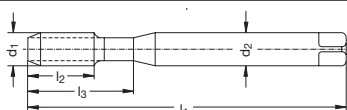


M

HSSE-  
V3

DIN  
371

M 3 – M10

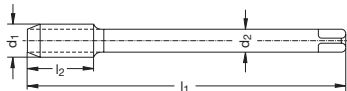


LH

6HX

DIN  
376

M12 – M24



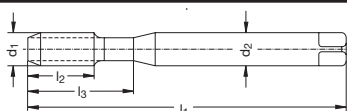
Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UB00TI-LH<sup>840</sup>

TiN

| d <sub>1</sub><br>[mm] | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | ∅<br>[mm] | Code    | €      |
|------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|---------|--------|
| M 3                    | 0,5       | 56                     | 11                     | 18                     | 3,5                    | 2,7       | 3 | 2,5       | 950 115 | 29,25  |
| M 4                    | 0,7       | 63                     | 13                     | 21                     | 4,5                    | 3,4       | 3 | 3,3       | 950 116 | 29,75  |
| M 5                    | 0,8       | 70                     | 16                     | 25                     | 6                      | 4,9       | 3 | 4,2       | 950 117 | 30,75  |
| M 6                    | 1         | 80                     | 19                     | 30                     | 6                      | 4,9       | 3 | 5         | 950 118 | 31,25  |
| M 8                    | 1,25      | 90                     | 22                     | 35                     | 8                      | 6,2       | 3 | 6,8       | 950 119 | 36,00  |
| M10                    | 1,5       | 100                    | 24                     | 39                     | 10                     | 8         | 3 | 8,5       | 950 120 | 43,75  |
| M12                    | 1,75      | 110                    | 28                     | –                      | 9                      | 7         | 3 | 10,2      | 950 121 | 56,00  |
| M14                    | 2         | 110                    | 30                     | –                      | 11                     | 9         | 3 | 12        | 950 122 | 67,00  |
| M16                    | 2         | 110                    | 32                     | –                      | 12                     | 9         | 3 | 14        | 950 123 | 77,50  |
| M20                    | 2,5       | 140                    | 34                     | –                      | 16                     | 12        | 3 | 17,5      | 950 124 | 123,00 |
| M24                    | 3         | 160                    | 38                     | –                      | 18                     | 14,5      | 3 | 21        | 950 125 | 174,00 |

M 3 – M10

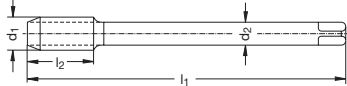


LS



6HX

M 4 – M20



Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UB00TI-LS<sup>840</sup>

TiN

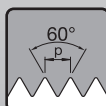
| d <sub>1</sub><br>[mm] | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | ∅<br>[mm] | Code    | €      |
|------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|---------|--------|
| M 3                    | 0,5       | 100                    | 11                     | 20                     | 3,5                    | 2,7       | 3 | 2,5       | 950 090 | 40,25  |
| M 4                    | 0,7       | 125                    | 13                     | 27                     | 4,5                    | 3,4       | 3 | 3,3       | 950 091 | 41,00  |
| M 5                    | 0,8       | 160                    | 16                     | 33                     | 6                      | 4,9       | 3 | 4,2       | 950 092 | 42,50  |
| M 6                    | 1         | 160                    | 19                     | 40                     | 6                      | 4,9       | 3 | 5         | 950 093 | 43,00  |
| M 8                    | 1,25      | 180                    | 22                     | 52,4                   | 8                      | 6,2       | 3 | 6,8       | 950 094 | 49,75  |
| M10                    | 1,5       | 200                    | 24                     | 65                     | 10                     | 8         | 3 | 8,5       | 950 095 | 60,00  |
| M 4                    | 0,7       | 125                    | 13                     | –                      | 2,8                    | 2,1       | 3 | 3,3       | 950 105 | 44,00  |
| M 5                    | 0,8       | 160                    | 16                     | –                      | 3,5                    | 2,7       | 3 | 4,2       | 950 106 | 45,50  |
| M 6                    | 1         | 160                    | 19                     | –                      | 4,5                    | 3,4       | 3 | 5         | 950 107 | 47,50  |
| M 8                    | 1,25      | 180                    | 22                     | –                      | 6                      | 4,9       | 3 | 6,8       | 950 108 | 50,50  |
| M10                    | 1,5       | 200                    | 24                     | –                      | 7                      | 5,5       | 3 | 8,5       | 950 109 | 60,00  |
| M12                    | 1,75      | 200                    | 28                     | –                      | 9                      | 7         | 3 | 10,2      | 950 096 | 77,00  |
| M14                    | 2         | 200                    | 30                     | –                      | 11                     | 9         | 3 | 12        | 950 097 | 92,50  |
| M16                    | 2         | 200                    | 32                     | –                      | 12                     | 9         | 3 | 14        | 950 098 | 107,00 |
| M20                    | 2,5       | 200                    | 34                     | –                      | 16                     | 12        | 3 | 17,5      | 950 099 | 170,00 |

EG-M

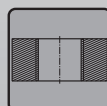
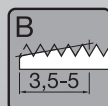
Typ  
UNI

HSSE  
V3

DIN  
40435

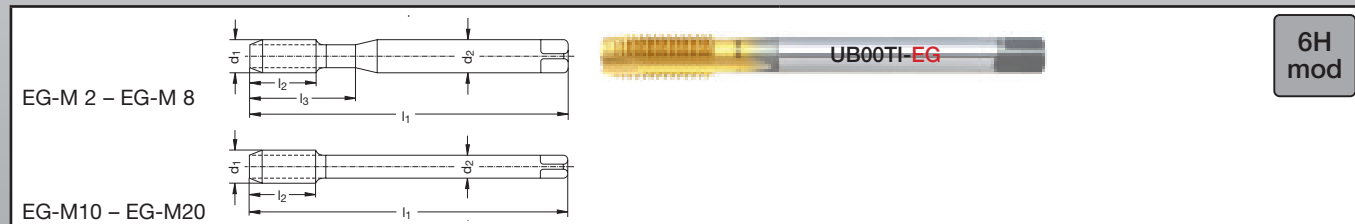


DIN  
8140



≤ 1200  
N/mm²

**U TOP**  
by WEXO®

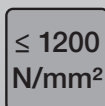
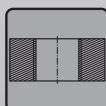
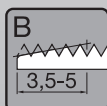
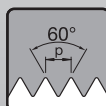
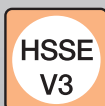


6H  
mod

**EG-M**

| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |                        |           |                        |                        |                        |                        |           |   |           | UB00TI-EG <sup>840</sup> |        |
|-----------------------------------------------------------------------------------------------------------------------|------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|--------------------------|--------|
|                                                                                                                       |                        |           |                        |                        |                        |                        |           |   |           | TiN                      |        |
|                                                                                                                       | d <sub>1</sub><br>[mm] | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code                     | €      |
| EG M 2                                                                                                                | 2                      | 0,4       | 50                     | 9                      | —                      | 2,8                    | 2,1       | 2 | 2,1       | 950 425                  | 28,00  |
| EG M 2,5                                                                                                              | 2,5                    | 0,45      | 56                     | 11                     | 18                     | 3,5                    | 2,7       | 3 | 2,65      | 950 426                  | 28,00  |
| EG M 3                                                                                                                | 3                      | 0,5       | 63                     | 13                     | 21                     | 4,5                    | 3,4       | 3 | 3,15      | 950 427                  | 25,25  |
| EG M 4                                                                                                                | 4                      | 0,7       | 70                     | 16                     | 25                     | 6                      | 4,9       | 3 | 4,2       | 950 428                  | 25,75  |
| EG M 5                                                                                                                | 5                      | 0,8       | 80                     | 19                     | 30                     | 6                      | 4,9       | 3 | 5,25      | 950 429                  | 26,50  |
| EG M 6                                                                                                                | 6                      | 1         | 90                     | 22                     | 35                     | 8                      | 6,2       | 3 | 6,3       | 950 430                  | 27,00  |
| EG M 8                                                                                                                | 8                      | 1,25      | 100                    | 24                     | 39                     | 10                     | 8         | 3 | 8,4       | 950 431                  | 31,00  |
| EG M 10                                                                                                               | 10                     | 1,5       | 100                    | 29                     | —                      | 9                      | 7         | 3 | 10,5      | 950 432                  | 37,75  |
| EG M 12                                                                                                               | 12                     | 1,75      | 110                    | 30                     | —                      | 11                     | 9         | 3 | 12,5      | 950 433                  | 48,00  |
| EG M 16                                                                                                               | 16                     | 2         | 125                    | 34                     | —                      | 14                     | 11        | 3 | 16,5      | 950 434                  | 70,50  |
| EG M 20                                                                                                               | 20                     | 2,5       | 160                    | 34                     | —                      | 18                     | 14,5      | 3 | 20,5      | 950 435                  | 106,00 |
|                                                                                                                       |                        |           |                        |                        |                        |                        |           |   |           |                          |        |
|                                                                                                                       |                        |           |                        |                        |                        |                        |           |   |           |                          |        |
|                                                                                                                       |                        |           |                        |                        |                        |                        |           |   |           |                          |        |

HSSE-  
V3



MF



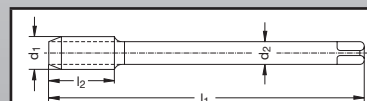
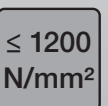
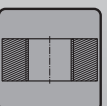
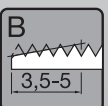
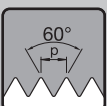
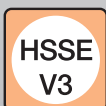
6HX

LH

6HX

HSSE-  
V3

| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |           |                        |                        |                        |           |       |           | UB00TI-MF <sup>840</sup> |         | UB00TI-MF-LH <sup>840</sup> |   |
|-----------------------------------------------------------------------------------------------------------------------|-----------|------------------------|------------------------|------------------------|-----------|-------|-----------|--------------------------|---------|-----------------------------|---|
|                                                                                                                       |           |                        |                        |                        |           |       |           | TiN                      |         | TiN                         |   |
| d <sub>1</sub><br>[mm]                                                                                                | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z     | ∅<br>[mm] | Code<br>                 | €       | Code<br>                    | € |
| M 2,5 x 0,35                                                                                                          | 50        | 9                      | 1,8                    | -                      | 2         | 2,15  | 950 290   | 26,50                    | -       | -                           | - |
| M 2,6 x 0,35                                                                                                          | 50        | 9                      | 1,8                    | -                      | 2         | 2,25  | 950 291   | 25,50                    | -       | -                           | - |
| M 3 x 0,35                                                                                                            | 56        | 8                      | 2,2                    | -                      | 3         | 2,65  | 950 292   | 27,75                    | -       | -                           | - |
| M 3,5 x 0,35                                                                                                          | 56        | 9                      | 2,5                    | 2,1                    | 3         | 3,15  | 950 293   | 28,00                    | -       | -                           | - |
| M 4 x 0,35                                                                                                            | 63        | 10                     | 2,8                    | 2,1                    | 3         | 3,65  | 950 294   | 28,00                    | -       | -                           | - |
| M 4 x 0,5                                                                                                             | 63        | 10                     | 2,8                    | 2,1                    | 3         | 3,5   | 950 295   | 28,00                    | -       | -                           | - |
| M 4,5 x 0,5                                                                                                           | 70        | 12                     | 3,5                    | 2,7                    | 3         | 4     | 950 296   | 28,00                    | -       | -                           | - |
| M 5 x 0,5                                                                                                             | 70        | 16                     | 3,5                    | 2,7                    | 3         | 4,5   | 950 297   | 29,00                    | -       | -                           | - |
| M 6 x 0,5                                                                                                             | 80        | 14                     | 4,5                    | 3,4                    | 3         | 5,5   | 950 298   | 28,50                    | -       | -                           | - |
| M 6 x 0,75                                                                                                            | 80        | 14                     | 4,5                    | 3,4                    | 3         | 5,25  | 950 299   | 30,00                    | -       | -                           | - |
| M 6,5 x 0,75                                                                                                          | 80        | 14                     | 5,5                    | 4,3                    | 3         | 5,75  | 950 300   | 30,75                    | -       | -                           | - |
| M 7 x 0,5                                                                                                             | 80        | 14                     | 5,5                    | 4,3                    | 3         | 6,5   | 950 301   | 34,00                    | -       | -                           | - |
| M 8 x 0,75                                                                                                            | 80        | 22                     | 6                      | 4,9                    | 3         | 7,25  | 950 302   | 30,75                    | -       | -                           | - |
| M 8 x 1                                                                                                               | 90        | 22                     | 6                      | 4,9                    | 3         | 7     | 950 303   | 32,50                    | 950 345 | 47,25                       | - |
| M 9 x 1                                                                                                               | 90        | 22                     | 7                      | 5,5                    | 3         | 8     | 950 304   | 37,75                    | -       | -                           | - |
| M 10 x 0,75                                                                                                           | 90        | 20                     | 7                      | 5,5                    | 3         | 9,25  | 950 305   | 46,25                    | -       | -                           | - |
| M 10 x 1                                                                                                              | 90        | 20                     | 7                      | 5,5                    | 3         | 9     | 950 306   | 44,00                    | 950 346 | 63,50                       | - |
| M 10 x 1,25                                                                                                           | 100       | 24                     | 7                      | 5,5                    | 3         | 8,75  | 950 307   | 39,25                    | 950 347 | 57,00                       | - |
| M 11 x 1                                                                                                              | 90        | 20                     | 8                      | 6,2                    | 3         | 10    | 950 308   | 62,50                    | -       | -                           | - |
| M 12 x 0,5                                                                                                            | 100       | 22                     | 9                      | 7                      | 3         | 11,5  | 950 309   | 38,50                    | -       | -                           | - |
| M 12 x 0,75                                                                                                           | 100       | 22                     | 9                      | 7                      | 3         | 11,25 | 950 310   | 38,50                    | -       | -                           | - |
| M 12 x 1                                                                                                              | 100       | 22                     | 9                      | 7                      | 3         | 11    | 950 311   | 38,50                    | -       | -                           | - |
| M 12 x 1,25                                                                                                           | 100       | 22                     | 9                      | 7                      | 3         | 10,75 | 950 312   | 38,50                    | 950 348 | 56,00                       | - |
| M 12 x 1,5                                                                                                            | 100       | 22                     | 9                      | 7                      | 3         | 10,5  | 950 313   | 38,50                    | 950 349 | 56,00                       | - |
| M 13 x 1                                                                                                              | 100       | 22                     | 11                     | 9                      | 3         | 12    | 950 314   | 46,75                    | -       | -                           | - |
| M 14 x 1,5                                                                                                            | 100       | 22                     | 11                     | 9                      | 3         | 12,5  | 950 315   | 54,50                    | -       | -                           | - |
| M 16 x 1,5                                                                                                            | 100       | 22                     | 12                     | 9                      | 3         | 14,5  | 950 316   | 62,50                    | 950 350 | 91,00                       | - |
| M 18 x 1                                                                                                              | 110       | 25                     | 14                     | 11                     | 3         | 17    | 950 317   | 95,00                    | -       | -                           | - |
| M 18 x 1,5                                                                                                            | 110       | 25                     | 14                     | 11                     | 3         | 16,5  | 950 318   | 81,50                    | -       | -                           | - |
| M 20 x 1,5                                                                                                            | 125       | 25                     | 16                     | 12                     | 3         | 18,5  | 950 319   | 86,00                    | 950 351 | 125,00                      | - |
| M 22 x 1,5                                                                                                            | 125       | 25                     | 18                     | 14,5                   | 3         | 20,5  | 950 320   | 106,00                   | -       | -                           | - |
| M 24 x 1,5                                                                                                            | 140       | 28                     | 18                     | 14,5                   | 3         | 22,5  | 950 321   | 114,00                   | 950 352 | 165,00                      | - |
| M 26 x 1,5                                                                                                            | 140       | 28                     | 18                     | 14,5                   | 4         | 24,5  | 950 322   | 160,00                   | -       | -                           | - |
| M 30 x 1,5                                                                                                            | 150       | 28                     | 22                     | 18                     | 4         | 28,5  | 950 323   | 246,00                   | -       | -                           | - |



MF

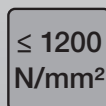
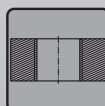
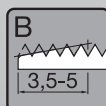
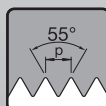
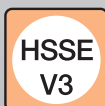
Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UB00TI-MF-LS<sup>840</sup>

TiN

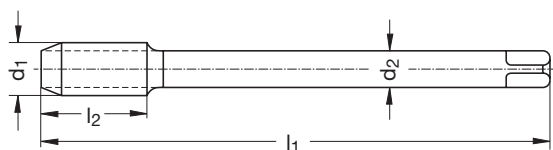
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|------------------------|-----------|------------------------|------------------------|------------------------|-----------|---|-----------|----------|--------|
| M 8                    | x 1       | 180                    | 22                     | 6                      | 4,9       | 3 | 7         | 950 330  | 65,00  |
| M 10                   | x 1       | 180                    | 20                     | 7                      | 5,5       | 3 | 9         | 950 331  | 88,00  |
| M 10                   | x 1,25    | 200                    | 24                     | 7                      | 5,5       | 3 | 8,75      | 950 332  | 78,50  |
| M 12                   | x 1,25    | 200                    | 22                     | 9                      | 7         | 3 | 10,75     | 950 333  | 77,00  |
| M 12                   | x 1,5     | 200                    | 22                     | 9                      | 7         | 3 | 10,5      | 950 334  | 77,00  |
| M 14                   | x 1,5     | 200                    | 22                     | 11                     | 9         | 3 | 12,5      | 950 337  | 109,00 |
| M 16                   | x 1,5     | 200                    | 22                     | 12                     | 9         | 3 | 14,5      | 950 335  | 125,00 |
| M 20                   | x 1,5     | 250                    | 25                     | 16                     | 12        | 3 | 18,5      | 950 336  | 172,00 |
|                        |           |                        |                        |                        |           |   |           |          |        |
|                        |           |                        |                        |                        |           |   |           |          |        |
|                        |           |                        |                        |                        |           |   |           |          |        |
|                        |           |                        |                        |                        |           |   |           |          |        |
|                        |           |                        |                        |                        |           |   |           |          |        |
|                        |           |                        |                        |                        |           |   |           |          |        |

HSSE-  
V3

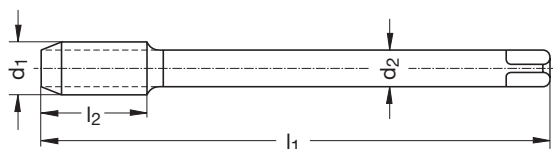
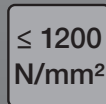
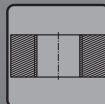
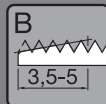
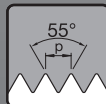
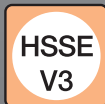


G

HSSE-  
V3

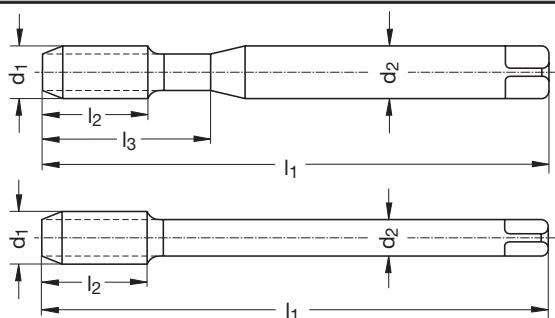
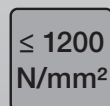
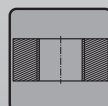
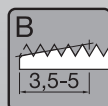
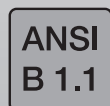
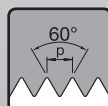
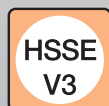


| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |                        |                        |                        |                        |           |   |           |         | UB00TI-G <sup>840</sup> |  |
|-----------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|---------|-------------------------|--|
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         | TiN                     |  |
| P<br>[Gg/1"]                                                                                                          | d <sub>1</sub><br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code    | €                       |  |
| G 1/16 28                                                                                                             | 7,72                   | 90                     | 20                     | 6                      | 4,9       | 3 | 6,8       | 950 455 | 50,50                   |  |
| G 1/8 28                                                                                                              | 9,73                   | 90                     | 20                     | 7                      | 5,5       | 3 | 8,8       | 950 456 | 42,00                   |  |
| G 1/4 19                                                                                                              | 13,16                  | 100                    | 22                     | 11                     | 9         | 3 | 11,8      | 950 457 | 55,50                   |  |
| G 3/8 19                                                                                                              | 16,66                  | 100                    | 22                     | 12                     | 9         | 3 | 15,25     | 950 458 | 70,50                   |  |
| G 1/2 14                                                                                                              | 20,96                  | 125                    | 25                     | 16                     | 12        | 3 | 19        | 950 459 | 103,00                  |  |
| G 5/8 14                                                                                                              | 22,91                  | 125                    | 25                     | 18                     | 14,5      | 3 | 21        | 950 460 | 124,00                  |  |
| G 3/4 14                                                                                                              | 26,44                  | 140                    | 28                     | 20                     | 16        | 4 | 24,5      | 950 461 | 168,00                  |  |
| G 1 11                                                                                                                | 33,25                  | 160                    | 30                     | 25                     | 20        | 4 | 30,75     | 950 462 | 248,00                  |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                         |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                         |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                         |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                         |  |



LS

| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |                        |                        |                        |                        |           |   |           |         | UB00TI-G-LS <sup>840</sup> |  |
|-----------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|---------|----------------------------|--|
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         | TiN                        |  |
| P<br>[Gg/1"]                                                                                                          | d <sub>1</sub><br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code    | €                          |  |
| G 1/8 28                                                                                                              | 9,73                   | 180                    | 20                     | 7                      | 5,5       | 3 | 8,8       | 950 465 | 84,00                      |  |
| G 1/4 19                                                                                                              | 13,16                  | 200                    | 22                     | 11                     | 9         | 3 | 11,8      | 950 466 | 111,00                     |  |
| G 3/8 19                                                                                                              | 16,66                  | 200                    | 22                     | 12                     | 9         | 3 | 15,25     | 950 467 | 141,00                     |  |
| G 1/2 14                                                                                                              | 20,96                  | 250                    | 25                     | 16                     | 12        | 3 | 19        | 950 468 | 206,00                     |  |
| G 3/4 14                                                                                                              | 26,44                  | 280                    | 28                     | 20                     | 16        | 4 | 24,5      | 950 469 | 336,00                     |  |
| G 1 11                                                                                                                | 33,25                  | 280                    | 30                     | 25                     | 20        | 4 | 30,75     | 950 470 | 496,00                     |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                            |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                            |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                            |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                            |  |
|                                                                                                                       |                        |                        |                        |                        |           |   |           |         |                            |  |



2BX

UNC

UNF

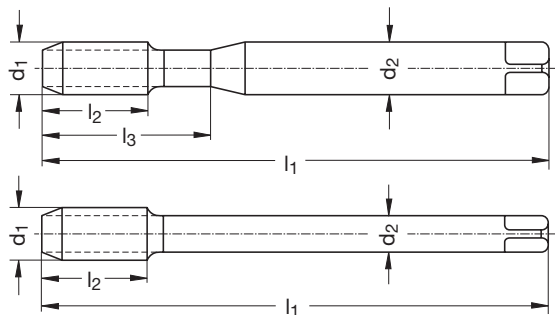
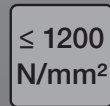
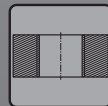
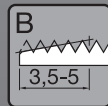
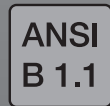
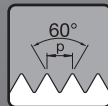
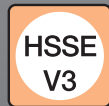
Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UB00TI-UNC<sup>840</sup>

TiN

|   | P<br>[Gg/1"] | d <sub>1</sub><br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code<br> | €<br> |
|---|--------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| # | 2 – 56       | 2,18                   | 45                     | 9                      | –                      | 2,8                    | 2,1       | 2 | 1,85      | 950 500                                                                                   | 25,50                                                                                  |
| # | 4 – 40       | 2,85                   | 56                     | 11                     | 18                     | 3,5                    | 2,7       | 2 | 2,35      | 950 501                                                                                   | 23,00                                                                                  |
| # | 5 – 40       | 3,18                   | 56                     | 11                     | 18                     | 3,5                    | 2,7       | 3 | 2,65      | 950 502                                                                                   | 23,00                                                                                  |
| # | 6 – 32       | 3,51                   | 56                     | 12                     | 20                     | 4                      | 3         | 3 | 2,85      | 950 503                                                                                   | 22,00                                                                                  |
| # | 8 – 32       | 4,17                   | 63                     | 13                     | 21                     | 4,5                    | 3,4       | 3 | 3,5       | 950 504                                                                                   | 22,25                                                                                  |
| # | 10 – 24      | 4,83                   | 70                     | 16                     | 25                     | 6                      | 4,9       | 3 | 3,9       | 950 505                                                                                   | 23,25                                                                                  |
| # | 12 – 24      | 5,49                   | 80                     | 17                     | 30                     | 6                      | 4,9       | 3 | 4,5       | 950 506                                                                                   | 24,50                                                                                  |
|   | 1/4" – 20    | 6,35                   | 80                     | 19                     | 30                     | 7                      | 5,5       | 3 | 5,2       | 950 507                                                                                   | 25,75                                                                                  |
|   | 5/16" – 18   | 7,94                   | 90                     | 22                     | 35                     | 8                      | 6,2       | 3 | 6,6       | 950 508                                                                                   | 28,25                                                                                  |
|   | 3/8" – 16    | 9,53                   | 100                    | 24                     | 39                     | 10                     | 8         | 3 | 8         | 950 509                                                                                   | 31,25                                                                                  |
|   | 1/2" – 13    | 12,70                  | 110                    | 28                     | –                      | 9                      | 7         | 3 | 10,8      | 950 510                                                                                   | 43,00                                                                                  |
|   | 5/8" – 11    | 15,88                  | 110                    | 32                     | –                      | 12                     | 9         | 3 | 13,5      | 950 511                                                                                   | 51,50                                                                                  |
|   | 3/4" – 10    | 19,05                  | 125                    | 34                     | –                      | 14                     | 11        | 3 | 16,5      | 950 512                                                                                   | 72,00                                                                                  |
|   | 7/8" – 9     | 22,23                  | 140                    | 34                     | –                      | 18                     | 14,5      | 3 | 19,5      | 950 513                                                                                   | 86,00                                                                                  |
|   | 1" – 8       | 25,40                  | 160                    | 38                     | –                      | 18                     | 14,5      | 3 | 22,25     | 950 514                                                                                   | 116,00                                                                                 |

HSSE-  
V3



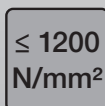
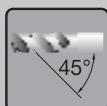
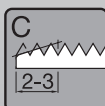
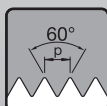
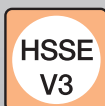
2BX

Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UB00TI-UNF<sup>840</sup>

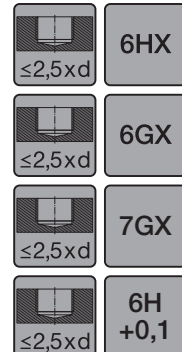
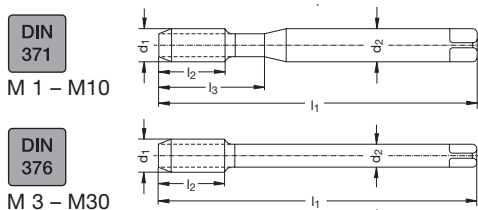
TiN

|            | P<br>[Gg/1"] | d <sub>1</sub><br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z     | Ø<br>[mm] | Code<br> | €<br> |
|------------|--------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------|-------|-----------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| # 2 – 64   | 2,18         | 45                     | 9                      | –                      | 2,8                    | 2,1                    | 2         | 1,85  | 950 535   | 29,25                                                                                       |                                                                                          |
| # 3 – 56   | 2,52         | 50                     | 9                      | –                      | 2,8                    | 2,1                    | 2         | 2,15  | 950 536   | 29,25                                                                                       |                                                                                          |
| # 4 – 48   | 2,85         | 56                     | 11                     | 18                     | 3,5                    | 2,7                    | 2         | 2,4   | 950 537   | 26,50                                                                                       |                                                                                          |
| # 5 – 44   | 3,18         | 56                     | 11                     | 18                     | 3,5                    | 2,7                    | 3         | 2,7   | 950 538   | 26,50                                                                                       |                                                                                          |
| # 6 – 40   | 3,51         | 56                     | 12                     | 20                     | 4                      | 3                      | 3         | 2,95  | 950 539   | 29,25                                                                                       |                                                                                          |
| # 8 – 36   | 4,17         | 63                     | 13                     | 21                     | 4,5                    | 3,4                    | 3         | 3,5   | 950 540   | 29,50                                                                                       |                                                                                          |
| # 10 – 32  | 4,83         | 70                     | 16                     | 25                     | 6                      | 4,9                    | 3         | 4,1   | 950 541   | 29,75                                                                                       |                                                                                          |
| 1/4" – 28  | 6,35         | 80                     | 19                     | 30                     | 7                      | 5,5                    | 3         | 5,5   | 950 542   | 33,00                                                                                       |                                                                                          |
| 5/16" – 24 | 7,94         | 90                     | 22                     | 35                     | 8                      | 6,2                    | 3         | 6,9   | 950 543   | 35,00                                                                                       |                                                                                          |
| 3/8" – 24  | 9,53         | 90                     | 20                     | 35                     | 10                     | 8                      | 3         | 8,5   | 950 544   | 38,00                                                                                       |                                                                                          |
| 7/16" – 20 | 11,11        | 100                    | 24                     | –                      | 8                      | 6,2                    | 3         | 9,9   | 950 545   | 46,50                                                                                       |                                                                                          |
| 1/2" – 20  | 12,70        | 100                    | 22                     | –                      | 9                      | 7                      | 3         | 11,5  | 950 546   | 45,25                                                                                       |                                                                                          |
| 9/16" – 18 | 14,29        | 100                    | 22                     | –                      | 11                     | 9                      | 3         | 12,9  | 950 547   | 52,00                                                                                       |                                                                                          |
| 5/8" – 18  | 15,88        | 100                    | 22                     | –                      | 12                     | 9                      | 3         | 14,5  | 950 548   | 60,00                                                                                       |                                                                                          |
| 3/4" – 16  | 19,05        | 110                    | 25                     | –                      | 14                     | 11                     | 3         | 17,5  | 950 549   | 83,00                                                                                       |                                                                                          |
| 7/8" – 14  | 22,23        | 125                    | 25                     | –                      | 18                     | 14,5                   | 3         | 20,4  | 950 550   | 103,00                                                                                      |                                                                                          |
| 1" – 12    | 25,40        | 140                    | 28                     | –                      | 18                     | 14,5                   | 3         | 23,25 | 950 551   | 132,00                                                                                      |                                                                                          |



M

HSSE-  
V3



| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |           |                        |                        |                        |                        |           |   |           |  | UC45TI <sup>840</sup> |        | UC45TI-6GX <sup>840</sup> |        | UC45TI-7GX <sup>840</sup> |       | UC45TI-6H+0,1 <sup>840</sup> |       |
|-----------------------------------------------------------------------------------------------------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|--|-----------------------|--------|---------------------------|--------|---------------------------|-------|------------------------------|-------|
| d <sub>1</sub><br>[mm]                                                                                                | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] |  | Code                  | €      | Code                      | €      | Code                      | €     | Code                         | €     |
| M 1*                                                                                                                  | 0,25      | 40                     | 5                      | -                      | 2,5                    | 2,1       | 2 | 0,75      |  | 950 130               | 31,75  | -                         | -      | -                         | -     | -                            | -     |
| M 1,1*                                                                                                                | 0,25      | 40                     | 5                      | -                      | 2,5                    | 2,1       | 2 | 0,85      |  | 950 131               | 31,75  | -                         | -      | -                         | -     | -                            | -     |
| M 1,2*                                                                                                                | 0,25      | 40                     | 5                      | -                      | 2,5                    | 2,1       | 2 | 0,95      |  | 950 132               | 31,75  | -                         | -      | -                         | -     | -                            | -     |
| M 1,4*                                                                                                                | 0,3       | 40                     | 6                      | -                      | 2,5                    | 2,1       | 2 | 1,1       |  | 950 133               | 28,25  | -                         | -      | -                         | -     | -                            | -     |
| M 1,6                                                                                                                 | 0,35      | 40                     | 7                      | -                      | 2,5                    | 2,1       | 2 | 1,25      |  | 950 134               | 28,25  | -                         | -      | -                         | -     | -                            | -     |
| M 1,7                                                                                                                 | 0,35      | 40                     | 8                      | -                      | 2,5                    | 2,1       | 2 | 1,3       |  | 950 135               | 26,75  | -                         | -      | -                         | -     | -                            | -     |
| M 1,8                                                                                                                 | 0,35      | 40                     | 8                      | -                      | 2,5                    | 2,1       | 2 | 1,45      |  | 950 136               | 26,75  | -                         | -      | -                         | -     | -                            | -     |
| M 2                                                                                                                   | 0,4       | 45                     | 3,2                    | 10                     | 2,8                    | 2,1       | 2 | 1,6       |  | 950 137               | 22,50  | 950 200                   | 27,00  | 950 220                   | 27,00 | 950 234                      | 29,25 |
| M 2,2                                                                                                                 | 0,45      | 45                     | 3,6                    | 11                     | 2,8                    | 2,1       | 2 | 1,75      |  | 950 138               | 24,50  | -                         | -      | -                         | -     | -                            | -     |
| M 2,3                                                                                                                 | 0,4       | 45                     | 3,6                    | 12                     | 2,8                    | 2,1       | 2 | 1,9       |  | 950 139               | 23,75  | -                         | -      | -                         | -     | -                            | -     |
| M 2,5                                                                                                                 | 0,45      | 50                     | 3,6                    | 13                     | 2,8                    | 2,1       | 2 | 2,05      |  | 950 140               | 24,25  | -                         | -      | -                         | -     | -                            | -     |
| M 2,6                                                                                                                 | 0,45      | 50                     | 3,6                    | 13                     | 2,8                    | 2,1       | 2 | 2,1       |  | 950 141               | 22,50  | -                         | -      | -                         | -     | -                            | -     |
| M 3                                                                                                                   | 0,5       | 56                     | 4                      | 18                     | 3,5                    | 2,7       | 3 | 2,5       |  | 950 142               | 21,25  | 950 201                   | 25,50  | 950 221                   | 25,50 | 950 235                      | 27,50 |
| M 3,5                                                                                                                 | 0,6       | 56                     | 4,8                    | 20                     | 4                      | 3         | 3 | 2,9       |  | 950 143               | 22,25  | -                         | -      | -                         | -     | -                            | -     |
| M 4                                                                                                                   | 0,7       | 63                     | 5,6                    | 21                     | 4,5                    | 3,4       | 3 | 3,3       |  | 950 144               | 21,50  | 950 202                   | 25,75  | 950 222                   | 25,75 | 950 236                      | 28,00 |
| M 4,5                                                                                                                 | 0,75      | 70                     | 6                      | 25                     | 6                      | 4,9       | 3 | 3,7       |  | 950 145               | 28,50  | -                         | -      | -                         | -     | -                            | -     |
| M 5                                                                                                                   | 0,8       | 70                     | 6,4                    | 25                     | 6                      | 4,9       | 3 | 4,2       |  | 950 146               | 22,25  | 950 203                   | 26,75  | 950 223                   | 26,75 | 950 237                      | 29,00 |
| M 6                                                                                                                   | 1         | 80                     | 8                      | 30                     | 6                      | 4,9       | 3 | 5         |  | 950 147               | 22,50  | 950 204                   | 27,00  | 950 224                   | 27,00 | 950 238                      | 29,25 |
| M 7                                                                                                                   | 1         | 80                     | 8                      | 30                     | 7                      | 5,5       | 3 | 6         |  | 950 148               | 30,25  | -                         | -      | -                         | -     | -                            | -     |
| M 8                                                                                                                   | 1,25      | 90                     | 10                     | 35                     | 8                      | 6,2       | 3 | 6,8       |  | 950 149               | 26,00  | 950 205                   | 31,25  | 950 225                   | 31,25 | 950 239                      | 34,00 |
| M 10                                                                                                                  | 1,5       | 100                    | 12                     | 39                     | 10                     | 8         | 3 | 8,5       |  | 950 150               | 32,00  | 950 206                   | 38,25  | 950 226                   | 38,25 | 950 240                      | 41,50 |
| M 3                                                                                                                   | 0,5       | 56                     | 4                      | -                      | 2,2                    | -         | 3 | 2,5       |  | 950 170               | 22,75  | -                         | -      | -                         | -     | -                            | -     |
| M 4                                                                                                                   | 0,7       | 63                     | 5,6                    | -                      | 2,8                    | 2,1       | 3 | 3,3       |  | 950 171               | 23,00  | -                         | -      | -                         | -     | -                            | -     |
| M 5                                                                                                                   | 0,8       | 70                     | 6,4                    | -                      | 3,5                    | 2,7       | 3 | 4,2       |  | 950 172               | 23,75  | -                         | -      | -                         | -     | -                            | -     |
| M 6                                                                                                                   | 1         | 80                     | 8                      | -                      | 4,5                    | 3,4       | 3 | 5         |  | 950 173               | 24,25  | -                         | -      | -                         | -     | -                            | -     |
| M 8                                                                                                                   | 1,25      | 90                     | 10                     | -                      | 6                      | 4,9       | 3 | 6,8       |  | 950 174               | 26,50  | -                         | -      | -                         | -     | -                            | -     |
| M 10                                                                                                                  | 1,5       | 100                    | 12                     | -                      | 7                      | 5,5       | 3 | 8,5       |  | 950 175               | 32,00  | -                         | -      | -                         | -     | -                            | -     |
| M 12                                                                                                                  | 1,75      | 110                    | 14                     | -                      | 9                      | 7         | 3 | 10,2      |  | 950 151               | 40,75  | 950 207                   | 48,75  | 950 227                   | 48,75 | 950 241                      | 53,00 |
| M 14                                                                                                                  | 2         | 110                    | 16                     | -                      | 11                     | 9         | 3 | 12        |  | 950 152               | 48,75  | 950 208                   | 58,50  | -                         | -     | -                            | -     |
| M 16                                                                                                                  | 2         | 110                    | 16                     | -                      | 12                     | 9         | 3 | 14        |  | 950 153               | 56,50  | 950 209                   | 67,50  | 950 228                   | 67,50 | 950 242                      | 73,50 |
| M 18                                                                                                                  | 2,5       | 125                    | 25                     | -                      | 14                     | 11        | 4 | 15,5      |  | 950 154               | 75,50  | -                         | -      | -                         | -     | -                            | -     |
| M 20                                                                                                                  | 2,5       | 140                    | 25                     | -                      | 16                     | 12        | 4 | 17,5      |  | 950 155               | 90,00  | 950 210                   | 108,00 | -                         | -     | -                            | -     |
| M 22                                                                                                                  | 2,5       | 140                    | 25                     | -                      | 18                     | 14,5      | 4 | 19,5      |  | 950 156               | 98,50  | -                         | -      | -                         | -     | -                            | -     |
| M 24                                                                                                                  | 3         | 160                    | 30                     | -                      | 18                     | 14,5      | 4 | 21        |  | 950 157               | 126,00 | 950 211                   | 152,00 | -                         | -     | -                            | -     |
| M 27                                                                                                                  | 3         | 160                    | 36                     | -                      | 20                     | 16        | 4 | 24        |  | 950 158               | 160,00 | -                         | -      | -                         | -     | -                            | -     |
| M 30                                                                                                                  | 3,5       | 180                    | 42                     | -                      | 22                     | 18        | 4 | 26,5      |  | 950 159               | 191,00 | -                         | -      | -                         | -     | -                            | -     |

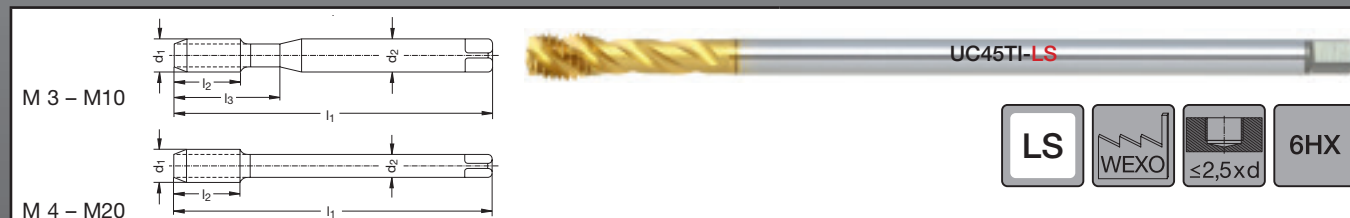
\* M 1 - M 1,4 = 4HX

Ø UC45TI-6H+0,1 = + 0,1 mm

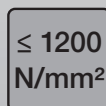
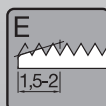
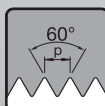
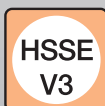


| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |           |                        |                        |                        |                        |           |   |           | UC45TI-LH <sup>840</sup> |        |
|-----------------------------------------------------------------------------------------------------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|--------------------------|--------|
|                                                                                                                       |           |                        |                        |                        |                        |           |   |           | TiN                      |        |
| d <sub>1</sub><br>[mm]                                                                                                | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code                     | €      |
| M 3                                                                                                                   | 0,5       | 56                     | 4                      | 18                     | 3,5                    | 2,7       | 3 | 2,5       | 950 270                  | 30,75  |
| M 4                                                                                                                   | 0,7       | 63                     | 5,6                    | 21                     | 4,5                    | 3,4       | 3 | 3,3       | 950 271                  | 31,25  |
| M 5                                                                                                                   | 0,8       | 70                     | 6,4                    | 25                     | 6                      | 4,9       | 3 | 4,2       | 950 272                  | 32,25  |
| M 6                                                                                                                   | 1         | 80                     | 8                      | 30                     | 6                      | 4,9       | 3 | 5         | 950 273                  | 32,75  |
| M 8                                                                                                                   | 1,25      | 90                     | 10                     | 35                     | 8                      | 6,2       | 3 | 6,8       | 950 274                  | 37,75  |
| M10                                                                                                                   | 1,5       | 100                    | 12                     | 39                     | 10                     | 8         | 3 | 8,5       | 950 275                  | 46,25  |
| M12                                                                                                                   | 1,75      | 110                    | 14                     | –                      | 9                      | 7         | 3 | 10,2      | 950 276                  | 59,00  |
| M14                                                                                                                   | 2         | 110                    | 16                     | –                      | 11                     | 9         | 3 | 12        | 950 277                  | 71,00  |
| M16                                                                                                                   | 2         | 110                    | 16                     | –                      | 12                     | 9         | 3 | 14        | 950 278                  | 81,50  |
| M20                                                                                                                   | 2,5       | 140                    | 25                     | –                      | 16                     | 12        | 4 | 17,5      | 950 279                  | 130,00 |
| M24                                                                                                                   | 3         | 160                    | 30                     | –                      | 18                     | 14,5      | 4 | 21        | 950 280                  | 183,00 |

HSSE-  
V3



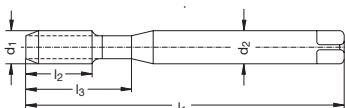
| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |           |                        |                        |                        |                        |           |   |           | UC45TI-LS <sup>840</sup> |        |
|-----------------------------------------------------------------------------------------------------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|--------------------------|--------|
|                                                                                                                       |           |                        |                        |                        |                        |           |   |           | TiN                      |        |
| d <sub>1</sub><br>[mm]                                                                                                | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code                     | €      |
| M 3                                                                                                                   | 0,5       | 100                    | 4                      | 18                     | 3,5                    | 2,7       | 3 | 2,5       | 950 250                  | 42,25  |
| M 4                                                                                                                   | 0,7       | 125                    | 5,6                    | 21                     | 4,5                    | 3,4       | 3 | 3,3       | 950 251                  | 43,00  |
| M 5                                                                                                                   | 0,8       | 160                    | 6,4                    | 25                     | 6                      | 4,9       | 3 | 4,2       | 950 252                  | 44,50  |
| M 6                                                                                                                   | 1         | 160                    | 8                      | 30                     | 6                      | 4,9       | 3 | 5         | 950 253                  | 45,25  |
| M 8                                                                                                                   | 1,25      | 180                    | 10                     | 35                     | 8                      | 6,2       | 3 | 6,8       | 950 254                  | 52,00  |
| M10                                                                                                                   | 1,5       | 200                    | 12                     | 39                     | 10                     | 8         | 3 | 8,5       | 950 255                  | 64,00  |
| M 4                                                                                                                   | 0,7       | 125                    | 5,6                    | –                      | 2,8                    | 2,1       | 3 | 3,3       | 950 265                  | 46,00  |
| M 5                                                                                                                   | 0,8       | 160                    | 6,4                    | –                      | 3,5                    | 2,7       | 3 | 4,2       | 950 266                  | 47,50  |
| M 6                                                                                                                   | 1         | 160                    | 8                      | –                      | 4,5                    | 3,4       | 3 | 5         | 950 267                  | 48,25  |
| M 8                                                                                                                   | 1,25      | 180                    | 10                     | –                      | 6                      | 4,9       | 3 | 6,8       | 950 268                  | 53,00  |
| M10                                                                                                                   | 1,5       | 200                    | 12                     | –                      | 7                      | 5,5       | 3 | 8,5       | 950 269                  | 64,00  |
| M12                                                                                                                   | 1,75      | 200                    | 14                     | –                      | 9                      | 7         | 3 | 10,2      | 950 266                  | 81,50  |
| M14                                                                                                                   | 2         | 200                    | 16                     | –                      | 11                     | 9         | 3 | 12        | 950 257                  | 97,50  |
| M16                                                                                                                   | 2         | 200                    | 16                     | –                      | 12                     | 9         | 3 | 14        | 950 258                  | 113,00 |
| M20                                                                                                                   | 2,5       | 200                    | 25                     | –                      | 16                     | 12        | 4 | 17,5      | 950 259                  | 180,00 |



M

DIN 371

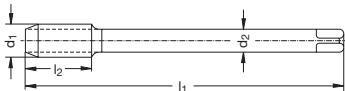
M 2 – M10



6HX

DIN 376

M12 – M24



EG-M

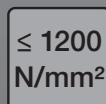
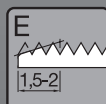
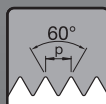
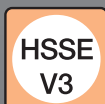
Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UE45TI<sup>840</sup>

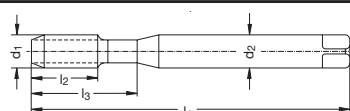
TiN

|      | d <sub>1</sub><br>[mm] | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z    | Ø<br>[mm] | Code<br> | €<br> |
|------|------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|------|-----------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| M 2  | 0,4                    | 45        | 3,2                    | 10                     | 2,8                    | 2,1                    | 2         | 1,6  | 950 180   | 23,75                                                                                     |                                                                                        |
| M 3  | 0,5                    | 56        | 4                      | 18                     | 3,5                    | 2,7                    | 3         | 2,5  | 950 181   | 21,50                                                                                     |                                                                                        |
| M 4  | 0,7                    | 63        | 5,6                    | 21                     | 4,5                    | 3,4                    | 3         | 3,3  | 950 182   | 22,00                                                                                     |                                                                                        |
| M 5  | 0,8                    | 70        | 6,4                    | 25                     | 6                      | 4,9                    | 3         | 4,2  | 950 183   | 22,75                                                                                     |                                                                                        |
| M 6  | 1                      | 80        | 8                      | 30                     | 6                      | 4,9                    | 3         | 5    | 950 184   | 23,00                                                                                     |                                                                                        |
| M 8  | 1,25                   | 90        | 10                     | 35                     | 8                      | 6,2                    | 3         | 6,8  | 950 185   | 26,50                                                                                     |                                                                                        |
| M 10 | 1,5                    | 100       | 12                     | 39                     | 10                     | 8                      | 3         | 8,5  | 950 186   | 32,50                                                                                     |                                                                                        |
|      |                        |           |                        |                        |                        |                        |           |      |           |                                                                                           |                                                                                        |
| M 12 | 1,75                   | 110       | 14                     | –                      | 9                      | 7                      | 3         | 10,2 | 950 187   | 41,50                                                                                     |                                                                                        |
| M 14 | 2                      | 110       | 16                     | –                      | 11                     | 9                      | 3         | 12   | 950 188   | 49,75                                                                                     |                                                                                        |
| M 16 | 2                      | 110       | 16                     | –                      | 12                     | 9                      | 3         | 14   | 950 189   | 57,50                                                                                     |                                                                                        |
| M 20 | 2,5                    | 140       | 25                     | –                      | 16                     | 12                     | 4         | 17,5 | 950 190   | 91,50                                                                                     |                                                                                        |
| M 24 | 3                      | 160       | 30                     | –                      | 18                     | 14,5                   | 4         | 21   | 950 191   | 129,00                                                                                    |                                                                                        |

HSSE-V3

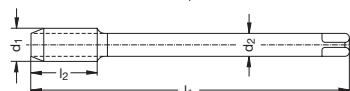


EG-M 2 – EG-M 8



6H mod

EG-M10 – EG-M20

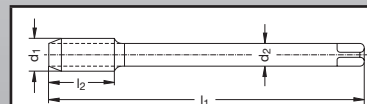
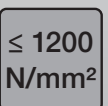
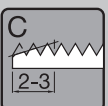
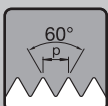
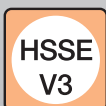


Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UE45TI-EG<sup>840</sup>

TiN

|          |                        |           |                        |                        |                        |                        |           |      |           | Code                                                                                |   |
|----------|------------------------|-----------|------------------------|------------------------|------------------------|------------------------|-----------|------|-----------|-------------------------------------------------------------------------------------|---|
|          | d <sub>1</sub><br>[mm] | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z    | Ø<br>[mm] |  | € |
| EG M 2   | 0,4                    | 50        | 4,5                    | 13                     | 2,8                    | 2,1                    | 2         | 2,1  | 950 440   | 28,25                                                                               |   |
| EG M 2,5 | 0,45                   | 56        | 5                      | 18                     | 3,5                    | 2,7                    | 3         | 2,65 | 950 441   | 30,25                                                                               |   |
| EG M 3   | 0,5                    | 63        | 5                      | 21                     | 4,5                    | 3,4                    | 3         | 3,15 | 950 442   | 26,50                                                                               |   |
| EG M 4   | 0,7                    | 70        | 7                      | 25                     | 6                      | 4,9                    | 3         | 4,2  | 950 443   | 26,75                                                                               |   |
| EG M 5   | 0,8                    | 80        | 8                      | 30                     | 6                      | 4,9                    | 3         | 5,25 | 950 444   | 27,75                                                                               |   |
| EG M 6   | 1                      | 90        | 10                     | 35                     | 8                      | 6,2                    | 3         | 6,3  | 950 445   | 28,25                                                                               |   |
| EG M 8   | 1,25                   | 100       | 13                     | 39                     | 10                     | 8                      | 3         | 8,4  | 950 446   | 32,50                                                                               |   |
|          |                        |           |                        |                        |                        |                        |           |      |           |                                                                                     |   |
| EG M 10  | 1,5                    | 100       | 15                     | –                      | 9                      | 7                      | 3         | 10,5 | 950 447   | 39,75                                                                               |   |
| EG M 12  | 1,75                   | 110       | 18                     | –                      | 11                     | 9                      | 3         | 12,5 | 950 448   | 51,00                                                                               |   |
| EG M 16  | 2                      | 125       | 20                     | –                      | 14                     | 11                     | 4         | 16,5 | 950 449   | 70,50                                                                               |   |
| EG M 20  | 2,5                    | 160       | 25                     | –                      | 18                     | 14,5                   | 4         | 20,5 | 950 450   | 112,00                                                                              |   |



DIN  
374



6HX

**MF**

**LH**

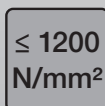
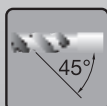
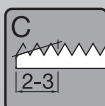
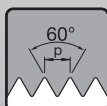
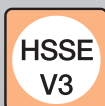
DIN  
374



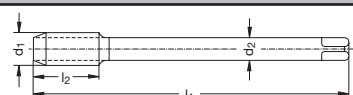
6HX

HSSE-  
V3

| Katalog-Nr. <sup>W%</sup> / Catalogue no. <sup>W%</sup><br>Catalogue n° <sup>W%</sup> / Nr. di catalogo <sup>W%</sup> |           |                        |                        |                        |           |       |           |        | UC45TI-MF <sup>840</sup> |        | UC45TI-MF-LH <sup>840</sup> |   |
|-----------------------------------------------------------------------------------------------------------------------|-----------|------------------------|------------------------|------------------------|-----------|-------|-----------|--------|--------------------------|--------|-----------------------------|---|
|                                                                                                                       |           |                        |                        |                        |           |       |           |        | TiN                      |        | TiN                         |   |
| d <sub>1</sub><br>[mm]                                                                                                | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z     | Ø<br>[mm] |        | Code<br>                 | €      | Code<br>                    | € |
| M 2,5 x 0,35                                                                                                          | 50        | 9                      | 1,8                    | —                      | 2         | 2,15  | 950 360   | 28,75  | —                        | —      | —                           | — |
| M 2,6 x 0,35                                                                                                          | 50        | 9                      | 1,8                    | —                      | 2         | 2,25  | 950 361   | 26,75  | —                        | —      | —                           | — |
| M 3 x 0,35                                                                                                            | 56        | 4                      | 2,2                    | —                      | 3         | 2,65  | 950 362   | 29,75  | —                        | —      | —                           | — |
| M 3,5 x 0,35                                                                                                          | 56        | 4,8                    | 2,5                    | 2,1                    | 3         | 3,15  | 950 363   | 26,50  | —                        | —      | —                           | — |
| M 4 x 0,35                                                                                                            | 63        | 5,6                    | 2,8                    | 2,1                    | 3         | 3,65  | 950 364   | 29,75  | —                        | —      | —                           | — |
| M 4 x 0,5                                                                                                             | 63        | 5,6                    | 2,8                    | 2,1                    | 3         | 3,5   | 950 365   | 29,75  | —                        | —      | —                           | — |
| M 4,5 x 0,5                                                                                                           | 70        | 6                      | 3,5                    | 2,7                    | 3         | 4     | 950 366   | 33,50  | —                        | —      | —                           | — |
| M 5 x 0,5                                                                                                             | 70        | 6,4                    | 3,5                    | 2,7                    | 3         | 4,5   | 950 367   | 30,75  | —                        | —      | —                           | — |
| M 6 x 0,5                                                                                                             | 80        | 8                      | 4,5                    | 3,4                    | 3         | 5,5   | 950 368   | 31,00  | —                        | —      | —                           | — |
| M 6 x 0,75                                                                                                            | 80        | 8                      | 4,5                    | 3,4                    | 3         | 5,25  | 950 369   | 30,25  | —                        | —      | —                           | — |
| M 6,5 x 0,75                                                                                                          | 80        | 8                      | 5,5                    | 4,3                    | 3         | 5,75  | 950 370   | 31,75  | —                        | —      | —                           | — |
| M 7 x 0,5                                                                                                             | 80        | 8                      | 5,5                    | 4,3                    | 3         | 6,5   | 950 371   | 32,00  | —                        | —      | —                           | — |
| M 8 x 0,75                                                                                                            | 80        | 8                      | 6                      | 4,9                    | 3         | 7,25  | 950 372   | 32,50  | —                        | —      | —                           | — |
| M 8 x 1                                                                                                               | 90        | 10                     | 6                      | 4,9                    | 3         | 7     | 950 373   | 32,50  | 950 410                  | 47,25  | —                           | — |
| M 9 x 1                                                                                                               | 90        | 10                     | 7                      | 5,5                    | 3         | 8     | 950 374   | 39,25  | —                        | —      | —                           | — |
| M 10 x 0,75                                                                                                           | 90        | 10                     | 7                      | 5,5                    | 3         | 9,25  | 950 375   | 36,75  | —                        | —      | —                           | — |
| M 10 x 1                                                                                                              | 90        | 10                     | 7                      | 5,5                    | 3         | 9     | 950 376   | 35,25  | 950 411                  | 51,00  | —                           | — |
| M 10 x 1,25                                                                                                           | 100       | 12                     | 7                      | 5,5                    | 3         | 8,75  | 950 377   | 35,25  | 950 412                  | 51,00  | —                           | — |
| M 11 x 1                                                                                                              | 90        | 12                     | 8                      | 6,2                    | 3         | 10    | 950 378   | 65,00  | —                        | —      | —                           | — |
| M 12 x 0,5                                                                                                            | 100       | 8                      | 9                      | 7                      | 3         | 11,5  | 950 379   | 40,75  | —                        | —      | —                           | — |
| M 12 x 0,75                                                                                                           | 100       | 10                     | 9                      | 7                      | 3         | 11,25 | 950 380   | 40,75  | —                        | —      | —                           | — |
| M 12 x 1                                                                                                              | 100       | 12                     | 9                      | 7                      | 3         | 11    | 950 381   | 40,75  | —                        | —      | —                           | — |
| M 12 x 1,25                                                                                                           | 100       | 12                     | 9                      | 7                      | 3         | 10,75 | 950 382   | 40,75  | 950 413                  | 59,00  | —                           | — |
| M 12 x 1,5                                                                                                            | 100       | 14                     | 9                      | 7                      | 3         | 10,5  | 950 383   | 40,75  | 950 414                  | 59,00  | —                           | — |
| M 13 x 1                                                                                                              | 100       | 12                     | 11                     | 9                      | 3         | 12    | 950 384   | 46,50  | —                        | —      | —                           | — |
| M 14 x 1,5                                                                                                            | 100       | 16                     | 11                     | 9                      | 3         | 12,5  | 950 385   | 51,50  | —                        | —      | —                           | — |
| M 16 x 1,5                                                                                                            | 100       | 16                     | 12                     | 9                      | 3         | 14,5  | 950 386   | 59,00  | 950 415                  | 85,50  | —                           | — |
| M 18 x 1                                                                                                              | 110       | 16                     | 14                     | 11                     | 4         | 17    | 950 387   | 83,00  | —                        | —      | —                           | — |
| M 18 x 1,5                                                                                                            | 110       | 16                     | 14                     | 11                     | 4         | 16,5  | 950 388   | 72,00  | —                        | —      | —                           | — |
| M 20 x 1,5                                                                                                            | 125       | 16                     | 16                     | 12                     | 4         | 18,5  | 950 389   | 90,00  | 950 416                  | 130,00 | —                           | — |
| M 22 x 1,5                                                                                                            | 125       | 16                     | 18                     | 14,5                   | 4         | 20,5  | 950 390   | 98,00  | —                        | —      | —                           | — |
| M 24 x 1,5                                                                                                            | 140       | 16                     | 18                     | 14,5                   | 4         | 22,5  | 950 391   | 120,00 | 950 417                  | 174,00 | —                           | — |
| M 26 x 1,5                                                                                                            | 140       | 24                     | 18                     | 14,5                   | 4         | 24,5  | 950 392   | 170,00 | —                        | —      | —                           | — |
| M 30 x 1,5                                                                                                            | 150       | 36                     | 22                     | 18                     | 4         | 28,5  | 950 393   | 248,00 | —                        | —      | —                           | — |
|                                                                                                                       |           |                        |                        |                        |           |       |           |        |                          |        |                             |   |
|                                                                                                                       |           |                        |                        |                        |           |       |           |        |                          |        |                             |   |



MF



G

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Catalogue n° W% / Nr. di catalogo W%

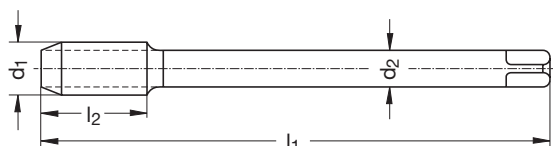
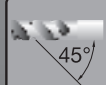
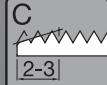
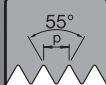
UC45TI-MF-LS<sup>840</sup>

TiN

| d <sub>1</sub><br>[mm] | P<br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code    | €      |
|------------------------|-----------|------------------------|------------------------|------------------------|-----------|---|-----------|---------|--------|
| M 8                    | x 1       | 180                    | 10                     | 6                      | 4,9       | 3 | 7         | 950 400 | 65,00  |
| M 10                   | x 1       | 180                    | 10                     | 7                      | 5,5       | 3 | 9         | 950 401 | 70,50  |
| M 10                   | x 1,25    | 200                    | 12                     | 7                      | 5,5       | 3 | 8,75      | 950 402 | 70,50  |
| M 12                   | x 1,25    | 200                    | 12                     | 9                      | 7         | 3 | 10,75     | 950 403 | 81,50  |
| M 12                   | x 1,5     | 200                    | 14                     | 9                      | 7         | 3 | 10,5      | 950 404 | 81,50  |
| M 14                   | x 1,5     | 200                    | 16                     | 11                     | 9         | 3 | 12,5      | 950 407 | 103,00 |
| M 16                   | x 1,5     | 200                    | 16                     | 12                     | 9         | 3 | 14,5      | 950 405 | 118,00 |
| M 20                   | x 1,5     | 250                    | 16                     | 16                     | 12        | 4 | 18,5      | 950 406 | 180,00 |

HSSE-  
V3

G

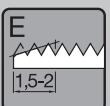
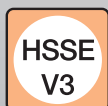


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Catalogue n° W% / Nr. di catalogo W%

UC45TI-G<sup>840</sup>

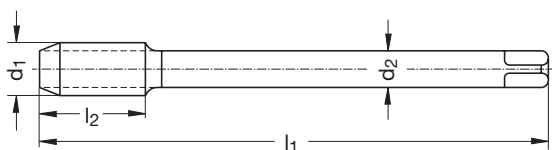
TiN

|               | P<br>[Gg/1"] | d <sub>1</sub><br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code<br> | €<br> |
|---------------|--------------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>G 1/16</b> | <b>28</b>    | 7,72                   | 90                     | 9,1                    | 6                      | 4,9       | 3 | 6,8       | 950 475                                                                                     | <b>55,50</b>                                                                             |
| <b>G 1/8</b>  | <b>28</b>    | 9,73                   | 90                     | 9,1                    | 7                      | 5,5       | 3 | 8,8       | 950 476                                                                                     | <b>46,00</b>                                                                             |
| <b>G 1/4</b>  | <b>19</b>    | 13,16                  | 100                    | 13,4                   | 11                     | 9         | 3 | 11,8      | 950 477                                                                                     | <b>61,00</b>                                                                             |
| <b>G 3/8</b>  | <b>19</b>    | 16,66                  | 100                    | 13,4                   | 12                     | 9         | 4 | 15,25     | 950 478                                                                                     | <b>77,00</b>                                                                             |
| <b>G 1/2</b>  | <b>14</b>    | 20,96                  | 125                    | 18,2                   | 16                     | 12        | 4 | 19        | 950 479                                                                                     | <b>112,00</b>                                                                            |
| <b>G 5/8</b>  | <b>14</b>    | 22,91                  | 125                    | 18,2                   | 18                     | 14,5      | 4 | 21        | 950 480                                                                                     | <b>136,00</b>                                                                            |
| <b>G 3/4</b>  | <b>14</b>    | 26,44                  | 140                    | 28                     | 20                     | 16        | 4 | 24,5      | 950 481                                                                                     | <b>184,00</b>                                                                            |
| <b>G 1</b>    | <b>11</b>    | 33,25                  | 160                    | 30                     | 25                     | 20        | 4 | 30,75     | 950 482                                                                                     | <b>270,00</b>                                                                            |



≤ 1200  
N/mm<sup>2</sup>

G



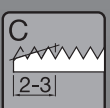
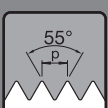
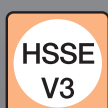
HSSE-  
V3

Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

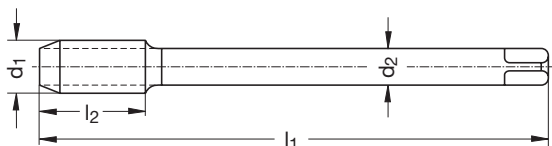
UE45TI-G<sup>840</sup>

TiN

|       | P       | d <sub>1</sub> | l <sub>1</sub> | l <sub>2</sub> | d <sub>2</sub> | □    | z | Ø     | Code    | €      |
|-------|---------|----------------|----------------|----------------|----------------|------|---|-------|---------|--------|
|       | [Gg/1"] | [mm]           | [mm]           | [mm]           | [mm]           | [mm] |   | [mm]  |         |        |
| G 1/8 | 28      | 9,73           | 90             | 9,1            | 7              | 5,5  | 3 | 8,8   | 950 493 | 47,00  |
| G 1/4 | 19      | 13,16          | 100            | 13,4           | 11             | 9    | 3 | 11,8  | 950 494 | 62,00  |
| G 3/8 | 19      | 16,66          | 100            | 13,4           | 12             | 9    | 4 | 15,25 | 950 495 | 78,50  |
| G 1/2 | 14      | 20,96          | 125            | 18,2           | 16             | 12   | 4 | 19    | 950 496 | 115,00 |
| G 3/4 | 14      | 26,44          | 140            | 28             | 20             | 16   | 4 | 24,5  | 950 497 | 187,00 |
| G 1   | 11      | 33,25          | 160            | 30             | 25             | 20   | 4 | 30,75 | 950 498 | 274,00 |



≤ 1200  
N/mm<sup>2</sup>

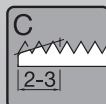
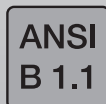
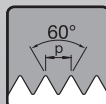
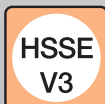


Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UC45TI-G-LS<sup>840</sup>

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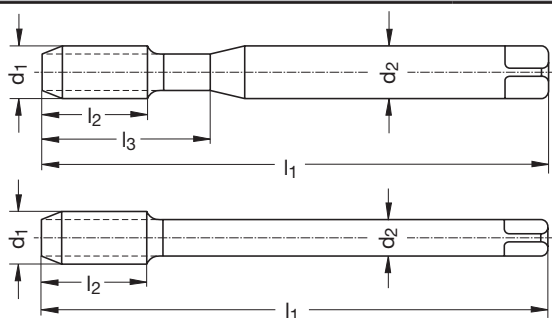
|       | P       | d <sub>1</sub> | l <sub>1</sub> | l <sub>2</sub> | d <sub>2</sub> | □    | z | Ø     | Code    | €      |
|-------|---------|----------------|----------------|----------------|----------------|------|---|-------|---------|--------|
|       | [Gg/1"] | [mm]           | [mm]           | [mm]           | [mm]           | [mm] |   | [mm]  |         |        |
| G 1/8 | 28      | 9,73           | 180            | 9,1            | 7              | 5,5  | 3 | 8,8   | 950 485 | 92,00  |
| G 1/4 | 19      | 13,16          | 200            | 13,4           | 11             | 9    | 3 | 11,8  | 950 486 | 122,00 |
| G 3/8 | 19      | 16,66          | 200            | 13,4           | 12             | 9    | 4 | 15,25 | 950 487 | 154,00 |
| G 1/2 | 14      | 20,96          | 250            | 18,2           | 16             | 12   | 4 | 19    | 950 488 | 224,00 |
| G 3/4 | 14      | 26,44          | 280            | 28             | 20             | 16   | 4 | 24,5  | 950 489 | 368,00 |
| G 1   | 11      | 33,25          | 280            | 30             | 25             | 20   | 4 | 30,75 | 950 490 | 540,00 |



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HSSE-  
V3



≤ 1200  
N/mm<sup>2</sup>

2BX

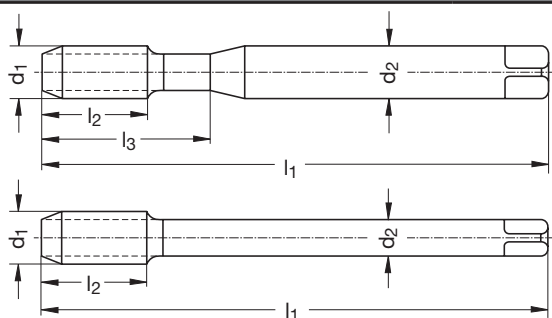
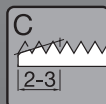
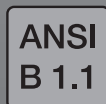
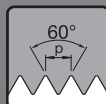
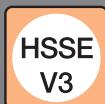


Katalog-Nr.<sup>W%</sup> / Catalogue no.<sup>W%</sup>  
Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

UC45TI-UNC<sup>840</sup>

TiN

|            | P<br>[Gg/1"] | d <sub>1</sub><br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z     | Ø<br>[mm] | Code<br> | €<br> |
|------------|--------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------|-------|-----------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| # 2 – 56   | 2,18         | 45                     | 3,6                    | 11                     | 2,8                    | 2,1                    | 2         | 1,85  | 950 517   | 30,50                                                                                     |                                                                                        |
| # 3 – 48   | 2,52         | 50                     | 3,6                    | 13                     | 2,8                    | 2,1                    | 2         | 2,1   | 950 518   | 30,50                                                                                     |                                                                                        |
| # 4 – 40   | 2,85         | 56                     | 5,1                    | 18                     | 3,5                    | 2,7                    | 2         | 2,35  | 950 519   | 27,50                                                                                     |                                                                                        |
| # 5 – 40   | 3,18         | 56                     | 5,1                    | 18                     | 3,5                    | 2,7                    | 2         | 2,65  | 950 520   | 27,50                                                                                     |                                                                                        |
| # 6 – 32   | 3,51         | 56                     | 6,4                    | 20                     | 4                      | 3                      | 2         | 2,85  | 950 521   | 26,50                                                                                     |                                                                                        |
| # 8 – 32   | 4,17         | 63                     | 6,4                    | 21                     | 4,5                    | 3,4                    | 2         | 3,5   | 950 522   | 26,75                                                                                     |                                                                                        |
| # 10 – 24  | 4,83         | 70                     | 8,5                    | 25                     | 6                      | 4,9                    | 2         | 3,9   | 950 523   | 27,75                                                                                     |                                                                                        |
| # 12 – 24  | 5,49         | 80                     | 8,5                    | 30                     | 6                      | 4,9                    | 2         | 4,5   | 950 524   | 29,25                                                                                     |                                                                                        |
| 1/4" – 20  | 6,35         | 80                     | 10,2                   | 30                     | 7                      | 5,5                    | 2         | 5,2   | 950 525   | 31,25                                                                                     |                                                                                        |
| 5/16" – 18 | 7,94         | 90                     | 11,3                   | 35                     | 8                      | 6,2                    | 3         | 6,6   | 950 526   | 32,25                                                                                     |                                                                                        |
| 3/8" – 16  | 9,53         | 100                    | 12,7                   | 39                     | 10                     | 8                      | 3         | 8     | 950 527   | 35,50                                                                                     |                                                                                        |
| 1/2" – 13  | 12,70        | 110                    | 15,6                   | –                      | 9                      | 7                      | 3         | 10,8  | 950 528   | 50,50                                                                                     |                                                                                        |
| 5/8" – 11  | 15,88        | 110                    | 18,5                   | –                      | 12                     | 9                      | 3         | 13,5  | 950 529   | 65,50                                                                                     |                                                                                        |
| 3/4" – 10  | 19,05        | 125                    | 25,4                   | –                      | 14                     | 11                     | 4         | 16,5  | 950 530   | 87,00                                                                                     |                                                                                        |
| 7/8" – 9   | 22,23        | 140                    | 28,2                   | –                      | 18                     | 14,5                   | 4         | 19,5  | 950 531   | 106,00                                                                                    |                                                                                        |
| 1" – 8     | 25,40        | 160                    | 31,8                   | –                      | 18                     | 14,5                   | 4         | 22,25 | 950 532   | 149,00                                                                                    |                                                                                        |



≤ 1200  
N/mm<sup>2</sup>

2BX

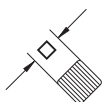
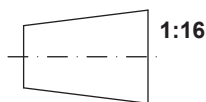
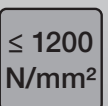
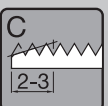
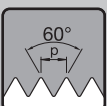
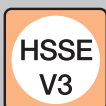


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Catalogue n°<sup>W%</sup> / Nr. di catalogo<sup>W%</sup>

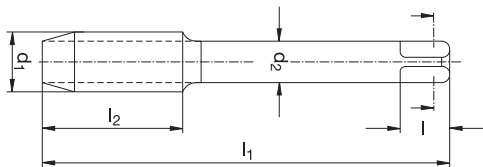
UC45TI-UNF<sup>840</sup>

TiN

|       | P<br>[Gg/1"] | d <sub>1</sub><br>[mm] | l <sub>1</sub><br>[mm] | l <sub>2</sub><br>[mm] | l <sub>3</sub><br>[mm] | d <sub>2</sub><br>[mm] | □<br>[mm] | z | Ø<br>[mm] | Code<br> | €<br> |
|-------|--------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------|---|-----------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| #     | 2 – 64       | 2,18                   | 45                     | 3,6                    | 11                     | 2,8                    | 2,1       | 2 | 1,85      | 950 555                                                                                     | 38,25                                                                                    |
| #     | 3 – 56       | 2,52                   | 50                     | 3,6                    | 13                     | 2,8                    | 2,1       | 2 | 2,15      | 950 556                                                                                     | 38,25                                                                                    |
| #     | 4 – 48       | 2,85                   | 56                     | 5,1                    | 18                     | 3,5                    | 2,7       | 2 | 2,4       | 950 557                                                                                     | 34,50                                                                                    |
| #     | 5 – 44       | 3,18                   | 56                     | 5,1                    | 18                     | 3,5                    | 2,7       | 2 | 2,7       | 950 558                                                                                     | 34,50                                                                                    |
| #     | 6 – 40       | 3,51                   | 56                     | 6,4                    | 20                     | 4                      | 3         | 2 | 2,95      | 950 559                                                                                     | 34,75                                                                                    |
| #     | 8 – 36       | 4,17                   | 63                     | 6,4                    | 21                     | 4,5                    | 3,4       | 2 | 3,5       | 950 560                                                                                     | 35,50                                                                                    |
| #     | 10 – 32      | 4,83                   | 70                     | 8,5                    | 25                     | 6                      | 4,9       | 2 | 4,1       | 950 561                                                                                     | 36,00                                                                                    |
| #     | 12 – 28      | 5,49                   | 80                     | 8,5                    | 30                     | 6                      | 4,9       | 2 | 4,6       | 950 562                                                                                     | 38,25                                                                                    |
| 1/4"  | – 28         | 6,35                   | 80                     | 10,2                   | 30                     | 7                      | 5,5       | 2 | 5,5       | 950 563                                                                                     | 41,50                                                                                    |
| 5/16" | – 24         | 7,94                   | 90                     | 11,3                   | 35                     | 8                      | 6,2       | 3 | 6,9       | 950 564                                                                                     | 43,00                                                                                    |
| 3/8"  | – 24         | 9,53                   | 90                     | 12,7                   | 35                     | 10                     | 8         | 3 | 8,5       | 950 565                                                                                     | 44,25                                                                                    |
| 7/16" | – 20         | 11,11                  | 100                    | 14,5                   | –                      | 8                      | 6,2       | 3 | 9,9       | 950 566                                                                                     | 55,50                                                                                    |
| 1/2"  | – 20         | 12,70                  | 100                    | 15,6                   | –                      | 9                      | 7         | 3 | 11,5      | 950 567                                                                                     | 55,50                                                                                    |
| 9/16" | – 18         | 14,29                  | 100                    | 16,9                   | –                      | 11                     | 9         | 3 | 12,9      | 950 568                                                                                     | 64,00                                                                                    |
| 5/8"  | – 18         | 15,88                  | 100                    | 18,5                   | –                      | 12                     | 9         | 3 | 14,5      | 950 569                                                                                     | 73,00                                                                                    |
| 3/4"  | – 16         | 19,05                  | 110                    | 25,4                   | –                      | 14                     | 11        | 4 | 17,5      | 950 570                                                                                     | 99,50                                                                                    |
| 7/8"  | – 14         | 22,23                  | 125                    | 28,2                   | –                      | 18                     | 14,5      | 4 | 20,4      | 950 571                                                                                     | 121,00                                                                                   |
| 1"    | – 12         | 25,40                  | 140                    | 31,8                   | –                      | 18                     | 14,5      | 4 | 23,25     | 950 572                                                                                     | 163,00                                                                                   |



**NPT**



| Katalog-Nr. W% / Catalogue no. W%   |                |                |                |                |      |     |      |      |         | UC40TI-NPT <sup>840</sup> |  |
|-------------------------------------|----------------|----------------|----------------|----------------|------|-----|------|------|---------|---------------------------|--|
| Catalogue n°W% / Nr. di catalogo W% |                |                |                |                |      |     |      |      |         | TiN                       |  |
| P                                   | d <sub>1</sub> | l <sub>1</sub> | l <sub>2</sub> | d <sub>2</sub> | □    | z   | Ø    | Code | €       |                           |  |
| [Gg/1"]                             | [mm]           | [mm]           | [mm]           | [mm]           | [mm] |     | [mm] |      |         |                           |  |
| 1/16                                | 27             | 7,94           | 90             | 18             | 6    | 4,9 | 3    | 6,4  | 950 575 | 48,25                     |  |
| 1/8                                 | 27             | 10,07          | 90             | 19             | 7    | 5,5 | 3    | 8,7  | 950 576 | 60,00                     |  |
| 1/4                                 | 18             | 13,37          | 100            | 28             | 11   | 9   | 3    | 11,4 | 950 577 | 72,00                     |  |
| 3/8                                 | 18             | 16,81          | 100            | 28             | 12   | 9   | 4    | 14,7 | 950 578 | 98,00                     |  |
| 1/2                                 | 14             | 20,95          | 125            | 35             | 16   | 12  | 4    | 18,3 | 950 579 | 129,00                    |  |
| 3/4                                 | 14             | 26,29          | 140            | 35             | 20   | 16  | 4    | 23,7 | 950 580 | 206,00                    |  |
| 1                                   | 11,5           | 32,91          | 160            | 45             | 25   | 20  | 4    | 29,7 | 950 581 | 300,00                    |  |
|                                     |                |                |                |                |      |     |      |      |         |                           |  |
|                                     |                |                |                |                |      |     |      |      |         |                           |  |
|                                     |                |                |                |                |      |     |      |      |         |                           |  |
|                                     |                |                |                |                |      |     |      |      |         |                           |  |
|                                     |                |                |                |                |      |     |      |      |         |                           |  |
|                                     |                |                |                |                |      |     |      |      |         |                           |  |

**HSSE-  
V3**

| M     | P    | Ø     |
|-------|------|-------|
| M 1   | 0,25 | 0,75  |
| M 1,1 | 0,25 | 0,85  |
| M 1,2 | 0,25 | 0,95  |
| M 1,4 | 0,3  | 1,10  |
| M 1,6 | 0,35 | 1,25  |
| M 1,7 | 0,35 | 1,30  |
| M 1,8 | 0,35 | 1,45  |
| M 2   | 0,4  | 1,60  |
| M 2,2 | 0,45 | 1,75  |
| M 2,3 | 0,4  | 1,90  |
| M 2,5 | 0,45 | 2,05  |
| M 2,6 | 0,45 | 2,10  |
| M 3   | 0,5  | 2,50  |
| M 3,5 | 0,6  | 2,90  |
| M 4   | 0,7  | 3,30  |
| M 4,5 | 0,75 | 3,70  |
| M 5   | 0,8  | 4,20  |
| M 6   | 1    | 5,00  |
| M 7   | 1    | 6,00  |
| M 8   | 1,25 | 6,80  |
| M 9   | 1,25 | 7,80  |
| M 10  | 1,5  | 8,50  |
| M 11  | 1,5  | 9,50  |
| M 12  | 1,75 | 10,20 |
| M 14  | 2    | 12,00 |
| M 16  | 2    | 14,00 |
| M 18  | 2,5  | 15,50 |
| M 20  | 2,5  | 17,50 |
| M 22  | 2,5  | 19,50 |
| M 24  | 3    | 21,00 |
| M 27  | 3    | 24,00 |
| M 30  | 3,5  | 26,50 |
| M 33  | 3,5  | 29,50 |
| M 36  | 4    | 32,00 |
| M 39  | 4    | 35,00 |
| M 42  | 4,5  | 37,50 |
| M 45  | 4,5  | 40,50 |
| M 48  | 5    | 43,00 |
| M 52  | 5    | 47,00 |

| EG-M     | P    | Ø     |
|----------|------|-------|
| EG M 2,5 | 0,45 | 2,65  |
| EG M 3   | 0,5  | 3,15  |
| EG M 3,5 | 0,6  | 3,70  |
| EG M 4   | 0,7  | 4,20  |
| EG M 5   | 0,8  | 5,25  |
| EG M 6   | 1    | 6,30  |
| EG M 8   | 1,25 | 8,40  |
| EG M 10  | 1,5  | 10,50 |
| EG M 12  | 1,75 | 12,50 |
| EG M 14  | 2    | 14,50 |
| EG M 16  | 2    | 16,50 |

| MF      | P    | Ø     |
|---------|------|-------|
| M 2 x   | 0,25 | 1,75  |
| M 2,5 x | 0,35 | 2,15  |
| M 3 x   | 0,35 | 2,65  |
| M 3,5 x | 0,35 | 3,15  |
| M 4 x   | 0,35 | 3,65  |
| M 4 x   | 0,5  | 3,50  |
| M 5 x   | 0,5  | 4,50  |
| M 6 x   | 0,5  | 5,50  |
| M 6 x   | 0,75 | 5,20  |
| M 7 x   | 0,75 | 6,20  |
| M 8 x   | 0,5  | 7,50  |
| M 8 x   | 0,75 | 7,20  |
| M 8 x   | 1    | 7,00  |
| M 9 x   | 1    | 8,00  |
| M 10 x  | 0,75 | 9,20  |
| M 10 x  | 1    | 9,00  |
| M 10 x  | 1,25 | 8,80  |
| M 11 x  | 1    | 10,00 |
| M 12 x  | 1    | 11,00 |
| M 12 x  | 1,25 | 10,75 |
| M 12 x  | 1,5  | 10,50 |
| M 14 x  | 1    | 13,00 |
| M 14 x  | 1,25 | 12,80 |
| M 14 x  | 1,5  | 12,50 |
| M 15 x  | 1    | 14,00 |
| M 15 x  | 1,5  | 13,50 |
| M 16 x  | 1    | 15,00 |
| M 16 x  | 1,5  | 14,50 |
| M 18 x  | 1    | 17,00 |
| M 18 x  | 1,5  | 16,50 |
| M 18 x  | 2    | 16,00 |
| M 20 x  | 1    | 19,00 |
| M 20 x  | 1,5  | 18,50 |
| M 20 x  | 2    | 18,00 |
| M 22 x  | 1    | 21,00 |
| M 22 x  | 1,5  | 20,50 |
| M 22 x  | 2    | 20,00 |
| M 24 x  | 1    | 23,00 |
| M 24 x  | 1,5  | 22,50 |
| M 24 x  | 2    | 22,00 |
| M 25 x  | 1,5  | 23,50 |
| M 26 x  | 1,5  | 24,50 |
| M 27 x  | 1,5  | 25,50 |
| M 27 x  | 2    | 25,00 |
| M 28 x  | 1,5  | 26,50 |
| M 30 x  | 1    | 29,00 |
| M 30 x  | 1,5  | 28,50 |
| M 30 x  | 2    | 28,00 |

| G            | P/1" | Ø     |
|--------------|------|-------|
| G 1/8 - 28   |      | 8,80  |
| G 1/4 - 19   |      | 11,80 |
| G 3/8 - 19   |      | 15,25 |
| G 1/2 - 14   |      | 19,00 |
| G 5/8 - 14   |      | 21,00 |
| G 3/4 - 14   |      | 24,50 |
| G 7/8 - 11   |      | 28,25 |
| G 1 - 11     |      | 30,75 |
| G 1 1/8 - 11 |      | 35,50 |
| G 1 1/4 - 11 |      | 39,50 |
| G 1 3/8 - 11 |      | 41,90 |
| G 1 1/2 - 11 |      | 45,25 |
| G 1 3/4 - 11 |      | 51,00 |
| G 2 - 11     |      | 57,00 |

| UNC           | P/1" | Ø     |
|---------------|------|-------|
| UNC # 1 - 64  |      | 1,55  |
| UNC # 2 - 56  |      | 1,85  |
| UNC # 3 - 48  |      | 2,10  |
| UNC # 4 - 40  |      | 2,35  |
| UNC # 5 - 40  |      | 2,65  |
| UNC # 6 - 32  |      | 2,85  |
| UNC # 8 - 32  |      | 3,50  |
| UNC # 10 - 24 |      | 3,90  |
| UNC # 12 - 24 |      | 4,50  |
| UNC 1/4 - 20  |      | 5,10  |
| UNC 5/16 - 18 |      | 6,60  |
| UNC 3/8 - 16  |      | 8,00  |
| UNC 7/16 - 14 |      | 9,40  |
| UNC 1/2 - 13  |      | 10,80 |
| UNC 9/16 - 12 |      | 12,20 |
| UNC 5/8 - 11  |      | 13,50 |
| UNC 3/4 - 10  |      | 16,50 |
| UNC 7/8 - 9   |      | 19,50 |
| UNC 1 - 8     |      | 22,25 |
| UNC 1 1/8 - 7 |      | 25,00 |

| UNF            | P/1" | Ø     |
|----------------|------|-------|
| UNF # 0 - 80   |      | 1,25  |
| UNF # 1 - 72   |      | 1,55  |
| UNF # 2 - 64   |      | 1,85  |
| UNF # 3 - 56   |      | 2,10  |
| UNF # 4 - 48   |      | 2,40  |
| UNF # 5 - 44   |      | 2,70  |
| UNF # 6 - 40   |      | 3,00  |
| UNF # 8 - 36   |      | 3,50  |
| UNF # 10 - 32  |      | 4,10  |
| UNF # 12 - 28  |      | 4,65  |
| UNF 1/4 - 28   |      | 5,50  |
| UNF 5/16 - 24  |      | 6,90  |
| UNF 3/8 - 24   |      | 8,50  |
| UNF 7/16 - 20  |      | 9,90  |
| UNF 1/2 - 20   |      | 11,50 |
| UNF 9/16 - 18  |      | 12,90 |
| UNF 5/8 - 18   |      | 14,50 |
| UNF 3/4 - 16   |      | 17,50 |
| UNF 7/8 - 14   |      | 20,40 |
| UNF 1 - 12     |      | 23,25 |
| UNF 1 1/8 - 12 |      | 26,50 |
| UNF 1 1/4 - 12 |      | 29,50 |
| UNF 1 3/8 - 12 |      | 32,75 |
| UNF 1 1/2 - 12 |      | 36,00 |

| NPT           | P/1" | Ø     |
|---------------|------|-------|
| NPT 1/16 - 27 |      | 6,30  |
| NPT 1/8 - 27  |      | 8,50  |
| NPT 1/4 - 18  |      | 11,10 |
| NPT 3/8 - 18  |      | 14,50 |
| NPT 1/2 - 14  |      | 17,75 |
| NPT 3/4 - 14  |      | 23,20 |
| NPT 1 - 11,5  |      | 29,00 |

| R <sub>m</sub> [N/mm <sup>2</sup> ] | HV 10 | HB  | HRC |
|-------------------------------------|-------|-----|-----|
| 240                                 | 75    | 71  | –   |
| 255                                 | 80    | 76  | –   |
| 270                                 | 85    | 81  | –   |
| 285                                 | 90    | 86  | –   |
| 305                                 | 95    | 90  | –   |
| 320                                 | 100   | 95  | –   |
| 335                                 | 105   | 100 | –   |
| 350                                 | 110   | 105 | –   |
| 370                                 | 115   | 109 | –   |
| 385                                 | 120   | 114 | –   |
| 400                                 | 125   | 119 | –   |
| 415                                 | 130   | 124 | –   |
| 430                                 | 135   | 128 | –   |
| 450                                 | 140   | 133 | –   |
| 465                                 | 145   | 138 | –   |
| 480                                 | 150   | 143 | –   |
| 495                                 | 155   | 147 | –   |
| 510                                 | 160   | 152 | –   |
| 530                                 | 165   | 157 | –   |
| 545                                 | 170   | 162 | –   |
| 560                                 | 175   | 166 | –   |
| 575                                 | 180   | 171 | –   |
| 595                                 | 185   | 176 | –   |
| 610                                 | 190   | 181 | –   |
| 625                                 | 195   | 185 | –   |
| 640                                 | 200   | 190 | –   |
| 660                                 | 205   | 195 | –   |
| 675                                 | 210   | 199 | –   |
| 690                                 | 215   | 204 | –   |
| 705                                 | 220   | 209 | –   |
| 720                                 | 225   | 214 | –   |
| 740                                 | 230   | 219 | –   |
| 755                                 | 235   | 223 | –   |
| 770                                 | 240   | 228 | –   |
| 785                                 | 245   | 233 | –   |
| 800                                 | 250   | 238 | 22  |
| 820                                 | 255   | 242 | 23  |
| 835                                 | 260   | 247 | 24  |
| 860                                 | 268   | 255 | 25  |
| 870                                 | 272   | 258 | 26  |
| 900                                 | 280   | 266 | 27  |

| R <sub>m</sub> [N/mm <sup>2</sup> ] | HV 10 | HB  | HRC |
|-------------------------------------|-------|-----|-----|
| 920                                 | 287   | 273 | 28  |
| 940                                 | 293   | 278 | 29  |
| 970                                 | 302   | 287 | 30  |
| 995                                 | 310   | 295 | 31  |
| 1020                                | 317   | 301 | 32  |
| 1050                                | 327   | 311 | 33  |
| 1080                                | 336   | 319 | 34  |
| 1110                                | 345   | 328 | 35  |
| 1140                                | 355   | 337 | 36  |
| 1170                                | 364   | 346 | 37  |
| 1200                                | 373   | 354 | 38  |
| 1230                                | 382   | 363 | 39  |
| 1260                                | 392   | 372 | 40  |
| 1300                                | 403   | 383 | 41  |
| 1330                                | 413   | 393 | 42  |
| 1360                                | 423   | 402 | 43  |
| 1400                                | 434   | 413 | 44  |
| 1440                                | 446   | 424 | 45  |
| 1480                                | 458   | 435 | 46  |
| 1530                                | 473   | 449 | 47  |
| 1570                                | 484   | 460 | 48  |
| 1620                                | 497   | 472 | 49  |
| 1680                                | 514   | 488 | 50  |
| 1730                                | 527   | 501 | 51  |
| 1790                                | 544   | 517 | 52  |
| 1845                                | 560   | 532 | 53  |
| 1910                                | 578   | 549 | 54  |
| 1980                                | 596   | 567 | 55  |
| 2050                                | 615   | 584 | 56  |
| 2140                                | 639   | 607 | 57  |
| –                                   | 655   | 622 | 58  |
| –                                   | 675   | –   | 59  |
| –                                   | 698   | –   | 60  |
| –                                   | 720   | –   | 61  |
| –                                   | 745   | –   | 62  |
| –                                   | 773   | –   | 63  |
| –                                   | 800   | –   | 64  |
| –                                   | 829   | –   | 65  |
| –                                   | 864   | –   | 66  |
| –                                   | 900   | –   | 67  |
| –                                   | 940   | –   | 68  |

| W-Nr.                                                                                                                                                                                                                                                                    | DIN (DE)            | EN (EU)                          | NF A (FR)                       | BS (GB)                    | UNI (IT)              | SS (SE)    | UNE (ES)               | SAE/ASTM (US)         | JIS (JP)                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------|---------------------------------|----------------------------|-----------------------|------------|------------------------|-----------------------|---------------------------|
| <b>1 Stähle – Steels – Aciers – Acciai</b>                                                                                                                                                                                                                               |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| <b>1.1 Baustähle (Rm &lt; 800 N/mm²) – Structural steels (tensile strength &lt; 800 N/mm²) – Aciers de construction (résistance &lt; 800 N/mm²) – Acciai da costruzione (resistenza &lt; 800 N/mm²)</b>                                                                  |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| <b>1.1.1 Allgemeine Baustähle – General structural steels – Aciers mi-dur – Acciai per applicazioni generali</b>                                                                                                                                                         |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.0035                                                                                                                                                                                                                                                                   | St 33               | –                                | A 33                            | –                          | Fe 320                | –          | AE 235-B               | –                     | –                         |
| 1.0037                                                                                                                                                                                                                                                                   | St 37-2             | S 235 JRG 2                      | E 24-2NE                        | 4360-40 C                  | Fe 360 B              | 1312       | –                      | A 570 Grade 36        | STKM 12 C                 |
| 1.0044                                                                                                                                                                                                                                                                   | St 44-2             | S 275 JR                         | E 28-2                          | 4360-43 B                  | Fe 430 BFN            | 1412       | AE 275-B               | A 570 Grade 40        | –                         |
| 1.0050                                                                                                                                                                                                                                                                   | St 50-2             | E 295                            | A 50-2                          | 4360-50 B                  | Fe 490                | 2172       | –                      | A 570 Grade 50        | SS 50                     |
| 1.0060                                                                                                                                                                                                                                                                   | St 60-2             | –                                | A 60-2                          | 4360-55 E                  | Fe 590                | –          | –                      | –                     | SM 58                     |
| 1.0070                                                                                                                                                                                                                                                                   | St 70-2             | –                                | A 70-2                          | –                          | Fe 70-2               | –          | A 690-2                | –                     | –                         |
| 1.0116                                                                                                                                                                                                                                                                   | St 37-3             | Fe 360 D1(2);<br>S 235 J2G3(4)   | Fe 360 D1(2); E 24-4            | Fe 360 D1(2);<br>4360-40 D | Fe 360 D 1(2); Fe37-3 | 1313       | Fe 360 D 1(2); A 360 C | A 573-81 65; Grade 58 | –                         |
| 1.0120                                                                                                                                                                                                                                                                   | St 37               | –                                | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.0140                                                                                                                                                                                                                                                                   | St 42               | –                                | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.0144                                                                                                                                                                                                                                                                   | St 44-3             | Fe 430 D1(2);<br>S 275 J2 G3 (4) | Fe 430 D1(2); E 28-4            | Fe 430 D1(2);<br>4360 43 D | Fe 430 D1(2)          | 1414       | Fe 430 D 1(2)          | A 573-81; Grade 70    | SM 41 C                   |
| 1.0181                                                                                                                                                                                                                                                                   | St 42-2             | –                                | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.0531                                                                                                                                                                                                                                                                   | St 50               | –                                | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.0570                                                                                                                                                                                                                                                                   | St 52-3             | Fe 510 D1;<br>S 355 J 2 G 3      | Fe 510 D1; E 36-4               | Fe 510 D1;<br>4360-50 D    | Fe 510 D1             | 2134-01    | Fe 510 D 1             | Grade 50              | SM 520 C                  |
| <b>1.1.2 Kesselbleche – Boiler plate – Tôles – Piastre per boiler</b>                                                                                                                                                                                                    |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.0345                                                                                                                                                                                                                                                                   | H I                 | P 235 GH                         | A 37 CP; CC 12                  | 1501 161                   | –                     | 1330       | F.1110; A 37 RC 1      | A 515 65              | SGV 410, 450,<br>480, 490 |
| 1.0425                                                                                                                                                                                                                                                                   | H II                | P 265 GH                         | A 42 CP; XC 25                  | 161-400                    | Fe 410 1 KW           | 1432       | A 42 RC 1              | –                     | SGV 410, 450,<br>480      |
| 1.0435                                                                                                                                                                                                                                                                   | H III               | P 285 NH                         | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.0445                                                                                                                                                                                                                                                                   | H IV                | P 295 NH                         | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| <b>1.1.3 Stahlguss – Cast steel – Fonte d'acier - Acciai fusi</b>                                                                                                                                                                                                        |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.0420                                                                                                                                                                                                                                                                   | GS-38               | GE 200                           | E 24-2 Ne                       | –                          | –                     | 1306       | –                      | –                     | –                         |
| 1.0443                                                                                                                                                                                                                                                                   | GS-45               | –                                | 230-400 M                       | A 1                        | –                     | 1305       | F.221                  | A 27 65-35            | –                         |
| 1.0552                                                                                                                                                                                                                                                                   | GS-52               | GE 260                           | AF 55 C 35                      | A 2                        | –                     | 1505       | –                      | A 27 70-36            | –                         |
| 1.0558                                                                                                                                                                                                                                                                   | GS-60               | GE 360; S 355J 0                 | AF 65 C 45; E 36-3              | A 3; En 50 C               | Fe 510                | 1606       | –                      | A 148 80-40           | –                         |
| <b>1.1.4 Feinkornbaustähle – Fine-grain structural steel – Aciers frittés – Acciai a grana fina</b>                                                                                                                                                                      |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.0461                                                                                                                                                                                                                                                                   | StE 255             | S 255 N                          | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.0582                                                                                                                                                                                                                                                                   | StE 355             | P 355 N                          | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.8905                                                                                                                                                                                                                                                                   | StE 460             | P 460 N                          | E 460 RIFP; S 460 N             | –                          | –                     | –          | AE 460 KG              | A 633 Grade E         | –                         |
| 1.8907                                                                                                                                                                                                                                                                   | StE 500             | S 500 N                          | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| <b>1.2 Unlegierte und niedriglegierte Stähle (Rm &lt; 800 N/mm²) – Unalloyed and low-alloy steel (tensile strength &lt; 800 N/mm²) – Aciers non alliés et faiblement alliés (résistance &lt; 800 N/mm²) – Acciai non e debolmente legati (resistenza &lt; 800 N/mm²)</b> |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| <b>1.2.1 Einsatzstähle – Cementation steels – Aciers de cémentation – Acciai da cementazione</b>                                                                                                                                                                         |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.0301                                                                                                                                                                                                                                                                   | C 10                | –                                | AF 34 C 10; XC 10               | 045 M 10                   | C 10                  | –          | –                      | 1010                  | S 10 C                    |
| 1.0401                                                                                                                                                                                                                                                                   | C 15                | –                                | AF 37 C 12; XC 12               | 080 M 15                   | C 15; C 16            | 1350       | F.111                  | 1015                  | S 15 C                    |
| 1.1121                                                                                                                                                                                                                                                                   | Ck 10               | 2 C 10                           | C 10 E; XC 10                   | 045 M 10                   | C 10                  | 1265       | F.1510 – C 10 k        | 1010                  | S 10 C                    |
| 1.1140                                                                                                                                                                                                                                                                   | Cm 15 (C 15 R)      | C 15 R                           | C 15 R                          | C 15 R                     | C 15 R                | C 15 R     | –                      | –                     | –                         |
| 1.1141                                                                                                                                                                                                                                                                   | Ck 15               | 2 C 15                           | C 15 E; XC 12                   | 080 M 15                   | C 16                  | 1370       | F.1511 – C 16 k        | 1015                  | S 15 C                    |
| 1.7012                                                                                                                                                                                                                                                                   | 13 Cr 2 (EC30)      | –                                | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.7015                                                                                                                                                                                                                                                                   | 15 Cr 3 (EC60)      | –                                | 12 C 3                          | 523 M 15                   | –                     | –          | –                      | 5015                  | SCr 415 (H)               |
| 1.7131                                                                                                                                                                                                                                                                   | 16 MnCr 5 (EC 80)   | 16 MnCr 5                        | 16 MC 5; 15 D 3                 | 527 M 17                   | 16 MnCr 5             | 2511       | F.1515 – 16 MnCr 5     | 5115                  | SCr 415                   |
| <b>1.2.2 Vergütungsstähle – Heat-treatable steels – Aciers d'amélioration – Acciai da bonifica</b>                                                                                                                                                                       |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.0402                                                                                                                                                                                                                                                                   | C 22                | 1 C 22                           | AF 42 C 20; XC 25               | 050 A 20                   | C 20; C 21            | 1450       | F.112                  | 1020                  | S 22 C                    |
| 1.0501                                                                                                                                                                                                                                                                   | C 35                | 1 C 35                           | AF 55 C 35; XC 38               | 080 A 35                   | C 35                  | 1550       | F.113                  | 1035                  | S 35 C                    |
| 1.0503                                                                                                                                                                                                                                                                   | C 45                | 1 C 45                           | AF 65 C 45; CC 45               | 080 M 46                   | C 45                  | 1650       | F.114; F.5110          | 1043; 1045            | S 45 C                    |
| 1.0528                                                                                                                                                                                                                                                                   | C 30                | 1 C 30                           | AF 50 C 30; CC 32               | 080 M 30                   | C 30                  | –          | –                      | 1030                  | S 30 C                    |
| 1.1151                                                                                                                                                                                                                                                                   | Ck 22               | 2 C 22                           | C 22 E; XC 25                   | 050 A 20; 070 M 20         | C 20                  | –          | F.1120 – C 25 k        | 1023; 1020            | S 22 C                    |
| 1.1178                                                                                                                                                                                                                                                                   | Ck 30               | 2 C 30                           | C 30 E; XC 32                   | 080 M 30                   | C 30                  | –          | –                      | 1030                  | S 30 C                    |
| 1.1180                                                                                                                                                                                                                                                                   | Cm 35               | 3 C 35                           | C 35 R; XC 32                   | 080 M 36                   | –                     | 1572-03/04 | F.1135 – C 35 K – 1    | –                     | –                         |
| 1.1181                                                                                                                                                                                                                                                                   | Ck 35               | 2 C 35                           | C 35 E; XC 38 H 1;<br>320-560 M | 080 A 32; 080 M 36         | C 35                  | 1572       | F.1135 – C 35 k        | 1035                  | S 35 C                    |
| 1.1191                                                                                                                                                                                                                                                                   | Ck 45               | 2 C 45                           | C 45 E; XC 42 H 1; XC 45        | 080 M 46                   | C 45                  | 1672       | F.1140 – C 45 k        | 1042; 1045            | S 45 C                    |
| <b>1.2.3 Automatenstähle – Free cutting steels – Aciers de décolletage – Acciai automatici</b>                                                                                                                                                                           |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.0710                                                                                                                                                                                                                                                                   | 15 S 10             | –                                | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.0715                                                                                                                                                                                                                                                                   | 9 SMn 28            | 11 SMn 28                        | S 250                           | 230 M 07                   | CF 9 SMn 28           | 1912       | F.2111 – 11 SMn 28     | 1213                  | SUM 22                    |
| 1.0718                                                                                                                                                                                                                                                                   | 9 SMnPb 28          | 11 SMnPb 28                      | S 250 Pb; 35 MF 4               | –                          | CF 9 SMnPb 28         | 1914       | F.2112 – 11 SMnPb 28   | 12 L13                | SUM 22 L                  |
| 1.0721                                                                                                                                                                                                                                                                   | 10 S 20             | 10 S 20                          | 10 F 1                          | 210 M 15                   | CF 10 S 20            | –          | F.2121 – 10 S 20       | 1108                  | –                         |
| 1.0722                                                                                                                                                                                                                                                                   | 10 SPb 20           | 10 SPb 20                        | 10 Pb F 2                       | –                          | CF 10 SPb 20          | –          | F.2122 – 10 SPb 20     | 11 L 08               | –                         |
| 1.0723                                                                                                                                                                                                                                                                   | 15 S 20             | –                                | S 300                           | 210 A 15                   | –                     | 1922       | F.210 F                | –                     | SUM 32                    |
| 1.0726                                                                                                                                                                                                                                                                   | 35 S 20             | 35 S 20                          | 35 MF 4                         | 212 M 36                   | –                     | 1957       | F.210 G                | 1140                  | –                         |
| 1.0727                                                                                                                                                                                                                                                                   | 45 S 20             | 45 S 20                          | 45 MF 4                         | 212 M 44                   | –                     | 1973       | –                      | 1146                  | –                         |
| 1.0736                                                                                                                                                                                                                                                                   | 9 SMn 36            | –                                | S 300                           | 240 M 07                   | CF 9 SMn 36           | –          | F.2113 – 12 SMn 35     | 1215                  | –                         |
| 1.0737                                                                                                                                                                                                                                                                   | 9 SMnPb 36          | –                                | S 300 Pb                        | –                          | CF 9 SMnPb 36         | 1926       | F.2114 – 12 SMnPb 35   | 12 L14                | –                         |
| <b>1.2.4 Kaltfließpressstähle – Cold flow press steels – Aciers pour extrusion à froid – Acciai estrusi a freddo</b>                                                                                                                                                     |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.1132                                                                                                                                                                                                                                                                   | Cq 15               | C 15 KD                          | C 15 C                          | C15E2C                     | C15E2C                | C15E2C     | –                      | –                     | SWRCH15K                  |
| 1.1152                                                                                                                                                                                                                                                                   | Cq 22               | C 21 KD                          | C 22 C                          | C20E2C                     | C20E2C                | C20E2C     | –                      | –                     | SWRCH20K                  |
| 1.1172                                                                                                                                                                                                                                                                   | Cq 35               | C 35 KD                          | C 35 C                          | –                          | –                     | –          | –                      | –                     | –                         |
| 1.1192                                                                                                                                                                                                                                                                   | Cq 45               | C 45 KD                          | C 45 C                          | C45EC                      | C45EC                 | C45EC      | –                      | –                     | SWRCH45K                  |
| <b>1.3 Legierte Stähle (Rm &lt; 800 N/mm²) – Alloyed steel (tensile strength &lt; 800 N/mm²) – Aciers alliés (résistance &lt; 800 N/mm²) – Acciai legati (resistenza &lt; 800 N/mm²)</b>                                                                                 |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| <b>1.3.1 Kaltzähe Baustähle – Cold-tough structural steels – Aciers alliés pour l'usinage à froid – Acciai per l'uso a freddo</b>                                                                                                                                        |                     |                                  |                                 |                            |                       |            |                        |                       |                           |
| 1.1169                                                                                                                                                                                                                                                                   | 20 Mn 6             | –                                | –                               | –                          | –                     | –          | –                      | –                     | –                         |
| 1.4311                                                                                                                                                                                                                                                                   | X 2 CrNiN 18 10     | X 2 CrNiN 18 10                  | Z 2 CN 18-10 AZ                 | 304 S 62                   | X 2 CrNiN 18 11       | 2371       | F.3541                 | 304 LN                | SUS 304 LN                |
| 1.4406                                                                                                                                                                                                                                                                   | X 2 CrNiMoN 17 12 2 | X 3 CrNiMoN 17 12 2              | Z 3 CN 17-12 AZ                 | 316 S 61                   | X 2 CrNiMoN 17 12     | 2375       | F.3543                 | 316 LN                | SUS 316 LN                |
| 1.5622                                                                                                                                                                                                                                                                   | 14 Ni 6             | –                                | 16 N 6                          | –                          | 14 Ni 6               | –          | F.2641 – 15 Ni 6       | A 350 – LF 5          | –                         |
| 1.5633                                                                                                                                                                                                                                                                   | 24 Ni 8             | –                                | 22 N 8                          | –                          | –                     | –          | –                      | –                     | –                         |
| 1.7219                                                                                                                                                                                                                                                                   | 26 CrMo 4           | –                                | 25 CD 4 S                       | –                          | –                     | –          | –                      | –                     | –                         |

| W-Nr.                                                                                                                                                                                                                                         | DIN (DE)          | EN (EU)     | NF A (FR)             | BS (GB)           | UNI (IT)             | SS (SE) | UNE (ES)                 | SAE/ASTM (US) | JIS (JP)            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------|-----------------------|-------------------|----------------------|---------|--------------------------|---------------|---------------------|
| <b>1.3.2 Warmfeste Baustähle – Heat resistant structural steels – Aciers réfractaires – Acciai resistenti al calore</b>                                                                                                                       |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.0482                                                                                                                                                                                                                                        | 19 Mn 5           | P 335 GH    | A 52 CP; AP; FP       | 224-460           | –                    | 2101    | A 47 RB II               | A 537         | –                   |
| 1.4922                                                                                                                                                                                                                                        | X 20 CrMoV 12 1   | –           | X 20 CrMoV 11 1       | 762               | X 20 CrMoNi 12 01 KG | 2317    | –                        | –             | –                   |
| 1.5404                                                                                                                                                                                                                                        | 21 MoV 53         | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.5406                                                                                                                                                                                                                                        | 17 MoV 84         | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.7337                                                                                                                                                                                                                                        | 16 CrMo 4 4       | –           | 15 CD 4.5             | 1501 620 Gr. 27   | 14 CrMo 4 5          | 2216    | –                        | A 387 12 Cl.2 | –                   |
| 1.8070                                                                                                                                                                                                                                        | 21 CrMoV 5 11     | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| <b>1.3.3 Nitrierstähle – Nitriding alloy steels – Aciers de nitruration – Acciai da nitrurazione</b>                                                                                                                                          |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.8504                                                                                                                                                                                                                                        | 34 CrAl 6         | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.8506                                                                                                                                                                                                                                        | 34 CrAlS 5        | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.8515                                                                                                                                                                                                                                        | 31 CrMo 12        | 31 CrMo 12  | 30 CD 12              | 722 M 24          | 31 CrMo 12           | 2240    | F.1712 – 31 CrMo 12      | –             | –                   |
| 1.8519                                                                                                                                                                                                                                        | 31 CrMoV 9        | –           | 40 CAD 6.12           | –                 | –                    | –       | –                        | –             | –                   |
| 1.8550                                                                                                                                                                                                                                        | 34 CrAlNi 7       | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| <b>1.3.4 Vergütungsstähle – Heat-treatable steels – Aciers d'amélioration – Acciai da bonifica</b>                                                                                                                                            |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.1133                                                                                                                                                                                                                                        | 20 Mn 5           | –           | 20 M 5                | 120 M 19          | G 22 Mn 3            | 1410    | F-1515                   | 1022; 1518    | SMnC 420            |
| 1.1157                                                                                                                                                                                                                                        | 40 Mn 4           | –           | 35 M 5, 40 M 5        | 150 M 36          | –                    | –       | –                        | 1039          | –                   |
| 1.1170                                                                                                                                                                                                                                        | 28 Mn 6           | –           | 20 M 5                | 150 M 28          | C 28 Mn              | –       | –                        | 1330          | SCMn 1              |
| 1.7220                                                                                                                                                                                                                                        | 34 CrMo 4         | 34 CrMo 4   | 34 CD 4               | 708 A 37          | 35 CrMo 4            | 2234    | F.8231-AM – 34 CrMo 4    | 4137; 4135    | SCM 432;<br>SCM 435 |
| 1.7225                                                                                                                                                                                                                                        | 42 CrMo 4         | 42 CrMo 4   | 42 CD 4; 42 C 4 TS    | 708 M 40          | 42 CrMo 4            | 2244    | F.8232 – 42 CrMo 4       | 4140; 4142    | SCM 440             |
| 1.7228                                                                                                                                                                                                                                        | 50 CrMo 4         | 50 CrMo 4   | –                     | 708 A 47          | 50 CrMo 4            | –       | 50 CrMo 4                | 4150          | SCM 445 (H)         |
| <b>1.3.5 Stahlguss – Cast steel – Fonte d'acier – Acciaio fuso</b>                                                                                                                                                                            |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.5919                                                                                                                                                                                                                                        | GS-15 CrNi 6      | –           | 16 NC 6               | S 107             | 16 CrNi 4            | –       | –                        | –             | –                   |
| 1.7218                                                                                                                                                                                                                                        | GS-25 CrMo 4      | 25 CrMo 4   | 25 CD 4               | 708 A 25; CDS 110 | 25 CrMo 4            | 2225    | F.8330-AM – 25 CrMo 4    | 4130          | SCM 420;<br>SCM 430 |
| 1.7220                                                                                                                                                                                                                                        | GS-34 CrMo 4      | 34 CrMo 4   | 34 CD 4               | 708 A 37          | 35 CrMo 4            | 2234    | F.8231-AM – 34 CrMo 4    | 4137; 4135    | SCM 432;<br>SCM 435 |
| 1.7379                                                                                                                                                                                                                                        | GS-18 CrMo 9 10   | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| <b>1.4 Legierte, vergütete Stähle (Rm 800–1200 N/mm²) – Alloyed, Pre hardened steels (tensile strength 800–1200 N/mm²) – Aciers alliés, améliorés (résistance 800–1200 N/mm²) – Acciaio legato , pre trattato (resistenza 800–1200 N/mm²)</b> |                   |             |                       |                   |                      |         |                          |               |                     |
| Legierte, vergütete Stähle (kurzspanend) – Alloyed, Pre hardened steels (short chipping) – Aciers alliés, dureté entre (laitons) – Acciaio legato , pre trattato a truciolo corto                                                             |                   |             |                       |                   |                      |         |                          |               |                     |
| <b>1.4.1 Vergütungsstähle – Heat-treatable steels – Aciers d'amélioration – Acciai da bonifica</b>                                                                                                                                            |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.1133                                                                                                                                                                                                                                        | 20 Mn 5           | –           | 20 M 5                | 120 M 19          | G 22 Mn 3            | 1410    | F-1515                   | 1022; 1518    | SMnC 420            |
| 1.1157                                                                                                                                                                                                                                        | 40 Mn 4 V         | –           | 35 M 5, 40 M 5        | 150 M 36          | –                    | –       | –                        | 1039          | –                   |
| 1.1170                                                                                                                                                                                                                                        | 28 Mn 6 V         | –           | 35 M 5, 20 M 5        | 150 M 28          | C 28 Mn              | –       | –                        | 1330          | SMn 433             |
| 1.7218                                                                                                                                                                                                                                        | 25 CrMo 4         | 25 CrMo 4   | 25 CD 4               | 708 A 25          | 25 CrMo 4            | 2225    | F.8330-AM – 25 CrMo 4    | 4130          | SCM 420;<br>SCM 430 |
| <b>1.4.2 Wälzlagerstähle – Roller and ball bearing steels – Aciers laminés – Acciai per cuscinetti</b>                                                                                                                                        |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.3501                                                                                                                                                                                                                                        | 100 Cr 2 (W1)     | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.3503                                                                                                                                                                                                                                        | 105 Cr 4 (W2)     | –           | –                     | –                 | –                    | –       | –                        | E 51100       | –                   |
| 1.3505                                                                                                                                                                                                                                        | 100 Cr 6 (W3)     | 100 Cr 6    | 100 C 6; 20 NCD 2     | 534 A 99          | 100 Cr 6             | 2258    | F.1310 – 100 Cr 6        | 52100         | SUJ 2, SUJ 4        |
| 1.3520                                                                                                                                                                                                                                        | 100 CrMn 6 (W4)   | 100 CrMn 6  | 100 CM 6              | –                 | –                    | –       | 100 CrMn 6               | A 485/2       | SUJ 3               |
| 1.3543                                                                                                                                                                                                                                        | X 102 CrMo 17     | –           | –                     | –                 | X 105 CrMo 17        | –       | X 100 CrMo 17            | –             | –                   |
| <b>1.4.3 Federstähle – Spring steels – Aciers à ressort – Acciai per molle</b>                                                                                                                                                                |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.5022                                                                                                                                                                                                                                        | 38 Si 6           | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.5024                                                                                                                                                                                                                                        | 46 Si 7           | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.5025                                                                                                                                                                                                                                        | 51 Si 7           | –           | –                     | –                 | 51 Si 7              | –       | –                        | –             | –                   |
| 1.5142                                                                                                                                                                                                                                        | 60 SiMn 5         | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.7103                                                                                                                                                                                                                                        | 67 SiCr 5         | –           | 60 CS 7               | –                 | 67 SiCr 5            | –       | –                        | –             | –                   |
| 1.7701                                                                                                                                                                                                                                        | 51 CrMoV 4        | –           | 51 CDV 4              | –                 | 51 CrMoV 4           | –       | –                        | –             | –                   |
| <b>1.4.4 Verschleißfeste Stähle – Wear resisting steels – Aciers résistant à l'usure – Acciai resistenti all'usura</b>                                                                                                                        |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.3401                                                                                                                                                                                                                                        | X 120 Mn 12       | –           | Z 120 M 12            | BW 10             | X G 120 Mn 12        | 2183    | F.82551-AM – X 120 Mn 12 | A 128 75      | SCMnH 1             |
| –                                                                                                                                                                                                                                             | HARDOX 400        | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| Legierte, vergütete Stähle (langspanend) – Alloyed, Pre hardened steels (long chipping) – Aciers alliés, dureté entre (à copeaux longs) – Acciaio legato , pre trattato a truciolo lungo                                                      |                   |             |                       |                   |                      |         |                          |               |                     |
| <b>1.4.5 Vergütungsstähle – Heat-treatable steels – Aciers d'amélioration – Acciai da bonifica</b>                                                                                                                                            |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.7220                                                                                                                                                                                                                                        | 34 CrMo 4         | 34 CrMo 4   | 34 CD 4               | 708 A 37          | 35 CrMo 4            | 2234    | F.8231-AM – 34 CrMo 4    | 4137; 4135    | SCM 432;<br>SCM 435 |
| 1.7225                                                                                                                                                                                                                                        | 42 CrMo 4         | 42 CrMo 4   | 42 CD 4; 42 C 4 TS    | 708 M 40          | 42 CrMo 4            | 2244    | F.8232 – 42 CrMo 4       | 4140; 4142    | SCM 440             |
| 1.7228                                                                                                                                                                                                                                        | 50 CrMo 4         | 50 CrMo 4   | –                     | 708 A 47          | 50 CrMo 4            | –       | 50 CrMo 4                | 4150          | SCM 445 (H)         |
| <b>1.4.6 Einsatzstähle – Cementation steels – Aciers de cémentation – Acciai da cementazione</b>                                                                                                                                              |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.7131                                                                                                                                                                                                                                        | 16 MnCr 5 (EC 80) | 16 MnCr 5   | 16 MC 5; 15 D 3       | 527 M 17          | 16 MnCr 5            | 2511    | F.1515 – 16 MnCr 5       | 5115          | SCr 415             |
| 1.7147                                                                                                                                                                                                                                        | 20 MnCr 5         | –           | 20 MC 5               | –                 | 20 MnCr 5            | 2523    | F.150.D                  | 5120          | SMnC 420 (H)        |
| 1.7321                                                                                                                                                                                                                                        | 20 MoCr 4         | 20 MoCr 4   | –                     | –                 | 16 NiCrMo 2          | 2506    | –                        | 8620          | SNCM 220            |
| 1.7325                                                                                                                                                                                                                                        | 25 MoCr 4         | –           | –                     | –                 | 20 NiCrMo 2          | –       | –                        | 8625          | –                   |
| 1.5919                                                                                                                                                                                                                                        | 15 CrNi 6         | –           | 16 NC 6               | S 107             | 16 CrNi 4            | –       | –                        | –             | –                   |
| <b>1.4.7 Nitrierstähle – Nitriding alloy steels – Aciers de nitruration – Acciai da nitrurazione</b>                                                                                                                                          |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.8504                                                                                                                                                                                                                                        | 34 CrAl 6         | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.8507                                                                                                                                                                                                                                        | 34 CrAlMo 5       | 34 CrAlMo 5 | 30 CAD 6.12           | 905 M 31          | 34 CrAlMo 7          | –       | F.1741 – 34 CrAlMo 5     | A 355 Cl. D   | –                   |
| 1.8509                                                                                                                                                                                                                                        | 41 CrAlMo 7       | 41 CrAlMo 7 | 40 CAD 6.12; Z 8 C 13 | 905 M 39          | 41 CrAlMo 7          | 2940    | F.1740 – 41 CrAlMo 7     | A 355 Cl. A   | SACM 645            |
| 1.8515                                                                                                                                                                                                                                        | 31 CrMo 12        | 31 CrMo 12  | 30 CD 12              | 722 M 24          | 31 CrMo12            | 2240    | F.1712 – 31 CrMo 12      | –             | –                   |
| 1.8550                                                                                                                                                                                                                                        | 34 CrAlNi 7       | 34 CrAlNi 7 | –                     | –                 | –                    | –       | –                        | A 355 Cl. C   | –                   |
| <b>1.4.8 Feinkornbaustähle – Fine-grain structural steels – Aciers frittés – Acciai a grana fina</b>                                                                                                                                          |                   |             |                       |                   |                      |         |                          |               |                     |
| 1.8931                                                                                                                                                                                                                                        | StE 690 V         | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |
| 1.8941                                                                                                                                                                                                                                        | StE 960 V         | –           | –                     | –                 | –                    | –       | –                        | –             | –                   |

| W-Nr.                                                                                                                                                                                                                     | DIN (DE)              | EN (EU)              | NF A (FR)                  | BS (GB)            | UNI (IT)            | SS (SE) | UNE (ES)                     | SAE/ASTM (US) | JIS (JP)           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|----------------------------|--------------------|---------------------|---------|------------------------------|---------------|--------------------|
| <b>1.5 Werkzeugstähle (Rm &lt; 1300 N/mm²) – Tool steels (tensile strength &lt; 1300 N/mm²) – Aciers à outils (résistance &lt; 1300 N/mm²) – Acciai per utensili (resistenza &lt; 1300 N/mm²)</b>                         |                       |                      |                            |                    |                     |         |                              |               |                    |
| <b>Werkzeugstähle (kurzspanend) – Tool steels (short shipping) – Aciers à outils (laitons) – Acciai per utensili a truciolo corto</b>                                                                                     |                       |                      |                            |                    |                     |         |                              |               |                    |
| <b>1.5.1 Unlegierte Werkzeugstähle – Unalloyed tool steels – Aciers à outils non alliés – Acciai per utensili, non legati</b>                                                                                             |                       |                      |                            |                    |                     |         |                              |               |                    |
| 1.1520                                                                                                                                                                                                                    | C 70 W1               | C 70 U               | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.1525                                                                                                                                                                                                                    | C 80 W1               | C 80 U               | Y190; Y180                 | –                  | C 80 KU             | –       | –                            | W108          | –                  |
| 1.1545                                                                                                                                                                                                                    | C 105 W1              | C 105 U              | Y 105                      | B W 1 A            | C 100 KU            | 1880    | F.5118                       | W 110         | –                  |
| 1.1554                                                                                                                                                                                                                    | C 110 W               | C 110 U              | –                          | 1407               | –                   | –       | –                            | –             | –                  |
| 1.1730                                                                                                                                                                                                                    | C 45 W                | C 45 U               | Y 3 42                     | En 43 B            | –                   | 1672    | F.114                        | 1045          | –                  |
| 1.1740                                                                                                                                                                                                                    | C 60 W                | C 60 U               | Y 3 55                     | –                  | –                   | –       | –                            | –             | SK 7               |
| 1.1744                                                                                                                                                                                                                    | C 67 W                | –                    | Y 1 70                     | –                  | –                   | –       | F.512                        | –             | –                  |
| 1.1820                                                                                                                                                                                                                    | C 55 W                | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| <b>1.5.2 Werkzeugstähle für Kaltarbeit – Tool steels for cold work – Aciers pour travail à froid – Acciai per lavorazioni a freddo</b>                                                                                    |                       |                      |                            |                    |                     |         |                              |               |                    |
| 1.2080                                                                                                                                                                                                                    | X 210 Cr 12           | X 210 Cr 12          | Z 200 C 12                 | BD 3               | X 210 Cr 13 KU      | 2710    | F.5212 – X 210 Cr 12         | D 3           | SKD 1              |
| 1.2127                                                                                                                                                                                                                    | 105 MnCr 4            | –                    | –                          | –                  | 100 CrMn 4 KU       | –       | –                            | –             | SUJ 3              |
| 1.2201                                                                                                                                                                                                                    | X 165 CrV 12          | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2303                                                                                                                                                                                                                    | 100 CrMo 5            | –                    | –                          | –                  | –                   | –       | –                            | L 7           | –                  |
| 1.2363                                                                                                                                                                                                                    | X 100 CrMoV 5 1       | –                    | Z 100 CDV 5                | BA 2               | X 100 CrMoV 5 1 KU  | 2260    | F.5227 – X 100 CrMoV 5       | A 2           | SKD 12             |
| 1.2379                                                                                                                                                                                                                    | X155 CrMoV 12 1       | –                    | Z 160 CDV 12               | BD2                | X 155 CrMoV 12 1 KU | 2310    | F.5211 – X 155 CrMoV 12-1    | D 2           | –                  |
| 1.2436                                                                                                                                                                                                                    | X 210 CrW 12          | X 210 CrW 12         | Z 200 CD 12                | BD 6               | X 215 CrW 12 1 KU   | 2312    | F.5213 – X 210 CrW 12        | D 4 (D 6)     | SKD 2              |
| 1.2601                                                                                                                                                                                                                    | X 165 CrMoV 12        | X 165 CrMoV 12       | –                          | –                  | X 165 CrMoV 12 KU   | 2310    | F.5211 – X 160 CrMoV 12      | –             | –                  |
| 1.2842                                                                                                                                                                                                                    | 90 MnCrV 8            | –                    | 90 MV 8                    | BO 2               | 90 MnVCr 8 KU       | –       | –                            | O 2           | –                  |
| 1.2880                                                                                                                                                                                                                    | X 165 CrCoMo 12       | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2884                                                                                                                                                                                                                    | X 210 CrCoW 12        | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| –                                                                                                                                                                                                                         | VANADIS 4             | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| –                                                                                                                                                                                                                         | VANADIS 10            | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| –                                                                                                                                                                                                                         | CPM 10 V              | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| –                                                                                                                                                                                                                         | TOOLOX 33             | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| <b>1.5.3 Schnellarbeitsstähle – High speed steels – Aciers rapides – Acciai rapidi</b>                                                                                                                                    |                       |                      |                            |                    |                     |         |                              |               |                    |
| 1.3243                                                                                                                                                                                                                    | S 6-5-2-5             | (HS 6-5-2-5)         | 785 WD; KCV 06-05-05-04-02 | –                  | HS 6-5-2-5          | 2723    | F.5613 6-5-2-5               | M 35          | SKH 55             |
| 1.3343                                                                                                                                                                                                                    | S 6-5-2               | HS 6-5-2             | Z 85 WDCV 06-05-04-02      | BM 2               | HS 6-5-2            | 2722    | F.5603 6-5-2                 | M 2           | SKH 9; SKH 51      |
| 1.3344                                                                                                                                                                                                                    | S 6-5-3               | HS 6-5-3             | Z 120 WDCV 06-05-04-03     | BM 4               | HS 6-5-3            | –       | F.5605 6-5-3                 | M 3 Cl.2      | SKH 52; SKH 53     |
| 1.3346                                                                                                                                                                                                                    | S 2-9-1               | HS 1-8-1             | Z 85 DCWV 08-04-02-01      | BM 1               | HS 1-8-1            | –       | –                            | H 41; M 1     | –                  |
| 1.3348                                                                                                                                                                                                                    | S 2-9-2               | HS 2-9-2             | Z 100 WCWV 09-04-02-02     | –                  | HS 2-9-2            | 2782    | F.5607 2-9-2                 | M 7           | –                  |
| –                                                                                                                                                                                                                         | ASP 23                | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| –                                                                                                                                                                                                                         | ASP 30                | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| –                                                                                                                                                                                                                         | ASP 60                | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| –                                                                                                                                                                                                                         | CPM REX M4            | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| <b>Werkzeugstähle (langspanend) – Tool steels (long shipping) – Aciers à outils (à copeaux longs) – Acciai per utensili a truciolo lungo</b>                                                                              |                       |                      |                            |                    |                     |         |                              |               |                    |
| <b>1.5.4 Werkzeugstähle für Kaltarbeit – Tool steels for cold work – Aciers pour travail à froid – Acciai per lavorazioni a freddo</b>                                                                                    |                       |                      |                            |                    |                     |         |                              |               |                    |
| 1.2083                                                                                                                                                                                                                    | X 42Cr 13             | X 42 Cr 13           | Z 40 C 14                  | –                  | X 41 Cr 13 KU       | –       | –                            | –             | SUS 420 J 2        |
| 1.2312                                                                                                                                                                                                                    | 40 CrMnMoS 8 6        | –                    | –                          | –                  | –                   | –       | X 210 CrW 12                 | P 20 + 1      | –                  |
| 1.2316                                                                                                                                                                                                                    | X 36CrMo 17           | X 36 CrMo 17         | –                          | –                  | X 38 CrMo 16 1 KU   | –       | X 38 CrMo 16                 | –             | –                  |
| <b>1.5.5 Werkzeugstähle für Warmarbeit – Tool steels for hot work – Aciers pour travail à chaud – Acciai per lavorazioni a caldo</b>                                                                                      |                       |                      |                            |                    |                     |         |                              |               |                    |
| 1.2309                                                                                                                                                                                                                    | 65 MnCrMo 4           | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2311                                                                                                                                                                                                                    | 40 CrMnMo 7           | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2343                                                                                                                                                                                                                    | X 38CrMoV 5 1         | X 38 CrMoV 5 1       | Z 38 CDV 5                 | BH 11              | X 37 CrMoV 5 1 KU   | –       | F.5317 – X 37 CrMoV 5        | H 11          | SKD 6              |
| 1.2344                                                                                                                                                                                                                    | X 40 CrMoV 5 1        | –                    | Z 40 CDV 5                 | BH 13              | X 40 CrMoV 5 1 KU   | 2242    | F.5318 – X 40 CrMoV 5        | H 13          | SKD 61             |
| 1.2367                                                                                                                                                                                                                    | X 38 CrMoV 5 3        | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2622                                                                                                                                                                                                                    | X 60 WCrMoV 9 4       | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2678                                                                                                                                                                                                                    | X 45 CrCoWV 5 5 5     | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2731                                                                                                                                                                                                                    | X 50 NiCrWV 13 13     | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2767                                                                                                                                                                                                                    | X 45 NiCrMo 4         | –                    | –                          | –                  | 42 NiCrMo 15 7      | –       | –                            | –             | –                  |
| 1.2889                                                                                                                                                                                                                    | X 45 CoCrMoV 5 5 3    | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.2889                                                                                                                                                                                                                    | X 45 CoCrMoV 5 5 3    | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| <b>1.6 Rost-, säure- und hitzebeständige Stähle – Stainless, acid- and heatproof steels – Aciers inoxydables, résistants aux acides et aciers réfractaires – Acciai inossidabili – resistenti agli acidi e refrattari</b> |                       |                      |                            |                    |                     |         |                              |               |                    |
| <b>1.6.1 Rostfrei, geschwefelt – Stainless steels, sulfur – Inox, soufrés – Acciaio inox sulfureo</b>                                                                                                                     |                       |                      |                            |                    |                     |         |                              |               |                    |
| 1.4104                                                                                                                                                                                                                    | X 12 CrMoS 17         | X 14 CrMoS 17        | Z 10 CF 17; Z 6 CT 12      | 420 S 37; 441 S 29 | X 12 CrMoS 17       | 2383    | F.3117 – X 10 CrS 17         | 430 F         | SUS 430 F          |
| 1.4105                                                                                                                                                                                                                    | X 4 CrMoS 18          | X 6 CrMoS 17         | Z 6 CDF 18-02              | X 6 CrMoS 17       | X 6 CrMoS 17        | –       | –                            | 430 FR        | –                  |
| 1.4305                                                                                                                                                                                                                    | X 10 CrNiS 18 9       | X 10 CrNiS 18 9      | Z 10 CNF 18-09             | 303 S 31           | X 10 CrNiS 18 9     | 2346    | F.3508 – X 10 CrNiS 18-09    | 303           | SUS 303            |
| 1.4305                                                                                                                                                                                                                    | X 10 CrNiS 18 9       | X 10 CrNiS 18 9      | Z 10 CNF 18-09             | 303 S 31           | X 10 CrNiS 18 9     | 2346    | F.3508 – X 10 CrNiS 18-09    | 303           | SUS 303            |
| <b>1.6.2 Rostfrei, austenitisch – Austenitic stainless steels – Acier inoxydable, austénitique – Acciaio inox austenitico</b>                                                                                             |                       |                      |                            |                    |                     |         |                              |               |                    |
| 1.4300                                                                                                                                                                                                                    | X 12 CrNi 18 8        | –                    | –                          | 302 S 25           | –                   | –       | –                            | –             | –                  |
| 1.4301                                                                                                                                                                                                                    | X 5 CrNi 18 10        | X 5 CrNi 18 10       | Z 6 CN 18-09               | 304 S 15           | X 5 CrNi 18 10      | 2332    | F.3504 – X 5 CrNi 18-10      | 304; 304 H    | SUS 304            |
| 1.4308                                                                                                                                                                                                                    | X 6 CrNi 18 9         | X 6 CrNi 18 9        | Z 6 CN 18-10 M             | 304 C 15           | GX 5 CrNi 19-10     | 2333    | –                            | 3042          | SCS 13             |
| 1.3956                                                                                                                                                                                                                    | X 8 CrNi 18 12        | X 8 CrNi 18 12       | –                          | 305 S 19           | X 8CrNi 19 10       | –       | F.3503 – X 8 CrNi 19-10      | 305           | SUS 305            |
| 1.4312                                                                                                                                                                                                                    | G-X 10 CrNi 18 8      | G-X 10 CrNi 18 8     | Z 10 CN 18-09 M            | 302 C 25           | –                   | –       | –                            | –             | SCS 12             |
| 1.4406                                                                                                                                                                                                                    | X 2 CrNiMoN 17 12 2   | X 3 CrNiMoN 17 12 2  | Z 3 CND 17-12 AZ           | 316 S 61           | X 2 CrNiMoN 17 12   | 2375    | F.3543                       | 316 LN        | SUS 316 LN         |
| 1.4408                                                                                                                                                                                                                    | X 6 CrNiMo 18 10      | X 6 CrNiMo 18 10     | GX 5 CrNiMo 19-11-2        | 316 C 16; 340 C 15 | GX 5 CrNiMo 19-11-2 | 2343    | F.8414-AM – X 7 CrNiMo 20-10 | CF-8 M        | SCS 14             |
| 1.4410                                                                                                                                                                                                                    | X 3 CrNiMoN 25 7 4    | X 3 CrNiMoN 25 7 4   | Z 5 CND 20-10 M            | –                  | –                   | –       | –                            | S 32750       | –                  |
| 1.4433                                                                                                                                                                                                                    | X 2 CrNiMo 18 15      | –                    | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.4435                                                                                                                                                                                                                    | X 2 CrNiMo 18 14 3    | X 2 CrNiMo 18 16     | Z 3 CND 18-14-03           | 316 S 13           | X 2 CrNiMo 18 14 3  | 2353    | F.3533-Z – 2 CrNiMo 17-12-03 | 316 L         | SUS 316 L / SCS 16 |
| 1.4536                                                                                                                                                                                                                    | G-X 2 NiCrMoCuN 25 20 | GX 2 NiCrMoCuN 25 20 | –                          | –                  | –                   | –       | –                            | –             | –                  |
| 1.4541                                                                                                                                                                                                                    | X 6 CrNiTi 18 10      | X 6 CrNiTi 18 10     | Z 6 CNT 18-10              | 321 S 31           | X 6 CrNiTi 18 10    | 2337    | F.3523 – X 7 CrNiTi 18-11    | 321           | SUS 321            |
| 1.4550                                                                                                                                                                                                                    | G-X 6 CrNiNb 18 10    | G-X 6 CrNiNb 18 10   | Z 6 CNNb 18-10             | 347 S 31           | Z 6 CrNiNb 18-10    | 2338    | F.3552 – X 7 CrNiNb 18-11    | 347           | –                  |
| 1.4571                                                                                                                                                                                                                    | X 6 CrNiMoTi 17 12 2  | X 6 CrNiMoTi 17 12 2 | Z 6 CNDT 17-12-02          | 320 S 31           | X 6 CrNiMoTi 17 12  | 2350    | F.3535                       | 316 Ti        | SUS 316 Ti         |
| 1.4573                                                                                                                                                                                                                    | X 10 CrNiMoTi 18 12   | –                    | –                          | 320 S 33           | X 6 CrNiMoTi 17 13  | –       | –                            | 316 Ti        | –                  |
| 1.4581                                                                                                                                                                                                                    | G-X 5 CrNiMoNb 18 10  | –                    | Z 4 CNDNb 18-12 M          | 318 C 17           | GX 6 CrMoNb 20 11   | –       | –                            | –             | SCS 22             |

| W-Nr.                                                                                                                                                                  | DIN (DE)               | EN (EU)             | NF A (FR)          | BS (GB)             | UNI (IT)         | SS (SE)           | UNE (ES)                   | SAE/ASTM (US)        | JIS (JP)       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------|--------------------|---------------------|------------------|-------------------|----------------------------|----------------------|----------------|
| <b>1.6.3 Rostfrei, ferritisch – Ferritic stainless steels – Acier inoxydable, ferritique – Acciaio inox ferritico</b>                                                  |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 1.4000                                                                                                                                                                 | X 6 Cr 13              | X 6 Cr 13           | Z 6 C 13           | 403 S 17            | X 6 Cr 13        | 2301              | F.3110 – X 6 Cr 13         | 403                  | SUS 403        |
| 1.4002                                                                                                                                                                 | X 6 CrAl 13            | X 6 CrAl 13         | Z 6 CA 13          | 405 S 17            | X 6 CrAl 13      | 2302              | F.3111 – X 6 CrAl 13       | 405                  | SUS 405        |
| 1.4008                                                                                                                                                                 | G-X 8 CrNi 13          | (G-X 7 CrNiMo 12-1) | Z 12 CN 13 M       | 410 C 21            | GX 12 Cr 13      | –                 | –                          | –                    | SCS 1          |
| 1.4016                                                                                                                                                                 | X 6 Cr 17              | X 8 Cr 17           | Z 8 C 17           | 430 S 17            | X 8 Cr 17        | 2320              | F.3113 – X 8 Cr 17         | 430                  | SUS 430        |
| 1.4027                                                                                                                                                                 | G-X 20 Cr 14           | –                   | Z 20 C 13 M        | 420 C 29            | –                | –                 | –                          | –                    | SCS 2          |
| 1.4059                                                                                                                                                                 | G-X 22 CrNi 17         | –                   | Z 20 CN 17-02 M    | ANC 2               | –                | –                 | –                          | –                    | –              |
| 1.4113                                                                                                                                                                 | X 6 CrMo 17            | (X 8 CrMo 17)       | Z 8 CD 17-01       | 434 S 17            | X 8 CrMo 17      | 2325              | –                          | 434                  | SUS 434        |
| 1.4510                                                                                                                                                                 | X 6 CrTi 17            | –                   | –                  | –                   | X 6 CrTi 17      | –                 | F.3114 – X 8 CrTi 17       | 430 Ti               | SUS 430 LX     |
| 1.4511                                                                                                                                                                 | X 6 CrNb 17            | –                   | Z 4 CNb 17         | –                   | X 6 CrNb 17      | –                 | –                          | 430 Nb               | SUS 430 LX     |
| 1.4512                                                                                                                                                                 | X 5 CrTi 12            | –                   | Z 6 CT 12          | 409 S 19            | X 6 CrTi 12      | –                 | –                          | 409                  | SUH 409        |
| 1.4528                                                                                                                                                                 | X 105 CrCoMo 18 2      | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 1.4712                                                                                                                                                                 | X 10 CrSi 6            | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 1.4722                                                                                                                                                                 | X 10 CrSi 13           | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 1.4762                                                                                                                                                                 | X 10 CrAl 24           | –                   | Z 10 CAS 24        | –                   | X 16 Cr 26       | 2322              | F.3154 – X 10 CrAl 24      | 446                  | SUH 446        |
| <b>1.6.4 Rostfrei, ferritisch-austenitisch – Ferritic-austenitic stainless steels – Acier inoxydable, ferritique-austénitique – Acciaio inox ferritico-austenitico</b> |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 1.4460                                                                                                                                                                 | X 8 CrNiMo 27 5        | –                   | Z 5 CND 27-05 AZ   | –                   | –                | 2324              | F.3309 – X 8 CrNiMo 27-05  | 329                  | SUS 329 J 1    |
| 1.4582                                                                                                                                                                 | X 4 CrNiMoNb 25 7      | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 1.4821                                                                                                                                                                 | X 20 CrNiSi 25 4       | –                   | Z 20 CNS 25-04     | –                   | X 20 CrNiSi 25 4 | –                 | X 20 CrNiSi 25-04          | –                    | –              |
| <b>1.6.5 Rostfrei, martensitisch – Martensitic stainless steels – Aciers inoxydables martensitiques – Acciaio inox martensitico</b>                                    |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 1.4005                                                                                                                                                                 | X 12 CrS 13            | X 12 CrS 13         | Z 12 CF 13         | 416 S 21            | X 12 CrS 13      | 2380              | F.3411 – X 12 CrS 13       | 416                  | SUS 416        |
| 1.4006                                                                                                                                                                 | X 10 Cr 13             | X 10 Cr 13          | Z 10 C 14          | 410 S 21            | X 12 Cr 13       | 2302              | F.3401 – X 12 Cr 13        | 410                  | SUS 410        |
| 1.4021                                                                                                                                                                 | X 20 Cr 13             | X 20 Cr 13          | Z 20 C 13          | 420 S 37            | X 20 Cr 13       | 2303              | F.3402 – X 20 Cr 13        | 420                  | SUS 420 J 1    |
| 1.4024                                                                                                                                                                 | X 15 Cr 13             | X 15 Cr 13          | –                  | 420 S 29            | X 15 Cr 13       | –                 | –                          | 410                  | SUS 410 J 1    |
| 1.4028                                                                                                                                                                 | X 30 Cr 13             | X 30 Cr 13          | Z 30 C 13          | 420 S 45            | X 30 Cr 13       | 2304              | F.3403 – X 30 Cr 13        | 420                  | SUS 420 J 2    |
| 1.4034                                                                                                                                                                 | X 46 Cr 13             | X 46 Cr 13          | Z 44 C 14          | (420 S45)           | X 40 Cr 14       | –                 | F.3405 – X 45 Cr 13        | –                    | –              |
| 1.4057                                                                                                                                                                 | X 20 CrNi 17 2         | X 19 CrNi 17 2      | Z 15 CN 16-02      | 431 S 29            | X 16 CrNi 16     | 2321              | F.3427 – X 15 CrNi 16      | 431                  | SUS 431        |
| 1.4106                                                                                                                                                                 | X 10 CrMo 13           | –                   | X 2 CrMoSiS 18-2-1 | –                   | –                | –                 | –                          | –                    | –              |
| 1.4112                                                                                                                                                                 | X 90 CrMoV 18          | –                   | X 89 CrMoV 18-1    | X 89 CrMoV 18       | X 89 CrMoV 18    | –                 | –                          | 440 B                | SUS 440 B      |
| 1.4116                                                                                                                                                                 | X 45 CrMoV 15          | –                   | Z 50 CD 15         | X 50 CrMoV 15       | X 50 CrMoV 16    | –                 | X 45 CrMoV 15              | –                    | –              |
| 1.4138                                                                                                                                                                 | G-X 120 CrMo 29 2      | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| <b>1.6.6 Hitzebeständige Stähle – Heat resistant steels – Aciers réfractaires – Acciai refrattari</b>                                                                  |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 1.4710                                                                                                                                                                 | G-X 30 CrSi 6          | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 1.4718                                                                                                                                                                 | X 45 CrSi 9 3          | X 45 CrSi 8         | Z 45 CS 9          | 401 S 45            | X 45 CrSi 8      | –                 | F.3220 – X 4 CrSi 09-03    | HNv 3; HW 3; S 65007 | SUH 1          |
| 1.4729                                                                                                                                                                 | G-X 40 CrSi 13         | –                   | –                  | –                   | G X 35 Cr 13     | –                 | –                          | –                    | SCH 1          |
| 1.4747                                                                                                                                                                 | X 80 CrNiSi 20         | –                   | Z 80 CSN 20-02     | 443 S 65            | X 80 CrSiNi 20   | –                 | F.3222 – X 80 CrSiNi 20-02 | HNv 6                | SUH 4          |
| 1.4825                                                                                                                                                                 | G-X 25 CrNiSi 18 9     | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 1.4848                                                                                                                                                                 | G-X 40 CrNiSi 25 20    | –                   | –                  | 310 C 40            | GX 40 CrNi 26 20 | –                 | F.8452 – AM                | 310 S                | SCH 21         |
| <b>2 Gusseisen – Cast iron – Fontes – Ghise</b>                                                                                                                        |                        |                     |                    |                     |                  |                   |                            |                      |                |
| <b>2.1 Gusseisen mit Lamellengraphit (stark abrasiv) – Grey cast iron – Fonte grise – Ghisa grigia</b>                                                                 |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 0.6010                                                                                                                                                                 | GG-10                  | GJL-100             | Ft 10 B; FGL 100   | Grade 100           | G 10             | 0110-00           | FG 10                      | A 48-20 B            | FC 100         |
| 0.6015                                                                                                                                                                 | GG-15                  | GJL-150             | Ft 15 D; FGL 150   | Grade 150           | G 15; GS 370-17  | 0115-00           | FG 15                      | A 48-25 B            | FC 150         |
| 0.6020                                                                                                                                                                 | GG-20                  | GJL-200             | Ft 20 D; FGL 200   | Grade 200           | G 20             | 0120-00           | FG 20                      | A 48-30 B            | FC 200         |
| 0.6025                                                                                                                                                                 | GG-25                  | GJL-250             | Ft 25 D; FGL 250   | Grade 250; 260      | G 25             | 0125-00           | FG 25                      | A 48-40 B            | FC 250         |
| <b>2.2 Gusseisen mit Lamellengraphit – Grey cast iron – Fonte grise – Ghisa grigia</b>                                                                                 |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 0.6030                                                                                                                                                                 | GG-30                  | GJL-300             | Ft 30 D; FGL 300   | Grade 300           | G 30; GS 700-2   | 0130-00           | FG 30                      | A 48-45 B            | FC 300         |
| 0.6035                                                                                                                                                                 | GG-35                  | GJL-350             | Ft 35 D; FGL 350   | Grade 350           | G 35             | 0135-00           | FG 35                      | A 48-50 B            | FC 350         |
| 0.6040                                                                                                                                                                 | GG-40                  | GJL-400             | Ft 40 D; FGL 400   | Grade 400           | G 40; GMN 70     | 0140-00           | FG 40                      | A 48-60 B            | FC 400         |
| <b>2.3 Kugelgraphitguss, Temperguss – Nodular cast iron, malleable cast iron – Fonte grise à graphite sphéroïdal – Ghisa sferoidale</b>                                |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 0.7033                                                                                                                                                                 | GGG-35.3               | GJS-350-22          | FGS 370-17         | 350/22 L 40         | GMN 45           | 0717-15           | –                          | –                    | –              |
| 0.7040                                                                                                                                                                 | GGG-40                 | GJS-400-15          | FGS 400-15         | SNG 420 / 12        | GS 400-12        | 0717-02           | FGE 38-17                  | 60-40-18             | FCD 400        |
| 0.7043                                                                                                                                                                 | GGG-40.3               | GJS-400-18          | FGS 370-17         | SNG 370 / 17        | GSO 42/17        | 0717-12           | –                          | –                    | FCD 370        |
| 0.7050                                                                                                                                                                 | GGG-50                 | GJS-500-7           | FGS 500-7          | SNG 500 / 7         | GS 500-7         | 0727-02           | FGE 50-7                   | 65-45-12             | FCD 500        |
| 0.7060                                                                                                                                                                 | GGG-60                 | GJS-600-3           | FGS 600-3          | SNG 600 / 3         | GS 600-3         | 0732-03           | FGE 60-2                   | 80-55-06             | FCD 600        |
| 0.8035                                                                                                                                                                 | GTW-35-04              | GJMW-350-4          | MB 35-7            | W 340 / 3; W 35-04  | W 35-04          | –                 | Type B                     | –                    | FCMW 330       |
| 0.8040                                                                                                                                                                 | GTW-40-05              | GJMW-400-5          | MB 40-10; MB 400-5 | W 410 / 4; W 40-05  | GMB 40 / W40-05  | –                 | Type A                     | –                    | FCMW 370       |
| 0.8045                                                                                                                                                                 | GTW-45-07              | GJMW-450-7          | MB 45-7            | W 45-07             | GMB 45 / W45-07  | –                 | –                          | –                    | FCMWP 440      |
| 0.8055                                                                                                                                                                 | GTW-55                 | –                   | –                  | –                   | GMB 55           | –                 | –                          | –                    | –              |
| 0.8065                                                                                                                                                                 | GTW-65                 | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 0.8135                                                                                                                                                                 | GTS-35-10              | GJMB-350-10         | MN 350-10          | B 340 / 12; B 35-12 | P 35-10          | 0815-00           | –                          | 32510                | FCMB 340       |
| 0.8145                                                                                                                                                                 | GTS-45-06              | GJMB-450-6          | MN 450-6           | P 440 / 7; P 45-06  | GMN 55 / P45-06  | 0852-00           | –                          | A220-40010           | FCMP 440 / 490 |
| 0.8155                                                                                                                                                                 | GTS-55-04              | GJMB-550-4          | MN 550-4 / MP 50-5 | P 510 / 4; P 55-04  | GMN 65 / P55-04  | 0854-00           | –                          | A220-50005           | FCMP 540       |
| 0.8165                                                                                                                                                                 | GTS-65-02              | GJMB-650-2          | MN 650-3           | P 570 / 3; P 65-02  | GMN 70 / P65-02  | 0856-00 / 0858-00 | –                          | A220-70003           | FCMP 590       |
| <b>2.4 Gußeisen mit Vermikulargraphit – Compacted graphite cast iron – Fonte vermiculaire – Ghisa vermicolare</b>                                                      |                        |                     |                    |                     |                  |                   |                            |                      |                |
| –                                                                                                                                                                      | GGV-30                 | EN-GJV-300          | –                  | –                   | –                | –                 | –                          | –                    | –              |
| –                                                                                                                                                                      | GGV-40                 | EN-GJV-400          | –                  | –                   | –                | –                 | –                          | –                    | –              |
| <b>3 Kupfer / Kupferlegierungen – Copper / Copper alloys – Cuivre / Alliages de cuivre – Rame / leghe di Rame</b>                                                      |                        |                     |                    |                     |                  |                   |                            |                      |                |
| <b>3.1 Kupfer (unlegiert, niedriglegiert) – Copper – Cuivre (non allié, faiblement allié) – Rame non e debolmente legato</b>                                           |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 2.0060                                                                                                                                                                 | E-Cu 57                | –                   | Cu-a 1; A 2        | Cu-ETP-2 C 101      | –                | –                 | –                          | C 11000              | –              |
| 2.0070                                                                                                                                                                 | SE-Cu                  | –                   | Cu-c1              | C 101               | –                | –                 | –                          | C 10300              | –              |
| 2.0090                                                                                                                                                                 | SF-Cu                  | –                   | Cu-b1              | Cu-DHP C 106        | –                | –                 | –                          | C 12200              | –              |
| 2.1356                                                                                                                                                                 | CuMn 3                 | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 2.1522                                                                                                                                                                 | CuSi 2 Mn              | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| <b>3.2 Kupfer-Legierungen (kurzspanend) – Copper alloys (short chipping) – Alliages de cuivre à copeaux courts (laitons) – Leghe di Rame a truciolo corto</b>          |                        |                     |                    |                     |                  |                   |                            |                      |                |
| 2.0360                                                                                                                                                                 | CuZn 40 (Ms60)         | –                   | CuZn 40 (Ms60)     | CZ 109              | OT 60            | –                 | –                          | C 28000              | –              |
| 2.0380                                                                                                                                                                 | CuZn 39 Pb 2 (Ms58)    | –                   | MS 58              | CZ 120              | OT 58            | –                 | –                          | –                    | –              |
| 2.0410                                                                                                                                                                 | CuZn 44 Pb 2 (Ms 56)   | –                   | CuZn 44 Pb 2       | CZ 130              | OT 56            | –                 | –                          | C 38500              | –              |
| 2.0561                                                                                                                                                                 | CuZn 40 Al 1           | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |
| 2.0580                                                                                                                                                                 | CuZn 40 Mn 1 Pb        | –                   | –                  | CZ 115              | –                | –                 | –                          | –                    | –              |
| 2.0771                                                                                                                                                                 | CuNi 7 Zn 39 Mn 5 Pb 3 | –                   | –                  | –                   | –                | –                 | –                          | –                    | –              |

| W-Nr.                                                                                                                                                                 | DIN (DE)                | EN (EU)          | NF A (FR)                     | BS (GB)            | UNI (IT) | SS (SE)  | UNE (ES) | SAE/ASTM (US) | JIS (JP) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------|-------------------------------|--------------------|----------|----------|----------|---------------|----------|
| 2.1050                                                                                                                                                                | G-CuSn 10 Zn (Rg 10)    | -                | -                             | G 1                | -        | -        | -        | C 90500       | -        |
| 2.1086                                                                                                                                                                | G-CuSn 10               | -                | -                             | CT 1               | -        | -        | -        | C 90250       | -        |
| 2.1093                                                                                                                                                                | G-CuSn 6 ZnNi           | -                | -                             | LG 4               | -        | -        | -        | C 92410       | -        |
| 2.1096                                                                                                                                                                | G-CuSn 5 ZnPb (Rg 5)    | -                | CuPb 5 Sn 5 Zn 5              | LG 2               | -        | -        | -        | C 83600       | -        |
| <b>3.3 Kupferlegierungen (langspannend) – Copper alloys (long chipping) – Alliages de cuivre (à copeaux longs) – Leghe di Rame a truciolo lungo</b>                   |                         |                  |                               |                    |          |          |          |               |          |
| 2.0250                                                                                                                                                                | CuZn 20 (Ms80)          | -                | CuZn 20                       | CZ 103             | OT 80    | -        | -        | C 24000       | -        |
| 2.0265                                                                                                                                                                | CuZn 30 (Ms70)          | -                | CuZn 30                       | CZ 106             | OT 70    | -        | -        | C 26000       | -        |
| 2.0321                                                                                                                                                                | CuZn 37                 | -                | CuZn 37                       | CZ 108             | C 2720   | -        | -        | C 27400       | -        |
| 2.0335                                                                                                                                                                | CuZn 36 (Ms63)          | -                | CuZn 36                       | -                  | OT 63    | -        | -        | C 27000       | -        |
| 2.1020                                                                                                                                                                | CuSn 6                  | -                | -                             | -                  | -        | -        | -        | -             | -        |
| 2.1030                                                                                                                                                                | CuSn 8                  | -                | -                             | -                  | -        | -        | -        | -             | -        |
| 2.1080                                                                                                                                                                | CuSn 6 Zn 6             | -                | -                             | -                  | -        | -        | -        | -             | -        |
| 2.1245                                                                                                                                                                | CuBe 1,7                | -                | CuBe 1,7                      | CB 101             | -        | -        | -        | C 17000       | -        |
| 2.1247                                                                                                                                                                | CuBe 2                  | -                | CuBe 1,9                      | -                  | -        | -        | -        | C 17200       | -        |
| 2.1293                                                                                                                                                                | CuCrZr                  | -                | UC 1 Zr                       | CC 102             | -        | -        | -        | C 18100       | -        |
| 2.1525                                                                                                                                                                | CuSi 3 Mn               | -                | -                             | -                  | -        | -        | -        | -             | -        |
| <b>3.4 Kupfer-Sonderlegierungen (&lt; 200 HB) – Copper alloys (&lt; 200 HB) – Alliages de cuivre (&lt; 200 HB) – Leghe di Rame speciali (&lt; 200 HB)</b>             |                         |                  |                               |                    |          |          |          |               |          |
| 2.0916                                                                                                                                                                | CuAl 5 (AlBz 5)         | -                | -                             | -                  | -        | -        | -        | -             | -        |
| 2.0932                                                                                                                                                                | CuAl 8 Fe 3 (AlBz 8 Fe) | -                | CuAl 7 Fe 2                   | CA 106             | -        | -        | -        | C 61400       | -        |
| 2.0966                                                                                                                                                                | CuAl 10 Ni 5 Fe 4       | -                | CuAl 9 Ni 5 Fe 3 Mn; U-A 10 N | CA 104             | -        | -        | -        | C 63200       | -        |
| 2.1247                                                                                                                                                                | CuBe 2 Fe 40            | -                | CuBe 1,9                      | -                  | -        | -        | -        | C 17200       | -        |
| -                                                                                                                                                                     | AMPCO 8                 | -                | -                             | -                  | -        | -        | -        | -             | -        |
| -                                                                                                                                                                     | AMPCO 12                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| -                                                                                                                                                                     | AMPCO 15                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| -                                                                                                                                                                     | AMPCO 16                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| <b>3.5 Kupfer-Sonderlegierungen (200 HB – 300 HB) – Copper alloys (200 HB – 300 HB) – Alliages de cuivre (200 – 300HB) – Leghe di Rame speciali (200 HB – 300 HB)</b> |                         |                  |                               |                    |          |          |          |               |          |
| 2.0978                                                                                                                                                                | CuAl 11 Ni 6 Fe 5       | -                | CuAl 11 Ni 6 Fe 5             | -                  | -        | -        | -        | -             | -        |
| 2.1245                                                                                                                                                                | CuBe 1,7 F55            | -                | CuBe 1,7                      | CB 101             | -        | -        | -        | C 17000       | -        |
| -                                                                                                                                                                     | AMPCO 18                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| -                                                                                                                                                                     | AMPCO 20                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| <b>3.6 Kupfer-Sonderlegierungen (&gt; 300 HB) – Copper alloys (&gt; 300 HB) – Alliages de cuivre (&gt; 300 HB) – Leghe di Rame speciali (&gt; 300 HB)</b>             |                         |                  |                               |                    |          |          |          |               |          |
| 2.1245                                                                                                                                                                | CuBe 1,7 F110           | -                | CuBe 1,7                      | CB 101             | -        | -        | -        | C 17000       | -        |
| 2.1247                                                                                                                                                                | CuBe 2 F125             | -                | CuBe 1,9                      | -                  | -        | -        | -        | C 17200       | -        |
| -                                                                                                                                                                     | AMPCO 21                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| -                                                                                                                                                                     | AMPCO 22                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| -                                                                                                                                                                     | AMPCO 25                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| -                                                                                                                                                                     | AMPCO 26                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| <b>4 Aluminium / Aluminiumlegierungen – Aluminium / Aluminium alloys – Aluminium / Alliages d'aluminium – Alluminio / Leghe di Alluminio</b>                          |                         |                  |                               |                    |          |          |          |               |          |
| <b>4.1 Aluminium (unlegiert, niedriglegiert) – Aluminium – Aluminium (non allié-faiblement allié) – Alluminio non e debolmente legato</b>                             |                         |                  |                               |                    |          |          |          |               |          |
| 3.0250                                                                                                                                                                | Al 99,5 H               | -                | A 59050 C                     | 1 B; L31 / 34 / 36 | -        | 144007   | L-3051   | 1050 A        | -        |
| 3.0256                                                                                                                                                                | E-Al H                  | -                | A 5 / L                       | 1 E                | -        | 144008   | L-3052   | 1350 A        | -        |
| 3.0280                                                                                                                                                                | Al 99,8 H               | -                | A 8                           | 1 A                | -        | 144004   | L-3081   | 1080 A        | -        |
| 3.3308                                                                                                                                                                | Al 99,9 Mg 0,5          | -                | A-9-G 0,5                     | -                  | -        | -        | -        | -             | -        |
| <b>4.2 Aluminium-Legierungen (&lt; 0,5% Si) – Aluminium alloys (&lt; 0,5% Si) – Alliages d'aluminium (&lt; 0,5% Si) – Leghe di Alluminio (&lt; 0,5% Si)</b>           |                         |                  |                               |                    |          |          |          |               |          |
| 3.0515                                                                                                                                                                | G-Al 99,5               | -                | 3103                          | N 3                | 3568     | 144054   | L 3811   | 3103          | -        |
| 3.0516                                                                                                                                                                | S-AlMn                  | -                | -                             | NG 3               | -        | 144055   | -        | -             | -        |
| 3.0525                                                                                                                                                                | AlMn 1 Mg 0,5           | -                | A – M 1 G 0,5                 | -                  | -        | -        | -        | 3005          | A 3005   |
| 3.0615                                                                                                                                                                | AlMgSiPb                | -                | 6262                          | -                  | -        | -        | L 3452   | 6012          | -        |
| 3.1325                                                                                                                                                                | AlCuMg 1                | AW-2017 A        | A – U 4 G                     | H 14               | 3579     | -        | L-3120   | 2017 A        | A 2017   |
| 3.1355                                                                                                                                                                | AlCuMg 2                | AW-2024          | A – U 4 G 1                   | 2 L 98             | 3583     | -        | L-3140   | 2024          | A 2024   |
| 3.1841                                                                                                                                                                | G-AlCu 4 Ti             | -                | -                             | 2 L 91/92          | 3044     | -        | -        | -             | A C 1 A  |
| 3.3241                                                                                                                                                                | G-AlMg 3 Si             | -                | A-G 3 T                       | -                  | -        | -        | L 2341   | 511           | -        |
| 3.3292                                                                                                                                                                | GD-AlMg 9               | -                | -                             | -                  | -        | -        | -        | -             | -        |
| 3.3315                                                                                                                                                                | AlMg 1                  | AW-6082          | A – G 0,6                     | N 41               | 5764     | 144106   | L-3350   | 5005 A        | A 5005   |
| 3.3535                                                                                                                                                                | AlMg 3                  | -                | A – G 3 M                     | N 5                | 3575     | 144133   | L-3390   | 5754          | -        |
| 3.4365                                                                                                                                                                | AlZnMgCu 1,5            | -                | A – Z 5 GU                    | 2 L 95             | 3735     | -        | L-3710   | 7075          | A 7075   |
| <b>4.3 Aluminium-Legierungen (0,5% – 10% Si) – Aluminium alloys (0,5% – 10% Si) – Alliages d'aluminium (0,5% – 10% Si) – Leghe di Alluminio (0,5% – 10% Si)</b>       |                         |                  |                               |                    |          |          |          |               |          |
| 3.2134                                                                                                                                                                | GD-AISI 5 Cu 1 Mg       | -                | A – S 4 Gu                    | LM 16              | 3600     | -        | L-2571   | 355,1         | A C 4 D  |
| 3.2152                                                                                                                                                                | GD-AISI 6 Cu 4          | -                | A – S 5 U                     | LM 4 – LM 22       | -        | 4230     | L-2660   | 319,2         | -        |
| 3.2162                                                                                                                                                                | GD-AISI 8 Cu 3          | -                | A – S 9 U 3                   | LM 24              | -        | 4252     | L-2630   | 380,1         | -        |
| 3.2373                                                                                                                                                                | G-AISI 9 Mg             | -                | A 7 – S 10 G                  | -                  | 3051     | 4235     | -        | -             | A C 4 A  |
| <b>4.4 Aluminium-Legierungen (10% – 15% Si) – Aluminium alloys (10% – 15% Si) – Alliages d'aluminium (10% – 15% Si) – Leghe di Alluminio (10% – 15% Si)</b>           |                         |                  |                               |                    |          |          |          |               |          |
| 3.2381                                                                                                                                                                | G-AISI 10 Mg            | -                | A – S 10 G                    | LM 9               | -        | 4253     | L-2560   | A 360         | -        |
| 3.2383                                                                                                                                                                | G-AISI 10 Mg (Cu)       | -                | A – S 10 UG                   | LM 9               | -        | 4253     | -        | A 360,2       | A D C 3  |
| 3.2581                                                                                                                                                                | G-AISI 12               | -                | A – S 13                      | LM 6               | 4514     | 4261     | L-2520   | A 413,2       | A C 3 A  |
| 3.2583                                                                                                                                                                | G-AISI 12 (Cu)          | -                | A – S 12 U                    | LM 20              | 3048     | 4260     | L-2530   | A 413,1       | A D C 1  |
| 3.2982                                                                                                                                                                | GD-AISI 12 (Cu)         | -                | -                             | -                  | -        | -        | -        | -             | -        |
| 3.5106                                                                                                                                                                | G-MgAg 3 SE 2 Zr 1      | MCMgRE 2 Ag 2 Zr | G-Ag 22,5                     | MAG 12             | -        | -        | -        | QE 22         | -        |
| 3.5562                                                                                                                                                                | G-MgAl 6                | -                | -                             | -                  | -        | -        | -        | -             | -        |
| 3.5812                                                                                                                                                                | GD-MgAl 8 Zn 1          | MCMgAl 8 Zn 1    | G-A 9                         | MAG 1              | AZ 81 hp | AZ 81 hp | AZ 81 hp | AZ 81         | AZ 81 hp |
| 3.5912                                                                                                                                                                | GD-MgAl 9 Zn 1          | MCMgAl 9 Zn 1    | G-A 9 Z 1                     | MAG 7              | AZ 91 hp | -        | -        | AZ 91         | -        |
| <b>4.5 Aluminium-Legierungen (&gt; 15% Si) – Aluminium alloys (&gt; 15% Si) – Alliages d'aluminium (&gt; 15% Si) – Leghe di Alluminio (&gt; 15% Si)</b>               |                         |                  |                               |                    |          |          |          |               |          |
| -                                                                                                                                                                     | G-AISI 17 Cu 4          | -                | -                             | -                  | -        | -        | -        | 390           | -        |
| -                                                                                                                                                                     | G-AISI 21 CuNiMg        | -                | -                             | LM 28              | -        | -        | -        | -             | -        |
| -                                                                                                                                                                     | G-AISI 25 CuNiMg        | -                | -                             | LM 29              | -        | -        | -        | 393           | -        |

| W-Nr.                                                                                                                                                                                                                                                                      | DIN (DE)                 | EN (EU)       | NF A (FR)         | BS (GB)                      | UNI (IT) | SS (SE) | UNE (ES) | SAE/ASTM (US)              | JIS (JP) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------|-------------------|------------------------------|----------|---------|----------|----------------------------|----------|
| <b>5 Titan / Titanlegierungen – Titanium / Titanium alloys – Titane / Alliages de titane – Titanio / Leghe di Titanio</b>                                                                                                                                                  |                          |               |                   |                              |          |         |          |                            |          |
| <b>5.1 Reintitan – Pure titanium – Titane pur – Titanio puro</b>                                                                                                                                                                                                           |                          |               |                   |                              |          |         |          |                            |          |
| 3.7024.1 LN                                                                                                                                                                                                                                                                | Ti 99,5                  | –             | T – 60            | TA – 6 / 7 / 8 / 9           | –        | –       | Ti – PO4 | 4901 / 21                  | –        |
| 3.7034.1 LN                                                                                                                                                                                                                                                                | Ti 99,7                  | –             | T – 40            | TA – 2 / 3 / 4 / 5           | –        | –       | Ti – PO2 | 4941 / 42 / 51 / 4902      | –        |
| 3.7055                                                                                                                                                                                                                                                                     | Ti 99,4                  | –             | T – 50            | TA 3                         | –        | –       | –        | R 50550                    | –        |
| 3.7064.1 LN                                                                                                                                                                                                                                                                | Ti 99,2                  | –             | T – 60            | 2 TA – 6 / 7 / 8 / 9         | –        | –       | –        | –                          | –        |
| <b>5.2 Titanlegierungen (Rm &lt; 900 N/mm²) – Titanium alloys (tensile strength &lt; 900 N/mm²) – Alliages de titane (résistance &lt; 900 N/mm²) – Leghe di Titanio (resistenza &lt; 900 N/mm²)</b>                                                                        |                          |               |                   |                              |          |         |          |                            |          |
| 3.7114 LN                                                                                                                                                                                                                                                                  | TiAl 5 Sn 2              | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| 3.7124 LN                                                                                                                                                                                                                                                                  | TiCu 2                   | –             | T – U 2           | 2 TA.21-24;<br>TA.52-55 / 58 | –        | –       | Ti – P11 | –                          | –        |
| 3.7163 LN                                                                                                                                                                                                                                                                  | TiAl 6 V 4               | –             | T – A 6 V         | TA.10-13 / 28 / 56           | –        | –       | Ti-P63   | 491128 / 35 / 54 / 65 / 67 | –        |
| 3.7174 LN                                                                                                                                                                                                                                                                  | TiAl 6 V 6 Sn 2          | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| <b>5.3 Titanlegierungen (Rm 900 – 1500 N/mm²) – Titanium alloys (tensile strength 900 – 1500 N/mm²) – Alliages de titane (résistance 900 – 1500 N/mm²) – Leghe di Titanio (resistenza 900 – 1500 N/mm²)</b>                                                                |                          |               |                   |                              |          |         |          |                            |          |
| 3.7124 LN                                                                                                                                                                                                                                                                  | TiCu 2                   | –             | T – U 2           | 2 TA.21-24;<br>TA.52-55 / 58 | –        | –       | Ti – P11 | –                          | –        |
| 3.7144 LN                                                                                                                                                                                                                                                                  | TiAl 6 Sn 2 Zr 4 Mo 2    | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| 3.7154 LN                                                                                                                                                                                                                                                                  | TiAl 6 Zr 5              | –             | T – A 6 ZD        | TA.43 / 44                   | –        | –       | Ti – P67 | –                          | –        |
| 3.7164 LN                                                                                                                                                                                                                                                                  | TiAl 5 V 4               | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| 3.7164 LN                                                                                                                                                                                                                                                                  | TiAl 6 V 4               | –             | T – A 6 V         | TA.10-13 / 28 / 56           | –        | –       | Ti-P63   | 491128 / 35 / 54 / 65 / 67 | –        |
| 3.7174 LN                                                                                                                                                                                                                                                                  | TiAl 6 V 6 Sn 2          | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| 3.7184 LN                                                                                                                                                                                                                                                                  | TiAl 4 Mo 4 Sn 2         | –             | T – A 4 DE        | TA.45-51 / 57                | –        | –       | Ti – P68 | –                          | –        |
| <b>6 Nickel / Nickellegierungen – Nickel / Nickel alloys – Nickel / Alliages de nickel – Nickel / Leghe di Nickel</b>                                                                                                                                                      |                          |               |                   |                              |          |         |          |                            |          |
| <b>6.1 Reinnickel – Pure nickel – Nickel pur – Nickel puro</b>                                                                                                                                                                                                             |                          |               |                   |                              |          |         |          |                            |          |
| 2.1504 LN                                                                                                                                                                                                                                                                  | NiAlBz                   | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| 2.4042                                                                                                                                                                                                                                                                     | Ni 99 CSI                | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| 2.4060                                                                                                                                                                                                                                                                     | Ni 99,6                  | –             | –                 | NA 46                        | –        | –       | –        | –                          | –        |
| 2.4062                                                                                                                                                                                                                                                                     | Ni 99,4 Fe               | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| <b>6.2 Nickellegierungen (Rm &lt; 900 N/mm²) – Nickel alloys (tensile strength &lt; 900 N/mm²) – Alliages de Nickel (résistance &lt; 900 N/mm²) – Leghe di Nickel (resistenza &lt; 900 N/mm²)</b>                                                                          |                          |               |                   |                              |          |         |          |                            |          |
| 2.4360                                                                                                                                                                                                                                                                     | NiCu 30 Fe               | Monel 400     | NU 30             | NA 13                        | –        | –       | –        | N 04400                    | –        |
| 2.4374 LN                                                                                                                                                                                                                                                                  | –                        | Monel 500     | –                 | –                            | –        | –       | –        | –                          | –        |
| 2.4617                                                                                                                                                                                                                                                                     | NiMo 28                  | Hastelloy B 2 | NiMo 28           | NA 14                        | –        | –       | –        | N 10665                    | –        |
| 2.4665                                                                                                                                                                                                                                                                     | NiCr 22 Fe 18 Mo         | Hastelloy X   | NC 22 FeD         | HR 6 / 204                   | –        | MH-03   | –        | 5536E                      | –        |
| 2.4812                                                                                                                                                                                                                                                                     | –                        | Hastelloy C   | –                 | –                            | –        | –       | –        | –                          | –        |
| 2.4816                                                                                                                                                                                                                                                                     | NiCr 15 Fe               | Inconel 600   | NC 15 Fe          | NA 14                        | –        | –       | –        | 5540                       | NCF 600  |
| 2.4876                                                                                                                                                                                                                                                                     | –                        | Inconel 800   | –                 | –                            | –        | –       | –        | –                          | –        |
| 2.4983                                                                                                                                                                                                                                                                     | NiCr 18 Co 18 MoTi       | Inconel 500   | NCK 19 DAT        | –                            | –        | –       | –        | 684                        | –        |
| <b>6.3 Nickellegierungen (Rm 900 – 1500 N/mm²) – Nickel alloys (tensile strength 900 – 1500 N/mm²) – Alliages de Nickel (résistance 900 – 1500 N/mm²) – Leghe di Nickel (resistenza 900 – 1500 N/mm²)</b>                                                                  |                          |               |                   |                              |          |         |          |                            |          |
| 2.4631                                                                                                                                                                                                                                                                     | NiCr 20 TiAl             | Nimonic 80A   | NC 20 TA          | HR 401                       | –        | MH-07   | –        | –                          | NCF 80 A |
| 2.4632                                                                                                                                                                                                                                                                     | NiCr 20 Co 18 Ti         | Nimonic 90    | –                 | BA 19                        | –        | –       | –        | –                          | –        |
| 2.4634                                                                                                                                                                                                                                                                     | NiCo 20 Cr 15 MoAlTi     | Nimonic 105   | NCKD 20 ATV       | HR 3 / 5007                  | –        | MH-14   | –        | –                          | –        |
| 2.4662                                                                                                                                                                                                                                                                     | –                        | Nimonic 901   | Z 8 NCDT 42       | MH 16                        | –        | MH-16   | –        | 5660 C                     | –        |
| 2.4668                                                                                                                                                                                                                                                                     | NiCr 19 FeNbMo           | Inconel 718   | NC 19 Fe Nb       | HR 8                         | –        | MH-06   | –        | N 07718                    | NCF 718  |
| 2.4670 LN                                                                                                                                                                                                                                                                  | G – NiCr 13 Al 6 MoNb    | Nimocast 713  | NC 13 AD          | HC 203                       | –        | MH-31   | –        | 5391 A                     | –        |
| 2.4674 LN                                                                                                                                                                                                                                                                  | NiCo 15 Cr 10 MoAlTi     | Nimocast PK24 | NK 15 CAT         | HC 204                       | –        | –       | –        | 5397                       | –        |
| 2.4856                                                                                                                                                                                                                                                                     | NiCr 22 Mo 9 Nb          | Inconel 625   | NC 22 FeDNB       | NA 21                        | –        | –       | –        | 5581 / N 06625             | NCF 625  |
| 2.6554                                                                                                                                                                                                                                                                     | –                        | Waspaloy      | –                 | –                            | –        | –       | –        | –                          | –        |
| <b>7 Kunststoffe – Plastics – Plastiques – Materie plastiche</b>                                                                                                                                                                                                           |                          |               |                   |                              |          |         |          |                            |          |
| <b>7.1 Thermoplaste – Thermoplastics – Thermoplastiques – Termoplastiche</b>                                                                                                                                                                                               |                          |               |                   |                              |          |         |          |                            |          |
| –                                                                                                                                                                                                                                                                          | Ultramit                 | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Makralon                 | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Hostalen                 | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Degolan                  | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Polystyrol               | –             | Polystyrène       | Styrene                      | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Hostaform                | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| <b>7.2 Duroplaste und Pressstoffe – Thermosetting polymers and pressed materials – Duroplastiques – Polimeri termoidurenti e materiali pressati</b>                                                                                                                        |                          |               |                   |                              |          |         |          |                            |          |
| –                                                                                                                                                                                                                                                                          | Bakelit                  | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Pertinax                 | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Ferrozell                | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Resopal                  | –             | Résopal – Formica | Formica                      | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Albanit                  | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| <b>7.3 Faserverstärkte Kunststoffe – Reinforced plastics – Matières synthétiques, renforcées par des fibres de verre – Plastiche rinforzate</b>                                                                                                                            |                          |               |                   |                              |          |         |          |                            |          |
| –                                                                                                                                                                                                                                                                          | CFK Kohlefaserverstärkt  | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | GFK Glasfaserverstärkt   | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | AFK Aramidfaserverstärkt | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| <b>8 Hartstoffe – Hardened materials – Matières dures (trempées) – Materiali duri</b>                                                                                                                                                                                      |                          |               |                   |                              |          |         |          |                            |          |
| <b>8.1 Metallkeramiken – Metal ceramics – Matières dures, à base céramique – Materiali a base ceramica</b>                                                                                                                                                                 |                          |               |                   |                              |          |         |          |                            |          |
| –                                                                                                                                                                                                                                                                          | Ferrotic                 | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | Ferrotitanit             | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| <b>8.2 Gehärtete Stähle der Werkstoffgruppen 1.5 und 1.6.2 (50 – 65 HRC) – Hardened steels of groups 1.5 and 1.6.2 (50 – 65 HRC) – Aciers traités des groupes de matières 1.5 et 1.6.2 (50 – 65 HRC) – Acciai temprati del gruppo di materiali 1.5 e 1.6.2 (50-65 HRC)</b> |                          |               |                   |                              |          |         |          |                            |          |
| <b>8.2.1 45 – 55 HRC</b>                                                                                                                                                                                                                                                   |                          |               |                   |                              |          |         |          |                            |          |
| –                                                                                                                                                                                                                                                                          | HARDOX 500               | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| –                                                                                                                                                                                                                                                                          | TOOLOX 44                | –             | –                 | –                            | –        | –       | –        | –                          | –        |
| <b>8.2.2 55 – 60 HRC</b>                                                                                                                                                                                                                                                   |                          |               |                   |                              |          |         |          |                            |          |
| <b>8.2.3 60 – 65 HRC</b>                                                                                                                                                                                                                                                   |                          |               |                   |                              |          |         |          |                            |          |

|                |                                                                                                                                                                                                  |                                                                                     |                                                                                                                                                                        |                                                                                       |                                                                                                                                                                                                   |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>M</b>       | Metrisches ISO-Regelgewinde DIN 13<br>ISO Metric coarse thread DIN 13<br>Filetage métrique ISO DIN 13<br>Metrica ISO-passo grosso DIN 13                                                         | <b>7GX</b>                                                                          | Toleranzklasse 7GX<br>Tolerance class 7GX<br>Classe de tolérance 7GX<br>Tolleranza 7GX                                                                                 | <b>ANSI B1.20.1</b>                                                                   | Amerikanisches kegeliges Rohrgewinde – Kegel 1:16<br>American tapered pipe thread – taper 1:16<br>Filetage pour tubes de Gaz – cône 1:16<br>Filettatura Americana conica per tubi – conicità 1:16 |
| <b>MF</b>      | Metrisches ISO-Feingewinde DIN 13<br>ISO Metric fine thread DIN 13<br>Filetage métrique fin ISO DIN 13<br>Metrica ISO-passo fine DIN 13                                                          | <b>HSSE V3</b>                                                                      | Hochleistungsschnellarbeitsstahl HSSE-V3<br>High speed steel HSSE-V3<br>Acier rapide HSSE-V3<br>Acciaio super rapido HSSE-V3                                           | <b>B</b>                                                                              | Anschnittform B, 3,5 – 5 Gewindegänge<br>Chamfer form B, 3,5 – 5 threads<br>Forme d'entrée B, 3,5 – 5 filets<br>Imbocco forma B, 3,5 – 5 filetti                                                  |
| <b>EG-M</b>    | Metrisches Einsatz-Gewinde für Gewindeeinsätze aus Draht<br>Metric insert thread for wire inserts<br>Filetage métrique pour inserts<br>Metrica – per filetti riportati                           | <b>DIN 371</b>                                                                      | Baumaße nach DIN 371<br>Dimensions acc. DIN 371<br>Dimensions selon DIN 371<br>Dimensioni sec. DIN 371                                                                 | <b>C</b>                                                                              | Anschnittform C, 2 – 3 Gewindegänge<br>Chamfer form C, 2 – 3 threads<br>Forme d'entrée C, 2 – 3 filets<br>Imbocco forma C, 2 – 3 filetti                                                          |
| <b>G</b>       | Whitworth-Rohrgewinde DIN ISO 228<br>Whitworth pipe thread DIN ISO 228<br>Filetage Whitworth Gaz DIN ISO 228<br>Whitworth-gas DIN ISO 228                                                        | <b>DIN 374</b>                                                                      | Baumaße nach DIN 374<br>Dimensions acc. DIN 374<br>Dimensions selon DIN 374<br>Dimensioni sec. DIN 374                                                                 | <b>E</b>                                                                              | Anschnittform E, 1,5 – 2 Gewindegänge<br>Chamfer form E, 1,5 – 2 threads<br>Forme d'entrée E, 1,5 – 2 filets<br>Imbocco forma E, 1,5 – 2 filetti                                                  |
| <b>UNC</b>     | UNC-Gewinde ANSI-B 1.1<br>UNC thread ANSI-B 1.1<br>Filetage UNC ANSI-B 1.1<br>UNC-passo grosso ANSI-B 1.1                                                                                        | <b>DIN 376</b>                                                                      | Baumaße nach DIN 376<br>Dimensions acc. DIN 376<br>Dimensions selon DIN 376<br>Dimensioni sec. DIN 376                                                                 |    | Drallwinkel 40°<br>Helix angle 40°<br>Angle d'hélice 40°<br>Elica a 40°                                                                                                                           |
| <b>UNF</b>     | UNF-Gewinde ANSI-B 1.1<br>UNF thread ANSI-B 1.1<br>Filetage UNF ANSI-B 1.1<br>UNF-passo fine ANSI-B 1.1                                                                                          | <b>DIN 2184-1</b>                                                                   | Baumaße nach DIN 2184-1<br>Dimensions acc. DIN 2184-1<br>Dimensions selon DIN 2184-1<br>Dimensioni sec. DIN 2184-1                                                     |    | Drallwinkel 45°<br>Helix angle 45°<br>Angle d'hélice 45°<br>Elica a 45°                                                                                                                           |
| <b>NPT</b>     | Amerikanisches kegeliges Rohrgewinde ANSI-B 1.1<br>American tapered pipe thread ANSI-B 1.1<br>Filetage pas du gaz conique américain ANSI-B 1.1<br>Filettatura americana conica secondo ANSI-B1.1 | <b>DIN 5156</b>                                                                     | Baumaße nach DIN 5156<br>Dimensions acc. DIN 5156<br>Dimensions selon DIN 5156<br>Dimensioni sec. DIN 5156                                                             |    | Variabler Drallwinkel<br>Variable helix angle<br>Angle d'hélice variable<br>Angolo di elica variabile                                                                                             |
| <b>Typ UNI</b> | Für universellen Einsatz<br>For universal use<br>Pour utilisation universelle<br>Per uso universale                                                                                              | <b>DIN 40435</b>                                                                    | Baumaße nach DIN 40435<br>Dimensions acc. DIN 40435<br>Dimensions selon DIN 40435<br>Dimensioni sec. DIN 40435                                                         |    | Für Durchgangsgewinde<br>For through hole threads<br>Pour trous débouchants<br>Per fori passanti                                                                                                  |
| <b>LH</b>      | Linksschneidend<br>Left hand thread<br>Rotation à gauche<br>Filettatura sinistra                                                                                                                 |  | Baumaße nach Werksnorm<br>Dimensions acc. internal standard<br>Dimensions selon norme usine<br>Dimensioni sec. norme interne                                           |  | Für Grundlochgewinde<br>For blind hole threads<br>Pour trous borgnes<br>Per fori ciechi                                                                                                           |
| <b>LS</b>      | Langer Schaft<br>Long shank<br>Queue longue<br>Gambo lungo                                                                                                                                       |  | Flankenwinkel 55°<br>Flank angle 55°<br>Angle de flanc 55°<br>Profilo a 55°                                                                                            |  | Für Grundlochgewinde ≤2,5xD<br>For blind hole threads ≤2,5xD<br>Pour trous borgnes ≤2,5xD<br>Per fori ciechi ≤2,5xD                                                                               |
| <b>2BX</b>     | Toleranzklasse 2BX<br>Tolerance class 2BX<br>Classe de tolérance 2BX<br>Tolleranza 2BX                                                                                                           |  | Flankenwinkel 60°<br>Flank angle 60°<br>Angle de flanc 60°<br>Profilo a 60°                                                                                            | <b>≤ 1200 N/mm²</b>                                                                   | Zugfestigkeit in N/mm<br>Tensile strength in N/mm<br>Résistance à la traction<br>Resistenza a trazione                                                                                            |
| <b>6GX</b>     | Toleranzklasse 6GX<br>Tolerance class 6GX<br>Classe de tolérance 6GX<br>Tolleranza 6GX                                                                                                           | <b>DIN 13</b>                                                                       | Metrisches ISO-Regelgewinde DIN 13<br>ISO Metric coarse thread DIN 13<br>Filetage métrique ISO DIN 13<br>Metrica ISO-passo grosso DIN 13                               | <b>TiN</b>                                                                            | Titan-Nitrid<br>Titanium nitride<br>Nitrure de titane<br>Nitruro di titanio                                                                                                                       |
| <b>6HX</b>     | Toleranzklasse 6HX<br>Tolerance class 6HX<br>Classe de tolérance 6HX<br>Tolleranza 6HX                                                                                                           | <b>DIN 8140</b>                                                                     | Metrisches Einsatz-Gewinde für Gewindeeinsätze aus Draht<br>Metric insert thread for wire inserts<br>Filetage métrique pour inserts<br>Metrica – per filetti riportati |  | Seite<br>Page<br>Page<br>Pagina                                                                                                                                                                   |
| <b>6H +0,1</b> | Toleranzklasse 6H+0,1<br>Tolerance class 6H+0,1<br>Classe de tolérance 6H+0,1<br>Tolleranza 6H+0,1                                                                                               | <b>DIN ISO 228</b>                                                                  | Rohrgewinde nach DIN ISO 228<br>Pipe threads according to DIN ISO 228<br>Filetage pour tubes de Gaz selon DIN ISO 228<br>Filettatura Gas secondo DIN ISO 228           | <b>Code</b>                                                                           | Artikel-Nummer<br>Order number<br>Numéro d'article<br>Numero di articolo                                                                                                                          |
| <b>6H mod</b>  | Toleranzklasse 6H mod<br>Tolerance class 6H mod<br>Classe de tolérance 6H mod<br>Tolleranza 6H mod                                                                                               | <b>ANSI B 1.1</b>                                                                   | Unified-Gewinde nach ANSI-B 1.1<br>Unified threads according to ANSI-B 1.1<br>Filetage pas américains selon ANSI-B 1.1<br>Filettatura Unified secondo ANSI-B 1.1       | <b>W%</b>                                                                             | Warengruppe<br>Product group<br>Group d'article<br>Gruppo merceologico                                                                                                                            |

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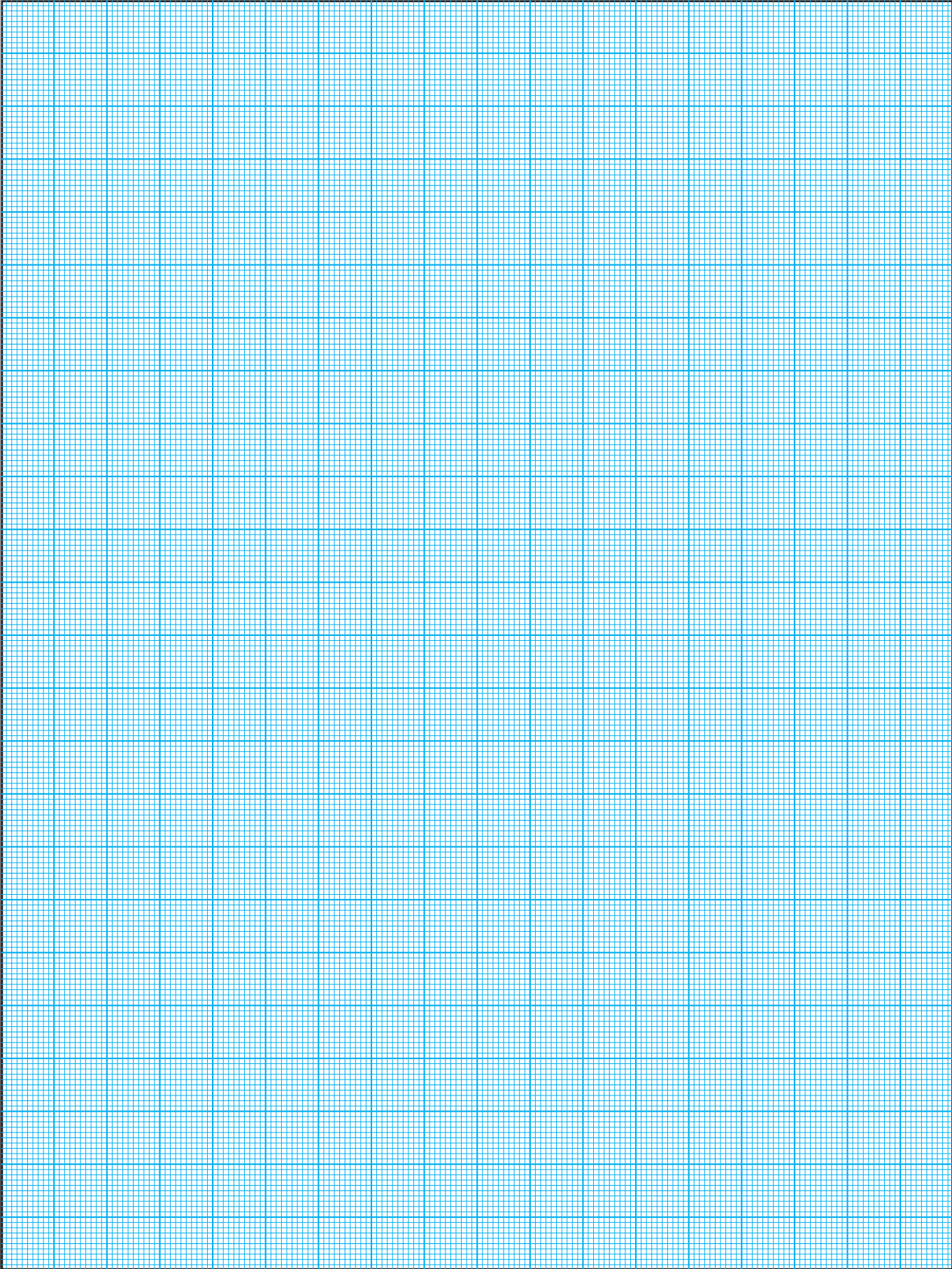
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