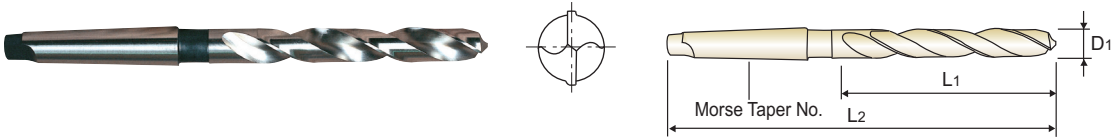


Y/G MORSE TAPER SHANK DRILLS

DL205 SERIES

HSS-E, MORSE TAPER SHANK TWIST DRILLS for HEAVY DUTY *JOBBER*
HSS-E, SPIRALBOHRER für HOHELEISTUNGEN mit MORSEKEGELSCHAFT *KURZ*
Forets HSS-E, queue cône morse pour matériaux durs, série courte *COURTE*
HSS-E, PUNTE ELICOIDALI, ATTACCO CM PER LAVORAZIONI GRAVOSE *CORTA*

► **Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, graphite. ► **Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sintereisen, Graphit.



DIN 345 **HSS-E**

Unit : mm									
EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.	EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.
DL205130	13.0	101	182	1	DL205220	22.0	150	248	2
DL205135	13.5	108	189	1	DL205225	22.5	155	253	2
DL205140	14.0	108	189	1	DL205230	23.0	155	253	2
DL205145	14.5	114	212	2	DL205235	23.5	155	276	3
DL205150	15.0	114	212	2	DL205240	24.0	160	281	3
DL205155	15.5	120	218	2	DL205245	24.5	160	281	3
DL205160	16.0	120	218	2	DL205250	25.0	160	281	3
DL205165	16.5	125	223	2	DL205255	25.5	165	286	3
DL205170	17.0	125	223	2	DL205260	26.0	165	286	3
DL205175	17.5	130	228	2	DL205265	26.5	165	286	3
DL205180	18.0	130	228	2	DL205270	27.0	170	291	3
DL205185	18.5	135	233	2	DL205275	27.5	170	291	3
DL205190	19.0	135	233	2	DL205280	28.0	170	291	3
DL205195	19.5	140	238	2	DL205285	28.5	175	296	3
DL205200	20.0	140	238	2	DL205290	29.0	175	296	3
DL205205	20.5	145	243	2	DL205295	29.5	175	296	3
DL205210	21.0	145	243	2	DL205300	30.0	175	296	3
DL205215	21.5	150	248	2					

◎ : Excellent ○ : Good																							
ISO	P										M				K								
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230			
Recommended	◎	◎	◎	○		◎	○	○		○		◎	○		○	○	○	○	○	○			
ISO	N										S										H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
HB											15	30	25	38	34			55	60	42	55		
Recommended	○	○	○						○							○							



MORSE TAPER SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN

**DL205, D1205, D1206,
D1209, D1210** SERIES

**HSS&HSS-E, MORSE
TAPER SHANK DRILLS**

 RPM = rev./min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc (m/min)	Parameter	Drill Diameter (mm)							
					13.0	16.0	18.0	20.0	30.0	40.0	50.0	60.0
P	1	Non-alloy steel	30	RPM FEED	730 0.11~0.17	600 0.12~0.18	530 0.14~0.20	480 0.19~0.25	320 0.22~0.28	240 0.24~0.30	190 0.28~0.34	160 0.36~0.40
	2		25	RPM FEED	610 0.11~0.17	500 0.12~0.18	440 0.14~0.20	400 0.19~0.25	270 0.22~0.28	200 0.24~0.30	160 0.28~0.34	130 0.36~0.40
	3		20	RPM FEED	490 0.11~0.17	400 0.12~0.18	350 0.14~0.20	320 0.19~0.25	210 0.22~0.28	160 0.24~0.30	130 0.28~0.34	110 0.36~0.40
	4		15	RPM FEED	370 0.04~0.10	300 0.06~0.12	270 0.08~0.14	240 0.10~0.16	160 0.12~0.18	120 0.14~0.20	100 0.16~0.22	80 0.18~0.24
	5											
	6	Low alloy steel	25	RPM FEED	610 0.11~0.17	500 0.12~0.18	440 0.14~0.20	400 0.19~0.25	270 0.22~0.28	200 0.24~0.30	160 0.28~0.34	130 0.36~0.40
	7		20	RPM FEED	490 0.11~0.17	400 0.12~0.18	350 0.14~0.20	320 0.19~0.25	210 0.22~0.28	160 0.24~0.30	130 0.28~0.34	110 0.36~0.40
	8		15	30 320	370 0.04~0.10	300 0.06~0.12	270 0.08~0.14	240 0.10~0.16	160 0.12~0.18	120 0.14~0.20	100 0.16~0.22	80 0.18~0.24
	9											
	10	High alloyed steel, and tool steel	15	RPM FEED	370 0.11~0.17	300 0.12~0.18	270 0.14~0.20	240 0.19~0.25	160 0.22~0.28	120 0.24~0.30	100 0.28~0.34	80 0.36~0.40
	11											
M	12	Stainless steel	20	RPM FEED	490 0.11~0.17	400 0.12~0.18	350 0.14~0.20	320 0.19~0.25	210 0.22~0.28	160 0.24~0.30	130 0.28~0.34	110 0.36~0.40
	13		15	RPM FEED	370 0.11~0.17	300 0.12~0.18	270 0.14~0.20	240 0.19~0.25	160 0.22~0.28	120 0.24~0.30	100 0.28~0.34	80 0.36~0.40
	14											
K	15	Grey cast iron	30	RPM FEED	730 0.11~0.17	600 0.12~0.18	530 0.14~0.20	480 0.19~0.25	320 0.22~0.28	240 0.24~0.30	190 0.28~0.34	160 0.36~0.40
	25		RPM FEED	610 0.04~0.10	500 0.06~0.12	440 0.08~0.14	400 0.10~0.16	270 0.12~0.18	200 0.14~0.20	160 0.16~0.22	130 0.18~0.24	
	17	Nodular cast iron	30	RPM FEED	730 0.11~0.17	600 0.12~0.18	530 0.14~0.20	480 0.19~0.25	320 0.22~0.28	240 0.24~0.30	190 0.28~0.34	160 0.36~0.40
	20		RPM FEED	490 0.04~0.10	400 0.06~0.12	350 0.08~0.14	320 0.10~0.16	210 0.12~0.18	160 0.14~0.20	130 0.16~0.22	110 0.18~0.24	
	19	Malleable cast iron	25	RPM FEED	610 0.11~0.17	500 0.12~0.18	440 0.14~0.20	400 0.19~0.25	270 0.22~0.28	200 0.24~0.30	160 0.28~0.34	130 0.36~0.40
	20		RPM FEED	490 0.04~0.10	400 0.06~0.12	350 0.08~0.14	320 0.10~0.16	210 0.12~0.18	160 0.14~0.20	130 0.16~0.22	110 0.18~0.24	
N	21	Aluminum-wrought alloy	55	RPM FEED	1350 0.16~0.22	1090 0.18~0.24	970 0.20~0.28	880 0.20~0.30	580 0.28~0.38	440 0.32~0.42	350 0.36~0.46	290 0.40~0.50
	22		55	RPM FEED	1350 0.16~0.22	1090 0.18~0.24	970 0.20~0.28	880 0.20~0.30	580 0.28~0.38	440 0.32~0.42	350 0.36~0.46	290 0.40~0.50
	23	Aluminum-cast, alloyed	40	RPM FEED	980 0.16~0.22	800 0.18~0.24	710 0.20~0.28	640 0.20~0.30	420 0.28~0.38	320 0.32~0.42	250 0.36~0.46	210 0.40~0.50
	24											
	25											
	26		Copper and Copper Alloys (Bronze / Brass)									
	27											
	28											
	29	Non Metallic Materials	20	RPM FEED	490 0.11~0.17	400 0.12~0.18	350 0.14~0.20	320 0.19~0.25	210 0.22~0.28	160 0.24~0.30	130 0.28~0.34	110 0.36~0.40
	30											
S	31	Heat Resistant Super Alloys										
	32											
	33											
	34											
	35											
	36	Titanium Alloys	10	RPM FEED	240 0.06~0.10	200 0.05~0.11	180 0.06~0.12	160 0.09~0.13	110 0.12~0.18	80 0.14~0.20	60 0.16~0.22	50 0.18~0.24
	37											
H	38	Hardened steel										
	39											
	40	Chilled Cast Iron										
	41	Hardened Cast Iron										

SELECTION GUIDE



SERIES

STANDARD

LENGTH

SIZE MIN

SIZE MAX

PAGE

SURFACE TREATMENT

DL205	D1205	D1206
DIN345	DIN345	DIN341
JOBBER	JOBBER	LONG
D13.0	D5.0	D13.0
D30.0	D60.0	D30.0
288	289	292
Bright	Steam Tempered	

HSS & HSS-E
MORSE TAPER
SHANK DRILLS

Morse Taper Shank Drills for Wide Applications



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.295



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc			
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	○	○	○
	5		About 0.75% C	Quenched & Tempered	300	32			
	6	Low alloy steel		Annealed	180	10	◎	◎	◎
	7			Quenched & Tempered	275	29	○	○	○
	8			Quenched & Tempered	300	32	○	○	○
	9			Quenched & Tempered	350	38			
	10	High alloyed steel, and tool steel		Annealed	200	15	○	○	○
	11			Quenched & Tempered	325	35			
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎	◎
	13		Martensitic	Quenched & Tempered	240	23	○	○	○
	14		Austenitic		180	10			
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○
	16		Pearlitic (Martensitic)		260	26	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○
	18		Pearlitic		250	25	○	○	○
	19	Malleable cast iron	Ferritic		130		○	○	○
	20		Pearlitic		230	21	○	○	○
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○
	22		Curable	Hardened	100		○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○
	24		≤ 12% Si, Curable	Hardened	90				
	25		> 12% Si, Not Curable		130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110				
	27		CuZn, CuSnZn (Brass)		90				
	28		CuSn, lead-free copper and electrolytic copper		100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				○	○	○
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33			Annealed	250	25			
	34		Ni or Co Based	Cured	350	38			
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium		400 Rm		○	○	○
	37		Alpha + Beta Alloys	Hardened	1050 Rm				
H	38	Hardened steel		Hardened	550	55			
	39			Hardened	630	60			
	40	Chilled Cast Iron		Cast	400	42			
	41	Hardened Cast Iron		Hardened	550	55			