Cutting data recommendations for solid carbide drills

Feed and cutting speed

MEGA 180° Drill | SCD231

MMG*			Workpiece material	Strength/hardness [N/mm²] [HRC]		Cutting speed v_c [m/min]				Feed f [mm] for drill diameter					
						Internal cooling	External cooling	MQL	Air	3.00	4.50	6.50	9.50	14.00	20.00
P	P1	P1.1	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 700		80	70	70		0.07	0.09	0.12	0.16	0.20	0.24
		P1.2	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 1,200		70	60	60		0.09	0.12	0.15	0.20	0.25	0.30
	P2	P2.1	Nitrided, case hardened and heat-treated steels, alloy	< 900		80	70	70		0.08	0.11	0.14	0.19	0.24	0.28
		P2.2	Nitrided, case hardened and heat-treated steels, alloy	< 1,400		55	50	50		0.07	0.09	0.12	0.15	0.19	0.22
	P3	P3.1	Tool, bearing, spring and high-speed steels**	< 800		60	50	50		0.07	0.10	0.13	0.17	0.21	0.25
		P3.2	Tool, bearing, spring and high-speed steels**	< 1,000		50	45	45		0.06	0.08	0.11	0.14	0.17	0.21
		P3.3	Tool, bearing, spring and high-speed steels**	< 1,500		50	35	40		0.05	0.07	0.09	0.11	0.14	0.16
	P5	P5.1	Cast steel			80	70	70		0.08	0.11	0.14	0.19	0.24	0.28
K	K1	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300		95	70	70	70	0.09	0.14	0.19	0.25	0.33	0.39
	K2	K2.1	Cast iron with spheroidal graphite, GJS	< 500		130	80	95	95	0.10	0.13	0.18	0.24	0.30	0.36
		K2.2	Cast iron with spheroidal graphite, GJS	≤ 800		80	60	60		0.09	0.12	0.16	0.21	0.26	0.31
		K2.3	Cast iron with spheroidal graphite, GJS	> 800		50	30	40		0.06	0.08	0.11	0.14	0.17	0.21
	K3	K3.1	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	< 500		70	65	65		0.09	0.13	0.17	0.22	0.28	0.33
		K3.2	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	> 500		65	55	55		0.08	0.11	0.14	0.18	0.22	0.26

* 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.