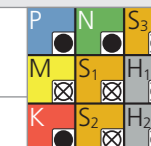
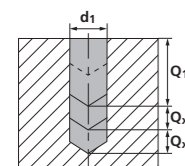
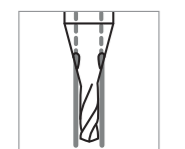


# Steel - 50 x d - coated

RECOMMENDATION FOR USE  
● Excellent | ● Good | ○ Acceptable | ☒ Not recommended



## DRILLING WITH INTEGRATED COOLING | CUTTING DATA OVERVIEW



Materials group	Material	Mat. no.	DIN	AISI/ASTM/UNS	v <sub>c</sub>		Q <sub>1</sub>	Q <sub>x</sub>	f [mm/rev]   [IPR]															
					[m/min]   [SFM]				Ød1															
					Ød1 ≤ 0.4   .016"	Ød1 > 0.4   .016"			0.3 mm   .012" f	1/64" 0.4 mm   .016" f	0.6 mm   .024" f	1/32" 0.8 mm   .032" f	1.0 mm   .039" f	1/16" 1.5-2.0 mm   .059"- .079" f										
P	Unalloyed carbon steel Rm < 800 N/mm <sup>2</sup>	1.0301	C10	AISI 1010	5 - 40   16 - 131	40 - 60   131 - 197	7xd1	0.5xd1	0.010 .0004	0.015 .0006	0.030 .0012	0.040 .0016	0.060 .0024	0.080 .0031										
		1.0401	C15	AISI 1015																				
		1.1191	C45E/CK45	AISI 1045																				
		1.0044	S275JR	AISI 1020																				
		1.0715	11SMn30	AISI 1215																				
	Low alloyed steel Rm > 900 N/mm <sup>2</sup>	1.5752	15NiCr13	ASTM 3415 / AISI 3310	5 - 25   16 - 82	25 - 50   82 - 164	7xd1	0.5xd1	0.008 - 0.010 .0003 - .0004	0.012 - 0.015 .0005 - .0006	0.020 - 0.025 .0008 - .0010	0.035 .0014	0.050 .0020	0.070 .0028										
		1.7131	16MnCr5	AISI 5115																				
		1.3505	100Cr6	AISI 52100																				
		1.7225	42CrMo4	AISI 4140																				
		1.2842	90MnCrV8	AISI O2																				
	High alloyed tool steel Rm < 1200 N/mm <sup>2</sup>	1.2379	X153CrMoV12	AISI D2	5 - 20   16 - 66	20 - 35   66 - 115	7xd1	0.5xd1	0.008 .0003	0.010 .0004	0.015 .0006	0.025 .0010	0.040 .0016	0.060 .0024										
		1.2436	X210CrW12	AISI D4/D6																				
1.3343		HS6-5-2C	AISI M2 / UNS T11302																					
1.3355		HS18-0-1	AISI T1 / UNS T12001																					
M		Stainless steel ferritic	1.4016	X6Cr17											AISI 430 / UNS S43000									
	1.4105		X6CrMoS17	AISI 430F																				
	Stainless steel martensitic	1.4034	X46Cr13	AISI 420C																				
		1.4112	X90CrMoV18	AISI 440B																				
	Stainless steel martensitic - PH	1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH																				
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH																				
	Stainless steel austenitic	1.4301	X5CrNi 18-10	AISI 304																				
		1.4435	X2CrNiMo 18-14-3	AISI 316L																				
1.4441		X2CrNiMo 18-15-3	AISI 316LM																					
1.4539	X1NiCrMoCu 25-20-5	AISI 904L																						
K	Cast iron	0.6020	GG20	ASTM 30	5 - 40   16 - 131	50 - 100   164 - 328	7xd1	0.5xd1	0.010 .0004	0.015 .0006	0.020 .0008	0.035 .0014	0.050 .0020	0.070 .0028										
		0.6030	GG30	ASTM 40B																				
		0.7040	GGG40	ASTM 60-40-18																				
		0.7060	GGG60	ASTM 80-60-03																				
N	Aluminium alloy wrought	3.2315	AlMgSi1	ASTM 6351	5 - 40   16 - 131	60 - 120   197 - 394	7xd1	1xd1	0.040 .0016	0.050 .0020	0.080 .0031	0.100 .0039	0.120 .0047	0.150 .0059										
		3.4365	AlZnMgCu1.5	ASTM 7075																				
	Aluminium alloy cast	3.2163	GD-AlSi9Cu3	ASTM A380	5 - 40   16 - 131	50 - 80   164 - 262	7xd1	1xd1	0.040 .0016	0.050 .0020	0.080 .0031	0.100 .0039	0.120 .0047	0.150 .0059										
		3.2381	GD-AlSi10Mg	UNS A03590																				
	Copper	2.004	Cu-OF / CW008A	UNS C10100																				
		2.0065	Cu-ETP / CW004A	UNS C11000																				
	Brass lead free	2.0321	CuZn37 CW508L	UNS C27400																				
		2.036	CuZn40 CW509L	UNS C28000																				
	Brass, Bronze Rm < 400 N/mm <sup>2</sup>	2.0401	CuZn39Pb3 / CW614N	UNS C38500																				
		2.102	CuSn6	UNS C51900																				
Bronze Rm < 600 N/mm <sup>2</sup>	2.0966	CuAl10Ni5Fe4	UNS C63000																					
	2.096	CuAl9Mn2	UNS C63200																					
S <sub>1</sub>	Super alloys	2.4856		Inconel 625																				
		2.4668		Inconel 718																				
		2.4617	NiMo28	Hastelloy B-2																				
		2.4665	NiCr22Fe18Mo	Hastelloy X																				
S <sub>2</sub>	Titanium pure	3.7035	Gr.2	ASTM B348 / F67																				
		3.7065	Gr.4	ASTM B348 / F68																				
S <sub>3</sub>	Titanium alloys	3.7165	TiAl6V4	ASTM B348 / F136																				
		9.9367	TiAl6Nb7	ASTM F1295																				
H <sub>1</sub>	Hardened steel < 55 HRC	2.4964	CoCr20W15Ni	Haynes 25																				
			CrCoMo28	ASTM F1537																				
H <sub>2</sub>	Hardened steel ≥ 55 HRC	1.2510	100MnCrMoW4	AISI O1																				
		1.2379	X153CrMoV12	AISI D2																				