

# Machining values for solid carbide twist drills M1905, M1908, M1912

The machining values shown are guidelines. The best data for the machining task in question should be calculated during trials or during the machining operation.

Solid carbide twist drills  
SMART-DRILL



M1905, M1908, M1912  
internal coolant

Material	Tensile strength (N/mm <sup>2</sup> ) Hardness (HB)	Cutting speed $v_c$ (m/min) M1905-M1912	Recommended feed $f$ (mm/rev) for diameter ranges		
			1 to 1.5 mm	1.6 to 2 mm	2.1 to 3 mm
P Non-alloy steels, cast steel  Alloy steel	up to 600 N/mm <sup>2</sup>	30-90	0.03-0.05	0.04-0.07	0.05-0.09
	up to 700 N/mm <sup>2</sup>	30-80	0.03-0.05	0.04-0.07	0.05-0.09
	over 700 N/mm <sup>2</sup>	30-70	0.03-0.05	0.04-0.07	0.05-0.09
	up to 900 N/mm <sup>2</sup>	30-60	0.02-0.05	0.03-0.06	0.04-0.08
	up to 1000 N/mm <sup>2</sup>	30-55	0.02-0.04	0.03-0.06	0.04-0.08
	over 1000 N/mm <sup>2</sup>	30-50	0.02-0.04	0.03-0.05	0.04-0.07
M Inox Stainless and acid-resistant steels (Cr-Ni-alloys)		20-40	0.01-0.03	0.02-0.04	0.03-0.06
		20-40	0.01-0.03	0.02-0.04	0.03-0.06
K <sub>1</sub> Grey cast iron, grey cast iron alloy	up to 200 HB	30-100	0.03-0.06	0.04-0.07	0.05-0.10
	up to 250 HB	30-90	0.03-0.05	0.04-0.07	0.05-0.10
	over 250 HB	30-80	0.03-0.05	0.04-0.06	0.05-0.09
K <sub>2</sub> Spheroidal graphite cast iron, cast iron with vermicular graphite, malleable iron	up to 600 N/mm <sup>2</sup>	30-80	0.03-0.05	0.04-0.06	0.05-0.09
	over 600 N/mm <sup>2</sup>	30-70	0.02-0.04	0.03-0.05	0.04-0.08
N Aluminium (SI content > 10%) Aluminium (SI content < 10%) Copper, brass, bronze		30-250	0.03-0.06	0.04-0.08	0.05-0.12
		30-250	0.04-0.07	0.05-0.08	0.06-0.15
		30-250	0.04-0.07	0.05-0.08	0.06-0.15
S Titanium alloys Nickel alloys		20-40	0.01-0.03	0.02-0.04	0.03-0.06
		20-40	0.01-0.03	0.02-0.04	0.03-0.06
H Chilled cast iron Hardened steel	350 to 450 HB				
The guideline values for cutting speed $v_c$ should be multiplied by the following correction factors $KF_v$ according to the boring depth	Boring depth	$KF_v$			
	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				