

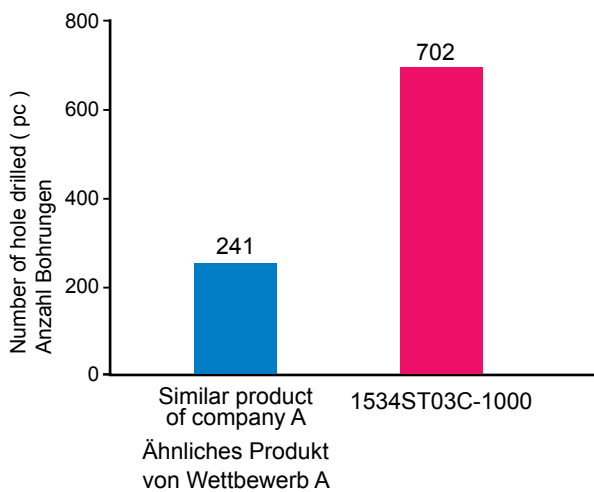
ST

series twist drill Spiralbohrer Serie

*For soft steel & stainless steel
Für weichen & rostfreien Stahl*

■ ST special series. A bigger space for chips and its curved edges increases the sharpness of the drills during cutting. Especially suitable for cutting materials with long chips, such as low carbon steels with a high elongation rate and austenitic stainless steel.

Ein definierter Spanraum in Verbindung mit einer scharfen Schneide ermöglicht das Bohren mit einer hohen Produktivität von langspanenden Stahlwerkstoffen und rostfreien Werkstoffen.



Type / Typ: 1534ST03C-1000

Size / Größe: Ø10mm

Workpiece material

Werkstückstoff: 1Cr18Ni9Ti

Cutting speed / Schnittgeschw.: 70m/min

Rotating speed / Umdrehung pro min: 2200r/min

Feed rate per revolution /

Vorschub pro Umdrehung: 0.15mm/r

Feed speed · Vorschub : 330mm/min

Drilling depth · Bohrtiefe : 30mm(L/D=3)

Cooling system / Kühlsystem

water-soluble liquid (Internal) /

wasserlösliche Emulsion (Intern)

Machine / Maschine: Mikron UCP 1000



Chips (Company A)
(Wettbewerber A)



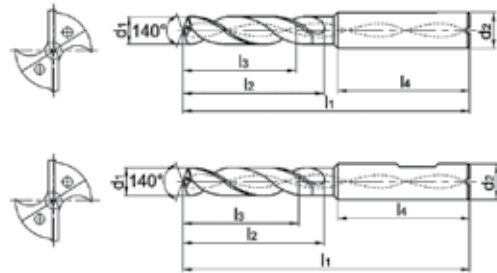
1534ST03C-1000 chips (ZCC CT)

Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

ST series · ST Serie

for soft and stainless steel · für weichen & rostfreien Stahl



- First choice for drilling soft & stainless steel.
- Sharp cutting edge can avoid build-up edge, suitable for drilling hole with high performance.
- Erste Wahl für das Bohren von weichen und rostfreien Stählen.
- Scharfe Schneiden reduzieren bzw. vermeiden Aufbauschneidenbildung. Besonders geeignet für das Hochleistungsbohren.

| Drill diameter Bohrer Ø d1(m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel. | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte KDG303 |
|--------------------------------------|---------------------------------------|-----------------------------|-----------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|------------------------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d2(h6) | l1 | l2 | l3 | l4 | |
| 3.0 | 3 | Internal · Intern | Straight shank | 1534ST03C-0300 | 6 | 62 | 20 | 14 | 36 | ○ |
| | 5 | | Zylinder | 1536ST05C-0300 | 6 | 66 | 28 | 23 | 36 | ● |
| | 5 | | Weldon | 1636ST05C-0300 | 6 | 66 | 28 | 23 | 36 | ○ |
| 3.1 | 3 | | Straight shank | 1534ST03C-0310 | 6 | 62 | 20 | 14 | 36 | ○ |
| | 5 | | Zylinder | 1536ST05C-0310 | 6 | 66 | 28 | 23 | 36 | ● |
| | 5 | | Weldon | 1636ST05C-0310 | 6 | 66 | 28 | 23 | 36 | ○ |
| 3.2 | 3 | | Straight shank | 1534ST03C-0320 | 6 | 62 | 20 | 14 | 36 | ○ |
| | 5 | | Zylinder | 1536ST05C-0320 | 6 | 66 | 28 | 23 | 36 | ● |
| | 5 | | Weldon | 1636ST05C-0320 | 6 | 66 | 28 | 23 | 36 | ○ |
| 3.25 | 3 | | Straight shank | 1534ST03C-0325 | 6 | 62 | 20 | 14 | 36 | ○ |
| | 5 | | Zylinder | 1536ST05C-0325 | 6 | 66 | 28 | 23 | 36 | ○ |
| | 5 | | Weldon | 1636ST05C-0325 | 6 | 66 | 28 | 23 | 36 | ○ |
| 3.3 | 3 | | Straight shank | 1534ST03C-0330 | 6 | 62 | 20 | 14 | 36 | ○ |
| | 5 | | Zylinder | 1536ST05C-0330 | 6 | 66 | 28 | 23 | 36 | ● |
| | 5 | | Weldon | 1636ST05C-0330 | 6 | 66 | 28 | 23 | 36 | ○ |
| 3.4 | 3 | | Straight shank | 1534ST03C-0340 | 6 | 62 | 20 | 14 | 36 | ○ |
| | 5 | | Zylinder | 1536ST05C-0340 | 6 | 66 | 28 | 23 | 36 | ● |
| | 5 | | Weldon | 1636ST05C-0340 | 6 | 66 | 28 | 23 | 36 | ○ |
| 3.5 | 3 | | Straight shank | 1534ST03C-0350 | 6 | 62 | 20 | 14 | 36 | ○ |
| | 5 | | Zylinder | 1536ST05C-0350 | 6 | 66 | 28 | 23 | 36 | ● |
| | 5 | | Weldon | 1636ST05C-0350 | 6 | 66 | 28 | 23 | 36 | ○ |
| 3.6 | 3 | | Straight shank | 1534ST03C-0360 | 6 | 62 | 20 | 14 | 36 | ○ |
| | 5 | | Zylinder | 1536ST05C-0360 | 6 | 66 | 28 | 23 | 36 | ● |
| | 5 | | Weldon | 1636ST05C-0360 | 6 | 66 | 28 | 23 | 36 | ○ |
| 3.7 | 3 | Straight shank | 1534ST03C-0370 | 6 | 62 | 20 | 14 | 36 | ○ | |
| | 5 | Zylinder | 1536ST05C-0370 | 6 | 66 | 28 | 23 | 36 | ● | |
| | 5 | Weldon | 1636ST05C-0370 | 6 | 66 | 28 | 23 | 36 | ○ | |
| 3.8 | 3 | Straight shank | 1534ST03C-0380 | 6 | 66 | 24 | 17 | 36 | ○ | |
| | 5 | Zylinder | 1536ST05C-0380 | 6 | 74 | 36 | 29 | 36 | ● | |
| | 5 | Weldon | 1636ST05C-0380 | 6 | 74 | 36 | 29 | 36 | ○ | |



Solid Carbide drills
Vollhartmetallbohrer

| Drill diameter Bohrer Ø d ₁ (m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel. | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|---|---------------------------------------|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d ₂ (h6) | l ₁ | l ₂ | l ₃ | l ₄ | KDG303 |
| 3.9 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-0390 | 6 | 66 | 24 | 17 | 36 | ○ |
| | 5 | | Zylinderschaft | 1536ST05C-0390 | 6 | 74 | 36 | 29 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0390 | 6 | 74 | 36 | 29 | 36 | ○ |
| 4.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0400 | 6 | 66 | 24 | 17 | 36 | ○ |
| | 5 | | Zylinderschaft | 1536ST05C-0400 | 6 | 74 | 36 | 29 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0400 | 6 | 74 | 36 | 29 | 36 | ○ |
| 4.1 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0410 | 6 | 66 | 24 | 17 | 36 | ○ |
| | 5 | | Zylinderschaft | 1536ST05C-0410 | 6 | 74 | 36 | 29 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0410 | 6 | 74 | 36 | 29 | 36 | ○ |
| 4.2 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0420 | 6 | 66 | 24 | 17 | 36 | ○ |
| | 5 | | Zylinderschaft | 1536ST05C-0420 | 6 | 74 | 36 | 29 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0420 | 6 | 74 | 36 | 29 | 36 | ○ |
| 4.3 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0430 | 6 | 66 | 24 | 17 | 36 | ○ |
| | 5 | | Zylinderschaft | 1536ST05C-0430 | 6 | 74 | 36 | 29 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0430 | 6 | 74 | 36 | 29 | 36 | ○ |
| 4.4 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0440 | 6 | 66 | 24 | 17 | 36 | ○ |
| | 5 | | Zylinderschaft | 1536ST05C-0440 | 6 | 74 | 36 | 29 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0440 | 6 | 74 | 36 | 29 | 36 | ○ |
| 4.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0450 | 6 | 66 | 24 | 17 | 36 | ○ |
| | 5 | | Zylinderschaft | 1536ST05C-0450 | 6 | 74 | 36 | 29 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0450 | 6 | 74 | 36 | 29 | 36 | ○ |
| 4.6 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0460 | 6 | 66 | 24 | 17 | 36 | ○ |
| | 5 | | Zylinderschaft | 1536ST05C-0460 | 6 | 74 | 36 | 29 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0460 | 6 | 74 | 36 | 29 | 36 | ○ |
| 4.65 | 3 | Straight shank Zylinderschaft | 1534ST03C-0465 | 6 | 66 | 24 | 17 | 36 | ○ | |
| | 5 | Zylinderschaft | 1536ST05C-0465 | 6 | 74 | 36 | 29 | 36 | ○ | |
| | 5 | Weldon shank · Schaft | 1636ST05C-0465 | 6 | 74 | 36 | 29 | 36 | ○ | |
| 4.7 | 3 | Straight shank Zylinderschaft | 1534ST03C-0470 | 6 | 66 | 24 | 17 | 36 | ○ | |
| | 5 | Zylinderschaft | 1536ST05C-0470 | 6 | 74 | 36 | 29 | 36 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-0470 | 6 | 74 | 36 | 29 | 36 | ○ | |
| 4.8 | 3 | Straight shank Zylinderschaft | 1534ST03C-0480 | 6 | 66 | 28 | 20 | 36 | ○ | |
| | 5 | Zylinderschaft | 1536ST05C-0480 | 6 | 82 | 44 | 35 | 36 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-0480 | 6 | 82 | 44 | 35 | 36 | ○ | |

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

| Grade Sorte | Workpiece material · Werkstückstoff | | | | | | | | | | |
|----------------|---|-----------------------------------|-----------------------------------|--------|--------|---|------------------------|--|------------------------------|-------------------------------|---|
| | Carbon steel Kohlenstoff- Stahl HB≤180 | Alloy steel Legierter Stahl | Hardened steel · Gehärteter Stahl | | | Stainless steel Rostfreier Stahl | Cast iron Gusseisen | Nodular cast iron GGG Kugelgra- phitguss | Aluminum alloy Aluleg. | Copper alloy Kupferleg. | Heat resist. alloy Wärmefeste Leg. |
| | | | ~40HRC | ~50HRC | ~60HRC | | | | | | |
| KDG303 | ✓ | ✓ | | | | ✓ | | | | ✓ | |

Code key C 10
ISO Kennzeichen

Cutting data 96-109
Schnittdaten

Technical Information C110-116
Technische Information

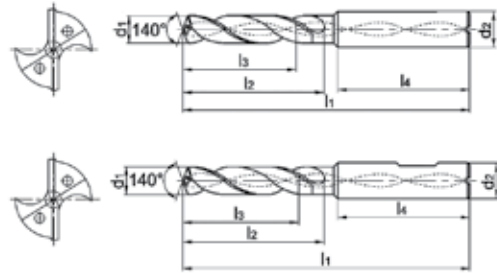
Non-standard tailor made C 117-121
Bestellformular für Sonderwerkzeuge

Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

ST series · ST Serie

for soft and stainless steel · für weichen & rostfreien Stahl



- First choice for drilling soft & stainless steel.
- Sharp cutting edge can avoid build-up edge, suitable for drilling with high performance.
- Erste Wahl für das Bohren von weichen und rostfreien Stählen.
- Scharfe Schneiden reduzieren bzw. vermeiden Aufbauschneidenbildung. Besonders geeignet für das Hochleistungsbohren.

| Drill diameter BohrerØ d1(m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|-------------------------------------|---------------------------------------|----------------------------------|----------------------------------|-----------------------|---|-------------------------------|----------------------------|--|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d2(h6) | l1 | l2 | l3 | l4 | |
| 4.9 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-0490 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0490 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0490 | 6 | 82 | 44 | 35 | 36 | ○ |
| 5.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0500 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0500 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0500 | 6 | 82 | 44 | 35 | 36 | ○ |
| 5.1 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0510 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0510 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0510 | 6 | 82 | 44 | 35 | 36 | ○ |
| 5.2 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0520 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0520 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0520 | 6 | 82 | 44 | 35 | 36 | ○ |
| 5.3 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0530 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0530 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0530 | 6 | 82 | 44 | 35 | 36 | ○ |
| 5.4 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0540 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0540 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-0540 | 6 | 82 | 44 | 35 | 36 | ○ |
| 5.5 | 3 | Straight shank Zylinderschaft | 1534ST03C-0550 | 6 | 66 | 28 | 20 | 36 | ○ | |
| | 5 | | 1536ST05C-0550 | 6 | 82 | 44 | 35 | 36 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-0550 | 6 | 82 | 44 | 35 | 36 | ○ | |
| 5.55 | 3 | Straight shank Zylinderschaft | 1534ST03C-0555 | 6 | 66 | 28 | 20 | 36 | ○ | |
| | 5 | | 1536ST05C-0555 | 6 | 82 | 44 | 35 | 36 | ○ | |
| | 5 | Weldon shank · Schaft | 1636ST05C-0555 | 6 | 82 | 44 | 35 | 36 | ○ | |
| 5.6 | 3 | Straight shank Zylinderschaft | 1534ST03C-0560 | 6 | 66 | 28 | 20 | 36 | ○ | |
| | 5 | | 1536ST05C-0560 | 6 | 82 | 44 | 35 | 36 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-0560 | 6 | 82 | 44 | 35 | 36 | ○ | |
| 5.7 | 3 | Straight shank Zylinderschaft | 1534ST03C-0570 | 6 | 66 | 28 | 20 | 36 | ○ | |
| | 5 | | 1536ST05C-0570 | 6 | 82 | 44 | 35 | 36 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-0570 | 6 | 82 | 44 | 35 | 36 | ○ | |

Drilling - Bohren

Solid Carbide drills - Vollhartmetallbohrer

| Drill diameter Bohrer Ø d ₁ (m7) | Drilling depth Bohrtiefe (L/d ₁) | Cooling mode Kühlmittel. | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|---|--|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d ₂ (h ₆) | l ₁ | l ₂ | l ₃ | l ₄ | KDG303 |
| 5.8 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-0580 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0580 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0580 | 6 | 82 | 44 | 35 | 36 | ○ |
| 5.9 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0590 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0590 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0590 | 6 | 82 | 44 | 35 | 36 | ○ |
| 6.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0600 | 6 | 66 | 28 | 20 | 36 | ○ |
| | 5 | | | 1536ST05C-0600 | 6 | 82 | 44 | 35 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0600 | 6 | 82 | 44 | 35 | 36 | ○ |
| 6.1 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0610 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0610 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0610 | 8 | 91 | 53 | 43 | 36 | ○ |
| 6.2 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0620 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0620 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0620 | 8 | 91 | 53 | 43 | 36 | ○ |
| 6.3 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0630 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0630 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0630 | 8 | 91 | 53 | 43 | 36 | ○ |
| 6.4 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0640 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0640 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0640 | 8 | 91 | 53 | 43 | 36 | ○ |
| 6.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0650 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0650 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0650 | 8 | 91 | 53 | 43 | 36 | ○ |
| 6.6 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0660 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0660 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0660 | 8 | 91 | 53 | 43 | 36 | ○ |
| 6.7 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0670 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0670 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0670 | 8 | 91 | 53 | 43 | 36 | ○ |
| 6.75 | 3 | Straight shank Zylinderschaft | 1534ST03C-0675 | 8 | 79 | 34 | 24 | 36 | ○ | |
| | 5 | | 1536ST05C-0675 | 8 | 91 | 53 | 43 | 36 | ○ | |
| | 5 | Weld on shank · Schaft | 1636ST05C-0675 | 8 | 91 | 53 | 43 | 36 | ○ | |
| 6.80 | 5 | Straight shank Zylinderschaft | 1536ST05C-0680 | 8 | 91 | 53 | 43 | 36 | ● | |

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

| Grade Sorte | Workpiece material · Werkstückstoff | | | | | | | | | |
|----------------|---|-----------------------------------|-----------------------------------|--------|--|---|------------------------|--|------------------------------|-------------------------------|
| | Carbon steel Kohlenstoff- Stahl HB≤180 | Alloy steel Legierter Stahl | Hardened steel · Gehärteter Stahl | | | Stainless steel Rostfreier Stahl | Cast iron Gusseisen | Nodular cast iron GGG Kugelgra- phitguss | Aluminum alloy Aluleg. | Copper alloy Kupferleg. |
| ~40HRC | | | ~50HRC | ~60HRC | | | | | | |
| KDG303 | ✓ | ✓ | | | | ✓ | | | | ✓ |

Code key C 10
ISO Kennzeichen

Cutting data 96-109
Schnittdaten

Technical Information C110-116
Technische Information

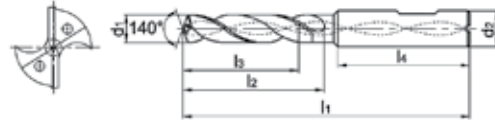
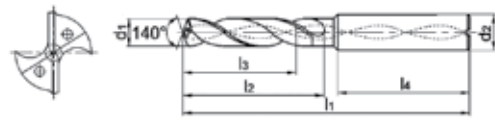
Non-standard tailor made C 117-121
Bestellformular für Sonderwerkzeuge

Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

ST series · ST Serie

for soft and stainless steel · für weichen & rostfreien Stahl



- First choice for drilling soft & stainless steel.
- Sharp cutting edge can avoid build-up edge, suitable for drilling with high performance.
- Erste Wahl für das Bohren von weichen und rostfreien Stählen.
- Scharfe Schneiden reduzieren bzw. vermeiden Aufbauschnittenbildung. Besonders geeignet für das Hochleistungsbohren.

| Drill diameter Bohrer Ø d1(m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel. | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|--------------------------------------|---------------------------------------|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d2(h6) | l1 | l2 | l3 | l4 | |
| 6.9 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-0690 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0690 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0690 | 8 | 91 | 53 | 43 | 36 | ○ |
| 7.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0700 | 8 | 79 | 34 | 24 | 36 | ○ |
| | 5 | | | 1536ST05C-0700 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0700 | 8 | 91 | 53 | 43 | 36 | ○ |
| 7.1 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0710 | 8 | 79 | 41 | 29 | 36 | ○ |
| | 5 | | | 1536ST05C-0710 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0710 | 8 | 91 | 53 | 43 | 36 | ○ |
| 7.2 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0720 | 8 | 79 | 41 | 29 | 36 | ○ |
| | 5 | | | 1536ST05C-0720 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0720 | 8 | 91 | 53 | 43 | 36 | ○ |
| 7.3 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0730 | 8 | 79 | 41 | 29 | 36 | ○ |
| | 5 | | | 1536ST05C-0730 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0730 | 8 | 91 | 53 | 43 | 36 | ○ |
| 7.4 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0740 | 8 | 79 | 41 | 29 | 36 | ○ |
| | 5 | | | 1536ST05C-0740 | 8 | 91 | 53 | 43 | 36 | ● |
| | 5 | | Weld on shank · Schaft | 1636ST05C-0740 | 8 | 91 | 53 | 43 | 36 | ○ |
| 7.5 | 3 | Straight shank | 1534ST03C-0750 | 8 | 79 | 41 | 29 | 36 | ○ | |
| | 5 | Zylinder- schaft | 1536ST05C-0750 | 8 | 91 | 53 | 43 | 36 | ● | |
| | 5 | Weld on shank · Schaft | 1636ST05C-0750 | 8 | 91 | 53 | 43 | 36 | ○ | |
| 7.6 | 3 | Straight shank Zylinderschaft | 1534ST03C-0760 | 8 | 79 | 41 | 29 | 36 | ○ | |
| | 5 | | 1536ST05C-0760 | 8 | 91 | 53 | 43 | 36 | ● | |
| | 5 | Weld on shank · Schaft | 1636ST05C-0760 | 8 | 91 | 53 | 43 | 36 | ○ | |
| 7.7 | 3 | Straight shank Zylinderschaft | 1534ST03C-0770 | 8 | 79 | 41 | 29 | 36 | ○ | |
| | 5 | | 1536ST05C-0770 | 8 | 91 | 53 | 43 | 36 | ● | |
| | 5 | Weld on shank · Schaft | 1636ST05C-0770 | 8 | 91 | 53 | 43 | 36 | ○ | |
| 7.8 | 3 | Straight shank Zylinderschaft | 1534ST03C-0780 | 8 | 79 | 41 | 29 | 36 | ○ | |
| | 5 | | 1536ST05C-0780 | 8 | 91 | 53 | 43 | 36 | ● | |
| | 5 | Weld on shank · Schaft | 1636ST05C-0780 | 8 | 91 | 53 | 43 | 36 | ○ | |

Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

| Drill diameter Bohrer Ø d ₁ (m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|---|---------------------------------------|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d ₂ (h ₆) | l ₁ | l ₂ | l ₃ | l ₄ | KDG303 |
| 7.9 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-0790 | 8 | 79 | 41 | 29 | 36 | ○ |
| | 5 | | 1536ST05C-0790 | 8 | 91 | 53 | 43 | 36 | ● | |
| 5 | Weld on shank · Schaft | | 1636ST05C-0790 | 8 | 91 | 53 | 43 | 36 | ○ | |
| 8.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0800 | 8 | 79 | 41 | 29 | 36 | ○ |
| | 5 | | 1536ST05C-0800 | 8 | 91 | 53 | 43 | 36 | ● | |
| 5 | Weld on shank · Schaft | | 1636ST05C-0800 | 8 | 91 | 53 | 43 | 36 | ○ | |
| 8.1 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0810 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | 1536ST05C-0810 | 10 | 103 | 61 | 49 | 40 | ● | |
| 5 | Weld on shank · Schaft | | 1636ST05C-0810 | 10 | 103 | 61 | 49 | 40 | ○ | |
| 8.2 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0820 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | 1536ST05C-0820 | 10 | 103 | 61 | 49 | 40 | ● | |
| 5 | Weld on shank · Schaft | | 1636ST05C-0820 | 10 | 103 | 61 | 49 | 40 | ○ | |
| 8.3 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0830 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | 1536ST05C-0830 | 10 | 103 | 61 | 49 | 40 | ● | |
| 5 | Weld on shank · Schaft | | 1636ST05C-0830 | 10 | 103 | 61 | 49 | 40 | ○ | |
| 8.4 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0840 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | 1536ST05C-0840 | 10 | 103 | 61 | 49 | 40 | ● | |
| 5 | Weld on shank · Schaft | | 1636ST05C-0840 | 10 | 103 | 61 | 49 | 40 | ○ | |
| 8.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0850 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | 1536ST05C-0850 | 10 | 103 | 61 | 49 | 40 | ● | |
| 5 | Weld on shank · Schaft | | 1636ST05C-0850 | 10 | 103 | 61 | 49 | 40 | ○ | |
| 8.6 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0860 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | 1536ST05C-0860 | 10 | 103 | 61 | 49 | 40 | ● | |
| 5 | Weld on shank · Schaft | | 1636ST05C-0860 | 10 | 103 | 61 | 49 | 40 | ○ | |
| 8.7 | 3 | Straight shank Zylinderschaft | 1534ST03C-0870 | 10 | 89 | 47 | 35 | 40 | ○ | |
| | 5 | 1536ST05C-0870 | 10 | 103 | 61 | 49 | 40 | ● | | |
| 5 | Weld on shank · Schaft | 1636ST05C-0870 | 10 | 103 | 61 | 49 | 40 | ○ | | |
| 8.8 | 3 | Straight shank Zylinderschaft | 1534ST03C-0880 | 10 | 89 | 47 | 35 | 40 | ○ | |
| | 5 | 1536ST05C-0880 | 10 | 103 | 61 | 49 | 40 | ● | | |
| 5 | Weld on shank · Schaft | 1636ST05C-0880 | 10 | 103 | 61 | 49 | 40 | ○ | | |
| 8.9 | 3 | Straight shank Zylinderschaft | 1534ST03C-0890 | 10 | 89 | 47 | 35 | 40 | ○ | |
| | 5 | 1536ST05C-0890 | 10 | 103 | 61 | 49 | 40 | ● | | |
| 5 | Weld on shank · Schaft | 1636ST05C-0890 | 10 | 103 | 61 | 49 | 40 | ○ | | |
| 9.0 | 3 | Straight shank Zylinderschaft | 1534ST03C-0900 | 10 | 89 | 47 | 35 | 40 | ○ | |
| | 5 | 1536ST05C-0900 | 10 | 103 | 61 | 49 | 40 | ● | | |
| 5 | Weld on shank · Schaft | 1636ST05C-0900 | 10 | 103 | 61 | 49 | 40 | ○ | | |

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

| Grade Sorte | Workpiece material · Werkstückstoff | | | | | | | | | |
|----------------|---|-----------------------------------|-----------------------------------|--------|--|---|------------------------|--|------------------------------|-------------------------------|
| | Carbon steel Kohlenstoff- Stahl HB≤180 | Alloy steel Legierter Stahl | Hardened steel · Gehärteter Stahl | | | Stainless steel Rostfreier Stahl | Cast iron Gusseisen | Nodular cast iron GGG Kugelgra- phitguss | Aluminum alloy Aluleg. | Copper alloy Kupferleg. |
| ~40HRC | | | ~50HRC | ~60HRC | | | | | | |
| KDG303 | ✓ | ✓ | | | | ✓ | | | | ✓ |

Code key C 10
ISO Kennzeichen

Cutting data 96-109
Schnittdaten

Technical Information C110-116
Technische Information

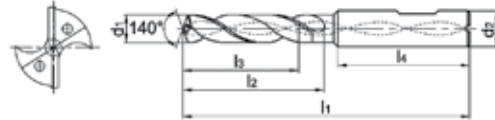
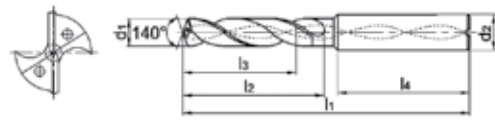
Non-standard tailor made C 117-121
Bestellformular für Sonderwerkzeuge

Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

ST series · ST Serie

for soft and stainless steel · für weichen & rostfreien Stahl



- First choice for drilling soft & stainless steel.
- Sharp cutting edge can avoid build-up edge, suitable for drilling with high performance.
- Erste Wahl für das Bohren von weichen und rostfreien Stählen.
- Scharfe Schneiden reduzieren bzw. vermeiden Aufbauschneidenbildung. Besonders geeignet für das Hochleistungsbohren.

| Drill diameter Bohrer Ø d1(m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte KDG303 |
|--------------------------------------|---------------------------------------|----------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|------------------------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d2(h6) | l1 | l2 | l3 | l4 | |
| 9.1 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-0910 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0910 | 10 | 103 | 61 | 49 | 40 | ● |
| 9.2 | 5 | | Straight shank Zylinderschaft | 1636ST05C-0910 | 10 | 103 | 61 | 49 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0920 | 10 | 103 | 61 | 49 | 40 | ● |
| 9.3 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0930 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0930 | 10 | 103 | 61 | 49 | 40 | ● |
| 9.4 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0940 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0940 | 10 | 103 | 61 | 49 | 40 | ● |
| 9.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0950 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0950 | 10 | 103 | 61 | 49 | 40 | ● |
| 9.6 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0960 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0960 | 10 | 103 | 61 | 49 | 40 | ● |
| 9.7 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0970 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0970 | 10 | 103 | 61 | 49 | 40 | ● |
| 9.8 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0980 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0980 | 10 | 103 | 61 | 49 | 40 | ● |
| 9.9 | 3 | | Straight shank Zylinderschaft | 1534ST03C-0990 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-0990 | 10 | 103 | 61 | 49 | 40 | ● |
| 10.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1000 | 10 | 89 | 47 | 35 | 40 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1000 | 10 | 103 | 61 | 49 | 40 | ● |
| 10.1 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1010 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1010 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1010 | 12 | 118 | 71 | 56 | 45 | ○ |



Solid Carbide drills
Vollhartmetallbohrer

Drilling - Bohren

Solid Carbide drills - Vollhartmetallbohrer

| Drill diameter Bohrer Ø d ₁ (m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel. | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|---|---------------------------------------|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d ₂ (h ₆) | l ₁ | l ₂ | l ₃ | l ₄ | KDG303 |
| 10.2 | 5 | Internal · Intern | Straight shank Zylinderschaft | 1536ST05C-1020 | 12 | 118 | 71 | 56 | 45 | ● |
| | 3 | | | 1534ST03C-1025 | 12 | 102 | 55 | 40 | 45 | ○ |
| 10.25 | 5 | | 1536ST05C-1025 | 12 | 118 | 71 | 56 | 45 | ○ | |
| | 5 | | Weldon | 1636ST05C-1025 | 12 | 118 | 71 | 56 | 45 | ○ |
| 10.3 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1030 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1030 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | | Weldon | 1636ST05C-1030 | 12 | 118 | 71 | 56 | 45 |
| 10.4 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1040 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1040 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | | Weldon | 1636ST05C-1040 | 12 | 118 | 71 | 56 | 45 |
| 10.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1050 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1050 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | | Weldon | 1636ST05C-1050 | 12 | 118 | 71 | 56 | 45 |
| 10.6 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1060 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1060 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | | Weldon | 1636ST05C-1060 | 12 | 118 | 71 | 56 | 45 |
| 10.7 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1070 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1070 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | | Weldon | 1636ST05C-1070 | 12 | 118 | 71 | 56 | 45 |
| 10.8 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1080 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1080 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | | Weldon | 1636ST05C-1080 | 12 | 118 | 71 | 56 | 45 |
| 10.9 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1090 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1090 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | Weldon | | 1636ST05C-1090 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.0 | 3 | Straight shank Zylinderschaft | 1534ST03C-1100 | 12 | 102 | 55 | 40 | 45 | ○ | |
| | 5 | | 1536ST05C-1100 | 12 | 118 | 71 | 56 | 45 | ● | |
| | 5 | | Weldon | 1636ST05C-1100 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.1 | 3 | Straight shank Zylinderschaft | 1534ST03C-1110 | 12 | 102 | 55 | 40 | 45 | ○ | |
| | 5 | | 1536ST05C-1110 | 12 | 118 | 71 | 56 | 45 | ● | |
| | 5 | | Weldon | 1636ST05C-1110 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.2 | 3 | Straight shank Zylinderschaft | 1534ST03C-1120 | 12 | 102 | 55 | 40 | 45 | ○ | |
| | 5 | | 1536ST05C-1120 | 12 | 118 | 71 | 56 | 45 | ● | |
| | 5 | | Weldon | 1636ST05C-1120 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.3 | 3 | Straight shank Zylinderschaft | 1534ST03C-1130 | 12 | 102 | 55 | 40 | 45 | ○ | |
| | 5 | | 1536ST05C-1130 | 12 | 118 | 71 | 56 | 45 | ● | |
| | 5 | | Weldon | 1636ST05C-1130 | 12 | 118 | 71 | 56 | 45 | ○ |

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

| Grade Sorte | Workpiece material · Werkstückstoff | | | | | | | | | |
|----------------|---|-----------------------------------|-----------------------------------|--------|--|---|------------------------|---|------------------------------|-------------------------------|
| | Carbon steel Kohlenstoff- Stahl HB≤180 | Alloy steel Legierter Stahl | Hardened steel · Gehärteter Stahl | | | Stainless steel Rostfreier Stahl | Cast iron Gusseisen | Nodular cast iron GGG Kugelgr- phitguss | Aluminum alloy Aluleg. | Copper alloy Kupferleg. |
| ~40HRC | | | ~50HRC | ~60HRC | | | | | | |
| KDG303 | ✓ | ✓ | | | | ✓ | | | | ✓ |

Code key C 10
ISO Kennzeichen

Cutting data 96-109
Schnittdaten

Technical Information C110-116
Technische Information

Non-standard tailor made C 117-121
Bestellformular für Sonderwerkzeuge



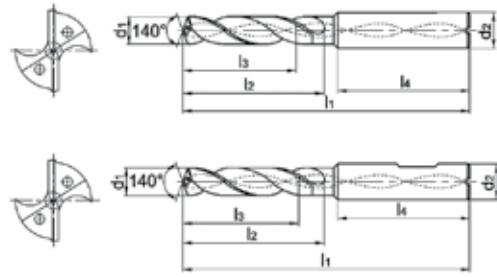
Solid Carbide drills
Vollhartmetallbohrer

Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

ST series · ST Serie

for soft and stainless steel · für weichen & rostfreien Stahl



- First choice for drilling soft & stainless steel.
- Sharp cutting edge can avoid build-up edge, suitable for drilling with high performance.
- Erste Wahl für das Bohren von weichen und rostfreien Stählen.
- Scharfe Schneiden reduzieren bzw. vermeiden Aufbauschneidenbildung. Besonders geeignet für das Hochleistungsbohren.

| Drill diameter Bohrer Ø d1(m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel.. | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|--------------------------------------|---------------------------------------|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d2(h6) | l1 | l2 | l3 | l4 | |
| 11.4 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-1140 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1140 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | Weldon | 1636ST05C-1140 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1150 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1150 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | Weldon | 1636ST05C-1150 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.6 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1160 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1160 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | Weldon | 1636ST05C-1160 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.7 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1170 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1170 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | Weldon | 1636ST05C-1170 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.8 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1180 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1180 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | Weldon | 1636ST05C-1180 | 12 | 118 | 71 | 56 | 45 | ○ |
| 11.9 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1190 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1190 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | Weldon | 1636ST05C-1190 | 12 | 118 | 71 | 56 | 45 | ○ |
| 12.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1200 | 12 | 102 | 55 | 40 | 45 | ○ |
| | 5 | | | 1536ST05C-1200 | 12 | 118 | 71 | 56 | 45 | ● |
| | 5 | | Weldon | 1636ST05C-1200 | 12 | 118 | 71 | 56 | 45 | ○ |
| 12.20 | 5 | | | 1536ST05C-1220 | 14 | 124 | 77 | 60 | 45 | ● |
| 12.25 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1225 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | | 1536ST05C-1225 | 14 | 124 | 77 | 60 | 45 | ○ |
| | 5 | Weldon | 1636ST05C-1225 | 14 | 124 | 77 | 60 | 45 | ○ | |
| 12.3 | 3 | Straight shank Zylinderschaft | 1534ST03C-1230 | 14 | 107 | 60 | 43 | 45 | ○ | |
| | 5 | | 1536ST05C-1230 | 14 | 124 | 77 | 60 | 45 | ● | |
| | 5 | Weldon | 1636ST05C-1230 | 14 | 124 | 77 | 60 | 45 | ○ | |
| 12.5 | 3 | Straight shank Zylinderschaft | 1534ST03C-1250 | 14 | 107 | 60 | 43 | 45 | ○ | |
| | 5 | | 1536ST05C-1250 | 14 | 124 | 77 | 60 | 45 | ● | |
| | 5 | Weldon | 1636ST05C-1250 | 14 | 124 | 77 | 60 | 45 | ○ | |



Solid Carbide drills
Vollhartmetallbohrer

Drilling - Bohren

Solid Carbide drills - Vollhartmetallbohrer

| Drill diameter BohrerØ d1(m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel. | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|-------------------------------------|---------------------------------------|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d2(h6) | l1 | l2 | l3 | l4 | KDG303 |
| 12.7 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-1270 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1270 | 14 | 124 | 77 | 60 | 45 | ● |
| 12.75 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1275 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1275 | 14 | 124 | 77 | 60 | 45 | ○ |
| 12.8 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1280 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1280 | 14 | 124 | 77 | 60 | 45 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1280 | 14 | 124 | 77 | 60 | 45 | ○ |
| 13.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1300 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1300 | 14 | 124 | 77 | 60 | 45 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1300 | 14 | 124 | 77 | 60 | 45 | ○ |
| 13.1 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1310 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1310 | 14 | 124 | 77 | 60 | 45 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1310 | 14 | 124 | 77 | 60 | 45 | ○ |
| 13.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1350 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1350 | 14 | 124 | 77 | 60 | 45 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1350 | 14 | 124 | 77 | 60 | 45 | ○ |
| 13.8 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1380 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1380 | 14 | 124 | 77 | 60 | 45 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1380 | 14 | 124 | 77 | 60 | 45 | ○ |
| 14.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1400 | 14 | 107 | 60 | 43 | 45 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1400 | 14 | 124 | 77 | 60 | 45 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1400 | 14 | 124 | 77 | 60 | 45 | ○ |
| 14.25 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1425 | 16 | 115 | 65 | 45 | 48 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1425 | 16 | 133 | 83 | 63 | 48 | ○ |
| | 5 | Weldon shank · Schaft | 1636ST05C-1425 | 16 | 133 | 83 | 63 | 48 | ○ | |
| 14.3 | 3 | Straight shank Zylinderschaft | 1534ST03C-1430 | 16 | 115 | 65 | 45 | 48 | ○ | |
| | 5 | Weldon shank · Schaft | 1536ST05C-1430 | 16 | 133 | 83 | 63 | 48 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-1430 | 16 | 133 | 83 | 63 | 48 | ○ | |
| 14.5 | 3 | Straight shank Zylinderschaft | 1534ST03C-1450 | 16 | 115 | 65 | 45 | 48 | ○ | |
| | 5 | Weldon shank · Schaft | 1536ST05C-1450 | 16 | 133 | 83 | 63 | 48 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-1450 | 16 | 133 | 83 | 63 | 48 | ○ | |
| 14.75 | 3 | Straight shank Zylinderschaft | 1534ST03C-1475 | 16 | 115 | 65 | 45 | 48 | ○ | |
| | 5 | Weldon shank · Schaft | 1536ST05C-1475 | 16 | 133 | 83 | 63 | 48 | ○ | |
| | 5 | Weldon shank · Schaft | 1636ST05C-1475 | 16 | 133 | 83 | 63 | 48 | ○ | |

C

Solid Carbide drills
Vollhartmetallbohrer

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
✓ = Suitable · Empfohlen

| Grade Sorte | Workpiece material · Werkstückstoff | | | | | | | | | |
|----------------|---|-----------------------------------|-----------------------------------|--|--|---|------------------------|--|------------------------------|-------------------------------|
| | Carbon steel Kohlenstoff- Stahl HB≤180 | Alloy steel Legierter Stahl | Hardened steel · Gehärteter Stahl | | | Stainless steel Rostfreier Stahl | Cast iron Gusseisen | Nodular cast iron GGG Kugelgra- phitguss | Aluminum alloy Aluleg. | Copper alloy Kupferleg. |
| KDG303 | ✓ | ✓ | | | | ✓ | | | | ✓ |

Code key **C 10**
ISO Kennzeichen

Cutting data **96-109**
Schnittdaten

Technical Information **C110-116**
Technische Information

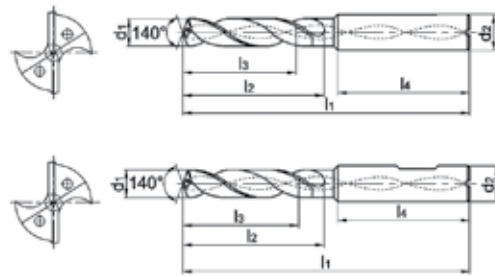
Non-standard tailor made **C 117-121**
Bestellformular für Sonderwerkzeuge

Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

ST series · ST Serie

for soft and stainless steel · für weichen & rostfreien Stahl



- First choice for drilling soft & stainless steel.
- Sharp cutting edge can avoid build-up edge, suitable for drilling with high performance.
- Erste Wahl für das Bohren von weichen und rostfreien Stählen.
- Scharfe Schneiden reduzieren bzw. vermeiden Aufbauschneidenbildung. Besonders geeignet für das Hochleistungsbohren.

| Drill diameter Bohrer Ø d ₁ (m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel. | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte |
|---|---------------------------------------|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|-------------------------------|-----------------------------|----------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | Recommended drilling depth | Shank length Schaftlänge | |
| | | | | | d ₂ (h ₆) | l ₁ | l ₂ | l ₃ | l ₄ | KDG303 |
| 14.8 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-1480 | 16 | 115 | 65 | 45 | 48 | ○ |
| | 5 | | | 1536ST05C-1480 | 16 | 133 | 83 | 63 | 48 | ● |
| 5 | Weldon | | 1636ST05C-1480 | 16 | 133 | 83 | 63 | 48 | ○ | |
| 15.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1500 | 16 | 115 | 65 | 45 | 48 | ○ |
| | 5 | | | 1536ST05C-1500 | 16 | 133 | 83 | 63 | 48 | ● |
| | 5 | | | Weldon | 1636ST05C-1500 | 16 | 133 | 83 | 63 | 48 |
| 15.1 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1510 | 16 | 115 | 65 | 45 | 48 | ○ |
| | 5 | | | 1536ST05C-1510 | 16 | 133 | 83 | 63 | 48 | ● |
| | 5 | | | Weldon | 1636ST05C-1510 | 16 | 133 | 83 | 63 | 48 |
| 15.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1550 | 16 | 115 | 65 | 45 | 48 | ○ |
| | 5 | | | 1536ST05C-1550 | 16 | 133 | 83 | 63 | 48 | ● |
| | 5 | | | Weldon | 1636ST05C-1550 | 16 | 133 | 83 | 63 | 48 |
| 15.8 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1580 | 16 | 115 | 65 | 45 | 48 | ○ |
| | 5 | | | 1536ST05C-1580 | 16 | 133 | 83 | 63 | 48 | ● |
| | 5 | | | Weldon | 1636ST05C-1580 | 16 | 133 | 83 | 63 | 48 |
| 16.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1600 | 16 | 115 | 65 | 45 | 48 | ○ |
| | 5 | | | 1536ST05C-1600 | 16 | 133 | 83 | 63 | 48 | ● |
| | 5 | | | Weldon | 1636ST05C-1600 | 16 | 133 | 83 | 63 | 48 |
| 16.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1650 | 18 | 123 | 73 | 51 | 48 | ○ |
| | 5 | | | 1536ST05C-1650 | 18 | 143 | 93 | 71 | 48 | ● |
| | 5 | | | Weldon | 1636ST05C-1650 | 18 | 143 | 93 | 71 | 48 |
| 16.75 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1675 | 18 | 123 | 73 | 51 | 48 | ○ |
| | 5 | | | 1536ST05C-1675 | 18 | 143 | 93 | 71 | 48 | ○ |
| | 5 | | | Weldon | 1636ST05C-1675 | 18 | 143 | 93 | 71 | 48 |
| 16.8 | 3 | Straight shank Zylinderschaft | 1534ST03C-1680 | 18 | 123 | 73 | 51 | 48 | ○ | |
| | 5 | | 1536ST05C-1680 | 18 | 143 | 93 | 71 | 48 | ● | |
| | 5 | | Weldon | 1636ST05C-1680 | 18 | 143 | 93 | 71 | 48 | ○ |
| 17.0 | 3 | Straight shank Zylinderschaft | 1534ST03C-1700 | 18 | 123 | 73 | 51 | 48 | ○ | |
| | 5 | | 1536ST05C-1700 | 18 | 143 | 93 | 71 | 48 | ● | |
| | 5 | | Weldon | 1636ST05C-1700 | 18 | 143 | 93 | 71 | 48 | ○ |

| Drill diameter Bohrer Ø d ₁ (m7) | Drilling depth Bohrtiefe (L/d1) | Cooling mode Kühlmittel | Shank Schaft | Type Typ | Basic dimension(mm) · Basis Abmessungen | | | | | Grade Sorte KDG303 |
|---|---------------------------------------|----------------------------------|----------------------------------|----------------|---|-------------------------------|----------------------------|--|-----------------------------|------------------------------|
| | | | | | Shank diameter Ø Schaftdurchmesser | Overall length Gesamtlänge | Flute length Nutenlänge | effective drill. length Effektive Nutzlänge | Shank length Schaftlänge | |
| | | | | | d ₂ (h6) | l ₁ | l ₂ | l ₃ | l ₄ | |
| 17.5 | 3 | Internal · Intern | Straight shank Zylinderschaft | 1534ST03C-1750 | 18 | 123 | 73 | 51 | 48 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1750 | 18 | 143 | 93 | 71 | 48 | ● |
| 17.8 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1780 | 18 | 123 | 73 | 51 | 48 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1780 | 18 | 143 | 93 | 71 | 48 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1780 | 18 | 143 | 93 | 71 | 48 | ○ |
| 18.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1800 | 18 | 123 | 73 | 51 | 48 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1800 | 18 | 143 | 93 | 71 | 48 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1800 | 18 | 143 | 93 | 71 | 48 | ○ |
| 18.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1850 | 20 | 131 | 79 | 55 | 50 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1850 | 20 | 153 | 101 | 77 | 50 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1850 | 20 | 153 | 101 | 77 | 50 | ○ |
| 18.8 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1880 | 20 | 131 | 79 | 55 | 50 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1880 | 20 | 153 | 101 | 77 | 50 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1880 | 20 | 153 | 101 | 77 | 50 | ○ |
| 19.0 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1900 | 20 | 131 | 79 | 55 | 50 | ○ |
| | 5 | | Weldon shank · Schaft | 1536ST05C-1900 | 20 | 153 | 101 | 77 | 50 | ● |
| | 5 | | Weldon shank · Schaft | 1636ST05C-1900 | 20 | 153 | 101 | 77 | 50 | ○ |
| 19.5 | 3 | | Straight shank Zylinderschaft | 1534ST03C-1950 | 20 | 131 | 79 | 55 | 50 | ○ |
| | 5 | Weldon shank · Schaft | 1536ST05C-1950 | 20 | 153 | 101 | 77 | 50 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-1950 | 20 | 153 | 101 | 77 | 50 | ○ | |
| 19.8 | 3 | Straight shank Zylinderschaft | 1534ST03C-1980 | 20 | 131 | 79 | 55 | 50 | ○ | |
| | 5 | Weldon shank · Schaft | 1536ST05C-1980 | 20 | 153 | 101 | 77 | 50 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-1980 | 20 | 153 | 101 | 77 | 50 | ○ | |
| 20.0 | 3 | Straight shank Zylinderschaft | 1534ST03C-2000 | 20 | 131 | 79 | 55 | 50 | ○ | |
| | 5 | Weldon shank · Schaft | 1536ST05C-2000 | 20 | 153 | 101 | 77 | 50 | ● | |
| | 5 | Weldon shank · Schaft | 1636ST05C-2000 | 20 | 153 | 101 | 77 | 50 | ○ | |



Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

| Grade Sorte | Workpiece material · Werkstückstoff | | | | | | | | | |
|----------------|---|-----------------------------------|-----------------------------------|--------|--|---|------------------------|--|------------------------------|-------------------------------|
| | Carbon steel Kohlenstoff- Stahl HB≤180 | Alloy steel Legierter Stahl | Hardened steel · Gehärteter Stahl | | | Stainless steel Rostfreier Stahl | Cast iron Gusseisen | Nodular cast iron GGG Kugelgra- phitguss | Aluminum alloy Aluleg. | Copper alloy Kupferleg. |
| ~40HRC | | | ~50HRC | ~60HRC | | | | | | |
| KDG303 | ✓ | ✓ | | | | ✓ | | | | ✓ |

Code key C 10
ISO Kennzeichen

Cutting data 96-109
Schnittdaten

Technical Information C110-116
Technische Information

Non-standard tailor made C 117-121
Bestellformular für Sonderwerkzeuge

ST series twist drills · ST Spiralbohrer Serie (Internal coolant / Kühlung)

3D

5D

| Workpiece material Werkstückstoff | Mild steel Baustahl HB≤180 | | Carbon steel, alloy steel Kohlenstoff - stahl Leg. Stahl ~30HRC | | Stainless steel · Rostfreier Stahl | | | | | |
|--------------------------------------|----------------------------------|-------------|--|-------------|------------------------------------|-------------|---------------------------|-------------|---------------------------|-------------|
| | | | | | Austenite | | Martensite | | Ferrite | |
| Vc | 80~150m/min | | 80~150m/min | | 40~80 m/min | | 50~100 m/min | | 60~120 m/min | |
| Ø (mm) | n (min ⁻¹) | f (mm/r) | n (min ⁻¹) | f (mm/r) | n (min ⁻¹) | f (mm/r) | n (min ⁻¹) | f (mm/r) | n (min ⁻¹) | f (mm/r) |
| 3 | 12700 | 0.09~0.12 | 12700 | 0.09~0.12 | 6300 | 0.03~0.07 | 7400 | 0.03~0.07 | 9000 | 0.03~0.07 |
| 4 | 9600 | 0.10~0.15 | 9600 | 0.10~0.15 | 4700 | 0.04~0.08 | 5600 | 0.04~0.08 | 6700 | 0.04~0.08 |
| 5 | 7600 | 0.12~0.18 | 7600 | 0.12~0.18 | 3800 | 0.05~0.10 | 4500 | 0.05~0.10 | 5400 | 0.05~0.10 |
| 6 | 6400 | 0.14~0.20 | 6400 | 0.14~0.20 | 3200 | 0.06~0.12 | 3700 | 0.06~0.12 | 4500 | 0.06~0.12 |
| 8 | 4800 | 0.16~0.24 | 4800 | 0.16~0.24 | 2400 | 0.08~0.16 | 2800 | 0.08~0.16 | 3400 | 0.08~0.16 |
| 10 | 3800 | 0.18~0.27 | 3800 | 0.18~0.27 | 1900 | 0.10~0.18 | 2200 | 0.10~0.18 | 2700 | 0.10~0.18 |
| 12 | 3200 | 0.20~0.30 | 3200 | 0.20~0.30 | 1600 | 0.12~0.20 | 1900 | 0.12~0.20 | 2300 | 0.12~0.20 |
| 14 | 2700 | 0.22~0.35 | 2700 | 0.22~0.35 | 1350 | 0.13~0.22 | 1600 | 0.13~0.22 | 1900 | 0.13~0.22 |
| 16 | 2400 | 0.25~0.36 | 2400 | 0.25~0.36 | 1200 | 0.14~0.25 | 1400 | 0.14~0.25 | 1700 | 0.14~0.25 |
| 18 | 2100 | 0.28~0.38 | 2100 | 0.28~0.38 | 1050 | 0.15~0.28 | 1200 | 0.15~0.28 | 1500 | 0.15~0.28 |
| 20 | 1900 | 0.30~0.40 | 1900 | 0.30~0.40 | 950 | 0.16~0.30 | 1100 | 0.16~0.30 | 1350 | 0.16~0.30 |

1. When the tool is used for the first time, please make a test cutting with 90% of cutting speed or 85% feed rate mentioned above. If the cutting conditions remain stable, gradually increase the cutting speed and feed rate.
2. The cutting conditions above are for drilling with emulsion.
3. Use a collet without any defect or dust. The radial run-out of drill must be under 0.02mm.
4. These conditions above are for cutting depth under 5D.

1. Beim ersten Einsatz 90% der empfohlenen Schnittgeschwindigkeit oder 85% des Vorschubes wählen. Bei stabiler Bearbeitung die Schnittdaten entsprechend erhöhen.
2. Die obigen Schnittdatenempfehlungen basieren auf dem Einsatz von Emulsion.
3. Keine defekte Werkzeugaufnahme wählen. Die Rundlaufgenauigkeit muss unter 0,02mm liegen.
4. Die obigen Schnittdaten sind für Bohrungstiefen unter 5xD ausgelegt.

C

Solid Carbide drills
Vollhartmetallbohrer