STRAIGHT SHANK DRILLS

D1106 SERIES

HSS, STRAIGHT SHANK TWIST DRILLS for ALUMINUM

JOBBER

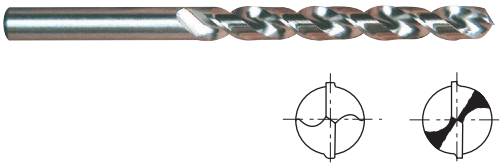
HSS, SPIRALBOHRER für ALUMINIUM mit ZYLINDERSCHAFT — *KURZ*

Forets HSS, queue cylindrique pour ALU, Forme C, série courte — *COURTE*

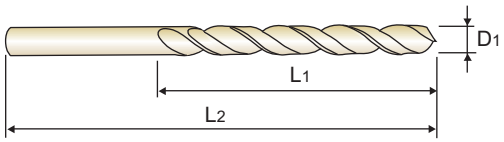
PUNTE ELICOIDALI, GAMBO CILINDRICO, PER ALLUMINIO (HSS) — *CORTA*

▶**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° | Bright

p.A263

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length 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 D1	Flute Length L1	Overall Length 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					
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											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

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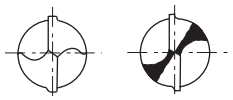

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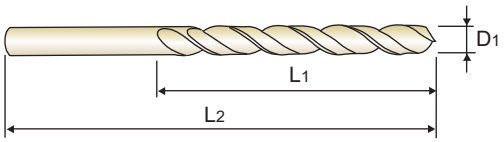

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Recommended ToolHolder — Plain Shank — ER COLLET CHUCK

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
D1106067	6.7	63	101
D1106068	6.8	69	109
D1106069	6.9	69	109
D1106070	7.0	69	109
D1106071	7.1	69	109
D1106072	7.2	69	109
D1106073	7.3	69	109
D1106074	7.4	69	109
D1106075	7.5	69	109
D1106076	7.6	75	117
D1106077	7.7	75	117
D1106078	7.8	75	117
D1106079	7.9	75	117
D1106080	8.0	75	117
D1106081	8.1	75	117
D1106082	8.2	75	117
D1106083	8.3	75	117
D1106084	8.4	75	117
D1106085	8.5	75	117
D1106086	8.6	81	125

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
D1106087	8.7	81	125
D1106088	8.8	81	125
D1106089	8.9	81	125
D1106090	9.0	81	125
D1106091	9.1	81	125
D1106092	9.2	81	125
D1106093	9.3	81	125
D1106094	9.4	81	125
D1106095	9.5	81	125
D1106096	9.6	87	133
D1106097	9.7	87	133
D1106098	9.8	87	133
D1106099	9.9	87	133
D1106100	10.0	87	133
D1106105	10.5	87	133
D1106110	11.0	94	142
D1106115	11.5	94	142
D1106120	12.0	101	151
D1106125	12.5	101	151
D1106130	13.0	101	151

◎ : Excellent ○ : Good

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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			
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VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

STRAIGHT SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

D1100 SERIES — HSS, TWIST DRILLS for BRASS / BRONZE

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

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)								
					1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	13.0
N	27	Copper and Copper Alloys (Bronze / Brass)	45	RPM	9550	7160	4770	3580	2860	2390	1790	1430	1100
				FEED	0.03-0.06	0.05-0.08	0.06-0.10	0.08-0.12	0.10-0.14	0.12-0.16	0.16-0.20	0.19-0.25	0.22-0.32
	28		30	RPM	6370	4770	3180	2390	1910	1590	1190	950	730
				FEED	0.01-0.03	0.02-0.05	0.03-0.06	0.04-0.08	0.05-0.09	0.07-0.11	0.09-0.13	0.10-0.16	0.11-0.21

D1106 SERIES — HSS, TWIST DRILLS for ALUMINUM

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

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)								
					1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	13.0
N	21	Aluminum-wrought alloy	50	RPM	10610	7960	5310	3980	3180	2650	1990	1590	1220
				FEED	0.03-0.06	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
	22		50	RPM	10610	7960	5310	3980	3180	2650	1990	1590	1220
				FEED	0.03-0.06	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	40	RPM	8490	6370	4240	3180	2550	2120	1590	1270	980
				FEED	0.03-0.06	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
	24		30	RPM	6370	4770	3180	2390	1910	1590	1190	950	730
				FEED	0.01-0.04	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