



MORSE TAPER SHANK DRILLS

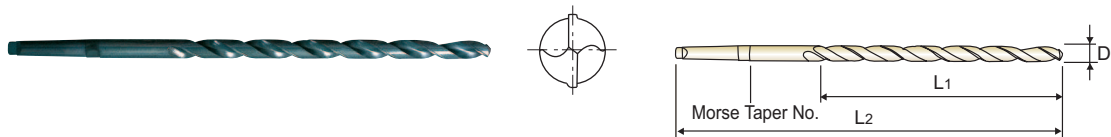
D1210 SERIES

HSS, MORSE TAPER SHANK TWIST DRILLS HSS, SPIRALBOHRER mit MORSEKEGELSCHAFT

**EXTRA LONG
ÜBERLANG**

► **Surface treatment** : Steam Tempered(Black Oxide Finish)
 ► **Application** : Designed for drilling deep holes or deeply located holes. Drilling into steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheriodal graphite cast iron, sintered iron, aluminum and aluminum alloys.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)
 ► **Verwendung** : Standardbohrer zum Bohren extrem tiefer Löcher.
 Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sintereisen und Graphit



DIN 1870/2
HSS
N 20~30°
1~4
h8
118°
P.202

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper	EDP No.	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
	D1	L1	L2			D1	L1	L2	
D1210130	13.0	260	395	1	D1210270	27.0	385	580	3
D1210135	13.5	275	410	1	D1210275	27.5	385	580	3
D1210140	14.0	275	410	1	D1210280	28.0	385	580	3
D1210145	14.5	275	425	2	D1210285	28.5	385	580	3
D1210150	15.0	275	425	2	D1210290	29.0	385	580	3
D1210155	15.5	295	445	2	D1210295	29.5	385	580	3
D1210160	16.0	295	445	2	D1210300	30.0	385	580	3
D1210165	16.5	295	445	2	D1210310	31.0	410	610	3
D1210170	17.0	295	445	2	D1210320	32.0	410	635	4
D1210175	17.5	310	465	2	D1210330	33.0	410	635	4
D1210180	18.0	310	465	2	D1210340	34.0	430	665	4
D1210185	18.5	310	465	2	D1210350	35.0	430	665	4
D1210190	19.0	310	465	2	D1210360	36.0	430	665	4
D1210195	19.5	325	490	2	D1210370	37.0	430	665	4
D1210200	20.0	325	490	2	D1210380	38.0	460	695	4
D1210205	20.5	325	490	2	D1210390	39.0	460	695	4
D1210210	21.0	325	490	2	D1210400	40.0	460	695	4
D1210215	21.5	345	515	2	D1210410	41.0	460	695	4
D1210220	22.0	345	515	2	D1210420	42.0	460	695	4
D1210225	22.5	345	515	2	D1210430	43.0	490	735	4
D1210230	23.0	345	515	2	D1210440	44.0	490	735	4
D1210235	23.5	345	535	3	D1210450	45.0	490	735	4
D1210240	24.0	365	555	3	D1210460	46.0	490	735	4
D1210245	24.5	365	555	3	D1210470	47.0	490	735	4
D1210250	25.0	365	555	3	D1210480	48.0	510	765	4
D1210255	25.5	365	555	3	D1210490	49.0	510	765	4
D1210260	26.0	365	555	3	D1210500	50.0	510	765	4
D1210265	26.5	365	555	3					

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		Cast Iron	Aluminum	Stainless Steels	Titanium	Mild Steels	Copper	Bronze
~HB225	HB225~325	HRc30~45	HRc45~55	HRc55~							
◎	◎	○			○	○	○		○		

**HSS DRILLS DIN345, DIN341, DIN1870****HSS SPIRALBOHRER DIN 345, DIN 341, DIN 1870****D1205, D1206, D1209, D1210 SERIES**

Unit : mm

WORK MATERIAL	CARBON STEELS		CARBON STEELS		CARBON STEELS		ALLOY STEELS		ALLOY STEELS		STAINLESS STEELS		TITANIUM ALLOYS	
			~ HRC23		~ HRC23 ~ 28		HRC23 ~ 34		HRC34 ~ 38		HRC23			
HARDNESS			~ HRC23		~ HRC23 ~ 28		HRC23 ~ 34		HRC34 ~ 38		HRC23			
STRENGTH	~ 570 N/mm ²		~ 830 N/mm ²		830 ~ 950 N/mm ²		830 ~ 1110 N/mm ²		1110 ~ 1260 N/mm ²		830 N/mm ²		410 N/mm ²	
DIAMETER	N	S	N	S	N	S	N	S	N	S	N	S	N	S
13	645	0.17	480	0.17	370	0.09	440	0.20	265	0.05	480	0.17	265	0.09
19	440	0.23	330	0.23	255	0.13	300	0.23	180	0.05	330	0.23	180	0.13
32	260	0.28	195	0.28	145	0.18	180	0.18	107	0.08	195	0.28	107	0.18
50	165	0.33	125	0.33	93	0.20	115	0.20	68	0.08	125	0.33	68	0.20
60	140	0.40	105	0.40	78	0.23	95	0.23	57	0.10	105	0.40	57	0.23

WORK MATERIAL	TOOL STEELS		CAST IRON		ALUMINUM ALLOYS		MAGNESIUM ALLOYS		ZINC ALLOYS		PLASTICS	
			~ HRC21									
HARDNESS			~ HRC21									
STRENGTH	~ 270 N/mm ²		~ 800 N/mm ²									
DIAMETER	N	S	N	S	N	S	N	S	N	S	N	S
13	645	0.17	480	0.17	1200	0.26	1600	0.26	1200	0.26	645	0.17
19	440	0.23	330	0.23	820	0.30	1100	0.30	820	0.30	440	0.23
32	240	0.30	195	0.28	490	0.38	660	0.38	490	0.38	260	0.28
50	150	0.43	125	0.33	310	0.46	415	0.46	310	0.46	165	0.33
60	125	0.48	105	0.40	260	0.50	345	0.50	260	0.50	140	0.40

N = R.P.M

S = Feed per Revolution (mm/rev.)