

# Cutting data recommendations for solid carbide drills

Feed and cutting speed

## MICRO-Drill-Steel | SCD371

MMG*	Workpiece material	Strength/hardness [N/mm <sup>2</sup> ] [HRC]	Cutting speed v <sub>c</sub> [m/min]				Feed f [mm] for drill diameter						
			Internal cooling	External cooling	MLQ	Air	4.00	5.50	7.50	10.50	14.50	20.00	
P	P1.1	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 700	80	70	70		0.04	0.04	0.05	0.06	0.07	0.08
	P1.2	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 1200	70	60	60		0.04	0.05	0.06	0.07	0.08	0.10
	P2.1	Nitrided, case hardened and heat-treated steels, alloy	< 900	80	70	70		0.04	0.05	0.06	0.07	0.08	0.09
	P2.2	Nitrided, case hardened and heat-treated steels, alloy	< 1400	55	50	50		0.04	0.05	0.05	0.06	0.07	0.08
	P3.1	Tool, bearing, spring and high-speed steels**	< 800	60	50	50		0.04	0.04	0.05	0.06	0.07	0.08
	P3.2	Tool, bearing, spring and high-speed steels**	< 1000	50	45	45		0.04	0.04	0.04	0.05	0.06	0.07
	P3.3	Tool, bearing, spring and high-speed steels**	< 1500	50	35	40		0.03	0.04	0.04	0.05	0.05	0.06
	P5.1	Cast steel		80	70	70		0.04	0.05	0.06	0.07	0.08	0.09
M	M1.1	Stainless steels, austenitic	< 700	40	25	25		0.03	0.03	0.03	0.04	0.05	0.06
	M1.2	Stainless steels, ferritic/austenitic (duplex)	< 1000										
K	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300	95	70	70	70	0.03	0.04	0.05	0.06	0.08	0.11
	K2.1	Cast iron with spheroidal graphite, GJS	< 500	130	80	95	95	0.04	0.05	0.06	0.07	0.09	0.11
	K2.2	Cast iron with spheroidal graphite, GJS	≤ 800	80	60	60		0.04	0.05	0.05	0.07	0.08	0.10
	K2.3	Cast iron with spheroidal graphite, GJS	> 800										
	K3.1	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	< 500	70	65	65		0.04	0.05	0.06	0.07	0.09	0.11
	K3.2	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	> 500	65	55	55		0.04	0.05	0.06	0.07	0.08	0.09

\* MAPAL machining groups

\*\* If the alloy parts Cr, Mo, Ni, V, W in total > 8% then select the next highest MAPAL machining group.

The specified cutting values are guide values.

The optimum data for the respective machining task should be determined during the test or machining.