

# HPC Endmill 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 XT-S coating generate an enormous stability at the cutting edge for high-performance cutting.

**botek**<sup>®</sup>

DEEP HOLE DRILLING SYSTEMS  
SOLID CARBIDE TOOLS

	DC h10	DCON h6	OAL	APMX	LH	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

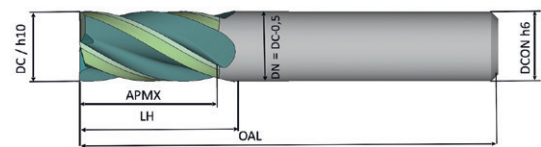
Special dimensions on request

	DC h10	DCON h6	OAL	APMX		Type F427-01	Type F427-02	Type F427-03	Type F428-01	Type F428-02	Type F428-03
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 workpiece	Sharp edged Type ...01	Radius Type ...02	Corner chamfer Type ...03	Angle of twist	Slotting	Rough milling	Finish milling
Z4	max. HRC 58	90°	R	45°	35/38°			
Trimming	Ramping	Helix milling	wet	dry	Spatial	Lateral	Smooth shank	Weldon
							HA	HB
			Type 427	Type 428				



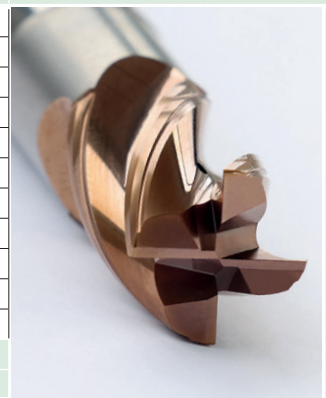
Shoulder milling cutter:  $ap \times ae = 2d \times 0.1d$ , Slot milling:  $ap \times ae = 1d \times 1d$

### Guide values for HPC milling of various materials

Material groups	Structural steel, Free-cutting steel < 750 N/mm <sup>2</sup>	Alloyed steel, Case hardening steel < 900 N/mm <sup>2</sup>	Tempered steel, Tool steel, Nitriding steel < 1200 N/mm <sup>2</sup>	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
<b>Slot milling</b> Cutting speed Vc m/min	180	160	140	180	120	90	130	300	400
<b>Shoulder milling</b> Cutting speed Vc m/min	260	220	180	220	160	120	200	300	400

### Feed rate Fz (mm) for slot and shoulder machining

Drill dia. (mm)	Feed rate Fz (mm)	
	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
<b>Emulsion</b>	Tool with inner coolant supply/min. 25-30 bar/6% cooling lubricant	
<b>Coating</b>	XT-S / 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. All figures specified are guide values.

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botek Präzisionsbohrtechnik GmbH · Längenfeldstraße 4 · 72585 Riederich · Germany  
P +49 7123 38 08-0 · E-Mail Info@botek.de · www.botek.de