

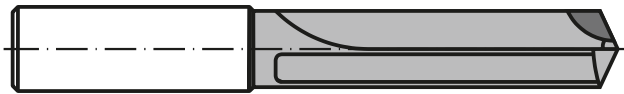
# Machining values for PCD Drills, straight flutes



M2903, M2905



M2913, M2915, M2918

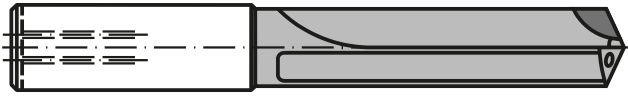


M2903, M2905

	Material	Hardness Rockwell (HRC) Hardness Brinell (BHN) Tensile strength (N/mm <sup>2</sup> )			Cutting speed ( $v_c$ )					
		HRC	BHN	N/mm <sup>2</sup>	M2903 M2905	M2913 M2915 M2918	SFM	m/min	IPR	mm/rev
P	Non-alloyed steels, cast steels 1018, 1108-1161, 12L14, 1522-1572	up to 8 up to 15 over 15	up to 178 up to 205 over 205	up to 600 up to 700 over 700						
	Alloyed steels 5132, 4130, 8620, 4140, 4340, 5140, 6150	up to 27 up to 31 over 31	up to 266 up to 297 over 297	up to 900 up to 1000 over 1000						
M	Stainless steels inox 17-4PH, 15-5PH									
	Stainless and acid resistant steels (Cr-Ni-Alloys) 304, 316, 17CrNi16-2									
K <sub>1</sub>	Grey cast iron, grey cast iron alloys GG10-GG40, A48	up to 14 up to 24 over 24	up to 200 up to 250 over 250	up to 680 up to 850 over 850						
K <sub>2</sub>	Spheroidal graphite cast iron, cast iron with vermicular graphite, malleable iron GGG40-GGG80	up to 8 over 8	up to 178 over 178	up to 600 over 600						
N	Alluminium (Si content > 10%) 6061, 2025, 208, 360				492-1476	150-450	984-1969	300-600		
	Aluminium (Si content < 10%) 413, 385, A390				492-1476	150-450	984-1969	300-600		
	Copper, brass, bronze Beryllium copper, naval brass, AMPCO				492-1476	150-450	984-1969	300-600		
S	Titanium alloys TiAl4V									
	Nickel alloys Inconel 718, Rene 41, Waspolloy									
H	Chilled cast iron	38-48	350-450	1173-1527						
	Hardened steel	50-55		1614-1870						
		56-60								
		61-65								

The guideline values for cutting speed  $v_c$  should be multiplied by the following correction factors  $K_{Fv}$  according to the drilling depth:

Depth / Diameter ratio	$K_{Fv}$
1 x D	1.3
2 x D	1.2
3 x D	1.0
4 x D	1.0
5 x D	0.8
8 x D	0.7
12 x D	0.6



M2913, M2915, M2918

Recommended feed (f) for diameter ranges									
0.118 to 0.197 in. 3 to 5 mm		0.197 to 0.316 in. 5 to 8 mm		0.316 to 0.472 in. 8 to 12 mm		0.472 to 0.630 in. 12 to 16 mm		0.630 to 0.787 in. 16 to 20 mm	
IPR	mm/rev	IPR	mm/rev	IPR	mm/rev	IPR	mm/rev		
0.003-0.006	0.08-0.15	0.004-0.008	0.10-0.20	0.008-0.014	0.20-0.35	0.010-0.016	0.25-0.40	0.012-0.020	0.30-0.50
0.003-0.006	0.08-0.15	0.004-0.008	0.10-0.20	0.008-0.014	0.20-0.35	0.010-0.016	0.25-0.40	0.012-0.020	0.30-0.50
0.003-0.006	0.08-0.15	0.004-0.008	0.10-0.20	0.008-0.014	0.20-0.35	0.010-0.016	0.25-0.40	0.012-0.020	0.30-0.50