CRAZYDRILL Cool XL

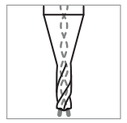
DRILLING TOOLS
CRAZYDRILL COOL XL

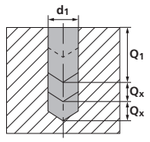
CrazyDrill Cool XL 20 x d

RECOMMENDATION FOR USE
● Excellent | ◐ Good | ○ Acceptable | ⊠ Not recommended

P ● | N ● | S3 ○
M ○ | S1 ⊠ | H1 ◐
K ● | S2 ◐ | H2 ⊠

DRILLING WITH INTERNAL COOLING | CUTTING DATA OVERVIEW





Materials group	Material	Mat. no.	DIN	AISI/ASTM/UNS	v_c [m/min] | [SFM]	Q_1	Q_x	f [mm/rev] | [IPR] Ød1 1.0 mm | .039" f	1.25 mm | .049" f	1/16" 1.5 mm | .059" f	2.0 mm | .079" f	3/32" 2.5 mm | .098" f	1/8" 3.0 mm | .118" f	5/32" 4.0 mm | .158" f	3/16" - 7/32" 5.0 mm | .197" f	6.0 mm | .236" f
P	Unalloyed carbon steel Rm < 800 N/mm²	1.0301	C10	AISI 1010	50–120 | **164–394**	20xd1	–	0.040 | **.0016**	0.050 | **.0020**	0.060 | **.0024**	0.080 | **.0031**	0.090 | **.0035**	0.120 | **.0047**	0.160 | **.0063**	0.180 | **.0071**	0.200 | **.0079**
		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/mm²	1.5752	15NiCr13	ASTM 3415 / AISI 3310	50–120 | **164–394**	20xd1	–	0.040 | **.0016**	0.050 | **.0020**	0.060 | **.0024**	0.080 | **.0031**	0.090 | **.0035**	0.120 | **.0047**	0.160 | **.0063**	0.180 | **.0071**	0.200 | **.0079**
		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/mm²	1.2379	X153CrMoV12	AISI D2	40–100 | **131–328**	20xd1	–	0.030 | **.0012**	0.040 | **.0016**	0.050 | **.0020**	0.070 | **.0028**	0.080 | **.0031**	0.090 | **.0035**	0.120 | **.0047**	0.150 | **.0059**	0.180 | **.0071**
		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	30–60 | **98–197**	20xd1	–	0.020 | **.0008**	0.040 | **.0016**	0.060 | **.0024**	0.080 | **.0031**	0.100 | **.0039**	0.130 | **.0051**	0.150 | **.0059**	0.200 | **.0079**	0.220 | **.0087**
		1.4105	X6CrMoS17	AISI 430F												
	Stainless steel martensitic	1.4034	X46Cr13	AISI 420C	40–80 | **131–262**	20xd1	–	0.040 | **.0016**	0.060 | **.0024**	0.080 | **.0031**	0.100 | **.0039**	0.120 | **.0047**	0.150 | **.0059**	0.180 | **.0071**	0.200 | **.0079**	0.220 | **.0087**
		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	30–60 | **98–197**	5xd1	2xd1	0.020 | **.0008**	0.030 | **.0012**	0.040 | **.0016**	0.060 | **.0024**	0.070 | **.0028**	0.100 | **.0039**	0.120 | **.0047**	0.150 | **.0059**	0.180 | **.0071**
		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	100–200 | **328–656**	20xd1	–	0.050 | **.0020**	0.060 | **.0024**	0.070 | **.0028**	0.080 | **.0031**	0.090 | **.0035**	0.160 | **.0063**	0.200 | **.0079**	0.250 | **.0098**	0.300 | **.0118**
		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	100–200 | **328–656**	20xd1	–	0.050 | **.0020**	0.060 | **.0024**	0.080 | **.0031**	0.120 | **.0047**	0.160 | **.0063**	0.180 | **.0071**	0.200 | **.0079**	0.250 | **.0098**	0.300 | **.0118**
		3.4365	AlZnMgCu1.5	ASTM 7075												
	Aluminium alloy cast	3.2163	GD-AlSi9Cu3	ASTM A380	80–150 | **262–492**	20xd1	–	0.050 | **.0020**	0.060 | **.0024**	0.080 | **.0031**	0.100 | **.0039**	0.120 | **.0047**	0.150 | **.0059**	0.200 | **.0079**	0.250 | **.0098**	0.300 | **.0118**
		3.2381	GD-AlSi10Mg	UNS A03590												
	Copper	2.004	Cu-OF / CW008A	UNS C10100	40–80 | **131–262**	2xd1	2xd1	0.025 | **.0010**	0.045 | **.0018**	0.065 | **.0026**	0.085 | **.0033**	0.110 | **.0043**	0.140 | **.0055**	0.160 | **.0063**	0.180 | **.0071**	0.200 | **.0079**
		2.0065	Cu-ETP / CW004A	UNS C11000												
	Brass lead free	2.0321	CuZn37 CW508L	UNS C27400	40–80 | **131–262**	2xd1	2xd1	0.025 | **.0010**	0.045 | **.0018**	0.065 | **.0026**	0.085 | **.0033**	0.110 | **.0043**	0.140 | **.0055**	0.160 | **.0063**	0.180 | **.0071**	0.200 | **.0079**
		2.036	CuZn40 CW509L	UNS C28000												
	Brass, Bronze Rm < 400 N/mm²	2.0401	CuZn39Pb3 / CW614N	UNS C38500	50–120 | **164–394**	20xd1	–	0.040 | **.0016**	0.050 | **.0020**	0.060 | **.0024**	0.090 | **.0035**	0.120 | **.0047**	0.130 | **.0051**	0.170 | **.0067**	0.220 | **.0087**	0.240 | **.0094**
		2.102	CuSn6	UNS C51900												
	Bronze Rm < 600 N/mm²	2.0966	CuAl10Ni5Fe4	UNS C63000	40–80 | **131–262**	20xd1	–	0.025 | **.0010**	0.045 | **.0018**	0.065 | **.0026**	0.085 | **.0033**	0.110 | **.0043**	0.120 | **.0047**	0.160 | **.0063**	0.200 | **.0079**	0.220 | **.0087**
		2.096	CuAl9Mn2	UNS C63200												
S_1	Super alloys	2.4856		Inconel 625												
		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	25–50 | **82–164**	3xd1	1xd1	0.010 | **.0004**	0.020 | **.0008**	0.030 | **.0012**	0.040 | **.0016**	0.050 | **.0020**	0.065 | **.0026**	0.080 | **.0031**	0.100 | **.0039**	0.120 | **.0047**
		3.7065	Gr.4	ASTM B348 / F68												
	Titanium alloys	3.7165	TiAl6V4	ASTM B348 / F136	20–40 | **66–131**	5xd1	1xd1	0.010 | **.0004**	0.020 | **.0008**	0.030 | **.0012**	0.040 | **.0016**	0.050 | **.0020**	0.065 | **.0026**	0.080 | **.0031**	0.100 | **.0039**	0.120 | **.0047**
		9.9367	TiAl6Nb7	ASTM F1295												
S_3	CrCo alloys	2.4964	CoCr20W15Ni	Haynes 25	20–40 | **66–131**	5xd1	2xd1	0.010 | **.0004**	0.020 | **.0008**	0.030 | **.0012**	0.040 | **.0016**	0.050 | **.0020**	0.065 | **.0026**	0.080 | **.0031**	0.100 | **.0039**	0.120 | **.0047**
			CrCoMo28	ASTM F1537												
H_1	Hardened steel < 55 HRC	1.2510	100MnCrMoW4	AISI O1	30–60 | **98–197**	5xd1	1xd1	0.020 | **.0008**	0.030 | **.0012**	0.040 | **.0016**	0.050 | **.0020**	0.060 | **.0024**	0.080 | **.0031**	0.110 | **.0043**	0.140 | **.0055**	0.160 | **.0063**
H_2	Hardened steel ≥ 55 HRC	1.2379	X153CrMoV12	AISI D2												