

STOCK SuperV-T

Solid Carbide Spiral-Flute
Deep Hole Drills for
drilling depths up to 30xD

NEW:
Extended standard range

Chip – by Chip – to the Top

SuperV-T - ex-stock range

Available ex-stock now: The spiral-flute deep hole drill SuperV-T. The program includes standard drills for drilling depths up to 20 x D, 25 x D and 30 x D. The SuperV-T ex-stock range offers an outstanding cost-performance-ratio as well as availability. Moreover, the SuperV-T drills permit highest cutting and feed rates and subsequently achieve a considerable reduction in machining time.

Reinforced shank for high precision clamping

Drills from the SuperV-T ex-stock range have a re-inforced shank to DIN 6535 HA, tolerance h6. This enables the powerful clamping of the tools with hydraulic expansion chucks. The combination SuperV-T plus hydraulic expansion chuck guarantees highest concentricity, extreme clamping forces, minimal imbalance and optimal economic efficiency.

Intermediate diameters

In addition to the ex-stock range Stock still offers SuperV-T drills as special tools to specific customer requirements. We realise intermediate diameters with maximum drilling depths up to 30 x D or a total length up to max. 400 mm. The modification of the shank to the MQL shank end offers optimal suitability of the ex-stock range for MQL machining.

These advantages are achieved thanks to the following attributes:

Optimised flute geometry

The spiral-flute deep hole drills possess a special flute geometry that is optimised to the specific demand for optimal chip evacuation from the deep hole. (fig. 1)

Maximised coolant duct profile

To provide the cutting edge with an optimum coolant supply, the tools possess a maximised coolant duct profile. It ensures an efficient coolant supply to the cutting edge as well as excellent chip evacuation. (fig. 2)

Problem-free swarf

The factors described above – in combination with the cutting parameters optimally adapted to the application task – result in chips that are evacuated problem-free even from deep holes. Chip congestion and a subsequent jamming of the tool is effectively prevented. (fig. 3)

Wear resistant cutting edges

Thanks to the TiAlN-tip coating (fig. 4) the cutting edges, that are exposed to maximum forces, are protected against wear.

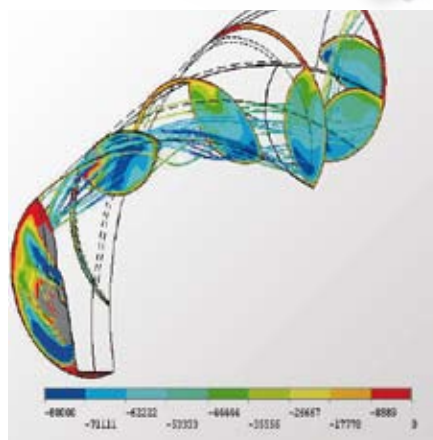


Fig. 1: Optimised flute geometry for optimal chip evacuation.



Fig. 2: Maximised coolant duct profile for effective cooling/lubrication.

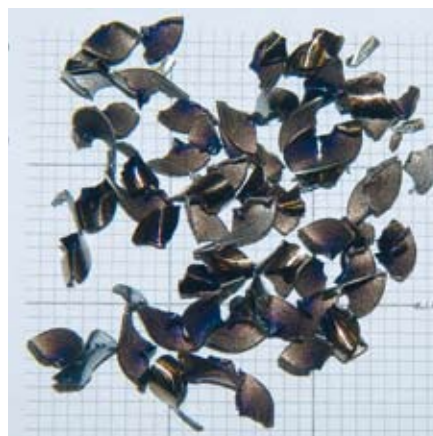


Fig. 3: Problem-free chips preventing chip congestion and jamming of the tool.



Fig. 4: TiAlN-tip-coating prevents wear

Application recommendations SuperV-T drills

		Feed column									
Code-letter	A	B	C	D	E	F	G	H	I		
Drill-Ø mm	0.50	0.004	0.006	0.007	0.008	0.010	0.012	0.014	0.016	0.019	
	1.00	0.006	0.008	0.012	0.014	0.016	0.018	0.020	0.023	0.025	
	2.00	0.020	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125	
	2.50	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	
	3.15	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.160	
	4.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.200	
	5.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	
	6.30	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	
	8.00	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.315	
	10.00	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.400	
	12.50	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	
	16.00	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	
	20.00	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.630	
	25.00	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	0.800	
	31.50	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000	
	40.00	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000	1.250	
	50.00	0.250	0.310	0.400	0.500	0.630	0.800	1.000	1.250	1.250	

Tools with feed column no. in **bold** are preferred choices for listed material group.

K, P, K/P Since our new carbide grades are universally applicable we now define our carbide application groups as K or K/P only.

- cutting data on request

f (mm/rev)

Generally recommendations:

For safety reasons it is very important, that a drill does not exceed a speed of $n = 6.000$ rev./min when unsupported. The centrifugal forces can break these long tools before reaching the workpiece surface!

Application recommendations:

Pilot holes are necessary for extra length drills $\geq 7 \times D$:

- The pilot hole can be produced with Stock SuperV-U, $3 \times D$, with internal coolant, e. g. catalogue no. 51776. Drilling depth $> 1 \times D$.
- Alternatively SuperV-drills can produce their own pilot hole. Cutting speed and feed rate should be reduced by 30-40%.
- The recommended minimum coolant pressure is 40 bar.

Lubricants:

- cutting oil, highly activated
- soluble oil (emulsion)
- without lubricant
- air only




Material group	Materials examples, new designations (old designation in brackets) Figures in bold = material no. to DIN EN	Tensile strength MPa (N/mm ²)	Hard- ness	Cool-ant
General purpose steels	1.0035 S185(St33), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WstE500)	≤ 500 $>500-850$		<input checked="" type="checkbox"/>
Free-cutting steels	1.0718 11SMnPb30 (95MnPb28), 1.0736 11SMn37 (95Mn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤ 850 850-1000		<input checked="" type="checkbox"/>
Unalloyed tempering steels	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		<input checked="" type="checkbox"/>
Alloyed tempering steels	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850- ≤ 1000 1000-1200		<input checked="" type="checkbox"/>
Unalloyed case hardened steels	1.0301 (C10), 1.1121 C10E (Ck10)	≤ 750		<input checked="" type="checkbox"/>
Alloyed case hardened steels	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850- ≤ 1000 1000-1200		<input checked="" type="checkbox"/>
Nitriding steels	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	$\geq 850-\leq 1000$ $>1000-1200$		<input checked="" type="checkbox"/>
Tool steels	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤ 850 $>850-1000$		<input checked="" type="checkbox"/>
High speed steels	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	$>650-1000$		<input checked="" type="checkbox"/>
Spring steels	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤ 330 HB	<input checked="" type="checkbox"/>
Stainless steels, sulphured austenitic martensitic	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9 1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A) 1.4057 X20CrNi 17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤ 850 ≤ 850 ≤ 850		<input checked="" type="checkbox"/>
Hardened steels	-		$\leq 40-48$ HRC $>48-60$ HRC	<input checked="" type="checkbox"/>
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤ 1200		<input checked="" type="checkbox"/>
Cast iron	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850- ≤ 1000 1000-1200		<input checked="" type="checkbox"/>
New Cast iron GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			
New Cast iron ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		
Spheroidal graphite iron and maleable cast iron	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤ 240 HB ≤ 300 HB	<input checked="" type="checkbox"/>
Chilled cast iron	-		≤ 350 HB	<input checked="" type="checkbox"/>
Ti and Ti-alloys	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤ 850 $>850-1200$		<input checked="" type="checkbox"/>
Aluminium and Al-alloys	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤ 400		<input checked="" type="checkbox"/>
Al wrought alloys	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤ 450		<input checked="" type="checkbox"/>
Al cast alloys $\leq 10\%$ Si $> 10\%$ Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9 3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤ 600 ≤ 600		<input checked="" type="checkbox"/>
Magnesium alloys	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤ 450		<input type="checkbox"/>
Copper, low alloyed	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnPb	≤ 400		<input checked="" type="checkbox"/>
Brass, short-chipping long-chipping	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2 2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤ 600 ≤ 600		<input checked="" type="checkbox"/>
Bronze, short-chipping	2.1090 CuSn7ZnPb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn 2.0790 CuNi18Zn19Pb	≤ 600 $>600-850$		<input checked="" type="checkbox"/>
Bronze, long-chipping	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	≤ 850 $>850-1000$		<input checked="" type="checkbox"/>

≤20xD

≤25xD

≤30xD

Catalogue no.
Tool material
Carbide grade
Surface finish
DIN/Form
Type
Coolant

51765		51766		51767	
Solid Carbide		Solid Carbide		Solid Carbide	
K/P		K/P		K/P	
TiAlN		TiAlN		TiAlN	
Stock std.		Stock std.		Stock std.	
SuperV-T		SuperV-T		SuperV-T	
with		with		with	
					
wet ≥40 bar		wet ≥40 bar		wet ≥40 bar	
v_c m/min	Feed column no.	v_c m/min	Feed column no.	v_c m/min	Feed column no.
110	H	100	H	80	G
110	H	100	H	80	G
140	H	120	H	100	H
120	H	100	H	100	H
110	H	110	H	110	G
110	H	100	H	80	G
100	G	100	G	80	G
110	G	100	G	80	G
110	F	100	F	80	F
110	H	100	H	80	G
110	G	100	G	80	F
110	F	100	F	80	F
100	E	80	E	80	E
80	E	60	E	60	E
100	E	90	F	80	F
80	E	70	D	70	D
50	E	50	D	50	D
50	E	50	D	50	D
100	E	100	E	80	E
60	D	60	D	60	D
100	E	100	E	80	E
50	D	50	D	50	D
30	B	30	B	30	B
140	H	130	H	120	H
100	H	90	H	80	H
•	•	•	•	•	•
100	F	90	F	80	F
90	H	80	H	70	H
•	•	•	•	•	•
140	H	130	H	120	H
100	H	90	H	80	H
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
120	A	120	A	120	A
120	H	110	H	100	H
•	•	•	•	•	•
•	•	•	•	•	•



Our Program

Products

- Twist Drills
- Taps
- Milling Cutters
- Reamers
- Countersinks & -bores
- Special HSS and Carbide Tools (to your specifications, or our solutions)

Services

- Regrinding
- Special grinds
- Recoating
- Paid labour coating
- Coating removal
- Technical assistance
- Intelligent Tool Depot Systems

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