

# Cutting data recommendations for solid carbide drills

Feed and cutting speed

## MEGA-Drill-Steel-Plus | SCD600, 601

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	MQL	Air	3.00	4.50	6.50	9.50	14.00	20.00	
P	P1.1	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 700	110	100	100		0.10	0.13	0.17	0.22	0.28	0.33
	P1.2	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 1,200	100	85	85		0.12	0.16	0.21	0.27	0.34	0.41
	P2.1	Nitrided, case hardened and heat-treated steels, alloy	< 900	110	95	95		0.11	0.15	0.20	0.26	0.33	0.38
	P2.2	Nitrided, case hardened and heat-treated steels, alloy	< 1,400	75	65	65		0.10	0.13	0.16	0.21	0.26	0.30
	P3.1	Tool, bearing, spring and high-speed steels**	< 800	85	70	70		0.10	0.14	0.18	0.23	0.29	0.35
	P3.2	Tool, bearing, spring and high-speed steels**	< 1,000	65	60	60		0.09	0.12	0.15	0.19	0.24	0.28
	P3.3	Tool, bearing, spring and high-speed steels**	< 1,500	65	50	55		0.07	0.09	0.12	0.15	0.19	0.22
	P4.1	Stainless steels, ferritic and martensitic		65	50	55		0.07	0.09	0.12	0.15	0.19	0.23
	P5.1	Cast steel		110	95	95		0.11	0.15	0.20	0.26	0.33	0.38
	P6.1	Stainless cast steel, ferritic and martensitic		65	50	55		0.07	0.09	0.12	0.15	0.19	0.23
K	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300	120	85	85	85	0.13	0.19	0.26	0.35	0.45	0.54
	K2.1	Cast iron with spheroidal graphite, GJS	< 500	160	100	120	120	0.13	0.18	0.25	0.33	0.42	0.50
	K2.2	Cast iron with spheroidal graphite, GJS	≤ 800	100	75	75		0.12	0.16	0.22	0.28	0.36	0.43
	K2.3	Cast iron with spheroidal graphite, GJS	> 800	60	40	50		0.09	0.12	0.15	0.19	0.24	0.28
	K3.1	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	< 500	90	80	80		0.13	0.18	0.23	0.31	0.39	0.46
	K3.2	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	> 500	80	70	70		0.11	0.15	0.19	0.25	0.31	0.36
H	H1.1	Hardened steel/cast steel	< 44	90	90	90		0.09	0.12	0.15	0.19	0.24	0.28
	H1.2	Hardened steel/cast steel	< 55	25	25	25		0.05	0.06	0.08	0.11	0.14	0.16

\* 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.