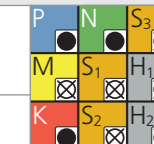
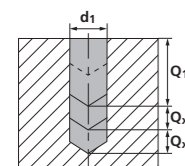
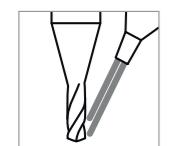


Steel - 20 x d - coated

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



DRILLING WITH EXTERNAL COOLING | CUTTING DATA OVERVIEW



Materials group	Material	Mat. no.	DIN	AISI/ASTM/UNS	v _c		Q ₁	Q _x	f [mm/rev] [IPR]						
					[m/min] [SFM]				Ød1						
					Ød1 ≤ 0.4 .016"	Ød1 > 0.4 .016"			0.2 mm .008" f	0.3 mm .012" f	1/64" 0.4 mm .016" f	0.6 mm .024" f	1/32" 0.8 mm .032" f	1.0-1.2 mm .039"-.047" f	
P	Unalloyed carbon steel Rm < 800 N/mm ²	1.0301	C10	AISI 1010	5 - 40 16 - 131	40 - 60 131 - 197	7xd1	0.5xd1	0.005 .0002	0.010 .0004	0.015 .0006	0.030 .0012	0.040 .0016	0.060 .0024	
		1.0401	C15	AISI 1015											
		1.1191	C45E/CK45	AISI 1045											
		1.0044	S275JR	AISI 1020											
		1.0715	11SMn30	AISI 1215											
		1.5752	15NiCr13	ASTM 3415 / AISI 3310											
	Low alloyed steel Rm > 900 N/mm ²	1.7131	16MnCr5	AISI 5115	5 - 25 16 - 82	25 - 50 82 - 164	7xd1	0.5xd1	0.003 - 0.005 .00012 - .00020	0.008 - 0.010 .0003 - .0004	0.012 - 0.015 .0005 - .0006	0.020 - 0.025 .0008 - .0010	0.035 .0014	0.050 .0020	
		1.3505	100Cr6	AISI 52100											
		1.7225	42CrMo4	AISI 4140											
		1.2842	90MnCrV8	AISI O2											
		1.2379	X153CrMoV12	AISI D2											
		1.2436	X210CrW12	AISI D4/D6											
High alloyed tool steel Rm < 1200 N/mm ²	1.3343	HS6-5-2C	AISI M2 / UNS T11302	5 - 20 16 - 66	20 - 35 66 - 115	7xd1	1xd1	0.004 .00016	0.008 .0003	0.010 .0004	0.015 .0006	0.025 .0010	0.040 .0016		
	1.3355	HS18-0-1	AISI T1 / UNS T12001												
	1.4016	X6Cr17	AISI 430 / UNS S43000											Recommended: CrazyDrill Flex SST-Inox 30 x d1	
	1.4105	X6CrMoS17	AISI 430F												
	1.4034	X46Cr13	AISI 420C												
	1.4112	X90CrMoV18	AISI 440B												
1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH													
1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH													
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	1xd1	0.005 .0002	0.010 .0004	0.015 .0006	0.020 .0008	0.035 .0014		0.050 .0020
		0.6030	GG30	ASTM 40B											
		0.7040	GGG40	ASTM 60-40-18											
		0.7060	GGG60	ASTM 80-60-03											
		40 - 80 131 - 262													
N	Aluminium alloy wrought	3.2315	AlMgSi1	ASTM 6351	5 - 40 16 - 131	60 - 120 197 - 394	7xd1	1xd1	0.015 .0006	0.040 .0016	0.050 .0020	0.080 .0031	0.100 .0039	0.120 .0047	
		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	0.015 .0006	0.040 .0016	0.050 .0020	0.080 .0031	0.100 .0039	0.120 .0047	
		3.2381	GD-AlSi10Mg	UNS A03590											
	Copper	2.004	Cu-OF / CW008A	UNS C10100	Recommended: CrazyDrill Flex Titanium 30 x d1										
		2.0065	Cu-ETP / CW004A	UNS C11000											
	Brass lead free	2.0321	CuZn37 CW508L	UNS C27400	Recommended: CrazyDrill Flex SST-Inox 30 x d1										
		2.036	CuZn40 CW509L	UNS C28000											
	Brass, Bronze Rm < 400 N/mm ²	2.0401	CuZn39Pb3 / CW614N	UNS C38500	5 - 40 16 - 131	60 - 100 197 - 328	7xd1	1xd1	0.010 .0004	0.030 .0012	0.040 .0016	0.060 .0024	0.080 .0031	0.100 .0039	
		2.102	CuSn6	UNS C51900											
Bronze Rm < 600 N/mm ²	2.0966	CuAl10Ni5Fe4	UNS C63000	5 - 20 16 - 66	20 - 40 66 - 131	2.5xd1	0.5xd1	0.004 .00016	0.006 .00024	0.010 .0004	0.015 .0006	0.025 .0010	0.040 .0016		
	2.096	CuAl9Mn2	UNS C63200												
S ₁	Super alloys	2.4856		Inconel 625	Recommended: CrazyDrill Flex SST-Inox 30 x d1										
		2.4668		Inconel 718											
		2.4617	NiMo28	Hastelloy B-2											
		2.4665	NiCr22Fe18Mo	Hastelloy X											
S ₂	Titanium pure	3.7035	Gr.2	ASTM B348 / F67	Recommended: CrazyDrill Flex Titanium 30 x d1										
		3.7065	Gr.4	ASTM B348 / F68											
S ₃	Titanium alloys	3.7165	TiAl6V4	ASTM B348 / F136	Recommended: CrazyDrill Flex Titanium 30 x d1										
		9.9367	TiAl6Nb7	ASTM F1295											
H ₁	Hardened steel < 55 HRC	2.4964	CoCr20W15Ni	Haynes 25	Recommended: CrazyDrill Flex SST-Inox 30 x d1										
			CrCoMo28	ASTM F1537											
H ₂	Hardened steel ≥ 55 HRC	1.2510	100MnCrMoW4	AISI O1											
		1.2379	X153CrMoV12	AISI D2											