

Cutting data recommendations for solid carbide drills

Feed and cutting speed

MEGA-Quadro-Drill-Plus | SCD610, 611

MMG*		Workpiece material	Strength/hardness [N/mm ²] [HRC]	Cutting speed v _c [m/min]				Feed f [mm] for drill diameter							
				Internal cooling	External cooling	MQL	Air	4.00	5.50	7.50	10.50	14.50	20.00		
P	P1	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	< 1200	100	85	85		0.12	0.16	0.21	0.27	0.34	0.41	
	P2	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	< 1400	75	65	65		0.10	0.13	0.16	0.21	0.26	0.30	
	P3	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**	< 1000	65	60	60		0.09	0.12	0.15	0.19	0.24	0.28	
		P3.3	Tool, bearing, spring and high-speed steels**	< 1500	65	50	55		0.07	0.09	0.12	0.15	0.19	0.22	
	P5	P5.1	Cast steel		110	95	95		0.11	0.15	0.20	0.26	0.33	0.38	
	K	K1	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300	130	95	95	95	0.13	0.19	0.26	0.35	0.45	0.54
			K2.1	Cast iron with spheroidal graphite, GJS	< 500	175	110	130	130	0.13	0.18	0.25	0.33	0.42	0.50
K2		K2.2	Cast iron with spheroidal graphite, GJS	≤ 800	110	85	85		0.12	0.16	0.22	0.28	0.36	0.43	
		K2.3	Cast iron with spheroidal graphite, GJS	> 800	65	45	55		0.09	0.12	0.15	0.19	0.24	0.28	
K3		K3.1	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	< 500	100	90	90		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	90	75	75		0.11	0.15	0.19	0.25	0.31	0.36	

* 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.