

Machining values for MEGA-Drill-Steel



M2003, M2005



M2103, M2105, M2108



M2003, M2005

	Material	Hardness Rockwell (HRc) Hardness Brinell (BHN) Tensile strength (N/mm ²)			Cutting speed (v _c)				
		HRc	BHN	N/mm ²	M2003 M2005		M2103 M2105 M2108		
				SFM	m/min	SFM	m/min		
P	Non-alloyed steels, cast steels 1018, 1108-1161, 12L14, 1522-1572	up to 8	up to 178	up to 600	279-328	85-100	312-377	95-115	
		up to 15	up to 205	up to 700	246-295	75-90	279-344	85-105	
		over 15	over 205	over 700	213-262	65-80	246-295	75-90	
	Alloyed steels 5132, 4130, 8620, 4140, 4340, 5140, 6150	up to 27	up to 266	up to 900	180-246	55-75	197-279	60-85	
		up to 31	up to 297	up to 1000	147-197	45-60	164-230	50-70	
		over 31	over 297	over 1000	115-164	35-50	131-197	40-60	
M	Stainless steels Inox 17-4PH, 15-5PH					98-164	30-50		
	Stainless and acid resistant steels (Cr-Ni-Alloys) 304, 316, 17CrNi16-2					98-131	30-40		
K ₁	Grey cast iron, grey cast iron alloys GG10-GG40, A48	up to 14	up to 200	up to 680	230-361	70-110	262-427	80-130	
		up to 24	up to 250	up to 850	197-312	60-95	230-377	70-115	
		over 24	over 250	over 850	164-262	50-80	197-328	60-100	
K ₂	Spheroidal graphite cast iron, cast iron with vermicular graphite, malleable iron GGG40-GGG80	up to 8	up to 178	up to 600	213-279	65-85	246-295	75-90	
		over 8	over 178	over 600	180-230	55-70	213-262	65-80	
N	Alluminium (Si content > 10%) 6061, 2025, 208, 360								
	Aluminium (Si content < 10%) 413, 385, A390								
	Copper, brass, bronze Beryllium copper, naval brass, AMPCO								
S	Titanium alloys TiAl4V								
	Nickel alloys Inconel 718, Rene 41, Waspolloy								
H	Chilled cast iron	38-48	350-450	1173-1527	115-197	35-60	131-230	40-70	
	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

