

Y/G STRAIGHT SHANK DRILLS

D1121 SERIES

HSS, STRAIGHT SHANK TWIST DRILLS

EXTRA LONG

ÜBERLANG

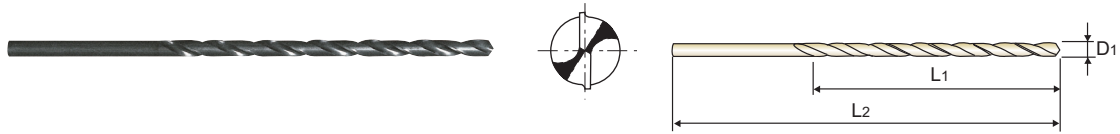
EXTRA-LONGUE

EXTRA LUNGA

- HSS, SPIRALBOHRER MIT ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série extra-longue
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

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

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



DIN 1869/1
HSS
N 20~30°
h8
118°
P.276-277

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D1121020	2.0	85	125
D1121025	2.5	95	140
D1121030	3.0	100	150
D1121035	3.5	115	165
D1121040	4.0	120	175
D1121045	4.5	125	185
D1121050	5.0	135	195
D1121055	5.5	140	205
D1121060	6.0	140	205
D1121065	6.5	150	215
D1121070	7.0	155	225
D1121075	7.5	155	225

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D1121080	8.0	165	240
D1121085	8.5	165	240
D1121090	9.0	175	250
D1121095	9.5	175	250
D1121100	10.0	185	265
D1121105	10.5	185	265
D1121110	11.0	195	280
D1121115	11.5	195	280
D1121120	12.0	205	295
D1121125	12.5	205	295
D1121130	13.0	205	295

◎ : 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
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
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		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
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

D2107, D1107, D2105, DL105, D1105, D1125, D2104, D1121, DL109 SERIES

**HSS, HSS-E & HSSCo8
COBALT DRILLS**

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

ISO	VDI 3323	Material Description	Vc (m/min)	Parameter	Drill Diameter (mm)				
					2.0	3.0	4.0	6.0	8.0
P	1	Non-alloy steel	30	RPM FEED	4770 0.02~0.04	3180 0.03~0.05	2390 0.04~0.06	1590 0.05~0.08	1190 0.10~0.13
	2		25	RPM FEED	3980 0.02~0.04	2650 0.03~0.05	1990 0.04~0.06	1330 0.05~0.08	990 0.10~0.13
	3		20	RPM FEED	3180 0.02~0.04	2120 0.03~0.05	1590 0.04~0.06	1060 0.05~0.08	800 0.10~0.13
	4		20	RPM FEED	3180 0.01~0.02	2120 0.01~0.03	1590 0.02~0.04	1060 0.02~0.05	800 0.03~0.06
	5								
	6	Low alloy steel	25	RPM FEED	3980 0.02~0.04	2650 0.03~0.05	1990 0.04~0.06	1330 0.05~0.08	990 0.10~0.13
	7		20	RPM FEED	3180 0.02~0.04	2120 0.03~0.05	1590 0.04~0.06	1060 0.05~0.08	800 0.10~0.13
	8		20	RPM FEED	3180 0.01~0.02	2120 0.01~0.03	1590 0.02~0.04	1060 0.02~0.05	800 0.03~0.06
	9								
	10		High alloyed steel, and tool steel	15	RPM FEED	2390 0.02~0.04	1590 0.03~0.05	1190 0.04~0.06	800 0.05~0.08
	11								
M	12	Stainless steel	20	RPM FEED	3180 0.02~0.04	2120 0.03~0.05	1590 0.04~0.06	1060 0.05~0.08	800 0.10~0.13
	13		15	RPM FEED	2390 0.02~0.04	1590 0.03~0.05	1190 0.04~0.06	800 0.05~0.08	600 0.10~0.13
	14		10	RPM FEED	1590 0.01~0.02	1060 0.01~0.03	800 0.02~0.04	530 0.02~0.05	400 0.03~0.06
K	15	Grey cast iron	30	RPM FEED	4770 0.02~0.04	3180 0.03~0.05	2390 0.04~0.06	1590 0.05~0.08	1190 0.10~0.13
	16		25	RPM FEED	3980 0.01~0.02	2650 0.01~0.03	1990 0.02~0.04	1330 0.02~0.05	990 0.03~0.06
	17	Nodular cast iron	30	RPM FEED	4770 0.02~0.04	3180 0.03~0.05	2390 0.04~0.06	1590 0.05~0.08	1190 0.10~0.13
	18								
	19	Malleable cast iron	25	RPM FEED	3980 0.02~0.04	2650 0.03~0.05	1990 0.04~0.06	1330 0.05~0.08	990 0.10~0.13
20									
N	21	Aluminum-wrought alloy	55	RPM FEED	8750 0.03~0.06	5840 0.05~0.09	4380 0.07~0.11	2920 0.12~0.16	2190 0.12~0.18
	22		55	RPM FEED	8750 0.03~0.06	5840 0.05~0.09	4380 0.07~0.11	2920 0.12~0.16	2190 0.12~0.18
	23	Aluminum-cast, alloyed	40	RPM FEED	6370 0.03~0.06	4240 0.05~0.09	3180 0.07~0.11	2120 0.12~0.16	1590 0.12~0.18
	24								
	25								
	26	Copper and Copper Alloys (Bronze / Brass)							
27									
28									
29	Non Metallic Materials	20	RPM FEED	3180 0.02~0.04	2120 0.03~0.05	1590 0.04~0.06	1060 0.05~0.08	800 0.10~0.13	
30									
S	31	Heat Resistant Super Alloys							
	32								
	33								
	34								
	35								
36	Titanium Alloys	10	RPM FEED	1590 0.01~0.03	1060 0.02~0.04	800 0.03~0.05	530 0.04~0.07	400 0.05~0.08	
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)



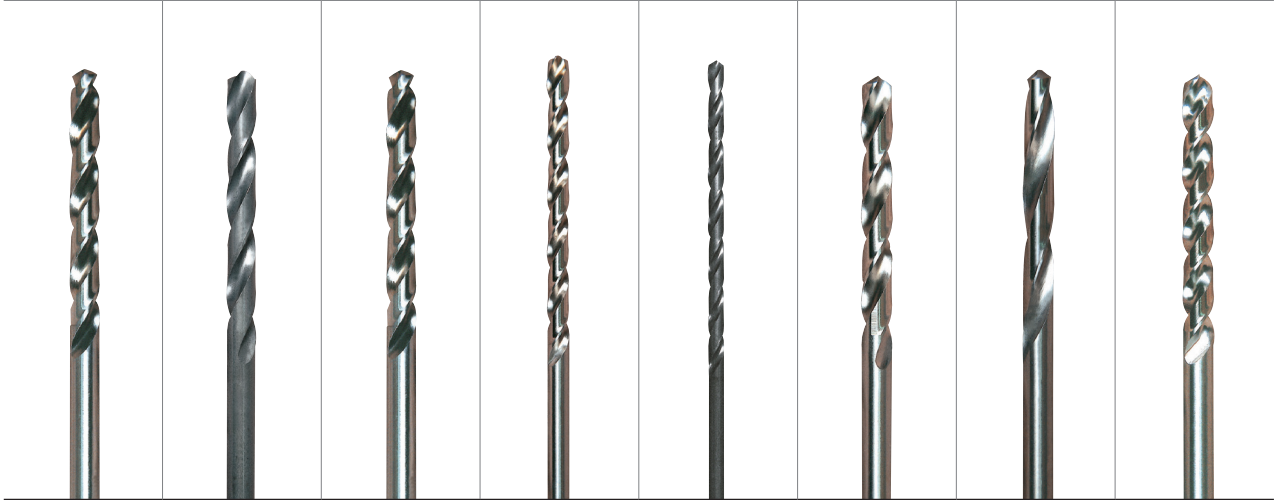
Please visit globalyg1.com/mat for material search

◎ : 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			

DL105	D1105	D1125	D2104	D1121	DL109	D1100	D1106
DIN338	DIN338	DIN338	DIN340	DIN1869/1	DIN338	DIN338	DIN338
JOBBER	JOBBER	JOBBER	LONG	EXTRA LONG	JOBBER	JOBBER	JOBBER
D1.0	D0.3	D2.0	D2.0	D2.0	D1.5	D1.5	D1.5
D20.0	D20.0	D20.0	D12.0	D13.0	D13.0	D13.0	D13.0
244	247	252	255	257	258	259	261
Gold Coloring	Steam Tempered	Bright	Gold Coloring	Steam Tempered	Bright		



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