

Y/G STRAIGHT SHANK DRILLS

D1106 SERIES

HSS, STRAIGHT SHANK TWIST DRILLS for ALUMINUM

JOBBER

- HSS, SPIRALBOHRER für ALUMINIUM mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique pour ALU, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, PER ALLUMINIO (HSS)

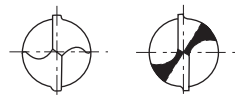
KURZ

COURTE

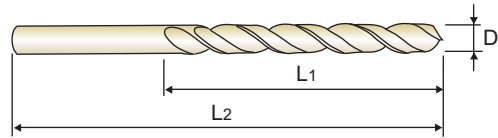
CORTA

► **Application** : Drilling hard, brittle and short-chip materials. i.e., brass, bronze, phosphor bronze aluminum and magnesium alloys.

► **Verwendung** : Zum Bohren von harten und spröden Werkstoffen wie Messing, Magnesium-Legierungen, Bronze, Phosphorbronze.



under 1.6mm 1.6mm & over



DIN 338
HSS
38°
h8
135°
P.279

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D1106015	1.5	18	40
D1106016	1.6	20	43
D1106017	1.7	20	43
D1106018	1.8	22	46
D1106019	1.9	22	46
D1106020	2.0	24	49
D1106021	2.1	24	49
D1106022	2.2	27	53
D1106023	2.3	27	53
D1106024	2.4	30	57
D1106025	2.5	30	57
D1106026	2.6	30	57
D1106027	2.7	33	61
D1106028	2.8	33	61
D1106029	2.9	33	61
D1106030	3.0	33	61
D1106031	3.1	36	65
D1106032	3.2	36	65
D1106033	3.3	36	65
D1106034	3.4	39	70
D1106035	3.5	39	70
D1106036	3.6	39	70
D1106037	3.7	39	70
D1106038	3.8	43	75
D1106039	3.9	43	75
D1106040	4.0	43	75

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D1106041	4.1	43	75
D1106042	4.2	43	75
D1106043	4.3	47	80
D1106044	4.4	47	80
D1106045	4.5	47	80
D1106046	4.6	47	80
D1106047	4.7	47	80
D1106048	4.8	52	86
D1106049	4.9	52	86
D1106050	5.0	52	86
D1106051	5.1	52	86
D1106052	5.2	52	86
D1106053	5.3	52	86
D1106054	5.4	57	93
D1106055	5.5	57	93
D1106056	5.6	57	93
D1106057	5.7	57	93
D1106058	5.8	57	93
D1106059	5.9	57	93
D1106060	6.0	57	93
D1106061	6.1	63	101
D1106062	6.2	63	101
D1106063	6.3	63	101
D1106064	6.4	63	101
D1106065	6.5	63	101
D1106066	6.6	63	101

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K						
	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	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					
	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	◎	◎	◎	◎																	



STRAIGHT SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDPARAMETER

D1106 SERIES

HSS, TWIST DRILLS for ALUMINUM

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

ISO	VDI 3323	Material Description	Vc (m/min)	Parameter	Drill Diameter (mm)								
					2.0	3.0	4.0	5.0	6.0	8.0	10.0	13.0	
P	1	Non-alloy steel											
	2												
	3												
	4												
	5												
	6	Low alloy steel											
	7												
	8												
	9												
	10		High alloyed steel, and tool steel										
	11												
M	12	Stainless steel											
	13												
	14												
K	15	Grey cast iron											
	16	Nodular cast iron											
	17												
	18												
	19	Malleable cast iron											
20													
N	21	Aluminum-wrought alloy	50	RPM	7960	5310	3980	3180	2650	1990	1590	1220	
	22		FEED	0.05~0.08	0.06~0.10	0.08~0.12	0.10~0.14	0.14~0.18	0.14~0.20	0.19~0.25	0.25~0.35		
	23	Aluminum-cast, alloyed	50	RPM	7960	5310	3980	3180	2650	1990	1590	1220	
	24		FEED	0.05~0.08	0.06~0.10	0.08~0.12	0.10~0.14	0.14~0.18	0.14~0.20	0.19~0.25	0.25~0.35		
	25		40	RPM	6370	4240	3180	2550	2120	1590	1270	980	
	26		FEED	0.05~0.08	0.06~0.10	0.08~0.12	0.10~0.14	0.14~0.18	0.14~0.20	0.19~0.25	0.25~0.35		
	27	Copper and Copper Alloys (Bronze / Brass)	30	RPM	4770	3180	2390	1910	1590	1190	950	730	
	28		FEED	0.03~0.06	0.03~0.07	0.04~0.08	0.05~0.09	0.04~0.10	0.06~0.12	0.10~0.16	0.12~0.22		
	29	Non Metallic Materials											
	30												
S	31	Heat Resistant Super Alloys											
	32												
	33												
	34												
	35	Titanium Alloys											
	36												
	37												
H	38	Hardened steel											
	39												
	40	Chilled Cast Iron											
	41	Hardened Cast Iron											

SELECTION GUIDE



SERIES

	D2107	D1107	D2105
STANDARD	DIN1897	DIN1897	DIN338
LENGTH	STUB	STUB	JOBBER
SIZE MIN	D1.0	D1.0	D1.0
SIZE MAX	D31.0	D13.0	D20.0
PAGE	234	238	241
SURFACE TREATMENT	Gold Coloring	Steam Tempered	Gold Coloring

HSS, HSS-E & HSSCo8 STRAIGHT SHANK DRILLS

For General Purpose (Soft & Tough Materials)



Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.276

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		Ferritic	130		○	○	○
20	Malleable cast iron	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			

