

Endmill HPC Type F427 - F428



HPC
LINE

The botek HPC milling cutters have been developed for both roughing with large chip removal volumes and also finishing.

A geometry developed for the chip space serves for optimal chip removal.

The material-specific cutting edge geometry of the cutter and the botek XTS coating generate an enormous stability at the cutting edge for high-performance cutting.

botek[®]

DEEP HOLE DRILLING SYSTEMS
SOLID CARBIDE TOOLS

	d1 h10	d2	l1	l2	l3	Type F427-01	Type F427-02	Type F427-03	Type F428-01	Type F428-02	Type F428-03						
						Order No.						Order No.					
						1.5 x D	6	6	57	9	17	750000100	750000200	750000300	750000400	750000500	750000600
1.5 x D	8	8	63	12	20	750000101	750000201	750000301	750000401	750000501	750000601						
1.5 x D	10	10	72	15	23	750000102	750000202	750000302	750000402	750000502	750000602						
1.5 x D	12	12	83	18	26	750000103	750000203	750000303	750000403	750000503	750000603						
1.5 x D	16	16	92	24	32	750000104	750000204	750000304	750000404	750000504	750000604						
1.5 x D	18	18	92	27	42	750000105	750000205	750000305	750000405	750000505	750000605						
1.5 x D	20	20	104	30	43	750000106	750000206	750000306	750000406	750000506	750000606						

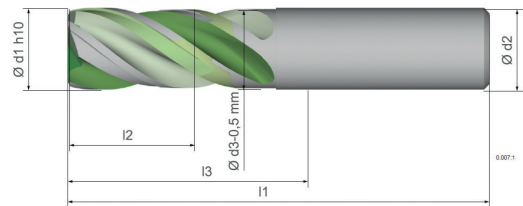
Special dimensions on request

	d1 h10	d2	l1	l2		Type F427-01	Type F427-02	Type F427-03	Type F428-01	Type F428-02	Type F428-03						
						Order No.						Order No.					
						2 x D	6	6	57	12		750000107	750000207	750000307	750000407	750000507	750000607
2 x D	8	8	63	16		750000108	750000208	750000308	750000408	750000508	750000608						
2 x D	10	10	72	20		750000109	750000209	750000309	750000409	750000509	750000609						
2 x D	12	12	83	24		750000110	750000210	750000310	750000410	750000510	750000610						
2 x D	16	16	92	32		750000111	750000211	750000311	750000411	750000511	750000611						
2 x D	18	18	92	36		750000112	750000212	750000312	750000412	750000512	750000612						
2 x D	20	20	104	40		750000113	750000213	750000313	750000413	750000513	750000613						

Special dimensions on request

Functions:

Number of cutting edges	Hardness	Sharp edged type...-01	Radius Type...-02	Corner chamfer Type...-03	Angle of twist	Slotting	Rough milling	Finish milling
Z4	HRC 58	90°	R	45°	35/38°			
Trimming	Ramping	Helix milling	wet	dry	Spallal	Lateral	Smooth shank	Weldon
			Type 427	Type 428			HA	HB



Shoulder milling cutter: ap x ae = 2d x 0.1d, Slot milling: ap x ae = 1d x 1d

Guide values for HPC milling of various materials

Material groups	Structural steel, Free-cutting steel < 750 N/mm²	Alloyed steel, Case hardening steel < 900 N/mm²	Tempered steel, Tool steel, Nitriding steel < 1200 N/mm²	Stainless steel + steel castings Ni < 8% "easy to machine"	Stainless steel corrosion and heat resisting (austenitic) Ni > 8%	Spring steel Hardened steel castings. Heat resisting steel Special alloys: Inconel, Nimonic, Titanium	Cast iron Steel castings	Copper Bronze Brass Plastics	Aluminium + Aluminium alloys
Slot milling Cutting speed Vc m/min	180	160	140	180	120	90	130	300	400
Shoulder milling Cutting speed Vc m/min	260	220	180	220	160	120	200	300	400

Feed rate Fz for slot and shoulder machining

Drill dia. (mm)	Feed rate Fz	
	Shoulder	Slot
4	0.035	0.020
5	0.040	0.025
6	0.050	0.030
8	0.060	0.040
10	0.070	0.050
12	0.100	0.060
14	0.120	0.080
16	0.140	0.100
18	0.160	0.120
20	0.180	0.140
25	0.200	0.140



Emulsion min. 25-30 bar / 6-8% cooling lubricant concentrates / tool with inner coolant supply

Coating XTS / polished

Cutting speed and feed rate are dependent on tool length, coolant type, material being processed, as well as the stability of the milling machine and workpiece clamping.

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250 000 313/05-2023



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