



**HIGH PERFORMANCE TAPS**

**2020**



Strategically & systematically growing our product range has been the legacy of BLOOD® Tools as a gesture of quick response to the market. Our passion for offering wide range of tools under one roof is unstoppable. Because that's what we are, who we are.

Bringing your tapping solutions to a whole next level with the state of the art HSS-E & HSSE-PM High Performance Taps with ultra precision.

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| <b>UNC</b>              | American Unified Coarse Thread Taps         | DIN 371 / 376 | MADRID<br>P M K N S          | 26      |
| <b>UNF</b>              | American Unified Fine Thread Taps           | DIN 371 / 374 | MADRID<br>P M K N S          | 27      |
| <b>BSW</b>              | Whitworth BSW Thread Taps                   | DIN 371 / 376 | MADRID<br>P M K N S          | 28      |
| <b>BSP</b>              | Whitworth BSP Thread Taps                   | DIN 5156      | DENVER<br>P M K N            | 29      |
| <b>M</b>                | ISO Metric Coarse Thread Taps               | DIN 371 / 376 | SYDNEY<br>P M K N            | 30      |
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## NOMENCLATURE

|          |          |          |          |          |          |          |          |          |          |            |          |            |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|----------|------------|
| <b>G</b> | <b>1</b> | <b>-</b> | <b>X</b> | <b>1</b> | <b>A</b> | <b>1</b> | <b>1</b> | <b>8</b> | <b>-</b> | <b>060</b> | <b>.</b> | <b>100</b> |
| 1        | 2        |          | 3        | 4        | 5        | 6        | 7        | 8        |          | 9          |          | 10         |

### 1 Series Name

|          |   |
|----------|---|
| <b>G</b> | HSS-E Taps for General Purpose // Premium Series            |
| <b>R</b> | Powder Metallurgy Taps (PM) // Premium Series               |
| <b>A</b> | HSS-E Taps for SS // Premium Series                         |
| <b>B</b> | Powder Metallurgy Taps (PM) for Cast Iron // Premium Series |
| <b>F</b> | Powder Metallurgy (PM) Forming Taps // Premium Series       |
| <b>J</b> | HSS Combo Drill-Taps // Premium Series                      |
| <b>U</b> | HSS-E Taps for General Purpose // Standard Series 01        |
| <b>S</b> | HSS-E Taps for SS // Standard Series 01                     |
| <b>C</b> | HSS-E Taps for General Purpose // Standard Series 02        |
| <b>K</b> | HSS-E Taps for SS // Standard Series 02                     |

### 2 DIN Standards

|          |                        |
|----------|------------------------|
| <b>1</b> | DIN 371                |
| <b>2</b> | DIN 352                |
| <b>4</b> | DIN 374                |
| <b>6</b> | DIN 376                |
| <b>5</b> | DIN 5156<br>(BSP Taps) |

### 3 Series Code

|          |                 |
|----------|-----------------|
| <b>X</b> | Series Code - X |
| <b>Y</b> | Series Code - Y |
| <b>Z</b> | Series Code - Z |

### 4 Geometry

|          |                             |
|----------|-----------------------------|
| <b>1</b> | Straight Flute / No Point   |
| <b>2</b> | Straight Flute / With Point |
| <b>3</b> | Spiral Flute / No Point     |
| <b>4</b> | Other                       |

### 5 Thread Type

|          |           |
|----------|-----------|
| <b>A</b> | Metric    |
| <b>B</b> | UN        |
| <b>C</b> | BSP       |
| <b>D</b> | NPT       |
| <b>E</b> | Whitworth |
| <b>F</b> | Other     |

### 6 Thread Pitch Type

|          |        |
|----------|--------|
| <b>1</b> | Coarse |
| <b>2</b> | Fine   |
| <b>3</b> | Other  |

### 7 Coating

|          |              |
|----------|--------------|
| <b>1</b> | Gold colour  |
| <b>2</b> | Black colour |
| <b>3</b> | Other        |
| <b>4</b> | Uncoated     |

### 8 Coolant Type

|          |                        |
|----------|------------------------|
| <b>6</b> | Radial Through Coolant |
| <b>7</b> | Axial Through Coolant  |
| <b>8</b> | Non-Through Coolant    |
| <b>9</b> | Other                  |

### 9 Thread Size

|            |     |
|------------|-----|
| <b>M3</b>  | 030 |
| <b>M6</b>  | 060 |
| <b>M8</b>  | 080 |
| <b>M12</b> | 120 |

### 10 Pitch

|             |     |
|-------------|-----|
| <b>0.50</b> | 050 |
| <b>1.00</b> | 100 |
| <b>1.25</b> | 125 |
| <b>1.75</b> | 175 |

## TOOL SERIES BY WORK MATERIAL GROUP

| No. | <i>BLOOD</i> Series | Series Description  | Suitable Material Group  |   |   |   |   |   |
|-----|---------------------|---|--|---|---|---|---|---|
| 1   | <b>BERLIN</b>       | <i>BERLIN</i> is versatile and universal series suitable for all material groups for increased tool life and machining efficiency.                | <table border="1" style="display: inline-table;"><tr><td>P</td><td>M</td><td>K</td><td>N</td><td></td></tr></table>  | P | M | K | N |   |
| P   | M                   | K   | N  |   |   |   |   |   |
| 2   | <b>MOSCOW</b>       | Manufactured with Powder Metallurgy (PM) technology, <i>MOSCOW</i> is suitable for high performance tapping for all material groups.              | <table border="1" style="display: inline-table;"><tr><td>P</td><td>M</td><td>K</td><td>N</td><td>S</td></tr></table> | P | M | K | N | S |
| P   | M                   | K   | N  | S |   |   |   |   |
| 3   | <b>BOSTON</b>       | State-of-the-art <i>BOSTON</i> series allows tapping in Stainless Steel material.   | <table border="1" style="display: inline-table;"><tr><td>P</td><td>M</td><td>K</td><td>N</td><td>S</td></tr></table> | P | M | K | N | S |
| P   | M                   | K   | N  | S |   |   |   |   |
| 4   | <b>RIO</b>          | <i>RIO</i> is exclusively suitable for tapping in grey and nodular cast iron.   | <table border="1" style="display: inline-table;"><tr><td>P</td><td></td><td>K</td><td></td><td></td></tr></table>    | P |   | K |   |   |
| P   |                     | K   |  |   |   |   |   |   |
| 5   | <b>PARIS</b>        | <i>PARIS</i> Forming Taps for machining in less ductile materials.  | <table border="1" style="display: inline-table;"><tr><td>P</td><td>M</td><td></td><td>N</td><td></td></tr></table>   | P | M |   | N |   |
| P   | M                   |   | N  |   |   |   |   |   |
| 6   | <b>OSAKA</b>        | Combination of Drill & Tap, <i>OSAKA</i> is specially designed for common axis for drilling and tapping to achieve high precision hole & threads. | <table border="1" style="display: inline-table;"><tr><td>P</td><td></td><td>K</td><td>N</td><td></td></tr></table>   | P |   | K | N |   |
| P   |                     | K   | N  |   |   |   |   |   |
| 7   | <b>DENVER</b>       | General purpose <i>DENVER</i> Series for cost-effective tapping.  | <table border="1" style="display: inline-table;"><tr><td>P</td><td>M</td><td>K</td><td>N</td><td></td></tr></table>  | P | M | K | N |   |
| P   | M                   | K   | N  |   |   |   |   |   |
| 8   | <b>MADRID</b>       | <i>MADRID</i> is ideally suitable for tapping in Stainless Steel work material.   | <table border="1" style="display: inline-table;"><tr><td>P</td><td>M</td><td>K</td><td>N</td><td>S</td></tr></table> | P | M | K | N | S |
| P   | M                   | K   | N  | S |   |   |   |   |
| 9   | <b>SYDNEY</b>       | <i>SYDNEY</i> - A general purpose Series for cost-effective tapping.  | <table border="1" style="display: inline-table;"><tr><td>P</td><td>M</td><td>K</td><td>N</td><td></td></tr></table>  | P | M | K | N |   |
| P   | M                   | K   | N  |   |   |   |   |   |
| 10  | <b>TOKYO</b>        | <i>TOKYO</i> is ideally suitable for tapping in Stainless Steel work material.  | <table border="1" style="display: inline-table;"><tr><td>P</td><td>M</td><td>K</td><td>N</td><td>S</td></tr></table> | P | M | K | N | S |
| P   | M                   | K   | N  | S |   |   |   |   |

|   |   |   |   |   |
|---|---|---|---|---|
| P | M | K | N | S |
|---|---|---|---|---|

Highly suitable

|   |   |   |   |   |
|---|---|---|---|---|
| P | M | K | N | S |
|---|---|---|---|---|

Moderately suitable

# THREAD ABBREVIATIONS

## ISO THREAD TYPES

### Thread Angle 60°

|           |                               |
|-----------|-------------------------------|
| <b>M</b>  | Metric ISO Thread             |
| <b>MF</b> | Metric ISO Fine Thread        |
| <b>TR</b> | Metric ISO Trapezoidal Thread |
| <b>PG</b> | Armoured Conduit Pipe         |
| <b>RD</b> | Round Thread                  |

## AMERICAN THREAD TYPES IN INCHES

### Thread Angle 60°

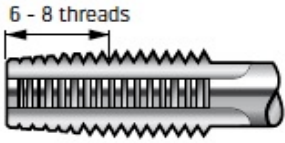
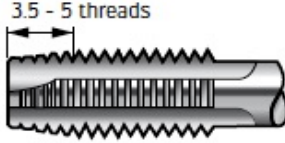
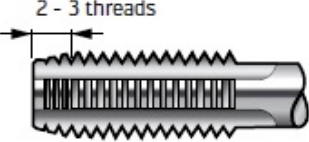
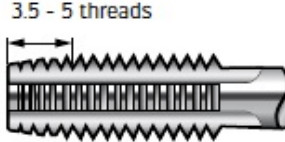
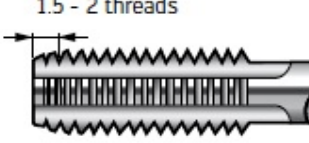
|              |   |
|--------------|---|
| <b>UNC</b>   | Unified National Coarse                 |
| <b>UNF</b>   | Unified National Fine                   |
| <b>UNEF</b>  | Unified National Extra Fine             |
| <b>UN-8</b>  | Unified Constant Pitch, 8-Pitch Series  |
| <b>UN-12</b> | Unified Constant Pitch, 12-Pitch Series |
| <b>UN-16</b> | Unified Constant Pitch, 16-Pitch Series |
| <b>UNS</b>   | Unified Special                         |
| <b>NPT</b>   | National Pipe Taper 1:16                |
| <b>NPTF</b>  | National Pipe Taper Fuel Dryseal 1:16   |
| <b>NPS</b>   | National Pipe Straight                  |

## BRITISH THREAD TYPES IN INCHES

### Thread Angle 55°

|             |                                   |
|-------------|-----------------------------------|
| <b>BSW</b>  | British Standard Whitworth        |
| <b>BSF</b>  | British Standard Fine             |
| <b>BSP</b>  | British Standard Pipe             |
| <b>BSPT</b> | British Standard Pipe Taper       |
| <b>BA</b>   | British Association Screw Threads |

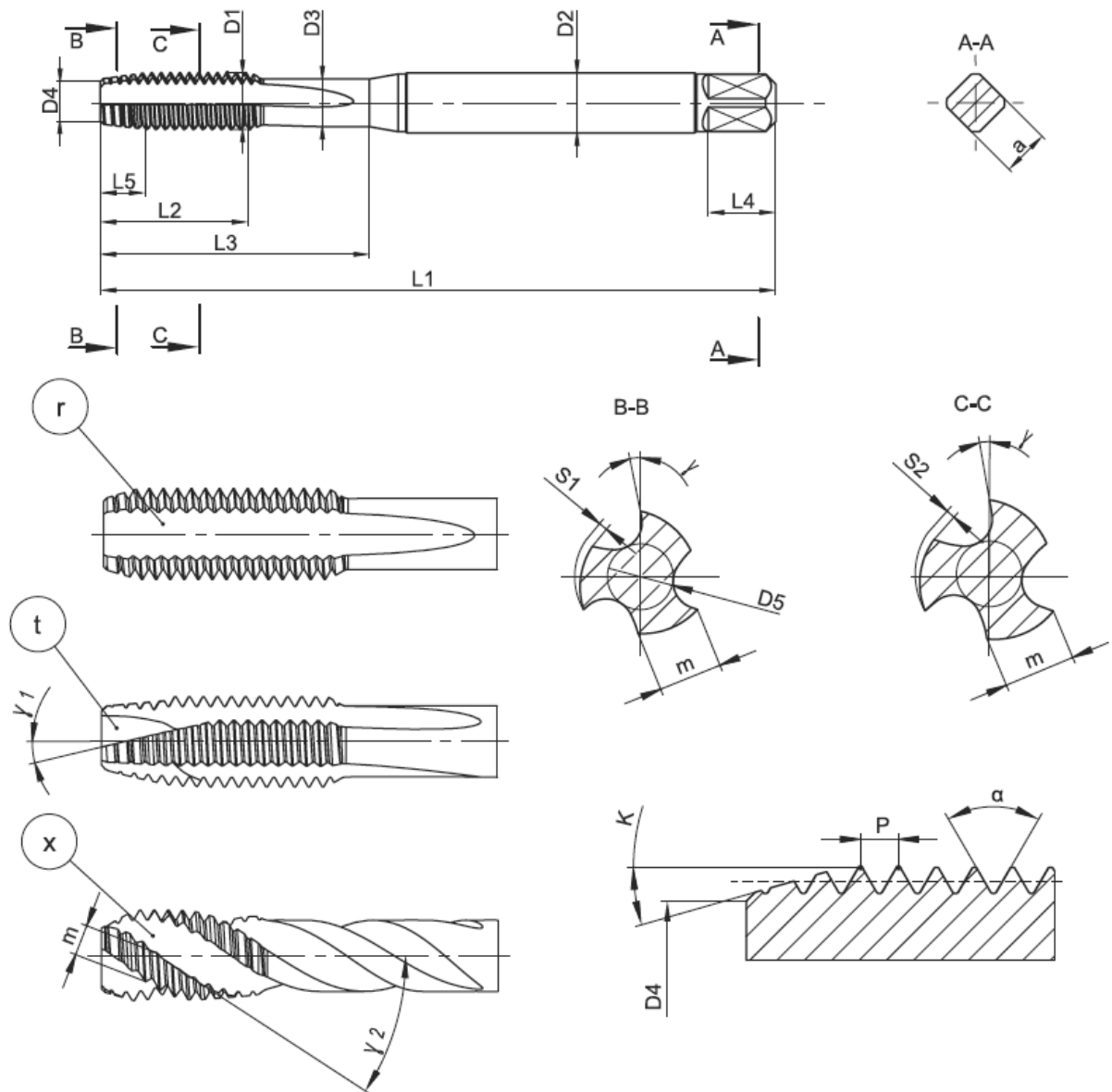
## CHAMFER FORMS

| Symbol   | Sketch  | Threads per Chamfer | Chamfer Angle |
|----------|---|---------------------|---------------|
| <b>A</b> |    | 6~8                 | 5°            |
| <b>B</b> |    | 3.5~5.5             | 8°            |
| <b>C</b> |    | 2~3                 | 17°           |
| <b>D</b> |   | 3.5~5               | 8°            |
| <b>E</b> |  | 1.5~2               | 23°           |

### Chamfer Forms Significance:

- Longer chamfers reduce the strain on the cutting edge, which becomes more significant with increasing material strength.
- Longer chamfers increase the torque required.
- Longer chamfers require somewhat longer cycle time due to the increased travel.

## TAP GEOMETRY



|            |                          |
|------------|--------------------------|
| <b>L1</b>  | Total length             |
| <b>L2</b>  | Thread length            |
| <b>L3</b>  | Effective length         |
| <b>L4</b>  | Length of driving square |
| <b>L5</b>  | Chamfer Length           |
| <b>a</b>   | Square size              |
| <b>Ød1</b> | Thread diameter          |
| <b>Ød2</b> | Shank diameter           |
| <b>Ød3</b> | Neck diameter            |
| <b>Ød4</b> | (Chamfer) point diameter |
| <b>Ød5</b> | Web (Core) diameter      |
| <b>m</b>   | Land width               |

|                      |                      |
|----------------------|----------------------|
| <b>S1</b>            | Chamfer relief       |
| <b>S2</b>            | Thread relief        |
| <b>P</b>             | Thread pitch         |
| <b>α</b>             | Thread angle         |
| <b>γ</b>             | Rake angle           |
| <b>γ<sup>1</sup></b> | Spiral point angle   |
| <b>γ<sup>2</sup></b> | Helix angle of flute |
| <b>K</b>             | Chamfer angle        |
| <b>r</b>             | Straight flute       |
| <b>X</b>             | Spiral flute         |
| <b>t</b>             | Spiral point         |
| <b>Z</b>             | No. of lands         |

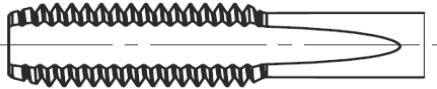


## DIN STANDARDS

| DIN             | Description  |
|-----------------|--|
| <b>DIN 371</b>  | Machine Taps with reinforced shank for metric coarse and fine threads M3~M10 and for the threads UNC, UNF, BSW, BSF within the range of nominal diameters 1/8"~3/8". |
| <b>DIN 376</b>  | Machine Taps with reduced shank diameter for metric coarse threads and for the threads UNC and BSW.  |
| <b>DIN 374</b>  | Machine Taps with reduced shank diameter for metric fine threads and for the threads UNF and BSF.  |
| <b>DIN 5156</b> | Machine Taps with reduced shank diameter for for the threads BSP.  |
| <b>DIN 352</b>  | Short Hand Taps for metric coarse threads Norm is also suitable for UNC and BSW threads.   |
| <b>DIN 2181</b> | Short Hand Taps for metric fine threads Norm is also suitable for UNF and BSF threads.   |
| <b>DIN 5157</b> | Short Hand Taps and Machine Taps for pipe threads BSP.   |

## TYPE OF FLUTES

### Straight Flute



It is recommended for materials giving short chips. The flutes evacuate only some of the chips. The tap should not be used for deep blind holes or materials giving long chips. The length of threads, which can be made upto 1.5xD.

### Straight Flute with Spiral Point



Designed for through holes with thread along the full length of the hole.

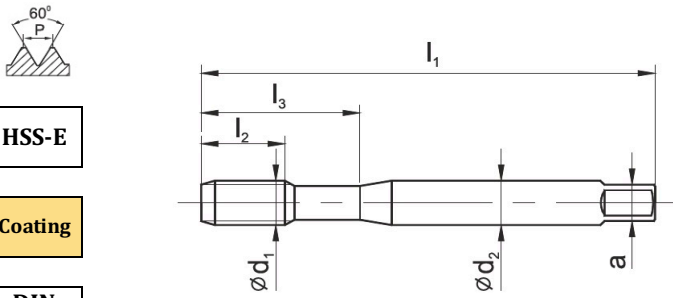

It is recommended for materials giving a long chip. The spiral point moves tightly squashed chips in the direction of feed and prevents the flute from clogging. Coolant reaches the working area freely. The length of threads which can be made upto 2xD.

### Spiral Flute



It is recommended for the materials giving long chip. Spiral flutes provide good chip evacuation in the direction from the hole towards the shank. Deepening on the hole diameter, it is possible to make threads upto 3xD.

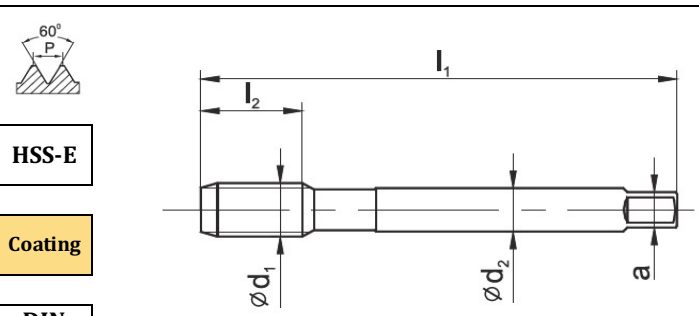



Machine tap with spiral flutes should not be used for the through holes.

| ISO METRIC COARSE THREAD DIN-13   |      |                |                |                       |                |                 |     |         | BERLIN   |           |           |           |   |   |          |   |   |
|---|------|----------------|----------------|-----------------------|----------------|-----------------|-----|---------|--|-----------|-----------|-----------|---|---|----------|---|---|
|   |      |                |                |                       |                |                 |     |         | C1   | B1        | C1-H40    |           |   |   |          |   |   |
|  |      |                |                |                       |                |                 |     |         |  |           |           |           |   |   |          |   |   |
| <b>HSS-E</b><br><b>Coating</b><br><b>DIN 371</b>                                  |      |                |                |                       |                |                 |     |         |  |           |           |           |   |   |          |   |   |
| Material groups   |      |                |                |                       |                |                 |     |         | P  | M         | K         | P         | M | K | P        | M | K |
| Hole type   |      |                |                |                       |                |                 |     |         | Through / Blind  |           |           | Through   |   |   | Blind    |   |   |
| Thread Depth  |      |                |                |                       |                |                 |     |         | <1.5 x D   |           |           | <3 x D    |   |   | <2.5 x D |   |   |
| Chamfer / Helix Angle   |      |                |                |                       |                |                 |     |         | C/0°   |           |           | B/0°      |   |   | C/40°    |   |   |
| M ød <sub>1</sub>   | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H40 | l <sub>3</sub> | ød <sub>2</sub> | a   | Drill Ø | DIN-371  |           |           |           |   |   |          |   |   |
|   |      |                |                |                       |                |                 |     |         | Standard Tol.  | ISO2 (6H) | ISO2 (6H) | ISO2 (6H) |   |   |          |   |   |
|   |      |                |                |                       |                |                 |     |         | Item Code  | G1-X1A118 | G1-X2A118 | G1-X3A118 |   |   |          |   |   |
| M3  | 0.50 | 56             | 10             | 5                     | 18             | 3.5             | 2.7 | 2.50    | 030.050  | ●         | ●         | ●         |   |   |          |   |   |
| M3.5  | 0.60 | 56             | 12             | 6                     | 20             | 4.0             | 3.0 | 2.90    | 035.060  | ○         | ○         | ○         |   |   |          |   |   |
| M4  | 0.70 | 63             | 12             | 7                     | 21             | 4.5             | 3.4 | 3.30    | 040.070  | ○         | ○         | ○         |   |   |          |   |   |
| M4.5  | 0.75 | 70             | 14             | 7.5                   | 25             | 6.0             | 4.9 | 3.80    | 045.075  | ●         | ●         | ●         |   |   |          |   |   |
| M5  | 0.80 | 70             | 14             | 8                     | 25             | 6.0             | 4.9 | 4.20    | 050.080  | ●         | ●         | ●         |   |   |          |   |   |
| M6  | 1.00 | 80             | 18             | 10                    | 30             | 6.0             | 4.9 | 5.00    | 060.100  | ●         | ●         | ●         |   |   |          |   |   |
| M7  | 1.00 | 80             | 18             | 10                    | 30             | 7.0             | 5.5 | 6.00    | 070.100  | ○         | ○         | ○         |   |   |          |   |   |
| M8  | 1.25 | 90             | 20             | 13                    | 35             | 8.0             | 6.2 | 6.80    | 080.125  | ●         | ●         | ●         |   |   |          |   |   |
| M9  | 1.25 | 90             | 20             | 13                    | 35             | 9.0             | 7.0 | 7.80    | 090.125  | ○         | ○         | ○         |   |   |          |   |   |
| M10   | 1.50 | 100            | 20             | 13                    | 39             | 10.0            | 8.0 | 8.50    | 100.150  | ●         | ●         | ●         |   |   |          |   |   |

| Group | Vc (m/min) |       |       |
|-------|------------|-------|-------|
| P     | 5-35       | 5-35  | 5-35  |
| M     | 5-15       | 5-15  | 5-15  |
| K     | 5-25       | 5-25  | 10-25 |
| N     | 10-30      | 10-30 | 10-30 |
| S     | -          | -     | -     |

Ordering Code:  
G1-X1A118-060.100


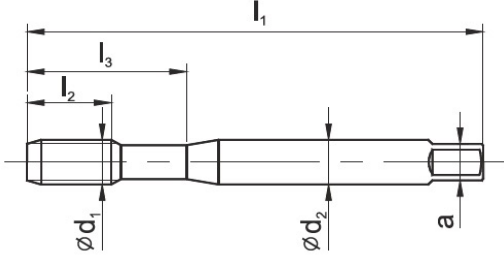




- Available in stock
- On request
- Not available

| ISO METRIC COARSE THREAD DIN-13   |      |                |                |                       |                |                 |      |         |           | BERLIN   |   |           |   |   |   |          |   |   |  |
|---|------|----------------|----------------|-----------------------|----------------|-----------------|------|---------|-----------|--|---|-----------|---|---|---|----------|---|---|--|
|  |      |                |                |                       |                |                 |      |         |           | C1   | B1  |           | C1-H40  |   |   |          |   |   |  |
|   |      |                |                |                       |                |                 |      |         |           |  |  |           |  |   |   |          |   |   |  |
| HSS-E   |      |                |                |                       |                |                 |      |         |           | P  | M   | K         | P   | M | K | P        | M | K |  |
| Coating   |      |                |                |                       |                |                 |      |         |           | N  |   |           | N   |   |   | N        |   |   |  |
| DIN 376   |      |                |                |                       |                |                 |      |         |           | Through / Blind  |   |           | Through   |   |   | Blind    |   |   |  |
| Material groups   |      |                |                |                       |                |                 |      |         |           | <1.5 x D   |   |           | <3 x D  |   |   | <2.5 x D |   |   |  |
| Hole type   |      |                |                |                       |                |                 |      |         |           | C/0°   |   |           | B/0°  |   |   | C/40°    |   |   |  |
| Thread Depth  |      |                |                |                       |                |                 |      |         |           | C/0°   |   |           | B/0°  |   |   | C/40°    |   |   |  |
| Chamfer / Helix Angle   |      |                |                |                       |                |                 |      |         |           | C/0°   |   |           | B/0°  |   |   | C/40°    |   |   |  |
| M Ød <sub>1</sub>   | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H40 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard  |  | DIN-376   |           |   |   |   |          |   |   |  |
|   |      |                |                |                       |                |                 |      |         | Tol.      |  | ISO2 (6H)   | ISO2 (6H) | ISO2 (6H)   |   |   |          |   |   |  |
|   |      |                |                |                       |                |                 |      |         | Item Code |  | G6-X1A118   | G6-X2A118 | G6-X3A118   |   |   |          |   |   |  |
| M3  | 0.50 | 56             | 11             | 5                     | -              | 2.2             | 1.8  | 2.50    | 030.050   | ○  | ○   | ○         |   |   |   |          |   |   |  |
| M4  | 0.70 | 63             | 12             | 8                     | -              | 2.8             | 2.1  | 3.30    | 040.070   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M5  | 0.80 | 70             | 14             | 10                    | -              | 3.5             | 2.7  | 4.20    | 050.080   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M6  | 1.00 | 80             | 18             | 12                    | -              | 4.5             | 3.4  | 5.00    | 060.100   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M8  | 1.25 | 90             | 20             | 5                     | -              | 6.0             | 4.9  | 6.80    | 080.125   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M10   | 1.50 | 100            | 20             | 17                    | -              | 7.0             | 5.5  | 8.50    | 100.150   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M12   | 1.75 | 110            | 24             | 18                    | -              | 9.0             | 7.0  | 10.20   | 120.175   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M14   | 2.00 | 110            | 25             | 20                    | -              | 11.0            | 9.0  | 12.00   | 140.200   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M16   | 2.00 | 110            | 32             | 20                    | -              | 12.0            | 9.0  | 14.00   | 160.200   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M18   | 2.50 | 125            | 32             | 25                    | -              | 14.0            | 11.0 | 15.50   | 180.250   | ●  | ●   | ●         |   |   |   |          |   |   |  |
| M20   | 2.50 | 140            | 32             | 25                    | -              | 16.0            | 12.0 | 17.50   | 200.250   | ●  | ●   | ●         |   |   |   |          |   |   |  |

| ISO | Vc (m/min) |       |       |
|-----|------------|-------|-------|
| P   | 5-35       | 5-35  | 5-35  |
| M   | 5-15       | 5-15  | 5-15  |
| K   | 5-25       | 5-25  | 10-25 |
| N   | 10-30      | 10-30 | 10-30 |
| S   | -          | -     | -     |

**Ordering Code:**  
G6-X1A118-120.175

- Available in stock
- On request
- Not available

|   |  |  |   |   |   |
|---|--|--|---|---|---|
| <b>ISO METRIC COARSE THREAD DIN-13</b><br><br><br><br><br><br><b>HSS-E PM</b><br><br><b>Coating</b><br><br><b>DIN 371</b> |  | <b>MOSCOW</b>  |   |   |   |
|   |  | B2   | B2-TC6  | C2-H45  | C2-H45-TC7  |
|   |  |  |  |  |  |

|                       |        |        |          |          |
|-----------------------|--------|--------|----------|----------|
| Material groups       | P M K  | P M K  | P M K    | P M K    |
| Hole type             | N S    | N S    | N S      | N S      |
| Thread Depth          | <3 x D | <3 x D | <2.5 x D | <2.5 x D |
| Chamfer / Helix Angle | B/0°   | B/0°   | C/45°    | C/45°    |

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | DIN-371       |           |           |           |
|-------------------|------|----------------|----------------|----------------|-----------------|-----|---------|---------------|-----------|-----------|-----------|
|                   |      |                |                |                |                 |     |         | Standard Tol. | ISO2 (6H) |           | ISO2 (6H) |
|                   |      |                |                |                |                 |     |         | Item Code     | R1-X2A128 | R1-X3A128 |           |
| M2                | 0.40 | 45             | 10             | 13             | 2.8             | 2.1 | 1.60    | 020.040       | ●         | ●         |           |
| M2.5              | 0.45 | 50             | 9              | 14             | 2.8             | 2.1 | 2.05    | 025.045       | ●         | ●         |           |

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | DIN-371       |           |           |           |           |
|-------------------|------|----------------|----------------|----------------|-----------------|-----|---------|---------------|-----------|-----------|-----------|-----------|
|                   |      |                |                |                |                 |     |         | Standard Tol. | 6HX       | 6HX       | 6HX       |           |
|                   |      |                |                |                |                 |     |         | Item Code     | R1-X2A128 | R1-X2A126 | R1-X3A128 | R1-X3A127 |
| M3                | 0.50 | 56             | 5              | 18             | 3.5             | 2.7 | 2.50    | 030.050       | ●         | -         | ●         | -         |
| M3.5              | 0.60 | 56             | 6              | 20             | 4.0             | 3.0 | 2.90    | 035.060       | ●         | -         | ●         | -         |
| M4                | 0.70 | 63             | 7              | 21             | 4.5             | 3.4 | 3.30    | 040.070       | ●         | -         | ●         | -         |
| M4.5              | 0.75 | 70             | 7.5            | 25             | 6.0             | 4.9 | 3.80    | 045.075       | ●         | -         | ●         | -         |
| M5                | 0.80 | 70             | 8              | 25             | 6.0             | 4.9 | 4.20    | 050.080       | ●         | ●         | ●         | ●         |
| M6                | 1.00 | 80             | 10             | 30             | 6.0             | 4.9 | 5.00    | 060.100       | ●         | ●         | ●         | ●         |
| M7                | 1.00 | 80             | 10             | 30             | 7.0             | 5.5 | 6.00    | 070.100       | ●         | ○         | ○         | ○         |
| M8                | 1.25 | 90             | 13             | 35             | 8.0             | 6.2 | 6.80    | 080.125       | ○         | ○         | ○         | ○         |
| M9                | 1.25 | 90             | 13             | 35             | 9.0             | 7.0 | 7.80    | 090.125       | ○         | ○         | ○         | ○         |
| M10               | 1.50 | 100            | 15             | 39             | 10.0            | 8.0 | 8.50    | 100.150       | ●         | ●         | ●         | ●         |

| ISO | Vc (m/min) |       |       |       |
|-----|------------|-------|-------|-------|
| P   | 5-40       | 5-50  | 5-40  | 5-50  |
| M   | 5-15       | 5-25  | 5-15  | 5-25  |
| K   | 10-30      | 10-50 | 10-30 | 10-50 |
| N   | 10-30      | 10-50 | 10-30 | 10-50 |
| S   | 1-8        | 1-8   | 1-8   | 1-8   |

|   |   |    |
|---|---|----|
| <b>Ordering Code:</b><br><b>R1-X2A128-060.100</b> | <ul style="list-style-type: none"> <li>● Available in stock</li> <li>○ On request</li> <li>- Not available</li> </ul> | 12 |
|---|---|----|

## ISO METRIC COARSE THREAD DIN-13

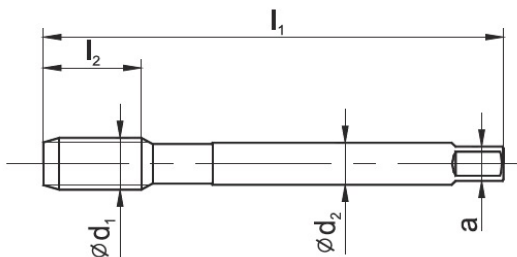
## MOSCOW



HSS-E  
PM

Coating

DIN  
376



B2      B2-TC6      C2-H45      C2-H45-TC7



Material groups

|   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | M | K | P | M | K | P | M | K | P | M | K |
| N | S |   | N | S |   | N | S |   | N | S |   |

Hole type

|         |         |       |       |
|---------|---------|-------|-------|
| Through | Through | Blind | Blind |
|---------|---------|-------|-------|

Thread Depth

|        |        |          |          |
|--------|--------|----------|----------|
| <3 x D | <3 x D | <2.5 x D | <2.5 x D |
|--------|--------|----------|----------|

Chamfer / Helix Angle


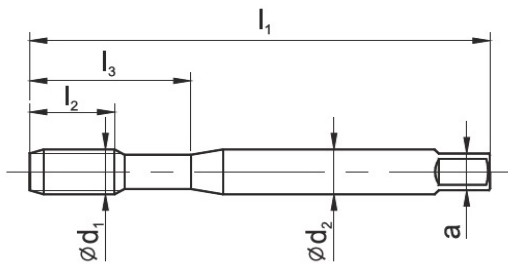


|      |      |       |       |
|------|------|-------|-------|
| B/0° | B/0° | C/45° | C/45° |
|------|------|-------|-------|

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard  | DIN-376   |           |           |           |
|-------------------|------|----------------|----------------|----------------|-----------------|------|---------|-----------|-----------|-----------|-----------|-----------|
|                   |      |                |                |                |                 |      |         | Tol.      | 6HX       | 6HX       | 6HX       | 6HX       |
|                   |      |                |                |                |                 |      |         | Item Code | R6-X2A128 | R6-X2A126 | R6-X3A128 | R6-X3A127 |
| M8                | 1.25 | 90             | 15             | -              | 6.0             | 4.9  | 6.80    | 080.125   | ●         | ○         | ●         | ○         |
| M10               | 1.50 | 100            | 17             | -              | 7.0             | 5.5  | 8.50    | 100.150   | ●         | ○         | ●         | ○         |
| M12               | 1.75 | 110            | 18             | -              | 9.0             | 7.0  | 10.20   | 120.175   | ●         | ●         | ●         | ●         |
| M14               | 2.00 | 110            | 20             | -              | 11.0            | 9.0  | 12.00   | 140.200   | ●         | ●         | ●         | ●         |
| M16               | 2.00 | 110            | 20             | -              | 12.0            | 9.0  | 14.00   | 160.200   | ●         | ●         | ●         | ●         |
| M18               | 2.50 | 125            | 25             | -              | 14.0            | 11.0 | 15.50   | 180.250   | ●         | ○         | ●         | ○         |
| M20               | 2.50 | 140            | 25             | -              | 16.0            | 12.0 | 17.50   | 200.250   | ●         | ○         | ●         | ○         |

| ISO | Vc (m/min) |       |       |       |
|-----|------------|-------|-------|-------|
| P   | 5-40       | 5-50  | 5-40  | 5-50  |
| M   | 5-15       | 5-25  | 5-15  | 5-25  |
| K   | 10-30      | 10-50 | 10-30 | 10-50 |
| N   | 10-30      | 10-50 | 10-30 | 10-50 |
| S   | 1-8        | 1-8   | 1-8   | 1-8   |

Ordering Code:  
R6-X3A128-120.175

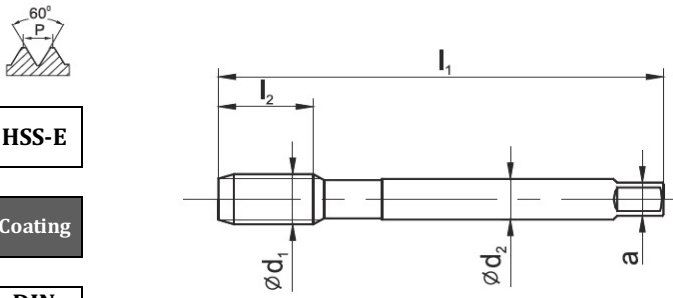


- Available in stock
- On request
- Not available

| ISO METRIC COARSE THREAD DIN-13   |          |                      |                      |                              |                      |                       |          |                |           | BOSTON   |   |   |   |   |   |  |  |
|---|----------|----------------------|----------------------|------------------------------|----------------------|-----------------------|----------|----------------|-----------|--|---|---|---|---|---|--|--|
| <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  </div> <div style="margin-right: 20px;"> <div style="border: 1px solid black; padding: 2px; width: fit-content;">HSS-E</div> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-top: 5px;">Coating</div> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-top: 5px;">DIN 371</div> </div> <div style="text-align: center;">  </div> </div> |          |                      |                      |                              |                      |                       |          |                |           | B2   |   | C2-H40  |   |   |   |  |  |
|   |          |                      |                      |                              |                      |                       |          |                |           |  |   |  |   |   |   |  |  |
| Material groups   |          |                      |                      |                              |                      |                       |          |                |           | P  | M | K   | N | M | K |  |  |
| Hole type   |          |                      |                      |                              |                      |                       |          |                |           | Through  |   | Blind   |   |   |   |  |  |
| Thread Depth  |          |                      |                      |                              |                      |                       |          |                |           | <3 x D   |   | <2.5 x D  |   |   |   |  |  |
| Chamfer / Helix Angle   |          |                      |                      |                              |                      |                       |          |                |           | B/0°   |   | C/40°   |   |   |   |  |  |
| <b>M Ød<sub>1</sub></b>   | <b>P</b> | <b>l<sub>1</sub></b> | <b>l<sub>2</sub></b> | <b>l<sub>2</sub><br/>H40</b> | <b>l<sub>3</sub></b> | <b>Ød<sub>2</sub></b> | <b>a</b> | <b>Drill Ø</b> | Standard  | DIN-371  |   |   |   |   |   |  |  |
|   |          |                      |                      |                              |                      |                       |          |                | Tol.      | ISO2 (6H)  |   | ISO2 (6H)   |   |   |   |  |  |
|   |          |                      |                      |                              |                      |                       |          |                | Item Code | A1-X2A128  |   | A1-X3A128   |   |   |   |  |  |
| M3  | 0.50     | 56                   | 10                   | 5                            | 18                   | 3.5                   | 2.7      | 2.50           | 030.050   | ●  | ● |   |   |   |   |  |  |
| M4  | 0.70     | 63                   | 12                   | 7                            | 21                   | 4.5                   | 3.4      | 3.30           | 040.070   | ●  | ● |   |   |   |   |  |  |
| M5  | 0.80     | 70                   | 14                   | 8                            | 25                   | 6.0                   | 4.9      | 4.20           | 050.080   | ●  | ● |   |   |   |   |  |  |
| M6  | 1.00     | 80                   | 18                   | 10                           | 30                   | 6.0                   | 4.9      | 5.00           | 060.100   | ●  | ● |   |   |   |   |  |  |
| M8  | 1.25     | 90                   | 20                   | 13                           | 35                   | 8.0                   | 6.2      | 6.80           | 080.125   | ●  | ● |   |   |   |   |  |  |
| M10   | 1.50     | 100                  | 20                   | 15                           | 39                   | 10.0                  | 8.0      | 8.50           | 100.150   | ●  | ● |   |   |   |   |  |  |

| ISO | Vc (m/min) |      |  |
|-----|------------|------|--|
| P   | -          | -    |  |
| M   | 5-15       | 5-15 |  |
| K   | -          | -    |  |
| N   | -          | -    |  |
| S   | -          | -    |  |

**Ordering Code:**  
A1-X2A128-060.100

- Available in stock
- On request
- Not available

| ISO METRIC COARSE THREAD DIN-13   |      |                |                |                       |                |                 |      |         | BOSTON   |           |           |   |  |  |  |  |
|---|------|----------------|----------------|-----------------------|----------------|-----------------|------|---------|--|-----------|-----------|---|--|--|--|--|
|   |      |                |                |                       |                |                 |      |         | B2   |           |           | C2-H40  |  |  |  |  |
|  |      |                |                |                       |                |                 |      |         |  |           |           |  |  |  |  |  |
| <b>HSS-E</b><br><b>Coating</b><br><b>DIN 376</b>                                  |      |                |                |                       |                |                 |      |         | <b>P M K</b><br><b>N S</b>   |           |           | <b>P M K</b><br><b>N S</b>  |  |  |  |  |
| Material groups   |      |                |                |                       |                |                 |      |         | Through  |           |           | Blind   |  |  |  |  |
| Hole type   |      |                |                |                       |                |                 |      |         | <3 x D   |           |           | <2.5 x D  |  |  |  |  |
| Thread Depth  |      |                |                |                       |                |                 |      |         | B/0°   |           |           | C/40°   |  |  |  |  |
| Chamfer / Helix Angle   |      |                |                |                       |                |                 |      |         | B/0°   |           |           | C/40°   |  |  |  |  |
| M Ød <sub>1</sub>   | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H40 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | DIN-376  |           |           |   |  |  |  |  |
|   |      |                |                |                       |                |                 |      |         | Standard   |           | ISO2 (6H) |   |  |  |  |  |
|   |      |                |                |                       |                |                 |      |         | Tol.   | Item Code | ISO2 (6H) | ISO2 (6H)   |  |  |  |  |
| M8  | 1.25 | 90             | 20             | 15                    | -              | 6.0             | 4.9  | 6.80    | 080.125  | •         | •         |   |  |  |  |  |
| M10   | 1.50 | 100            | 20             | 17                    | -              | 7.0             | 5.5  | 8.50    | 100.150  | •         | •         |   |  |  |  |  |
| M12   | 1.75 | 110            | 24             | 18                    | -              | 9.0             | 7.0  | 10.20   | 120.175  | •         | •         |   |  |  |  |  |
| M14   | 2.00 | 110            | 25             | 20                    | -              | 11.0            | 9.0  | 12.00   | 140.200  | •         | •         |   |  |  |  |  |
| M16   | 2.00 | 110            | 32             | 20                    | -              | 12.0            | 9.0  | 14.00   | 160.200  | •         | •         |   |  |  |  |  |
| M18   | 2.50 | 125            | 32             | 25                    | -              | 14.0            | 11.0 | 15.50   | 180.250  | •         | •         |   |  |  |  |  |
| M20   | 2.50 | 140            | 32             | 25                    | -              | 16.0            | 12.0 | 17.50   | 200.250  | •         | •         |   |  |  |  |  |

| ISO | Vc (m/min) |      |  |
|-----|------------|------|--|
| P   | -          | -    |  |
| M   | 5-15       | 5-15 |  |
| K   | -          | -    |  |
| N   | -          | -    |  |
| S   | -          | -    |  |

Ordering Code:  
A6-X2A128-120.175

- Available in stock
- On request
- Not available

|  |                    |            |               |  |  |
|--|--------------------|------------|---------------|--|--|
| <b>ISO METRIC COARSE THREAD DIN-13</b> |                    | <b>R10</b> |               |  |  |
|  |                    | <b>C3</b>  | <b>E3-TC7</b> |  |  |
|  |                    |            |               |  |  |
| <b>HSS-E<br/>PM</b>                    |                    |            |               |  |  |
| <b>Coating</b>                         |                    |            |               |  |  |
| <b>DIN<br/>371</b>                     | <b>DIN<br/>376</b> |            |               |  |  |

|                       |                 |  |   |          |   |  |   |
|-----------------------|-----------------|--|---|----------|---|--|---|
| Material groups       | P               |  | K |          | P |  | K |
| Hole type             | Through / Blind |  |   | Blind    |   |  |   |
| Thread Depth          | <2 x D          |  |   | <2.5 x D |   |  |   |
| Chamfer / Helix Angle | C/0°            |  |   | E/0°     |   |  |   |

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | DIN-371       |           |           |
|-------------------|------|----------------|----------------|----------------|-----------------|-----|---------|---------------|-----------|-----------|
|                   |      |                |                |                |                 |     |         | Standard Tol. | 6HX       | 6HX       |
|                   |      |                |                |                |                 |     |         | Item Code     | B1-X1A128 | B1-X1A127 |
| M3                | 0.50 | 56             | 10             | 18             | 3.5             | 2.7 | 2.50    | 030.050       | ●         | -         |
| M4                | 0.70 | 63             | 12             | 21             | 4.5             | 3.4 | 3.30    | 040.070       | ●         | -         |
| M5                | 0.80 | 70             | 14             | 25             | 6.0             | 4.9 | 4.20    | 050.080       | ●         | ●         |
| M6                | 1.00 | 80             | 18             | 30             | 6.0             | 4.9 | 5.00    | 060.100       | ●         | ●         |
| M7                | 1.00 | 80             | 18             | 30             | 7.0             | 5.5 | 6.00    | 070.100       | ○         | ○         |
| M8                | 1.25 | 90             | 20             | 35             | 8.0             | 6.2 | 6.80    | 080.125       | ●         | ●         |
| M9                | 1.25 | 90             | 20             | 35             | 9.0             | 7.0 | 7.80    | 090.125       | ○         | ○         |
| M10               | 1.50 | 100            | 20             | 35             | 10.0            | 8.0 | 8.50    | 100.150       | ●         | ●         |

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | DIN-376       |           |           |
|-------------------|------|----------------|----------------|----------------|-----------------|------|---------|---------------|-----------|-----------|
|                   |      |                |                |                |                 |      |         | Standard Tol. | 6HX       | 6HX       |
|                   |      |                |                |                |                 |      |         | Item Code     | B6-X1A128 | B6-X1A127 |
| M6                | 1.00 | 80             | 18             | -              | 4.5             | 3.4  | 5.00    | 060.100       | ●         | ○         |
| M8                | 1.25 | 90             | 20             | -              | 6.0             | 4.9  | 6.80    | 080.125       | ●         | ●         |
| M10               | 1.50 | 100            | 20             | -              | 7.0             | 5.5  | 8.50    | 100.150       | ●         | ●         |
| M12               | 1.75 | 110            | 24             | -              | 9.0             | 7.0  | 10.20   | 120.175       | ●         | ●         |
| M14               | 2.00 | 110            | 25             | -              | 11.0            | 9.0  | 12.00   | 140.200       | ●         | ○         |
| M16               | 2.00 | 110            | 32             | -              | 12.0            | 9.0  | 14.00   | 160.200       | ●         | ●         |
| M18               | 2.50 | 125            | 32             | -              | 14.0            | 11.0 | 15.50   | 180.250       | ●         | ○         |
| M20               | 2.50 | 140            | 32             | -              | 16.0            | 12.0 | 17.50   | 200.250       | ●         | ○         |

| ISO | Vc (m/min) |      |
|-----|------------|------|
| P   | -          | -    |
| M   | -          | -    |
| K   | 1-60       | 5-60 |
| N   | -          | -    |
| S   | -          | -    |

|   |   |    |
|---|---|----|
| <b>Ordering Code:</b><br><b>B6-X1A128-100.150</b> | <ul style="list-style-type: none"> <li>● Available in stock</li> <li>○ On request</li> <li>- Not available</li> </ul> | 16 |
|---|---|----|



## American Unified Coarse Thread UNC, ANSI B-1.1

### BERLIN

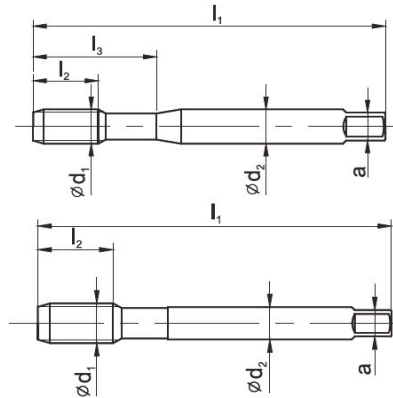


HSS-E

Coating

DIN 371

DIN 376



Material groups

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| P | M | K | P | M | K |
| N |   |   | N |   |   |

Hole type

Through

Blind

Thread Depth

<3 x D

<2.5 x D

Chamfer / Helix Angle

B/0°

C/40°

| UNC       | Ød <sub>1</sub> | 1"/P | P     | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H40 | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | Standard  | DIN-371   |           |
|-----------|-----------------|------|-------|----------------|----------------|-----------------------|----------------|-----------------|-----|---------|-----------|-----------|-----------|
|           |                 |      |       |                |                |                       |                |                 |     |         | Tol.      | 2B        | 2B        |
|           |                 |      |       |                |                |                       |                |                 |     |         | Item Code | G1-X2B118 | G1-X3B118 |
| ¼ - 20    | 6.350           | 20   | 1.270 | 80             | 18             | 13                    | 30             | 7.0             | 5.5 | 5.10    | 1040.20   | ●         | ●         |
| 5/16 - 18 | 7.938           | 18   | 1.411 | 90             | 20             | 13                    | 35             | 8.0             | 6.0 | 6.60    | 1050.18   | ●         | ●         |
| ¾ - 16    | 9.525           | 16   | 1.588 | 100            | 20             | 13                    | 39             | 10.0            | 8.0 | 8.00    | 1060.16   | ●         | ●         |

| UNC       | Ød <sub>1</sub> | 1"/P | P     | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H40 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard  | DIN-376   |           |
|-----------|-----------------|------|-------|----------------|----------------|-----------------------|----------------|-----------------|------|---------|-----------|-----------|-----------|
|           |                 |      |       |                |                |                       |                |                 |      |         | Tol.      | 2B        | 2B        |
|           |                 |      |       |                |                |                       |                |                 |      |         | Item Code | G6-X2B118 | G6-X3B118 |
| 7/16 - 14 | 11.112          | 14   | 1.814 | 100            | 22             | 15                    | -              | 8.0             | 6.2  | 9.40    | 1070.14   | ●         | ●         |
| ½ - 13    | 12.700          | 13   | 1.954 | 110            | 24             | 18                    | -              | 9.0             | 7.0  | 10.80   | 1080.13   | ●         | ●         |
| 9/16 - 12 | 14.288          | 12   | 2.117 | 110            | 25             | 20                    | -              | 11.0            | 9.0  | 12.20   | 1090.12   | ●         | ●         |
| 5/8 - 11  | 15.875          | 11   | 2.309 | 110            | 32             | 22                    | -              | 12.0            | 9.0  | 13.50   | 1100.11   | ●         | ●         |
| ¾ - 10    | 19.050          | 10   | 2.504 | 125            | 32             | 25                    | -              | 14.0            | 11.0 | 16.50   | 1120.10   | ●         | ●         |
| 7/8 - 9   | 22.225          | 9    | 2.822 | 140            | 32             | 30                    | -              | 18.0            | 14.5 | 19.50   | 1140.09   | ●         | ●         |

| ISO | Vc (m/min) |       |
|-----|------------|-------|
| P   | 5-35       | 5-35  |
| M   | 5-15       | 5-15  |
| K   | 5-25       | 5-25  |
| N   | 10-30      | 10-30 |
| S   | -          | -     |

Ordering Code:  
G6-X2B118-1080.13

- Available in stock
- On request
- Not available

## American Unified Fine Thread UNF, ANSI B-1.1

### BERLIN

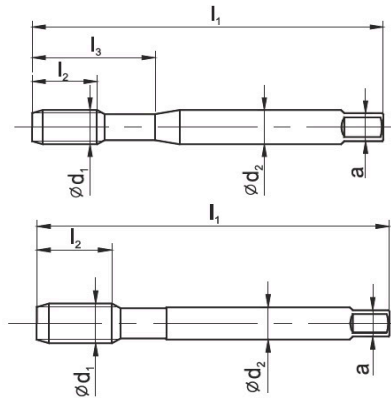


HSS-E

Coating

DIN 371

DIN 374



Material groups

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| P | M | K | P | M | K |
| N |   |   | N |   |   |

Hole type

Through      Blind

Thread Depth

<3 x D      <2.5 x D

Chamfer / Helix Angle

B/0°      C/40°

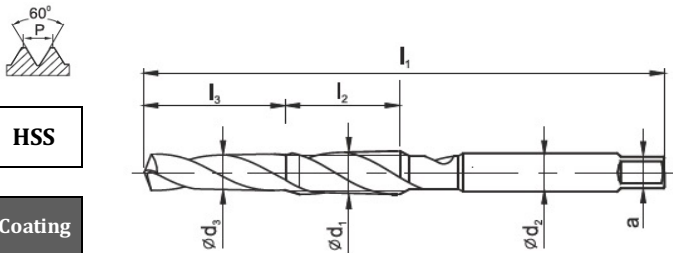

| UNF       | Ød <sub>1</sub> | 1"/P | P     | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H40 | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | Standard  | DIN-371   |           |
|-----------|-----------------|------|-------|----------------|----------------|-----------------------|----------------|-----------------|-----|---------|-----------|-----------|-----------|
|           |                 |      |       |                |                |                       |                |                 |     |         | Tol.      | 2B        | 2B        |
|           |                 |      |       |                |                |                       |                |                 |     |         | Item Code | G1-X2B218 | G1-X3B218 |
| ¼ - 28    | 6.350           | 28   | 0.907 | 80             | 18             | 10                    | 30             | 7.0             | 5.5 | 5.50    | 1040.28   | ●         | ●         |
| 5/16 - 24 | 7.938           | 24   | 1.058 | 90             | 20             | 13                    | 35             | 8.0             | 6.0 | 6.90    | 1050.24   | ●         | ●         |
| ¾ - 24    | 9.525           | 24   | 1.058 | 100            | 20             | 15                    | 39             | 10.0            | 8.0 | 8.50    | 1060.24   | ●         | ●         |

| UNF       | Ød <sub>1</sub> | 1"/P | P     | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H40 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard  | DIN-374   |           |
|-----------|-----------------|------|-------|----------------|----------------|-----------------------|----------------|-----------------|------|---------|-----------|-----------|-----------|
|           |                 |      |       |                |                |                       |                |                 |      |         | Tol.      | 2B        | 2B        |
|           |                 |      |       |                |                |                       |                |                 |      |         | Item Code | G4-X2B218 | G4-X3B218 |
| 7/16 - 20 | 11.112          | 20   | 1.270 | 100            | 20             | 15                    | -              | 8.0             | 6.2  | 9.90    | 1070.20   | ●         | ●         |
| ½ - 20    | 12.700          | 20   | 1.270 | 100            | 20             | 15                    | -              | 9.0             | 7.0  | 11.50   | 1080.20   | ●         | ●         |
| 9/16 - 18 | 14.288          | 18   | 1.411 | 100            | 20             | 15                    | -              | 11.0            | 9.0  | 12.90   | 1090.18   | ●         | ●         |
| 5/8 - 18  | 15.875          | 18   | 1.411 | 100            | 20             | 15                    | -              | 12.0            | 9.0  | 14.50   | 1100.18   | ●         | ●         |
| ¾ - 16    | 19.050          | 16   | 1.588 | 110            | 24             | 17                    | -              | 14.0            | 11.0 | 17.50   | 1120.16   | ●         | ●         |
| 7/8 - 14  | 22.225          | 14   | 1.814 | 125            | 24             | 17                    | -              | 18.0            | 14.5 | 20.40   | 1140.14   | ●         | ●         |

| ISO | Vc (m/min) |       |
|-----|------------|-------|
| P   | 5-35       | 5-35  |
| M   | 5-15       | 5-15  |
| K   | 5-25       | 10-25 |
| N   | 10-30      | 10-30 |
| S   | -          | -     |

Ordering Code:  
G4-X3B218-1120.16

- Available in stock
- On request
- Not available

|  |          |                      |                      |                      |                       |          |                |  |                  |  |  |  |
|--|----------|----------------------|----------------------|----------------------|-----------------------|----------|----------------|--|------------------|--|--|--|
| <b>ISO METRIC COARSE THREAD DIN-13 (Combined Taps)</b>   |          |                      |                      |                      |                       |          |                | <b>OSAKA</b>   |                  |  |  |  |
|  |          |                      |                      |                      |                       |          |                | <b>D4-H30</b>  |                  |  |  |  |
|   |          |                      |                      |                      |                       |          |                |  |                  |  |  |  |
| <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;"><b>HSS</b></div> <div style="border: 1px solid black; padding: 2px;"><b>Coating</b></div> </div> |          |                      |                      |                      |                       |          |                |  |                  |  |  |  |
| Material groups  |          |                      |                      |                      |                       |          |                | P  | K                |  |  |  |
| Hole type  |          |                      |                      |                      |                       |          |                | Through  |                  |  |  |  |
| Thread Depth   |          |                      |                      |                      |                       |          |                | <1.5 x D   |                  |  |  |  |
| Chamfer / Helix Angle  |          |                      |                      |                      |                       |          |                | D/30°  |                  |  |  |  |
| <b>M Ød<sub>1</sub></b>  | <b>P</b> | <b>l<sub>1</sub></b> | <b>l<sub>2</sub></b> | <b>l<sub>3</sub></b> | <b>Ød<sub>2</sub></b> | <b>a</b> | <b>Drill Ø</b> | Standard   | <b>COMBO</b>     |  |  |  |
|  |          |                      |                      |                      |                       |          |                | Tol.   | <b>ISO2 (6H)</b> |  |  |  |
|  |          |                      |                      |                      |                       |          |                | Item Code  | <b>J-X3A128</b>  |  |  |  |
| M3   | 0.50     | 56                   | 11                   | 16                   | 3                     | 2.4      | 2.50           | <b>030.050</b>   | ●                |  |  |  |
| M4   | 0.70     | 63                   | 14                   | 18                   | 4                     | 3.0      | 3.30           | <b>040.070</b>   | ●                |  |  |  |
| M5   | 0.80     | 71                   | 18                   | 20                   | 5                     | 3.8      | 4.20           | <b>050.080</b>   | ●                |  |  |  |
| M6   | 1.00     | 80                   | 22                   | 22                   | 6                     | 4.9      | 5.00           | <b>060.100</b>   | ●                |  |  |  |
| M8   | 1.25     | 95                   | 25                   | 26                   | 8                     | 6.2      | 6.80           | <b>080.125</b>   | ●                |  |  |  |
| M10  | 1.50     | 106                  | 31                   | 30                   | 10                    | 8.0      | 8.50           | <b>100.150</b>   | ●                |  |  |  |
| M12  | 1.75     | 115                  | 35                   | 32                   | 12                    | 9.0      | 10.20          | <b>120.175</b>   | ●                |  |  |  |

| ISO | Vc (m/min) |  |  |
|-----|------------|--|--|
| P   | 5-15       |  |  |
| M   | -          |  |  |
| K   | 5-10       |  |  |
| N   | 6-15       |  |  |
| S   | -          |  |  |

**Ordering Code:**  
J-X3A128-060.100

- Available in stock
- On request
- Not available

## ISO METRIC COARSE THREAD DIN-13

## PARIS

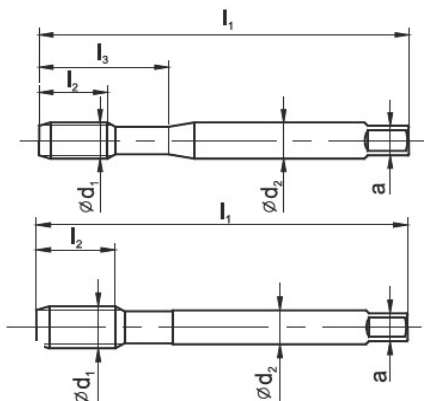


**HSS-E  
PM**

**Coating**

**DIN  
371**

**DIN  
376**



**C1**

**C1-FS**



Material groups

|   |   |   |   |
|---|---|---|---|
| P | M | P | M |
| N |   | N |   |

Hole type

Through / Blind      Through / Blind

Thread Depth

<3 x D      <3 x D

Chamfer / Helix Angle

C/0°      C/0°

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | Standard | DIN-371 (~DIN-2174) |           |
|-------------------|------|----------------|----------------|----------------|-----------------|-----|---------|----------|---------------------|-----------|
|                   |      |                |                |                |                 |     |         | Tol.     | 6HX                 | 6HX       |
|                   |      |                |                |                |                 |     |         | CODE     | F1-X4A118           | F1-X1A118 |
| M3                | 0.50 | 56             | 10             | 18             | 4               | 2.7 | 2.80    | 030.050  | ●                   | ●         |
| M3.5              | 0.60 | 56             | 12             | 20             | 4               | 3.0 | 3.25    | 035.060  | ○                   | ○         |
| M4                | 0.70 | 63             | 7              | 21             | 5               | 3.4 | 3.70    | 040.070  | ●                   | ●         |
| M5                | 0.80 | 70             | 8              | 25             | 6               | 4.9 | 4.65    | 050.080  | ●                   | ●         |
| M6                | 1.00 | 80             | 10             | 30             | 6               | 4.9 | 5.60    | 060.100  | ●                   | ●         |
| M7                | 1.00 | 80             | 10             | 30             | 7               | 5.5 | 6.60    | 070.100  | ○                   | ○         |
| M8                | 1.25 | 90             | 13             | 35             | 8               | 6.2 | 7.45    | 080.125  | ●                   | ●         |
| M9                | 1.25 | 90             | 13             | 35             | 9               | 7.0 | 8.45    | 090.125  | ○                   | ○         |
| M10               | 1.50 | 100            | 15             | 39             | 10              | 8.0 | 9.35    | 100.150  | ●                   | ●         |

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard | DIN-376 (~DIN-2174) |           |
|-------------------|------|----------------|----------------|----------------|-----------------|------|---------|----------|---------------------|-----------|
|                   |      |                |                |                |                 |      |         | Tol.     | 6HX                 | 6HX       |
|                   |      |                |                |                |                 |      |         | CODE     | F6-X4A118           | F6-X1A118 |
| M6                | 1.00 | 80             | 10             | -              | 4.5             | 3.4  | 5.60    | 060.100  | ●                   | ●         |
| M8                | 1.25 | 90             | 13             | -              | 6.0             | 4.9  | 7.45    | 080.125  | ●                   | ●         |
| M10               | 1.50 | 100            | 15             | -              | 7.0             | 5.5  | 9.35    | 100.150  | ●                   | ●         |
| M12               | 1.75 | 110            | 18             | -              | 9.0             | 7.0  | 11.25   | 120.175  | ●                   | ●         |
| M14               | 2.00 | 110            | 20             | -              | 11.0            | 9.0  | 13.10   | 140.200  | ●                   | ●         |
| M16               | 2.00 | 110            | 20             | -              | 12.0            | 9.0  | 15.10   | 160.200  | ●                   | ●         |
| M18               | 2.50 | 125            | 32             | -              | 14.0            | 11.0 | 16.85   | 180.250  | ●                   | ●         |
| M20               | 2.50 | 140            | 32             | -              | 16.0            | 12.0 | 18.85   | 200.250  | ●                   | ●         |

| ISO | Vc (m/min) |       |
|-----|------------|-------|
| P   | 10-30      | 10-30 |
| M   | 10-25      | 10-25 |
| K   | -          | -     |
| N   | 20-40      | 20-40 |
| S   | -          | -     |

**Ordering Code:**  
F6-X1A118-100.150


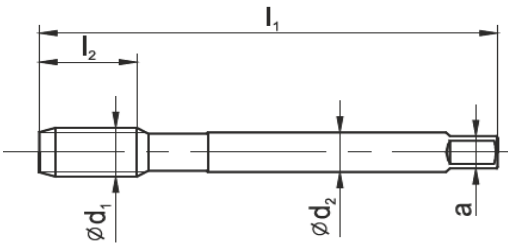


- Available in stock
- On request
- Not available

| ISO METRIC COARSE THREAD |      |                |                |                       |                |                 |     |         |           | DENVER  |           |           |   |   |   |  |  |
|--------------------------|------|----------------|----------------|-----------------------|----------------|-----------------|-----|---------|-----------|---------|-----------|-----------|---|---|---|--|--|
|                          |      |                |                |                       |                |                 |     |         |           | B1      |           | C1-H35    |   |   |   |  |  |
|                          |      |                |                |                       |                |                 |     |         |           |         |           |           |   |   |   |  |  |
| HSS-E                    |      |                |                |                       |                |                 |     |         |           | P       | M         | K         | P | M | K |  |  |
| Coating                  |      |                |                |                       |                |                 |     |         |           | N       |           |           | N |   |   |  |  |
| DIN 371                  |      |                |                |                       |                |                 |     |         |           | Through |           | Blind     |   |   |   |  |  |
| Material groups          |      |                |                |                       |                |                 |     |         |           | <2 x D  |           | <2 x D    |   |   |   |  |  |
| Hole type                |      |                |                |                       |                |                 |     |         |           | B/0°    |           | C/35°     |   |   |   |  |  |
| Thread Depth             |      |                |                |                       |                |                 |     |         |           | B/0°    |           | C/35°     |   |   |   |  |  |
| Chamfer / Helix Angle    |      |                |                |                       |                |                 |     |         |           | B/0°    |           | C/35°     |   |   |   |  |  |
| M Ød <sub>1</sub>        | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | Standard  |         | DIN 371   |           |   |   |   |  |  |
|                          |      |                |                |                       |                |                 |     |         | Tol.      |         | (6H)      | (6H)      |   |   |   |  |  |
|                          |      |                |                |                       |                |                 |     |         | Item Code |         | U1-Y2A118 | U1-Y3A118 |   |   |   |  |  |
| M2                       | 0.40 | 45             | 8              | 8                     | -              | 2.8             | 2.1 | 1.60    | 020.040   | ○       | ○         |           |   |   |   |  |  |
| M2.5                     | 0.45 | 50             | 9              | 9                     | -              | 2.8             | 2.1 | 2.05    | 025.045   | ○       | ○         |           |   |   |   |  |  |
| M3                       | 0.50 | 56             | 11             | 7                     | -              | 3.5             | 2.7 | 2.50    | 030.050   | ●       | ●         |           |   |   |   |  |  |
| M3.5                     | 0.60 | 56             | 12             | 7                     | -              | 4.0             | 3.0 | 2.90    | 035.060   | ○       | ○         |           |   |   |   |  |  |
| M4                       | 0.70 | 63             | 13             | 8                     | -              | 4.5             | 3.4 | 3.30    | 040.070   | ●       | ●         |           |   |   |   |  |  |
| M5                       | 0.80 | 70             | 16             | 10                    | -              | 6.0             | 4.9 | 4.20    | 050.080   | ●       | ●         |           |   |   |   |  |  |
| M6                       | 1.00 | 80             | 19             | 12                    | -              | 6.0             | 4.9 | 5.00    | 060.100   | ●       | ●         |           |   |   |   |  |  |
| M7                       | 1.00 | 80             | 19             | 12                    | -              | 7.0             | 5.5 | 6.00    | 070.100   | ○       | ○         |           |   |   |   |  |  |
| M8                       | 1.25 | 90             | 22             | 16                    | -              | 8.0             | 6.2 | 6.80    | 080.125   | ●       | ●         |           |   |   |   |  |  |
| M10                      | 1.50 | 100            | 24             | 16                    | -              | 10.0            | 8.0 | 8.50    | 100.150   | ●       | ●         |           |   |   |   |  |  |

| ISO | Vc (m/min) |       |  |  |
|-----|------------|-------|--|--|
| P   | 5-30       | 5-30  |  |  |
| M   | 5-10       | 5-10  |  |  |
| K   | 5-25       | 5-25  |  |  |
| N   | 10-30      | 10-30 |  |  |
| S   | -          | -     |  |  |

Ordering Code:  
U1-Y3A118-060.100

- Available in stock
- On request
- Not available

| ISO METRIC COARSE THREAD  |      |                |                |                       |                |                 |      |         |           | DENVER   |           |   |        |   |   |  |  |
|---|------|----------------|----------------|-----------------------|----------------|-----------------|------|---------|-----------|--|-----------|---|--------|---|---|--|--|
| <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  </div> <div style="margin-right: 20px;"> <div style="border: 1px solid black; padding: 2px; width: fit-content;">HSS-E</div> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-top: 5px;">Coating</div> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-top: 5px;">DIN 376</div> </div> <div style="flex-grow: 1;">  </div> </div> |      |                |                |                       |                |                 |      |         |           | B1   |           | C1-H35  |        |   |   |  |  |
|   |      |                |                |                       |                |                 |      |         |           |  |           |  |        |   |   |  |  |
| Material groups   |      |                |                |                       |                |                 |      |         |           | P  | M         | K   | P      | M | K |  |  |
| Hole type   |      |                |                |                       |                |                 |      |         |           | Through  |           |   | Blind  |   |   |  |  |
| Thread Depth  |      |                |                |                       |                |                 |      |         |           | <2 x D   |           |   | <2 x D |   |   |  |  |
| Chamfer / Helix Angle   |      |                |                |                       |                |                 |      |         |           | B/0°   |           |   | C/35°  |   |   |  |  |
| M Ød <sub>1</sub>   | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard  | DIN 376  |           |   |        |   |   |  |  |
|   |      |                |                |                       |                |                 |      |         | Tol.      | (6H)   | (6H)      |   |        |   |   |  |  |
|   |      |                |                |                       |                |                 |      |         | Item Code | U6-Y2A118  | U6-Y3A118 |   |        |   |   |  |  |
| M10   | 1.50 | 100            | -              | 16                    | -              | 7.0             | 5.5  | 8.50    | 100.150   | -  | ●         |   |        |   |   |  |  |
| M12   | 1.75 | 110            | 28             | 18                    | -              | 9.0             | 7.0  | 10.25   | 120.175   | ●  | ●         |   |        |   |   |  |  |
| M14   | 2.00 | 110            | 30             | 20                    | -              | 11.0            | 9.0  | 12.00   | 140.200   | ●  | ●         |   |        |   |   |  |  |
| M16   | 2.00 | 110            | 32             | 22                    | -              | 12.0            | 9.0  | 14.00   | 160.200   | ●  | ●         |   |        |   |   |  |  |
| M18   | 2.50 | 125            | 34             | 25                    | -              | 14.0            | 11.0 | 15.50   | 180.250   | ●  | ●         |   |        |   |   |  |  |
| M20   | 2.50 | 140            | 34             | 25                    | -              | 16.0            | 12.0 | 17.50   | 200.250   | ●  | ●         |   |        |   |   |  |  |
| M22   | 2.50 | 140            | 34             | 25                    | -              | 18.0            | 14.5 | 19.50   | 220.250   | ○  | ○         |   |        |   |   |  |  |
| M24   | 3.00 | 160            | 38             | 30                    | -              | 18.0            | 14.5 | 21.00   | 240.300   | ○  | ○         |   |        |   |   |  |  |

| ISO | Vc (m/min) |       |  |  |
|-----|------------|-------|--|--|
| P   | 5-30       | 5-30  |  |  |
| M   | 5-10       | 5-10  |  |  |
| K   | 5-25       | 5-25  |  |  |
| N   | 10-30      | 10-30 |  |  |
| S   | -          | -     |  |  |

**Ordering Code:**  
U6-Y2A118-120.175

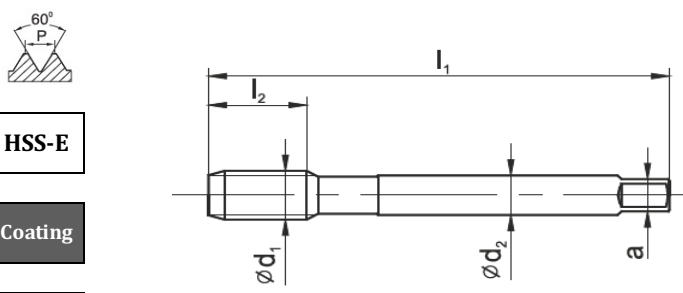


- Available in stock
- On request
- Not available

| ISO METRIC COARSE THREAD |      |                |                |                       |                |                 |     |         |          | MADRID  |           |           |           | TOKYO     |   |        |  |         |   |        |  |   |   |   |  |
|--------------------------|------|----------------|----------------|-----------------------|----------------|-----------------|-----|---------|----------|---------|-----------|-----------|-----------|-----------|---|--------|--|---------|---|--------|--|---|---|---|--|
|                          |      |                |                |                       |                |                 |     |         |          | B2      |           | C2-H35    |           | B2        |   | C2-H40 |  |         |   |        |  |   |   |   |  |
|                          |      |                |                |                       |                |                 |     |         |          |         |           |           |           |           |   |        |  |         |   |        |  |   |   |   |  |
| HSS-E                    |      |                |                |                       |                |                 |     |         |          |         |           |           |           |           |   |        |  |         |   |        |  |   |   |   |  |
| Coating                  |      |                |                |                       |                |                 |     |         |          |         |           |           |           |           |   |        |  |         |   |        |  |   |   |   |  |
| DIN 371                  |      |                |                |                       |                |                 |     |         |          |         |           |           |           |           |   |        |  |         |   |        |  |   |   |   |  |
| DIN 376                  |      |                |                |                       |                |                 |     |         |          |         |           |           |           |           |   |        |  |         |   |        |  |   |   |   |  |
| Material groups          |      |                |                |                       |                |                 |     |         |          | P       | M         | K         |           | P         | M | K      |  | P       | M | K      |  | P | M | K |  |
| Hole type                |      |                |                |                       |                |                 |     |         |          | Through |           | Blind     |           | Through   |   | Blind  |  | Through |   | Blind  |  |   |   |   |  |
| Thread Depth             |      |                |                |                       |                |                 |     |         |          | <2 x D  |           | <2 x D    |           | <2 x D    |   | <2 x D |  | <2 x D  |   | <2 x D |  |   |   |   |  |
| Chamfer / Helix Angle    |      |                |                |                       |                |                 |     |         |          | B/0°    |           | C/35°     |           | B/0°      |   | C/40°  |  | B/0°    |   | C/40°  |  |   |   |   |  |
| M Ød <sub>1</sub>        | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | Standard |         | DIN 371   |           |           |           |   |        |  |         |   |        |  |   |   |   |  |
|                          |      |                |                |                       |                |                 |     |         | Tol.     |         | (6H)      | (6H)      | (6H)      | (6H)      |   |        |  |         |   |        |  |   |   |   |  |
|                          |      |                |                |                       |                |                 |     |         | Code     |         | S1-Y2A128 | S1-Y3A128 | K1-Z2A128 | K1-Z3A128 |   |        |  |         |   |        |  |   |   |   |  |
| M2                       | 0.40 | 45             | 8              | 8                     | -              | 2.8             | 2.1 | 1.60    | 020.040  | ○       | ○         | -         | -         |           |   |        |  |         |   |        |  |   |   |   |  |
| M2.5                     | 0.45 | 50             | 9              | 9                     | -              | 2.8             | 2.1 | 2.05    | 025.045  | ○       | ○         | -         | -         |           |   |        |  |         |   |        |  |   |   |   |  |
| M3                       | 0.50 | 56             | 11             | 7                     | -              | 3.5             | 2.7 | 2.50    | 030.050  | ●       | ●         | ●         | ●         |           |   |        |  |         |   |        |  |   |   |   |  |
| M3.5                     | 0.60 | 56             | 12             | 7                     | -              | 4.0             | 3.0 | 2.90    | 035.060  | ○       | ○         | -         | -         |           |   |        |  |         |   |        |  |   |   |   |  |
| M4                       | 0.70 | 63             | 13             | 8                     | -              | 4.5             | 3.4 | 3.30    | 040.070  | ●       | ●         | ●         | ●         |           |   |        |  |         |   |        |  |   |   |   |  |
| M5                       | 0.80 | 70             | 16             | 10                    | -              | 6.0             | 4.9 | 4.20    | 050.080  | ●       | ●         | ●         | ●         |           |   |        |  |         |   |        |  |   |   |   |  |
| M6                       | 1.00 | 80             | 19             | 12                    | -              | 6.0             | 4.9 | 5.00    | 060.100  | ●       | ●         | ●         | ●         |           |   |        |  |         |   |        |  |   |   |   |  |
| M7                       | 1.00 | 80             | 19             | 12                    | -              | 7.0             | 5.5 | 6.00    | 070.100  | ○       | ○         | -         | -         |           |   |        |  |         |   |        |  |   |   |   |  |
| M8                       | 1.25 | 90             | 22             | 16                    | -              | 8.0             | 6.2 | 6.80    | 080.125  | ●       | ●         | ●         | ●         |           |   |        |  |         |   |        |  |   |   |   |  |
| M10                      | 1.50 | 100            | 24             | 16                    | -              | 10.0            | 8.0 | 8.50    | 100.150  | ●       | ●         | ●         | ●         |           |   |        |  |         |   |        |  |   |   |   |  |
| M Ød <sub>1</sub>        | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | Standard |         | DIN 376   |           |           |           |   |        |  |         |   |        |  |   |   |   |  |
|                          |      |                |                |                       |                |                 |     |         | Tol.     |         | (6H)      | (6H)      | (6H)      | (6H)      |   |        |  |         |   |        |  |   |   |   |  |
|                          |      |                |                |                       |                |                 |     |         | Code     |         |           |           | K6-Z2A128 | K6-Z3A128 |   |        |  |         |   |        |  |   |   |   |  |
| M12                      | 1.75 | 110            | 28             | 18                    | -              | 9.0             | 7.0 | 10.25   | 120.175  | -       | -         | ●         | ●         |           |   |        |  |         |   |        |  |   |   |   |  |

| ISO | Vc (m/min) |       |       |       |
|-----|------------|-------|-------|-------|
| P   | 5-30       | 5-30  | 5-30  | 5-30  |
| M   | 5-10       | 5-10  | 5-10  | 5-10  |
| K   | 5-25       | 5-25  | 5-25  | 5-25  |
| N   | 10-30      | 10-30 | 10-30 | 10-30 |
| S   | 1-5        | 1-5   | 1-5   | 1-5   |

Ordering Code:  
S1-Y3A128-060.100

- Available in stock
- On request
- Not available

| ISO METRIC COARSE THREAD  |      |                |                |                       |                |                 |      |         |           | MADRID   |           |  |   |  |  |   |  |  |
|---|------|----------------|----------------|-----------------------|----------------|-----------------|------|---------|-----------|--|-----------|--|---|--|--|---|--|--|
|   |      |                |                |                       |                |                 |      |         |           | B2   |           |  | C2-H35  |  |  |   |  |  |
|  |      |                |                |                       |                |                 |      |         |           |  |           |  |  |  |  |   |  |  |
| HSS-E   |      |                |                |                       |                |                 |      |         |           | P  |           |  | M   |  |  | K |  |  |
| Coating   |      |                |                |                       |                |                 |      |         |           | N  |           |  | S   |  |  |   |  |  |
| DIN 376   |      |                |                |                       |                |                 |      |         |           | P  |           |  | M   |  |  | K |  |  |
| Material groups   |      |                |                |                       |                |                 |      |         |           | N  |           |  | S   |  |  |   |  |  |
| Hole type   |      |                |                |                       |                |                 |      |         |           | Through  |           |  | Blind   |  |  |   |  |  |
| Thread Depth  |      |                |                |                       |                |                 |      |         |           | <2 x D   |           |  | <2 x D  |  |  |   |  |  |
| Chamfer / Helix Angle   |      |                |                |                       |                |                 |      |         |           | B/0°   |           |  | C/35°   |  |  |   |  |  |
| M Ød <sub>1</sub>   | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard  |  | DIN 376   |  |   |  |  |   |  |  |
|   |      |                |                |                       |                |                 |      |         | Tol.      |  | (6H)      |  | (6H)  |  |  |   |  |  |
|   |      |                |                |                       |                |                 |      |         | Item Code |  | S6-Y2A128 |  | S6-Y3A128   |  |  |   |  |  |
| M8  | 1.25 | 90             | 22             | -                     | -              | 6.0             | 4.9  | 6.80    | 080.125   | •  | -         |  |   |  |  |   |  |  |
| M10   | 1.50 | 100            | 24             | 16                    | -              | 7.0             | 5.5  | 8.50    | 100.150   | •  | •         |  |   |  |  |   |  |  |
| M12   | 1.75 | 110            | 28             | 18                    | -              | 9.0             | 7.0  | 10.20   | 120.175   | •  | •         |  |   |  |  |   |  |  |
| M14   | 2.00 | 110            | 30             | 20                    | -              | 11.0            | 9.0  | 12.00   | 140.200   | •  | •         |  |   |  |  |   |  |  |
| M16   | 2.00 | 110            | 32             | 22                    | -              | 12.0            | 9.0  | 14.00   | 160.200   | •  | •         |  |   |  |  |   |  |  |
| M18   | 2.50 | 125            | 34             | 25                    | -              | 14.0            | 11.0 | 15.50   | 180.250   | •  | •         |  |   |  |  |   |  |  |
| M20   | 2.50 | 140            | 34             | 25                    | -              | 16.0            | 12.0 | 17.50   | 200.250   | •  | •         |  |   |  |  |   |  |  |
| M22   | 2.50 | 140            | 34             | 25                    | -              | 18.0            | 14.5 | 19.50   | 220.250   | ○  | ○         |  |   |  |  |   |  |  |
| M24   | 3.00 | 160            | 38             | 30                    | -              | 18.0            | 14.5 | 21.00   | 240.300   | ○  | ○         |  |   |  |  |   |  |  |

| ISO | Vc (m/min) |       |
|-----|------------|-------|
| P   | 5-30       | 5-30  |
| M   | 5-10       | 5-10  |
| K   | 5-25       | 5-25  |
| N   | 10-30      | 10-30 |
| S   | 1-5        | 1-5   |

**Ordering Code:**  
S6-Y2A128-120.175

- Available in stock
- On request
- Not available



| ISO METRIC FINE THREAD |      |                |                |                    |                 |      |         |           | MADRID    |           |        |   |   |   |  |  |
|------------------------|------|----------------|----------------|--------------------|-----------------|------|---------|-----------|-----------|-----------|--------|---|---|---|--|--|
|                        |      |                |                |                    |                 |      |         |           | B2        |           | C2-H35 |   |   |   |  |  |
|                        |      |                |                |                    |                 |      |         |           |           |           |        |   |   |   |  |  |
| Material groups        |      |                |                |                    |                 |      |         |           | P         | M         | K      | P | M | K |  |  |
| Hole type              |      |                |                |                    |                 |      |         |           | Through   |           | Blind  |   |   |   |  |  |
| Thread Depth           |      |                |                |                    |                 |      |         |           | <2 x D    |           | <2 x D |   |   |   |  |  |
| Chamfer / Helix Angle  |      |                |                |                    |                 |      |         |           | B/0°      |           | C/35°  |   |   |   |  |  |
| M Ød <sub>1</sub>      | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub> H35 | Ød <sub>2</sub> | a    | Drill Ø | Standard  | DIN-374   |           |        |   |   |   |  |  |
|                        |      |                |                |                    |                 |      |         | Tol.      | (6H)      | (6H)      |        |   |   |   |  |  |
|                        |      |                |                |                    |                 |      |         | Item Code | S4-Y1A228 | S4-Y3A228 |        |   |   |   |  |  |
| MF5                    | 0.50 | 70             | 12             | 8                  | 3.5             | 2.7  | 4.50    | 050.050   | •         | •         |        |   |   |   |  |  |
| MF5                    | 0.75 | 70             | 12             | 8                  | 3.5             | 2.7  | 4.25    | 050.075   | •         | •         |        |   |   |   |  |  |
| MF6                    | 0.50 | 80             | 14             | 12                 | 4.5             | 3.4  | 5.50    | 060.050   | •         | •         |        |   |   |   |  |  |
| MF6                    | 0.75 | 80             | 14             | 12                 | 4.5             | 3.4  | 5.25    | 060.075   | •         | •         |        |   |   |   |  |  |
| MF8                    | 0.50 | 80             | 18             | 12                 | 6.0             | 4.9  | 7.50    | 080.050   | •         | •         |        |   |   |   |  |  |
| MF8                    | 0.75 | 80             | 18             | 12                 | 6.0             | 4.9  | 7.25    | 080.075   | •         | •         |        |   |   |   |  |  |
| MF8                    | 1.00 | 80             | 18             | 12                 | 6.0             | 4.9  | 7.00    | 080.100   | •         | •         |        |   |   |   |  |  |
| MF10                   | 0.50 | 90             | 20             | 16                 | 7.0             | 5.5  | 9.50    | 100.050   | •         | •         |        |   |   |   |  |  |
| MF10                   | 0.75 | 90             | 20             | 16                 | 7.0             | 5.5  | 9.25    | 100.075   | •         | •         |        |   |   |   |  |  |
| MF10                   | 1.00 | 90             | 20             | 16                 | 7.0             | 5.5  | 9.00    | 100.100   | •         | •         |        |   |   |   |  |  |
| MF10                   | 1.25 | 90             | 20             | 16                 | 7.0             | 5.5  | 8.75    | 100.125   | •         | •         |        |   |   |   |  |  |
| MF12                   | 0.50 | 100            | 22             | 16                 | 9.0             | 7.0  | 11.50   | 120.050   | •         | •         |        |   |   |   |  |  |
| MF12                   | 0.75 | 100            | 22             | 16                 | 9.0             | 7.0  | 11.25   | 120.075   | •         | •         |        |   |   |   |  |  |
| MF12                   | 1.00 | 100            | 22             | 16                 | 9.0             | 7.0  | 11.00   | 120.100   | •         | •         |        |   |   |   |  |  |
| MF12                   | 1.25 | 100            | 22             | 16                 | 9.0             | 7.0  | 10.75   | 120.125   | •         | •         |        |   |   |   |  |  |
| MF12                   | 1.50 | 100            | 22             | 16                 | 9.0             | 7.0  | 10.50   | 120.150   | •         | •         |        |   |   |   |  |  |
| MF14                   | 0.50 | 100            | 22             | 16                 | 11.0            | 9.0  | 13.50   | 140.050   | •         | •         |        |   |   |   |  |  |
| MF14                   | 0.75 | 100            | 22             | 16                 | 11.0            | 9.0  | 13.25   | 140.075   | •         | •         |        |   |   |   |  |  |
| MF14                   | 1.00 | 100            | 22             | 16                 | 11.0            | 9.0  | 13.00   | 140.100   | •         | •         |        |   |   |   |  |  |
| MF14                   | 1.25 | 100            | 22             | 16                 | 11.0            | 9.0  | 12.75   | 140.125   | •         | •         |        |   |   |   |  |  |
| MF14                   | 1.50 | 100            | 22             | 16                 | 11.0            | 9.0  | 12.50   | 140.150   | •         | •         |        |   |   |   |  |  |
| MF16                   | 0.50 | 100            | 22             | 16                 | 12.0            | 9.0  | 15.50   | 160.050   | •         | •         |        |   |   |   |  |  |
| MF16                   | 0.75 | 100            | 22             | 16                 | 12.0            | 9.0  | 15.25   | 160.075   | •         | •         |        |   |   |   |  |  |
| MF16                   | 1.00 | 100            | 22             | 16                 | 12.0            | 9.0  | 15.00   | 160.100   | •         | •         |        |   |   |   |  |  |
| MF16                   | 1.25 | 100            | 22             | 16                 | 12.0            | 9.0  | 14.75   | 160.125   | •         | •         |        |   |   |   |  |  |
| MF16                   | 1.50 | 100            | 22             | 16                 | 12.0            | 9.0  | 14.50   | 160.150   | •         | •         |        |   |   |   |  |  |
| MF18                   | 0.75 | 110            | 25             | 20                 | 14.0            | 11.0 | 17.25   | 180.075   | •         | •         |        |   |   |   |  |  |
| MF18                   | 1.00 | 110            | 25             | 20                 | 14.0            | 11.0 | 17.00   | 180.100   | •         | •         |        |   |   |   |  |  |
| MF18                   | 1.25 | 110            | 25             | 20                 | 14.0            | 11.0 | 16.75   | 180.125   | •         | •         |        |   |   |   |  |  |
| MF18                   | 1.50 | 110            | 25             | 20                 | 14.0            | 11.0 | 16.50   | 180.150   | •         | •         |        |   |   |   |  |  |
| MF18                   | 2.00 | 110            | 25             | 20                 | 14.0            | 11.0 | 16.00   | 180.200   | •         | •         |        |   |   |   |  |  |
| MF20                   | 0.75 | 125            | 25             | 20                 | 16.0            | 12.0 | 19.25   | 200.075   | •         | •         |        |   |   |   |  |  |
| MF20                   | 1.00 | 125            | 25             | 20                 | 16.0            | 12.0 | 19.00   | 200.100   | •         | •         |        |   |   |   |  |  |
| MF20                   | 1.25 | 125            | 25             | 20                 | 16.0            | 12.0 | 18.75   | 200.125   | •         | •         |        |   |   |   |  |  |
| MF20                   | 1.50 | 125            | 25             | 20                 | 16.0            | 12.0 | 18.50   | 200.150   | •         | •         |        |   |   |   |  |  |
| MF20                   | 2.00 | 125            | 25             | 20                 | 16.0            | 12.0 | 18.00   | 200.200   | •         | •         |        |   |   |   |  |  |

| ISO | Vc (m/min) |       |       |       |
|-----|------------|-------|-------|-------|
| P   | 5-30       | 5-30  | 5-30  | 5-30  |
| M   | 5-10       | 5-10  | 5-10  | 5-10  |
| K   | 5-25       | 5-25  | 5-25  | 5-25  |
| N   | 10-30      | 10-30 | 10-30 | 10-30 |
| S   | 1-5        | 1-5   | 1-5   | 1-5   |

Ordering Code:  
S4-Y1A228-060.075

- Available in stock
- On request
- Not available

| AMERICAN UNC THREAD   |    |                |                |                       |                 |      |         | MADRID    |   |           |           |   |   |
|---|----|----------------|----------------|-----------------------|-----------------|------|---------|-----------|---|-----------|-----------|---|---|
|   |    |                |                |                       |                 |      |         | B2        |   | C2-H35    |           |   |   |
|   |    |                |                |                       |                 |      |         |           |   |           |           |   |   |
| <b>HSS-E</b><br><b>Coating</b><br><b>DIN 371</b> <b>DIN 376</b> |    |                |                |                       |                 |      |         |           |   |           |           |   |   |
| Material groups   |    |                |                |                       |                 |      |         | P         | M | K         | P         | M | K |
| Hole type   |    |                |                |                       |                 |      |         | N         | S |           | N         | S |   |
| Thread Depth  |    |                |                |                       |                 |      |         | Through   |   | Blind     |           |   |   |
| Chamfer / Helix Angle   |    |                |                |                       |                 |      |         | B/0°      |   | C/35°     |           |   |   |
| M Ød <sub>1</sub>   | P  | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | Ød <sub>2</sub> | a    | Drill Ø | Standard  |   | DIN 371   |           |   |   |
|   |    |                |                |                       |                 |      |         | Tol.      |   | (2B)      | (2B)      |   |   |
|   |    |                |                |                       |                 |      |         | Item Code |   | S1-Y2B128 | S1-Y3B128 |   |   |
| 1/4   | 20 | 80             | 17             | 10                    | 7.0             | 5.5  | 5.20    | 1040.20   | • | •         |           |   |   |
| 5/16  | 18 | 90             | 22             | 12                    | 8.0             | 6.2  | 6.60    | 1050.18   | • | •         |           |   |   |
| 3/8   | 16 | 100            | 24             | 14                    | 10.0            | 8.0  | 8.00    | 1060.16   | • | •         |           |   |   |
| M Ød <sub>1</sub>   | P  | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | Ød <sub>2</sub> | a    | Drill Ø | Standard  |   | DIN 376   |           |   |   |
|   |    |                |                |                       |                 |      |         | Tol.      |   | (2B)      | (2B)      |   |   |
|   |    |                |                |                       |                 |      |         | Item Code |   | S6-Y2B128 | S6-Y3B128 |   |   |
| 7/16  | 14 | 100            | 22             | 16                    | 8.0             | 6.2  | 9.40    | 1070.14   | • | •         |           |   |   |
| 1/2   | 13 | 110            | 24             | 18                    | 9.0             | 7.0  | 10.80   | 1080.13   | • | •         |           |   |   |
| 9/16  | 12 | 110            | 26             | 18                    | 11.0            | 9.0  | 12.30   | 1090.12   | • | •         |           |   |   |
| 5/8   | 11 | 110            | 27             | 20                    | 12.0            | 9.0  | 13.50   | 1100.11   | • | •         |           |   |   |
| 3/4   | 10 | 125            | 30             | 25                    | 14.0            | 11.0 | 16.50   | 1120.10   | • | •         |           |   |   |
| 7/8   | 9  | 140            | 32             | 28                    | 18.0            | 14.5 | 19.50   | 1140.09   | • | •         |           |   |   |

| ISO | Vc (m/min) |       |  |
|-----|------------|-------|--|
| P   | 5-30       | 5-30  |  |
| M   | 5-10       | 5-10  |  |
| K   | 5-25       | 5-25  |  |
| N   | 10-30      | 10-30 |  |
| S   | 1-5        | 1-5   |  |

Ordering Code:  
S6-Y2B128-1080.13

- Available in stock
- On request
- Not available


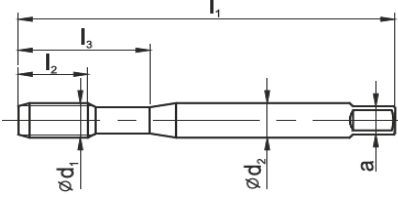
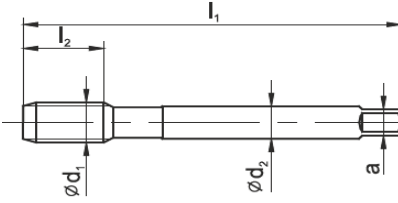


| AMERICAN UNF THREAD   |       |                |                |                       |                |                 |      |         |           | MADRID    |           |        |   |   |   |
|---|-------|----------------|----------------|-----------------------|----------------|-----------------|------|---------|-----------|-----------|-----------|--------|---|---|---|
|   |       |                |                |                       |                |                 |      |         |           | B2        |           | C2-H35 |   |   |   |
|   |       |                |                |                       |                |                 |      |         |           |           |           |        |   |   |   |
| <b>HSS-E</b><br><b>Coating</b><br><b>DIN 371</b> <b>DIN 374</b> |       |                |                |                       |                |                 |      |         |           |           |           |        |   |   |   |
| Material groups   |       |                |                |                       |                |                 |      |         |           | P         | M         | K      | P | M | K |
| Hole type   |       |                |                |                       |                |                 |      |         |           | N         | S         |        | N | S |   |
| Thread Depth  |       |                |                |                       |                |                 |      |         |           | Through   |           | Blind  |   |   |   |
| Chamfer / Helix Angle   |       |                |                |                       |                |                 |      |         |           | B/0°      |           | C/35°  |   |   |   |
| M Ød <sub>1</sub>   | P     | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard  | DIN 371   |           |        |   |   |   |
|   |       |                |                |                       |                |                 |      |         | Tol.      | (2B)      | (2B)      |        |   |   |   |
|   |       |                |                |                       |                |                 |      |         | Item Code | S1-Y2B228 | S1-Y3B228 |        |   |   |   |
| 1/4   | 28    | 80             | 17             | 10                    | -              | 7.0             | 5.5  | 5.50    | 1040.28   | •         | •         |        |   |   |   |
| 5/16  | 24    | 90             | 20             | 12                    | -              | 8.0             | 6.2  | 6.90    | 1050.24   | •         | •         |        |   |   |   |
| 3/8   | 24    | 100            | 22             | 12                    | -              | 9.0             | 7.0  | 8.50    | 1060.24   | •         | •         |        |   |   |   |
| M Ød <sub>1</sub>   | P     | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard  | DIN 374   |           |        |   |   |   |
|   |       |                |                |                       |                |                 |      |         | Tol.      | (2B)      | (2B)      |        |   |   |   |
|   |       |                |                |                       |                |                 |      |         | Item Code | S4-Y2B228 | S4-Y3B228 |        |   |   |   |
| 7/16  | 20    | 100            | 22             | 22                    | -              | 8.0             | 6.2  | 9.90    | 1070.20   | •         | •         |        |   |   |   |
| 1/2   | 20    | 100            | 22             | 22                    | -              | 9.0             | 7.0  | 11.50   | 1080.20   | •         | •         |        |   |   |   |
| 9/16  | 18    | 100            | 22             | 22                    | -              | 11.0            | 9.0  | 13.00   | 1090.18   | •         | •         |        |   |   |   |
| 5/8   | 18    | 100            | 22             | 22                    | -              | 12.0            | 9.0  | 14.50   | 1100.18   | •         | •         |        |   |   |   |
| 3/4   | 16    | 110            | 25             | 25                    | -              | 14.0            | 11.0 | 17.50   | 1120.16   | •         | •         |        |   |   |   |
| 7/8   | 14    | 125            | 25             | 25                    | -              | 18.0            | 14.5 | 20.50   | 1140.14   | •         | •         |        |   |   |   |
| ISO   |       | Vc (m/min)     |                |                       |                |                 |      |         |           |           |           |        |   |   |   |
| P   | 5-30  | 5-30           |                |                       |                |                 |      |         |           |           |           |        |   |   |   |
| M   | 5-10  | 5-10           |                |                       |                |                 |      |         |           |           |           |        |   |   |   |
| K   | 5-25  | 5-25           |                |                       |                |                 |      |         |           |           |           |        |   |   |   |
| N   | 10-30 | 10-30          |                |                       |                |                 |      |         |           |           |           |        |   |   |   |
| S   | 1-5   | 1-5            |                |                       |                |                 |      |         |           |           |           |        |   |   |   |

**Ordering Code:**  
 S1-Y3B228-1040.28

- Available in stock
- On request
- Not available

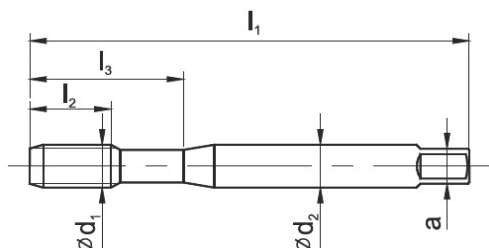
| WHITWORTH BSW THREAD  |    |                |                |                       |                |                 |      |         |          | MADRID    |          |          |   |   |   |
|---|----|----------------|----------------|-----------------------|----------------|-----------------|------|---------|----------|-----------|----------|----------|---|---|---|
|   |    |                |                |                       |                |                 |      |         |          | B2        |          | C2-H35   |   |   |   |
|   |    |                |                |                       |                |                 |      |         |          |           |          |          |   |   |   |
| <b>HSS-E</b><br><b>Coating</b><br><b>DIN 371</b> <b>DIN 376</b> |    |                |                |                       |                |                 |      |         |          |           |          |          |   |   |   |
| Material groups   |    |                |                |                       |                |                 |      |         |          | P         | M        | K        | P | M | K |
| Hole type   |    |                |                |                       |                |                 |      |         |          | N         | S        |          | N | S |   |
| Thread Depth  |    |                |                |                       |                |                 |      |         |          | Through   |          | Blind    |   |   |   |
| Chamfer / Helix Angle   |    |                |                |                       |                |                 |      |         |          | B/0°      |          | C/35°    |   |   |   |
| M Ød <sub>1</sub>   | P  | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard |           | DIN 371  |          |   |   |   |
|   |    |                |                |                       |                |                 |      |         | Tol.     | Item Code | Standard | Standard |   |   |   |
| 1/4   | 20 | 80             | 22             | 16                    | -              | 7.0             | 5.5  | 5.10    | 1040.20  | •         | •        |          |   |   |   |
| 5/16  | 18 | 90             | 22             | 18                    | -              | 8.0             | 6.2  | 6.50    | 1050.18  | •         | •        |          |   |   |   |
| 3/8   | 16 | 100            | 25             | 20                    | -              | 9.0             | 7.0  | 7.90    | 1060.16  | •         | •        |          |   |   |   |
| M Ød <sub>1</sub>   | P  | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a    | Drill Ø | Standard |           | DIN 376  |          |   |   |   |
|   |    |                |                |                       |                |                 |      |         | Tol.     | Item Code | Standard | Standard |   |   |   |
| 7/16  | 14 | 100            | 30             | 22                    | -              | 8.0             | 6.2  | 9.30    | 1070.14  | •         | •        |          |   |   |   |
| 1/2   | 12 | 110            | 30             | 25                    | -              | 9.0             | 7.0  | 10.50   | 1080.12  | •         | •        |          |   |   |   |
| 9/16  | 12 | 110            | 32             | 25                    | -              | 11.0            | 9.0  | 12.00   | 1090.12  | •         | •        |          |   |   |   |
| 5/8   | 11 | 110            | 32             | 28                    | -              | 12.0            | 9.0  | 13.50   | 1100.11  | •         | •        |          |   |   |   |
| 3/4   | 10 | 125            | 40             | 32                    | -              | 14.0            | 11.0 | 16.50   | 1120.10  | •         | •        |          |   |   |   |
| 7/8   | 9  | 140            | 40             | 32                    | -              | 18.0            | 14.5 | 19.50   | 1140.09  | •         | •        |          |   |   |   |
| ISO   |    | Vc (m/min)     |                |                       |                |                 |      |         |          |           |          |          |   |   |   |
| P   |    | 5-30           |                | 5-30                  |                |                 |      |         |          |           |          |          |   |   |   |
| M   |    | 5-10           |                | 5-10                  |                |                 |      |         |          |           |          |          |   |   |   |
| K   |    | 5-25           |                | 5-25                  |                |                 |      |         |          |           |          |          |   |   |   |
| N   |    | 10-30          |                | 10-30                 |                |                 |      |         |          |           |          |          |   |   |   |
| S   |    | 1-5            |                | 1-5                   |                |                 |      |         |          |           |          |          |   |   |   |

|   |   |    |
|---|---|----|
| <b>Ordering Code:</b><br><b>S6-Y1E128-1090.12</b> | <ul style="list-style-type: none"> <li>• Available in stock</li> <li>○ On request</li> <li>- Not available</li> </ul> | 28 |
|---|---|----|

| WHITWORTH BSP THREAD  |    |                |                       |                       |                       |                 |         |           |           | DENVER   |   |        |    |   |   |
|---|----|----------------|-----------------------|-----------------------|-----------------------|-----------------|---------|-----------|-----------|--|---|--------|----|---|---|
|   |    |                |                       |                       |                       |                 |         |           |           | B2   | C2-H35  |        |    |   |   |
|    |    |                |                       |                       |                       |                 |         |           |           |  |  |        |    |   |   |
| HSS-E   |    |                |                       |                       |                       |                 |         |           |           |  |   |        |    |   |   |
| Coating   |    |                |                       |                       |                       |                 |         |           |           |  |   |        |    |   |   |
| DIN 5156  |    |                |                       |                       |                       |                 |         |           |           |  |   |        |    |   |   |
| Material groups   |    |                |                       |                       |                       |                 |         |           |           | P  | M   | K      | P  | M | K |
| Hole type   |    |                |                       |                       |                       |                 |         |           |           | Through  |   | Blind  |    |   |   |
| Thread Depth  |    |                |                       |                       |                       |                 |         |           |           | <2 x D   |   | <2 x D |    |   |   |
| Chamfer / Helix Angle   |    |                |                       |                       |                       |                 |         |           |           | B/0°   |   | C/35°  |    |   |   |
| M Ød <sub>1</sub>   | P  | l <sub>1</sub> | l <sub>1</sub><br>H35 | l <sub>2</sub>        | l <sub>2</sub><br>H35 | Ød <sub>2</sub> | a       | Drill Ø   | Standard  | DIN 5156   |   |        |    |   |   |
|   |    |                |                       |                       |                       |                 |         |           | Tol.      | Standard   | Standard  |        |    |   |   |
|   |    |                |                       |                       |                       |                 |         |           | Item Code | U5-Y2C128  | U5-Y3C128   |        |    |   |   |
| 1/8   | 28 | 100            | 90                    | 16                    | 12                    | 7.0             | 5.5     | 8.80      | 1020.28   | •  | •   |        |    |   |   |
| 1/4   | 19 | 100            | 100                   | 22                    | 16                    | 11.0            | 9.0     | 11.80     | 1040.19   | •  | •   |        |    |   |   |
| 3/8   | 19 | 100            | 100                   | 22                    | 18                    | 12.0            | 9.0     | 15.30     | 1060.19   | •  | •   |        |    |   |   |
| M Ød <sub>1</sub>   | P  | l <sub>1</sub> | l <sub>2</sub>        | l <sub>2</sub><br>H35 | Ød <sub>2</sub>       | a               | Drill Ø | Standard  | DIN 5156  |  |   |        |    |   |   |
|   |    |                |                       |                       |                       |                 |         | Tol.      | Standard  | Standard   |   |        |    |   |   |
|   |    |                |                       |                       |                       |                 |         | Item Code | U5-Y2C128 | U5-Y3C128  |   |        |    |   |   |
| 1/2   | 14 | 125            | 25                    | 25                    | 16.0                  | 12.0            | 19.00   | 1080.14   | •         | •  |   |        |    |   |   |
| 5/8   | 14 | 125            | 25                    | 25                    | 18.0                  | 14.5            | 21.00   | 1100.14   | •         | •  |   |        |    |   |   |
| 3/4   | 14 | 140            | 28                    | 28                    | 20.0                  | 16.0            | 24.50   | 1120.14   | •         | •  |   |        |    |   |   |
| 7/8   | 14 | 150            | 28                    | 28                    | 22.0                  | 18.0            | 28.30   | 1140.14   | •         | •  |   |        |    |   |   |
| 1   | 11 | 160            | 32                    | 30                    | 25.0                  | 20.0            | 30.50   | 1160.11   | •         | •  |   |        |    |   |   |
| ISO   |    |                |                       |                       |                       |                 |         |           |           | Vc (m/min)   |   |        |    |   |   |
| P   |    |                |                       |                       |                       |                 |         |           |           | 5-30   | 5-30  |        |    |   |   |
| M   |    |                |                       |                       |                       |                 |         |           |           | 5-10   | 5-10  |        |    |   |   |
| K   |    |                |                       |                       |                       |                 |         |           |           | 5-25   | 5-25  |        |    |   |   |
| N   |    |                |                       |                       |                       |                 |         |           |           | 10-30  | 10-30   |        |    |   |   |
| S   |    |                |                       |                       |                       |                 |         |           |           | 1-5  | 1-5   |        |    |   |   |
| Ordering Code:  |    |                |                       |                       |                       |                 |         |           |           | • Available in stock   |   |        | 29 |   |   |
| U5-Y3C128-1080.14   |    |                |                       |                       |                       |                 |         |           |           | ○ On request   |   |        |    |   |   |
|   |    |                |                       |                       |                       |                 |         |           |           | - Not available  |   |        |    |   |   |

## ISO METRIC COARSE THREAD

### SYDNEY



HSS-E

Coating

DIN 371

DIN 376

B2

C2-H40



Material groups

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| P | M | K | P | M | K |
| N |   |   | N |   |   |

Hole type

Through

Blind

Thread Depth

<2 x D

<2 x D

Chamfer / Helix Angle

B/0°

C/40°

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H40 | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | DIN-371       |           |           |
|-------------------|------|----------------|----------------|-----------------------|----------------|-----------------|-----|---------|---------------|-----------|-----------|
|                   |      |                |                |                       |                |                 |     |         | Standard Tol. | Standard  | Standard  |
|                   |      |                |                |                       |                |                 |     |         | Item Code     | C1-Z2A118 | C1-Z3A118 |
| M3                | 0.50 | 56             | 11             | 7                     | -              | 3.5             | 2.7 | 2.50    | 030.050       | ●         | ●         |
| M3.5              | 0.60 | 56             | 12             | 7                     | -              | 4.0             | 3.0 | 2.90    | 035.060       | ○         | ○         |
| M4                | 0.70 | 63             | 13             | 8                     | -              | 4.5             | 3.4 | 3.30    | 040.070       | ●         | ●         |
| M4.5              | 0.75 | 70             | 14             | 8                     | -              | 6.0             | 4.9 | 3.80    | 045.075       | ○         | ○         |
| M5                | 0.80 | 70             | 16             | 10                    | -              | 6.0             | 4.9 | 4.20    | 050.080       | ●         | ●         |
| M6                | 1.00 | 80             | 19             | 12                    | -              | 6.0             | 4.9 | 5.00    | 060.100       | ●         | ●         |
| M7                | 1.00 | 80             | 19             | 12                    | -              | 7.0             | 5.5 | 6.00    | 070.100       | ○         | ○         |
| M8                | 1.25 | 90             | 22             | 16                    | -              | 8.0             | 6.2 | 6.80    | 080.125       | ●         | ●         |
| M9                | 1.25 | 90             | 20             | 16                    | -              | 9.0             | 7.0 | 7.80    | 090.125       | ●         | ●         |
| M10               | 1.50 | 100            | 24             | 16                    | -              | 10.0            | 8.0 | 8.50    | 100.150       | ●         | ●         |

| M Ød <sub>1</sub> | P    | l <sub>1</sub> | l <sub>2</sub> | l <sub>2</sub><br>H35 | l <sub>3</sub> | Ød <sub>2</sub> | a   | Drill Ø | DIN-376       |           |           |
|-------------------|------|----------------|----------------|-----------------------|----------------|-----------------|-----|---------|---------------|-----------|-----------|
|                   |      |                |                |                       |                |                 |     |         | Standard Tol. | Standard  | Standard  |
|                   |      |                |                |                       |                |                 |     |         | Code          | C6-Z2A128 | C6-Z3A128 |
| M12               | 1.75 | 110            | 28             | 18                    | -              | 9.0             | 7.0 | 10.25   | 120.175       | ●         | ●         |

| ISO | Vc (m/min) |       |
|-----|------------|-------|
| P   | 5-30       | 5-30  |
| M   | 5-10       | 5-10  |
| K   | 5-25       | 5-25  |
| N   | 10-30      | 10-30 |
| S   | 1-5        | 1-5   |

Ordering Code:  
C1-Z3A118-060.100

- Available in stock
- On request
- Not available

## TROUBLESHOOTING - TAPS

| Problem  | Cause   | Remedy   |
|--|---|--|
| <b>Oversized threads (NO GO gauge is too loose)</b>          | improper tap material, not suitable for the application           | select suitable tap grade  |
|  |   | use coated tap   |
|  | improper cutting conditions                                       | reduce cutting speed   |
|  |   | increase coolant flow  |
| tapping size hole too small                                  | follow tapping size hole in the catalog                           |  |
| <b>Undersized Threads (GO gauge does not enter properly)</b> | improper tap material, not suitable for the application           | select suitable tap grade  |
|  |   | use coated tap   |
| <b>Tap life too low</b>                                      | improper tap material, not suitable for the application           | select suitable tap grade  |
|  |   | use coated tap   |
|  | improper cutting conditions                                       | reduce cutting speed   |
|  |   | increase coolant flow  |
|  | tapping size hole too small                                       | follow tapping size hole in the catalog                                      |
|  | surface hardening of hole   | check cutting edge of drill. Regrind or use new drill if worn-out            |
| chip congestion  | use suitable tap type   |  |
| <b>Tap breakage</b>  | tapping size hole too small                                       | follow tapping size hole in the catalog                                      |
|  | tap drill hole is not deep enough                                 | check actual drill depth (the drill could have slipped back into the holder) |
|  | tap could have hit the bottom of the hole                         | check drill hole depth and program   |
|  | improper tap material, not suitable for the application           | select suitable tap grade  |
|  |   | use coated tap   |
|  | cold welding on the flanks of the tap                             | use new tap  |
|  | incorrect fixturing or positioning of the component               | check clamping rigidity of the component                                     |
| surface hardening of hole                                    | check cutting edge of drill. Regrind or use new drill if worn-out |  |
| <b>Poor surface finish of threads</b>                        | improper tap material, not suitable for the application           | select suitable tap grade  |
|  |   | use coated tap   |
|  | improper cutting conditions                                       | reduce cutting speed   |
|  |   | increase coolant flow  |
|  | incorrectly ground or worn-out tap                                | use new tap  |
|  | incorrect fixturing or positioning of the component               | check clamping rigidity of the component                                     |
| chip congestion  | use suitable tap type   |  |