



MORSE TAPER SHANK DRILLS

D1209 SERIES

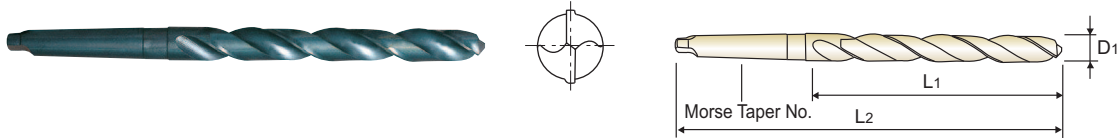
HSS, MORSE TAPER SHANK TWIST DRILLS HSS, SPIRALBOHRER mit MORSEKEGELSCHAFT

JOBBER

KURZ

► **Surface treatment** : Steam Tempered(Black Oxide Finish)
► **Application** : Drilling deep holes in steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, graphite.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)
► **Verwendung** : Für Bohrungen mit Bohrbuchsen oder an tief liegenden Stellen.
Zum Bohren von Stahl und Stahlguß, Grauß, Temperguß, Sphäroguß, Sinterisen, Neusilber und Graphit



Unit : mm

EDP No.	Drill Diameter	Flute Length L ₁	Overall Length		No. of Morse Taper	EDP No.	Drill Diameter	Flute Length L ₁	Overall Length		No. of Morse Taper
	D ₁		L ₂	D ₁			L ₂				
D1209130	13.0	205	310	1	D1209270	27.0	305	460	3		
D1209135	13.5	220	325	1	D1209275	27.5	305	460	3		
D1209140	14.0	220	325	1	D1209280	28.0	305	460	3		
D1209145	14.5	220	340	2	D1209285	28.5	305	460	3		
D1209150	15.0	220	340	2	D1209290	29.0	305	460	3		
D1209155	15.5	230	355	2	D1209295	29.5	305	460	3		
D1209160	16.0	230	355	2	D1209300	30.0	305	460	3		
D1209165	16.5	230	355	2	D1209305	30.5	320	480	3		
D1209170	17.0	230	355	2	D1209310	31.0	320	480	3		
D1209175	17.5	245	370	2	D1209320	32.0	320	505	4		
D1209180	18.0	245	370	2	D1209330	33.0	320	505	4		
D1209185	18.5	245	370	2	D1209340	34.0	340	530	4		
D1209190	19.0	245	370	2	D1209350	35.0	340	530	4		
D1209195	19.5	260	385	2	D1209360	36.0	340	530	4		
D1209200	20.0	260	385	2	D1209370	37.0	340	530	4		
D1209205	20.5	260	385	2	D1209380	38.0	360	555	4		
D1209210	21.0	260	385	2	D1209390	39.0	360	555	4		
D1209215	21.5	270	405	2	D1209400	40.0	360	555	4		
D1209220	22.0	270	405	2	D1209410	41.0	360	555	4		
D1209225	22.5	270	405	2	D1209420	42.0	360	555	4		
D1209230	23.0	270	405	2	D1209430	43.0	385	585	4		
D1209235	23.5	270	425	3	D1209440	44.0	385	585	4		
D1209240	24.0	290	440	3	D1209450	45.0	385	585	4		
D1209245	24.5	290	440	3	D1209460	46.0	385	585	4		
D1209250	25.0	290	440	3	D1209470	47.0	385	585	4		
D1209255	25.5	290	440	3	D1209480	48.0	405	605	4		
D1209260	26.0	290	440	3	D1209490	49.0	405	605	4		
D1209265	26.5	290	440	3	D1209500	50.0	405	605	4		

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														
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												
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.)