



Leading Through Innovation



HSS-E & HSS-PM

YG TAP FORMING

YG TAP FORMING

- Tapping by Forming Soft Materials
- Gewindeherstellung durch Formen von weichen Materialien

SELECTION GUIDE



HSS-E & HSS-PM YG TAP FORMING

Tapping by Forming Soft Materials



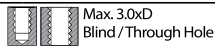
Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.285

| ISO | VDI 3323 | Material Description | Composition / Structure / Heat Treatment | | HB | HRc | MODEL | |
|-----|----------|------------------------------------|--|---------------------|--------|-----|-------|---|
| P | 1 | Non-alloy steel | About 0.15% C | Annealed | 125 | | ◎ | ◎ |
| | 2 | | About 0.45% C | Annealed | 190 | 13 | ◎ | ◎ |
| | 3 | | About 0.45% C | Quenched & Tempered | 250 | 25 | ◎ | ◎ |
| | 4 | | About 0.75% C | Annealed | 270 | 28 | | |
| | 5 | | About 0.75% C | Quenched & Tempered | 300 | 32 | | |
| | 6 | Low alloy steel | | Annealed | 180 | 10 | ◎ | ◎ |
| | 7 | | | Quenched & Tempered | 275 | 29 | | |
| | 8 | | | Quenched & Tempered | 300 | 32 | | |
| | 9 | | | Quenched & Tempered | 350 | 38 | | |
| | 10 | High alloyed steel, and tool steel | | Annealed | 200 | 15 | | |
| | 11 | | | Quenched & Tempered | 325 | 35 | | |
| M | 12 | Stainless steel | Ferritic / Martensitic | Annealed | 200 | 15 | ○ | ○ |
| | 13 | | Martensitic | Quenched & Tempered | 240 | 23 | ○ | ○ |
| | 14 | | Austenitic | | 180 | 10 | ○ | ○ |
| K | 15 | Grey cast iron | Pearlitic / ferritic | | 180 | 10 | | |
| | 16 | | Pearlitic (Martensitic) | | 260 | 26 | | |
| | 17 | Nodular cast iron | Ferritic | | 160 | 3 | | |
| | 18 | | Pearlitic | | 250 | 25 | | |
| | 19 | | Ferritic | | 130 | | | |
| | 20 | | Pearlitic | | 230 | 21 | | |
| N | 21 | Aluminum-wrought alloy | Not Curable | | 60 | | ◎ | ◎ |
| | 22 | | Curable Hardened | | 100 | | ◎ | ◎ |
| | 23 | Aluminum-cast, alloyed | ≤ 12% Si, Not Curable | | 75 | | ○ | ○ |
| | 24 | | ≤ 12% Si, Curable Hardened | | 90 | | ○ | ○ |
| | 25 | | > 12% Si, Not Curable | | 130 | | | |
| | 26 | | Cutting Alloys, PB>1% | | 110 | | ○ | ○ |
| | 27 | | Copper and Copper Alloys (Bronze / Brass) | | 90 | | | |
| | 28 | | CuZn, CuSnZn (Brass) | | 100 | | ○ | ○ |
| | 29 | | Non Metallic Materials | | | | | |
| | 30 | | Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc. | | | | | |
| S | 31 | Heat Resistant Super Alloys | Fe Based | Annealed | 200 | 15 | | |
| | 32 | | | Cured | 280 | 30 | | |
| | 33 | | | Annealed | 250 | 25 | | |
| | 34 | | Ni or Co Based | Cured | 350 | 38 | | |
| | 35 | | | Cast | 320 | 34 | | |
| | 36 | Titanium Alloys | Pure Titanium | | 400 Rm | | | |
| 37 | | Alpha + Beta Alloys | Hardened | 1050 Rm | | | | |
| H | 38 | Hardened steel | | Hardened | 550 | 55 | | |
| | 39 | | | Hardened | 630 | 60 | | |
| | 40 | Chilled Cast Iron | | Cast | 400 | 42 | | |
| | 41 | Hardened Cast Iron | | Hardened | 550 | 55 | | |

| HOLE TYPE | | Max. 3.0xD Blind / Through Hole | | |
|------------------------------|------------|------------------------------------|--------------|--------------|
| TOOL MATERIAL | | HSS-E | | |
| CHAMFER LEAD ACC. TO DIN2197 | | C | C | |
| FLUTE TYPE | | - | - | |
| SPIRAL FLUTE ANGLE | | - | - | |
| SERIES | M | DIN371/376 | TD703 (P272) | TE703 (P273) |
| | | DIN352 | | |
| | | DIN357/LONG | | |
| | MF | DIN374 | TD733 (P281) | TE733 (P282) |
| | | DIN2181 | | |
| | UNC | DIN371/376 | TD704 (P283) | TE704 (P284) |
| | | DIN351 | | |
| | UNF | DIN371/374 | | |
| | | DIN2181 | | |
| | BSW | DIN2182/2183 | | |
| | | DIN351 | | |
| | G(BSP) | DIN5156/5157 | | |
| EG-M | DIN371/376 | | | |
| EG-UNC | DIN371/376 | | | |
| EG-UNF | DIN371/374 | | | |
| SURFACE TREATMENT / COATING | | TiN | Ni | |
| MODEL | | | | |



| HSS-E | | HSS-PM | | HSS-E | | HSS-PM | | HSS-E | |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|-------|--------|
| C | C | C | C | C | C | C | C | C | C |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| TY703 (P.274) | TQ703 (P.275) | TD713 (P.276) | TE713 (P.277) | TQ723 (P.278) | TE723 (P.279) | TD723 (P.280) | | | |
| | | | | | | | | | M |
| | | | | | | | | | MF |
| | | | | | | | | | UNC |
| | | | | | | | | | UNF |
| | | | | | | | | | BSW |
| | | | | | | | | | G(BSP) |
| | | | | | | | | | EG-M |
| | | | | | | | | | EG-UNC |
| | | | | | | | | | EG-UNF |
| TiAIN | VAP | TiN | Ni | VAP | Ni | TiN | | | |
| | | | | | | | | | |
| ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | | | 1 |
| ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | | | 2 |
| ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | | | 3 |
| | | | | | | | | | 4 |
| | | | | | | | | | 5 |
| ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | | | 6 P |
| | | | | | | | | | 7 |
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| | | | | | | | | | 9 |
| | | | | | | | | | 10 |
| | | | | | | | | | 11 |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | 12 |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | 13 M |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | 14 |
| | | | | | | | | | 15 |
| | | | | | | | | | 16 |
| | | | | | | | | | 17 |
| | | | | | | | | | 18 K |
| | | | | | | | | | 19 |
| | | | | | | | | | 20 |
| ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | | | 21 |
| ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | | | 22 |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | 23 |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | 24 |
| | | | | | | | | | 25 N |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | 26 |
| | | | | | | | | | 27 |
| ⊙ | ○ | ⊙ | ○ | ○ | ○ | ○ | | | 28 |
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| | | | | | | | | | 33 |
| | | | | | | | | | 34 S |
| | | | | | | | | | 35 |
| | | | | | | | | | 36 |
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| | | | | | | | | | 38 |
| | | | | | | | | | 39 H |
| | | | | | | | | | 40 |
| | | | | | | | | | 41 |

HSS

THREAD MILLS

SYNCHRO TAPS

COMBO TAPS

YG TAP GENERAL

YG TAP STEEL

YG TAP HARDENED

YG TAP INOX

YG TAP CAST IRON

YG TAP ALU

YG TAP Ti Ni

YG TAP FORMING

NUT TAPS

STI TAPS

PIPE TAPS

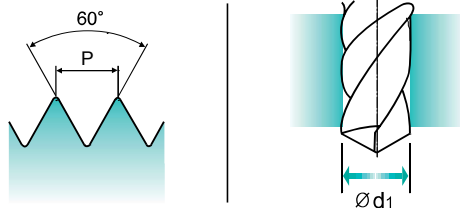
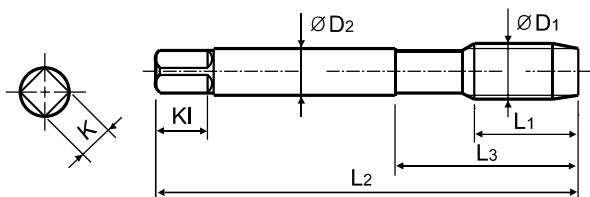
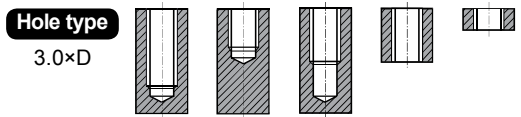
TECHNICAL DATA

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

- ▶ Suitable for threading soft materials with at least 8-10% elongation.
- ▶ The pre-drilling holes are bigger than normal sized holes.

- ▶ Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- ▶ Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C TiN

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | TiN | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 × 0.4 | | TD703136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 × 0.45 | | TD703156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 × 0.4 | | TD703196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 × 0.45 | | TD703176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 × 0.45 | | TD703496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 × 0.5 | | TD703206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 × 0.6 | | TD703226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 × 0.7 | | TD703246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 × 0.75 | | TD703266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 × 0.8 | | TD703286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 × 1 | | TD703316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 × 1 | | TD703346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 × 1.25 | | TD703366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 × 1.25 | | TD703396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 × 1.5 | | TD703426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 × 1.5 | | TD703466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 × 1.75 | | TD703506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 × 2 | | TD703546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 × 2 | | TD703606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 × 2.5 | | TD703656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 × 2.5 | | TD703706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- ▶ DIN 371(M2~M10) and DIN 376(M11~M20)
- ▶ * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO Material Description | P | | | | | | | | | M | | | | K | | | | | | |
|--------------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|-----|---------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | |

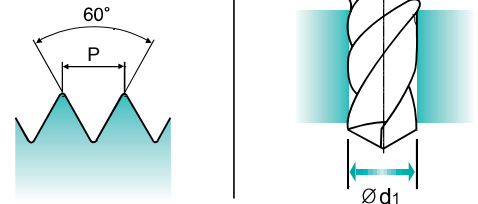
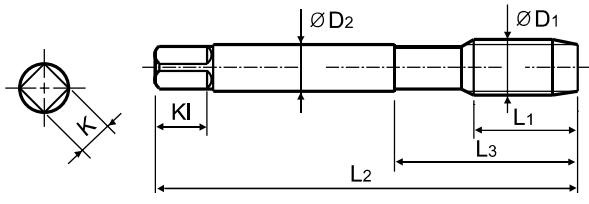
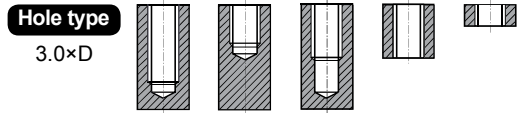
| ISO Material Description | N | | | | | | | | | | S | | | | | | H | | | | |
|--------------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | | ○ | | | | | | | | | | | | | |

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C NI

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285 Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | Ni | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 × 0.4 | | TE703136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 × 0.45 | | TE703156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 × 0.4 | | TE703196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 × 0.45 | | TE703176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 × 0.45 | | TE703496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 × 0.5 | | TE703206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 × 0.6 | | TE703226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 × 0.7 | | TE703246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 × 0.75 | | TE703266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 × 0.8 | | TE703286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 × 1 | | TE703316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 × 1 | | TE703346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 × 1.25 | | TE703366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 × 1.25 | | TE703396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 × 1.5 | | TE703426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 × 1.5 | | TE703466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 × 1.75 | | TE703506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 × 2 | | TE703546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 × 2 | | TE703606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 × 2.5 | | TE703656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 × 2.5 | | TE703706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | | K | | | | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|--|---------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| HRC | 125 | 130 | 135 | 140 | 145 | 150 | 155 | 160 | 165 | 170 | 175 | 180 | 185 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | | |
| HB | 125 | 130 | 135 | 140 | 145 | 150 | 155 | 160 | 165 | 170 | 175 | 180 | 185 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | |

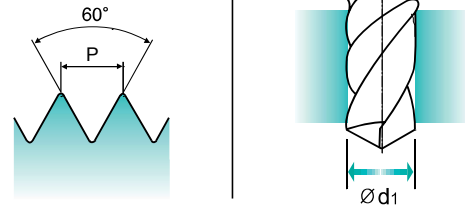
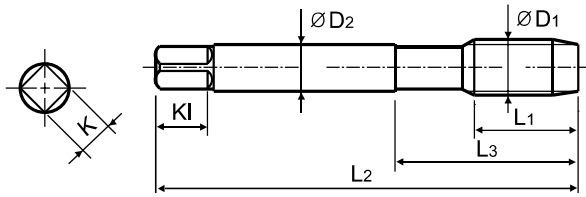
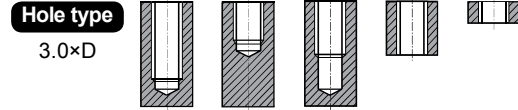
| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRC | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

- Suitable for threading soft materials with at least 8-10% elongation.
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- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
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Material groups: **GV** HSS-E DIN 371/376 6HX 60° C TiAlN

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | TiAlN | L1 | L2 | L3 | ØD2 | K | K1 | Ød1 |
| M2 × 0.4 | | TY703136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 × 0.45 | | TY703156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 × 0.4 | | TY703196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 × 0.45 | | TY703176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 × 0.45 | | TY703496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 × 0.5 | | TY703206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 × 0.6 | | TY703226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 × 0.7 | | TY703246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 × 0.75 | | TY703266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 × 0.8 | | TY703286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 × 1 | | TY703316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 × 1 | | TY703346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 × 1.25 | | TY703366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 × 1.25 | | TY703396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 × 1.5 | | TY703426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 × 1.5 | | TY703466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 × 1.75 | | TY703506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 × 2 | | TY703546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 × 2 | | TY703606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 × 2.5 | | TY703656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 × 2.5 | | TY703706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO Material Description | P | | | | | | | | | M | | | | K | | | | | | |
|--------------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|-----|---------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | |

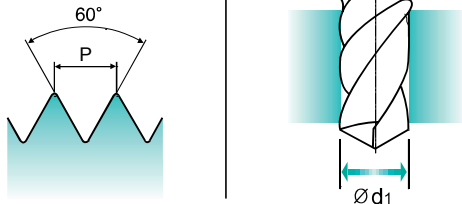
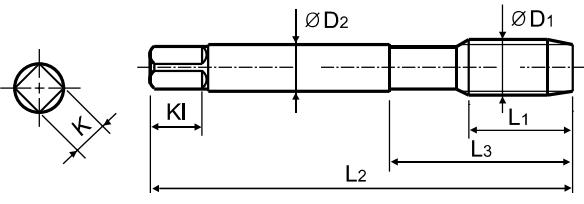
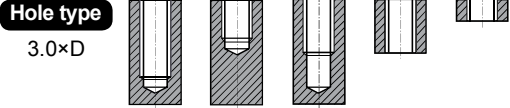
| ISO Material Description | N | | | | | | | | | | S | | | | | | H | | | | |
|--------------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | | ◎ | | | | | | | | | | | | | |

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

- Suitable for threading soft materials with at least 8-10% elongation in the best substrate.
- The pre-drilling holes are bigger than normal sized holes.

- Aus bestem Werkstoff geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-PM DIN 371/376 6HX 60° C Vap

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285 Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | Vap | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 × 0.4 | | TQ703136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 × 0.45 | | TQ703156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 × 0.4 | | TQ703196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 × 0.45 | | TQ703176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 × 0.45 | | TQ703496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 × 0.5 | | TQ703206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 × 0.6 | | TQ703226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 × 0.7 | | TQ703246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 × 0.75 | | TQ703266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 × 0.8 | | TQ703286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 × 1 | | TQ703316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 × 1 | | TQ703346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 × 1.25 | | TQ703366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 × 1.25 | | TQ703396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 × 1.5 | | TQ703426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 × 1.5 | | TQ703466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 × 1.75 | | TQ703506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 × 2 | | TQ703546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 × 2 | | TQ703606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 × 2.5 | | TQ703656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 × 2.5 | | TQ703706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | | K | | | | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|--|---------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| HRC | 125 | 130 | 135 | 140 | 145 | 150 | 155 | 160 | 165 | 170 | 175 | 180 | 185 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | | |
| HB | 125 | 130 | 135 | 140 | 145 | 150 | 155 | 160 | 165 | 170 | 175 | 180 | 185 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | |

| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRC | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |

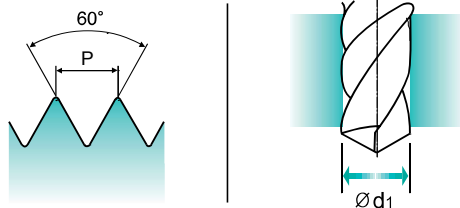
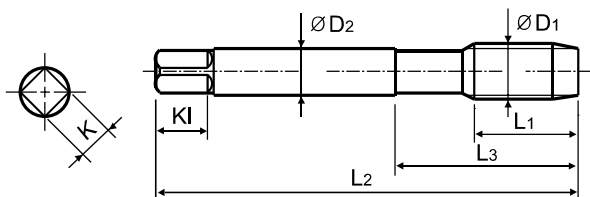
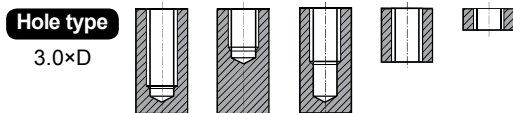
M ISO metric coarse threads DIN 13



- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

- ▶ Suitable for threading soft materials with at least 8-10% elongation.
- ▶ The pre-drilling holes are bigger than normal sized holes.

- ▶ Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- ▶ Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6GX 60° C TiN

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|-------|--------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | TiN | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 | × 0.4 | TD713136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 | × 0.45 | TD713156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 | × 0.4 | TD713196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 | × 0.45 | TD713176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 | × 0.45 | TD713496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 | × 0.5 | TD713206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 | × 0.6 | TD713226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 | × 0.7 | TD713246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 | × 0.75 | TD713266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 | × 0.8 | TD713286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 | × 1 | TD713316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 | × 1 | TD713346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 | × 1.25 | TD713366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 | × 1.25 | TD713396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 | × 1.5 | TD713426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 | × 1.5 | TD713466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 | × 1.75 | TD713506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 | × 2 | TD713546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 | × 2 | TD713606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 | × 2.5 | TD713656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 | × 2.5 | TD713706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- ▶ DIN 371(M2~M10) and DIN 376(M11~M20)
- ▶ * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO Material Description | P | | | | | | | | | M | | | | K | | | | | | |
|--------------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|-----|---------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | |

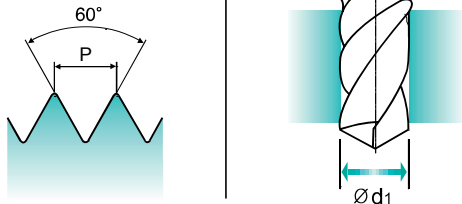
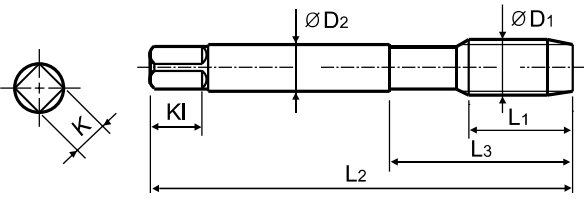
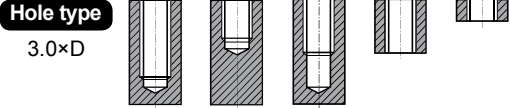
| ISO Material Description | N | | | | | | | | | | S | | | | | | H | | | | |
|--------------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | | ◎ | | | | | | | | | | | | | |

M ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13
 ISO MÉTRIQUE DIN13
 ISO Metrico passo grosso DIN 13

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Aus bestem Werkstoff geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6GX 60° C NI

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285 Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | Ni | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 × 0.4 | | TE713136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 × 0.45 | | TE713156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 × 0.4 | | TE713196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 × 0.45 | | TE713176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 × 0.45 | | TE713496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 × 0.5 | | TE713206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 × 0.6 | | TE713226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 × 0.7 | | TE713246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 × 0.75 | | TE713266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 × 0.8 | | TE713286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 × 1 | | TE713316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 × 1 | | TE713346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 × 1.25 | | TE713366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 × 1.25 | | TE713396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 × 1.5 | | TE713426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 × 1.5 | | TE713466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 × 1.75 | | TE713506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 × 2 | | TE713546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 × 2 | | TE713606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 × 2.5 | | TE713656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 × 2.5 | | TE713706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | | K | | | | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|--|---------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| VDI 3323 | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 12 | 23 | 10 | 10 | 26 | 3 | 25 | 19 | 21 | | | |
| HRC | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | | |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | | | |

| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRC | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | ○ | ○ | | | | | | | | | | | | | |

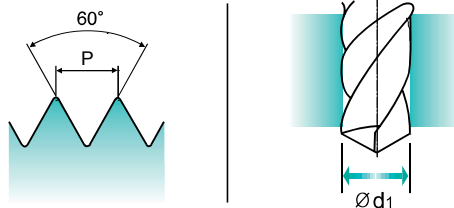
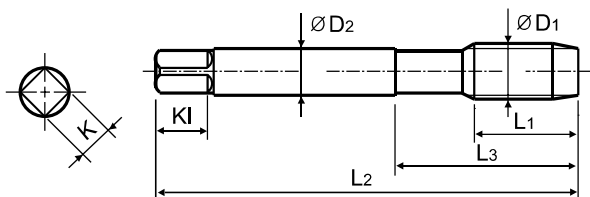
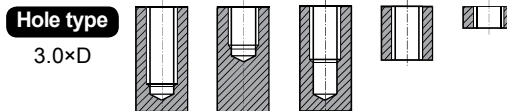
M

ISO metric coarse threads DIN 13

- **Metrisches ISO-Gewinde DIN 13**
- **ISO MÉTRIQUE DIN13**
- **ISO Metrico passo grosso DIN 13**

- ▶ Suitable for threading soft materials with at least 8-10% elongation in the best substrate.
- ▶ The pre-drilling holes are bigger than normal sized holes.

- ▶ Aus bestem Werkstoff geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- ▶ Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-PM DIN 371/376 6HX 60° C Vap

Cold forming taps
Gewindeformer

Recommended Cutting Page : P.285

Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | Vap | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 × 0.4 | | TQ723136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 × 0.45 | | TQ723156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 × 0.4 | | TQ723196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 × 0.45 | | TQ723176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 × 0.45 | | TQ723496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 × 0.5 | | TQ723206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 × 0.6 | | TQ723226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 × 0.7 | | TQ723246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 × 0.75 | | TQ723266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 × 0.8 | | TQ723286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 × 1 | | TQ723316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 × 1 | | TQ723346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 × 1.25 | | TQ723366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 × 1.25 | | TQ723396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 × 1.5 | | TQ723426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 × 1.5 | | TQ723466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 × 1.75 | | TQ723506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 × 2 | | TQ723546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 × 2 | | TQ723606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 × 2.5 | | TQ723656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 × 2.5 | | TQ723706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- ▶ DIN 371(M2~M10) and DIN 376(M11~M20)
- ▶ * DIN profile not ISO

◎ : Excellent ○ : Good

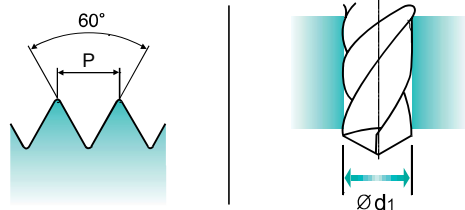
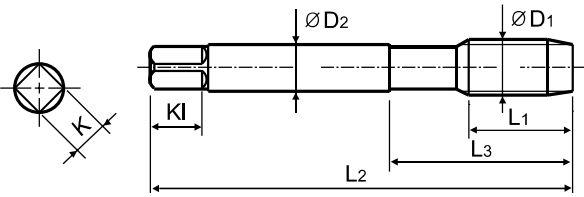
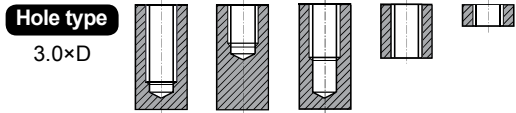
| ISO | P | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|-----|---------------------|--|
| Material Description | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | | |

| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|------------------------|----|----|-----------------------------|-----|-----|-----------------|-----|-------|----------------|-------------------|--------------------|-----|-----|
| Material Description | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | Non Metallic Materials | | | Heat Resistant Super Alloys | | | Titanium Alloys | | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | | ○ | | | | | | | | | | | | | |

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.
- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C NI

Cold forming taps
Gewindeformer

Recommended Cutting Page : P.285 Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | Ni | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 × 0.4 | | TE723136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 × 0.45 | | TE723156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 × 0.4 | | TE723196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 × 0.45 | | TE723176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 × 0.45 | | TE723496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 × 0.5 | | TE723206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 × 0.6 | | TE723226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 × 0.7 | | TE723246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 × 0.75 | | TE723266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 × 0.8 | | TE723286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 × 1 | | TE723316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 × 1 | | TE723346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 × 1.25 | | TE723366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 × 1.25 | | TE723396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 × 1.5 | | TE723426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 × 1.5 | | TE723466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 × 1.75 | | TE723506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 × 2 | | TE723546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 × 2 | | TE723606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 × 2.5 | | TE723656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 × 2.5 | | TE723706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | | K | | | | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|--|---------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| VDI 3323 | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 12 | 23 | 10 | 10 | 26 | 3 | 25 | 19 | 21 | | | |
| HRC | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | | |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | | | |

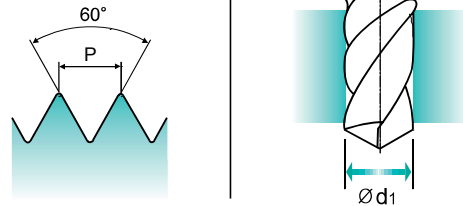
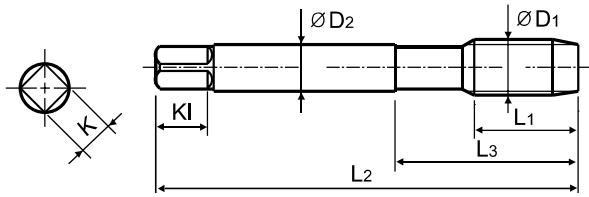
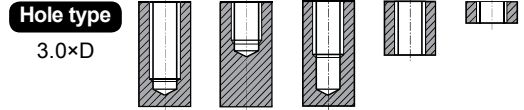
| ISO | N | | | | | | | | | | S | | | | | | H | | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|--|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | |
| HRC | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 | |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | | ○ | | | | | | | | | | | | | | |

M ISO metric coarse threads DIN 13

- **Metrisches ISO-Gewinde DIN 13**
- **ISO MÉTRIQUE DIN13**
- **ISO Metrico passo grosso DIN 13**

- ▶ Suitable for threading soft materials with at least 8-10% elongation.
- ▶ The pre-drilling holes are bigger than normal sized holes.

- ▶ Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- ▶ Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C TiN

Cold forming taps
Gewindeformer

Recommended Cutting Page : P.285

Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | TiN | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 × 0.4 | | TD723136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 × 0.45 | | TD723156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 × 0.4 | | TD723196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 × 0.45 | | TD723176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 × 0.45 | | TD723496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 × 0.5 | | TD723206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 × 0.6 | | TD723226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 × 0.7 | | TD723246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 × 0.75 | | TD723266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 × 0.8 | | TD723286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 × 1 | | TD723316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 × 1 | | TD723346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 × 1.25 | | TD723366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 × 1.25 | | TD723396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 × 1.5 | | TD723426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 × 1.5 | | TD723466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 × 1.75 | | TD723506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 × 2 | | TD723546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 × 2 | | TD723606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 × 2.5 | | TD723656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 × 2.5 | | TD723706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- ▶ DIN 371(M2~M10) and DIN 376(M11~M20)
- ▶ * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO Material Description | P | | | | | | | | | M | | | | K | | | | | | |
|--------------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|----------------|-----|-------------------|-----|---------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | |

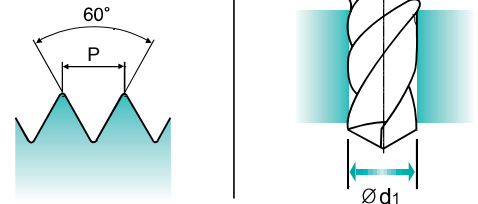
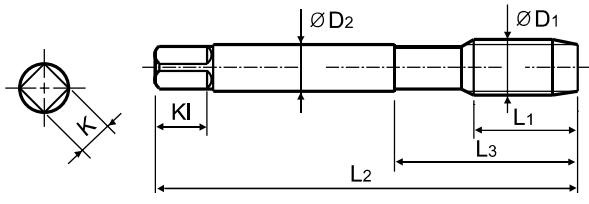
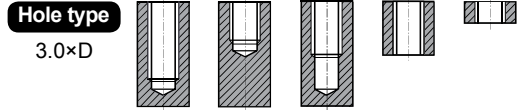
| ISO Material Description | N | | | | | | | | | | S | | | | | | | H | | | |
|--------------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-----------------|--------|----------------|-------------------|--------------------|-----|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | | ◎ | | | | | | | | | | | | | |

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** **HSS-E** **DIN 374** **6HX** **60°** **C** **TiN**

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|------|--------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | TiN | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M4 | × 0.5 | TD733256 | 10 | 63 | 21 | 2.8 | 2.1 | 5 | 3.75 |
| M5 | × 0.5 | TD733296 | 11 | 70 | 25 | 3.5 | 2.7 | 6 | 4.75 |
| M6 | × 0.75 | TD733326 | 13 | 80 | 30 | 4.5 | 3.4 | 6 | 5.65 |
| M6 | × 0.5 | TD733336 | 13 | 80 | 30 | 4.5 | 3.4 | 6 | 5.75 |
| M7 | × 0.75 | TD733356 | 14 | 80 | 30 | 5.5 | 4.3 | 7 | 6.65 |
| M8 | × 1 | TD733376 | 17 | 90 | 36 | 6 | 4.9 | 8 | 7.5 |
| M8 | × 0.75 | TD733386 | 14 | 80 | 30 | 6 | 4.9 | 8 | 7.65 |
| M10 | × 1.25 | TD733436 | 22 | 100 | 40 | 7 | 5.5 | 8 | 9.4 |
| M10 | × 1 | TD733446 | 18 | 90 | 36 | 7 | 5.5 | 8 | 9.5 |
| M10 | × 0.75 | TD733456 | 18 | 90 | 36 | 7 | 5.5 | 8 | 9.65 |
| M12 | × 1.5 | TD733516 | 22 | 100 | 40 | 9 | 7 | 10 | 11.25 |
| M12 | × 1.25 | TD733526 | 22 | 100 | 40 | 9 | 7 | 10 | 11.4 |
| M12 | × 1 | TD733536 | 18 | 100 | 40 | 9 | 7 | 10 | 11.5 |
| M14 | × 1.5 | TD733556 | 22 | 100 | 40 | 11 | 9 | 12 | 13.25 |
| M14 | × 1.25 | TD733566 | 22 | 100 | 40 | 11 | 9 | 12 | 13.4 |
| M16 | × 1.5 | TD733616 | 22 | 100 | 40 | 12 | 9 | 12 | 15.25 |
| M18 | × 1.5 | TD733676 | 25 | 110 | 44 | 14 | 11 | 14 | 17.25 |
| M20 | × 1.5 | TD733726 | 25 | 125 | 50 | 16 | 12 | 15 | 19.25 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | | K | | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|------------------------------------|-----|-----------------|-----|----------------|-----|-------------------|-----|---------------------|-----|-----|
| | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | | |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRC | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 21 | 21 | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | |

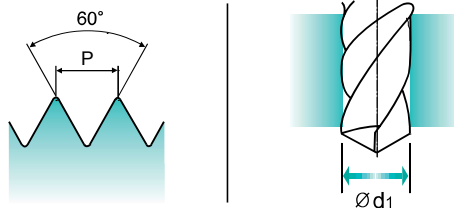
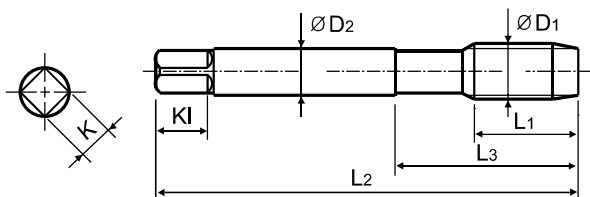
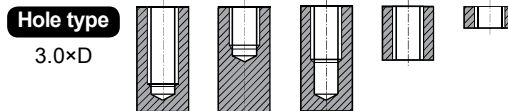
| ISO | N | | | | | | | | | | S | | | | | | H | | | | | | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|------------------------|----|----|-----------------------------|----|----|-----------------|----|-----|----------------|-------------------|--------------------|-----|-------|--------|-----|-----|-----|-----|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | Non Metallic Materials | | | Heat Resistant Super Alloys | | | Titanium Alloys | | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | | | | | | | |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | | | | | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | | | | | |
| HRC | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 15 | 30 | 25 | 38 | 34 | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | ○ | ○ | | | | | | | | | | | | | | | | | | |

MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 374 6HX 60° C NI

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|------|--------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | Ni | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M4 | × 0.5 | TE733256 | 10 | 63 | 21 | 2.8 | 2.1 | 5 | 3.75 |
| M5 | × 0.5 | TE733296 | 11 | 70 | 25 | 3.5 | 2.7 | 6 | 4.75 |
| M6 | × 0.75 | TE733326 | 13 | 80 | 30 | 4.5 | 3.4 | 6 | 5.65 |
| M6 | × 0.5 | TE733336 | 13 | 80 | 30 | 4.5 | 3.4 | 6 | 5.75 |
| M7 | × 0.75 | TE733356 | 14 | 80 | 30 | 5.5 | 4.3 | 7 | 6.65 |
| M8 | × 1 | TE733376 | 17 | 90 | 36 | 6 | 4.9 | 8 | 7.5 |
| M8 | × 0.75 | TE733386 | 14 | 80 | 30 | 6 | 4.9 | 8 | 7.65 |
| M10 | × 1.25 | TE733436 | 22 | 100 | 40 | 7 | 5.5 | 8 | 9.4 |
| M10 | × 1 | TE733446 | 18 | 90 | 36 | 7 | 5.5 | 8 | 9.5 |
| M10 | × 0.75 | TE733456 | 18 | 90 | 36 | 7 | 5.5 | 8 | 9.65 |
| M12 | × 1.5 | TE733516 | 22 | 100 | 40 | 9 | 7 | 10 | 11.25 |
| M12 | × 1.25 | TE733526 | 22 | 100 | 40 | 9 | 7 | 10 | 11.4 |
| M12 | × 1 | TE733536 | 18 | 100 | 40 | 9 | 7 | 10 | 11.5 |
| M14 | × 1.5 | TE733556 | 22 | 100 | 40 | 11 | 9 | 12 | 13.25 |
| M14 | × 1.25 | TE733566 | 22 | 100 | 40 | 11 | 9 | 12 | 13.4 |
| M16 | × 1.5 | TE733616 | 22 | 100 | 40 | 12 | 9 | 12 | 15.25 |
| M18 | × 1.5 | TE733676 | 25 | 110 | 44 | 14 | 11 | 14 | 17.25 |
| M20 | × 1.5 | TE733726 | 25 | 125 | 50 | 16 | 12 | 15 | 19.25 |

◎ : Excellent ○ : Good

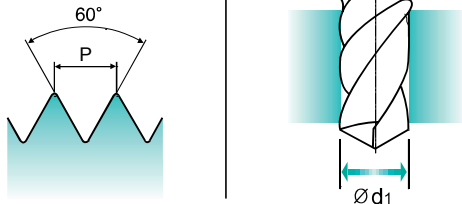
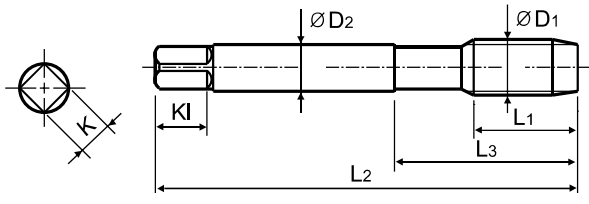
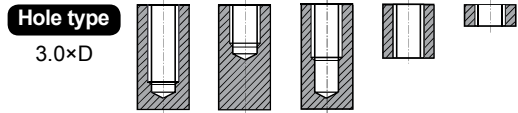
| ISO Material Description | P | | | | | | | | | M | | | | K | | | | | | | |
|--------------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|------------------------------------|-----|-----|-----|-----------------|-----|-----|-----|----------------|-----|-------------------|--|
| | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | | | Stainless steel | | | | Grey cast iron | | Nodular cast iron | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | | |

| ISO Material Description | N | | | | | | | | | S | | | | | | | H | | | | |
|--------------------------|------------------------|-----|------------------------|----|-----|---|----|------------------------|----|-----------------------------|-----|-----|-----|-----|-----------------|-------|----------------|-------------------|--------------------|-----|-----|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | | ○ | | | | | | | | | | | | | |

UNC Unified coarse threads
 ● Unified Grobgewinde
 ● UNC
 ● Unificato passo grosso

- ▶ Suitable for threading soft materials with at least 8-10% elongation.
- ▶ The pre-drilling holes are bigger than normal sized holes.

- ▶ Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- ▶ Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 2BX 60° C TiN

Cold forming taps with oil grooves
 Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

| SIZE | TPI | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|---------------|-----|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | | TiN | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| #5 - 40 UNC | | TD704202 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.87 |
| #6 - 32 UNC | | TD704242 | 12 | 56 | 20 | 4 | 3 | 6 | 3.1 |
| #8 - 32 UNC | | TD704282 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.8 |
| #10 - 24 UNC | | TD704322 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.3 |
| #12 - 24 UNC | | TD704362 | 16 | 80 | 30 | 6 | 4.9 | 8 | 4.95 |
| 1/4 - 20 UNC | | TD704402 | 17 | 80 | 30 | 7 | 5.5 | 8 | 5.75 |
| 5/16 - 18 UNC | | TD704442 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.25 |
| 3/8 - 16 UNC | | TD704482 | 22 | 100 | 39 | 9 | 7 | 10 | 8.75 |
| 7/16 - 14 UNC | | TD704522 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.2 |
| 1/2 - 13 UNC | | TD704562 | 25 | 110 | 44 | 9 | 7 | 10 | 11.7 |
| 9/16 - 12 UNC | | TD704602 | 26 | 110 | 40 | 11 | 9 | 12 | 13.2 |
| 5/8 - 11 UNC | | TD704642 | 27 | 110 | 44 | 12 | 9 | 12 | 14.7 |
| 3/4 - 10 UNC | | TD704702 | 30 | 125 | 50 | 14 | 11 | 14 | 17.8 |

▶ DIN 371(#4~3/8) and DIN 376(7/16~3/4)

◎ : Excellent ○ : Good

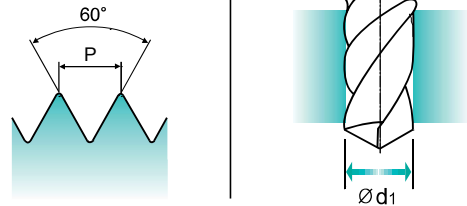
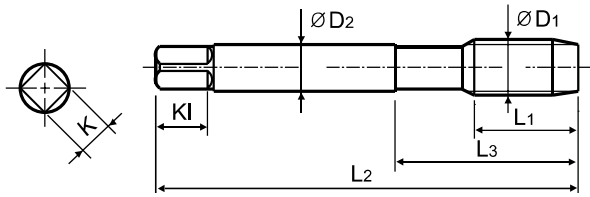
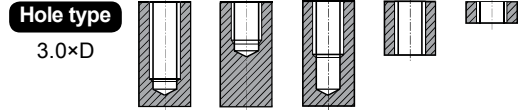
| ISO | P | | | | | | | | | | | M | | | | K | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-----|-----------------|--------|-------------------|-------------------|---------------------|-----|
| Material Description | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | Stainless steel | | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| HRC | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 21 | 21 | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | | ◎ | | | | | | | ○ | ○ | ○ | | | | | | | |
| ISO | N | | | | | | | | | S | | | | | | H | | | | | |
| Material Description | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRC | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | ○ | ○ | | | | | | | | | | | | | |

UNC Unified coarse threads

- Unified Grobgewinde
- UNC
- Unificato passo grosso

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 2BX 60° C NI

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

Recommended Cutting Page : P.285

Unit : mm

| SIZE | TPI | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|---------------|-----|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | | Ni | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| #5 - 40 UNC | | TE704202 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.87 |
| #6 - 32 UNC | | TE704242 | 12 | 56 | 20 | 4 | 3 | 6 | 3.1 |
| #8 - 32 UNC | | TE704282 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.8 |
| #10 - 24 UNC | | TE704322 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.3 |
| #12 - 24 UNC | | TE704362 | 16 | 80 | 30 | 6 | 4.9 | 8 | 4.95 |
| 1/4 - 20 UNC | | TE704402 | 17 | 80 | 30 | 7 | 5.5 | 8 | 5.75 |
| 5/16 - 18 UNC | | TE704442 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.25 |
| 3/8 - 16 UNC | | TE704482 | 22 | 100 | 39 | 9 | 7 | 10 | 8.75 |
| 7/16 - 14 UNC | | TE704522 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.2 |
| 1/2 - 13 UNC | | TE704562 | 25 | 110 | 44 | 9 | 7 | 10 | 11.7 |
| 9/16 - 12 UNC | | TE704602 | 26 | 110 | 40 | 11 | 9 | 12 | 13.2 |
| 5/8 - 11 UNC | | TE704642 | 27 | 110 | 44 | 12 | 9 | 12 | 14.7 |
| 3/4 - 10 UNC | | TE704702 | 30 | 125 | 50 | 14 | 11 | 14 | 17.8 |

► DIN 371(#4~3/8) and DIN 376(7/16~3/4)

◎ : Excellent ○ : Good

| ISO Material Description | P | | | | | | | | | M | | | | | K | | | | | |
|--------------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|----------------------------------|-----|-----------------|-----|-----|----------------|-----|-------------------|-----|---------------------|-----|
| | Non-alloy steel | | | | | Low alloy steel | | | | High alloy steel, and tool steel | | Stainless steel | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ◎ | ◎ | ◎ | | | ◎ | | | | | | ○ | ○ | ○ | | | | | | |

| ISO Material Description | N | | | | | | | | | S | | | | | | | H | | | | |
|--------------------------|------------------------|-----|------------------------|----|-----|---|----|------------------------|----|-----------------------------|-----|-----|-----|-----|-----------------|-------|----------------|-------------------|--------------------|-----|-----|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ○ | ○ | | ○ | | ○ | | | | | | | | | | | | | |

| ISO | VDI 3323 | Material Description | HB | HRc | TD703 | TE703 | TY703 | TQ703 | TD713 | TE713 | TQ723 | TE723 | TD723 |
|-----|---------------------|---|------------------------------------|-----|------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | | TD733 | TE733 | | | | | | | |
| | | | | | Vc (m/min) | | | | | | | | |
| P | 1 | Non-alloy steel | 125 | | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 |
| | 2 | | 190 | 13 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 |
| | 3 | | 250 | 25 | 12-18 | 12-18 | 12-18 | 12-18 | 12-18 | 12-18 | 12-18 | 12-18 | 12-18 |
| | 4 | | 270 | 28 | | | | | | | | | |
| | 5 | | 300 | 32 | | | | | | | | | |
| | 6 | Low alloy steel | 180 | 10 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 |
| | 7 | | 275 | 29 | | | | | | | | | |
| | 8 | | 300 | 32 | | | | | | | | | |
| | 9 | | 350 | 38 | | | | | | | | | |
| | 10 | | High alloyed steel, and tool steel | 200 | 15 | | | | | | | | |
| | 11 | 325 | | 35 | | | | | | | | | |
| M | 12 | Stainless steel | 200 | 15 | 10-13 | 7-10 | 10-13 | 7-10 | 10-13 | 7-10 | 7-10 | 7-10 | 10-13 |
| | 13 | | 240 | 23 | 8-11 | 5-8 | 8-11 | 5-8 | 8-11 | 5-8 | 5-8 | 5-8 | 8-11 |
| | 14 | | 180 | 10 | 6-8 | 4-6 | 6-8 | 4-6 | 6-8 | 4-6 | 4-6 | 4-6 | 6-8 |
| K | 15 | Grey cast iron | 180 | 10 | | | | | | | | | |
| | 16 | | 260 | 26 | | | | | | | | | |
| | 17 | Nodular cast iron | 160 | 3 | | | | | | | | | |
| | 18 | | 250 | 25 | | | | | | | | | |
| | 19 | | 130 | | | | | | | | | | |
| 20 | Malleable cast iron | 230 | 21 | | | | | | | | | | |
| N | 21 | Aluminum-wrought alloy | 60 | | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 |
| | 22 | | 100 | | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 |
| | 23 | Aluminum-cast, alloyed | 75 | | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 |
| | 24 | | 90 | | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 |
| | 25 | | 130 | | | | | | | | | | |
| | 26 | | 110 | | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 |
| | 27 | Copper and Copper Alloys (Bronze / Brass) | 90 | | | | | | | | | | |
| | 28 | | 100 | | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 | 15-20 |
| | 29 | Non Metallic Materials | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | |
| S | 31 | Heat Resistant Super Alloys | 200 | 15 | | | | | | | | | |
| | 32 | | 280 | 30 | | | | | | | | | |
| | 33 | | 250 | 25 | | | | | | | | | |
| | 34 | | 350 | 38 | | | | | | | | | |
| | 35 | | 320 | 34 | | | | | | | | | |
| | 36 | Titanium Alloys | 400 Rm | | | | | | | | | | |
| | 37 | | 1050 Rm | | | | | | | | | | |
| H | 38 | Hardened steel | 550 | 55 | | | | | | | | | |
| | 39 | | 630 | 60 | | | | | | | | | |
| | 40 | Chilled Cast Iron | 400 | 42 | | | | | | | | | |
| | 41 | Hardened Cast Iron | 550 | 55 | | | | | | | | | |

THREAD MILLS

SYNCHRO TAPS

COMBO TAPS

YG TAP GENERAL

YG TAP STEEL

YG TAP HARDENED

YG TAP INOX

YG TAP CAST IRON

YG TAP ALU

YG TAP Ti Ni

YG TAP FORMING

NUT TAPS

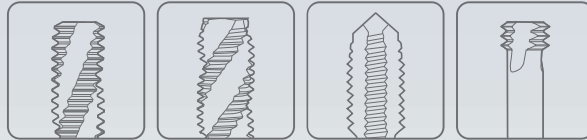
STI TAPS

PIPE TAPS

TECHNICAL DATA



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