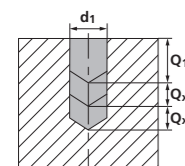
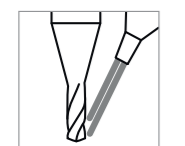


MiquDrill 210 - coated

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

P	N	S ₃
M	S ₁	H ₁
K	S ₂	H ₂

DRILLING WITH EXTERNAL COOLING | CUTTING DATA OVERVIEW



Materials group	Material	Mat. no.	DIN	AISI/ASTM/UNS	v _c [m/min]	Q ₁	Q ₂	f [mm/rev]				
								Ød1				
								0.3–0.6 mm f	0.6–1.0 mm f	1.0–1.5 mm f	1.5–2.0 mm f	2.0–3.0 mm f
P	Unalloyed carbon steel Rm < 800 N/mm ²	1.0301	C10	AISI 1010	40 – 70	2xd1	1xd1	0.009	0.016	0.023	0.033	0.045
		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 ²	1.5752	15NiCr13	ASTM 3415 / AISI 3310	30 – 40	2xd1	1xd1	0.007	0.011	0.015	0.023	0.035
		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 ²	1.2379	X153CrMoV12	AISI D2	30 – 60	2xd1	1xd1	0.004	0.009	0.014	0.020	0.028
		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 – 70	2xd1	1xd1	0.007	0.013	0.023	0.030	0.045
		1.4105	X6CrMoS17	AISI 430F								
		1.4034	X46Cr13	AISI 420C								
	Stainless steel martensitic	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								
	Stainless steel martensitic – PH	1.4301	X5CrNi 18-10	AISI 304								
		1.4435	X2CrNiMo 18-14-3	AISI 316L								
		1.4441	X2CrNiMo 18-15-3	AISI 316LM								
Stainless steel austenitic	1.4539	X1NiCrMoCu 25-20-5	AISI 904L									
K	Cast iron	0.6020	GG20	ASTM 30	30 – 70	2xd1	1xd1	0.007	0.013	0.023	0.030	0.045
		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	80 – 150	2xd1	1xd1	0.010	0.023	0.038	0.050	0.070
		3.4365	AlZnMgCu1.5	ASTM 7075								
	Aluminium alloy cast	3.2163	GD-AlSi9Cu3	ASTM A380	60 – 100	2xd1	1xd1	0.008	0.019	0.030	0.045	0.060
		3.2381	GD-AlSi10Mg	UNS A03590								
	Copper	2.004	Cu-OF / CW008A	UNS C10100	40 – 70	2xd1	1xd1	0.008	0.014	0.023	0.030	0.045
		2.0065	Cu-ETP / CW004A	UNS C11000								
	Brass lead free	2.0321	CuZn37 CW508L	UNS C27400	40 – 70	2xd1	1xd1	0.008	0.014	0.023	0.030	0.045
		2.036	CuZn40 CW509L	UNS C28000								
	Brass, Bronze Rm < 400 N/mm ²	2.0401	CuZn39Pb3 / CW614N	UNS C38500	40 – 150	2xd1	1xd1	0.008	0.017	0.030	0.045	0.065
		2.102	CuSn6	UNS C51900								
Bronze Rm < 600 N/mm ²	2.0966	CuAl10Ni5Fe4	UNS C63000	30 – 40	2xd1	1xd1	0.007	0.011	0.015	0.023	0.035	
	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								
		3.7065	Gr.4	ASTM B348 / F68								
S ₃	Titanium alloys	3.7165	TiAl6V4	ASTM B348 / F136								
		9.9367	TiAl6Nb7	ASTM F1295								
H ₁	Hardened steel < 55 HRC	2.4964	CoCr20W15Ni	Haynes 25								
			CrCoMo28	ASTM F1537								
H ₂	Hardened steel ≥ 55 HRC	1.2510	100MnCrMoW4	AISI O1	20 – 40	0.5xd1	0.5xd1	0.003	0.004	0.007	0.009	0.009
		1.2379	X153CrMoV12	AISI D2								