

YE-DD24

EUROPE



SOLID CARBIDE **DREAM DRILLS**

PRO with/without Coolant Holes

NEW **X** with/without Coolant Holes

GENERAL with/without Coolant Holes

HIGH FEED with Coolant Holes

FLAT BOTTOM with/without Coolant Holes

INOX with Coolant Holes

ALU with Coolant Holes

MTL TYPE with Coolant Holes(10xD - 40xD)

for HIGH HARDENED STEELS HRc50-70

◎ : Excellent ○ : Good

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◎ : Excellent ○ : Good

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GUIDE LINE
TO ICONS

Standard of
Tools

DIN
6539

Number of
DIN Standard

Coolant Supply
Pressure

45 bar

20 bar

Tool Material

CARBIDE

Point Angle

140°

Surface
Treatment

TiAIN

Titanium Aluminum
Nitride Coating

RCH-Coating

YG-1 RCH-Coating

X-Coating

YG-1 X-Coating

H-Coating

YG-1 H-Coating

Diamond

Diamond Coating

Bright

Bright Finish

Tolerance of
Dimension

m7

Tolerance of
Outside Diameter

h6

Tolerance of
Shank Diameter

Cutting
Condition

YG
SELECTION GUIDE
METRIC

SERIES
DRILLING DEPTH
TOOL MATERIAL
LENGTH
SIZE MIN
SIZE MAX
PAGE

SURFACE TREATMENT

**SOLID CARBIDE
DREAM
DRILLS**



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

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	Cutting Alloys, PB>1%		110						
	27		CuZn, CuSnZn (Brass)		90						
	28	(Bronze / Brass)	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	Titanium Alloys		Cast	320	34					
	36		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					



Leading Through Innovation

SOLID CARBIDE

**DREAM DRILLS
-PRO**

- For General Purpose (up to HRC50)
- Extremely High hardness and Heat resistance due to YG-1 special Z-Coating technology

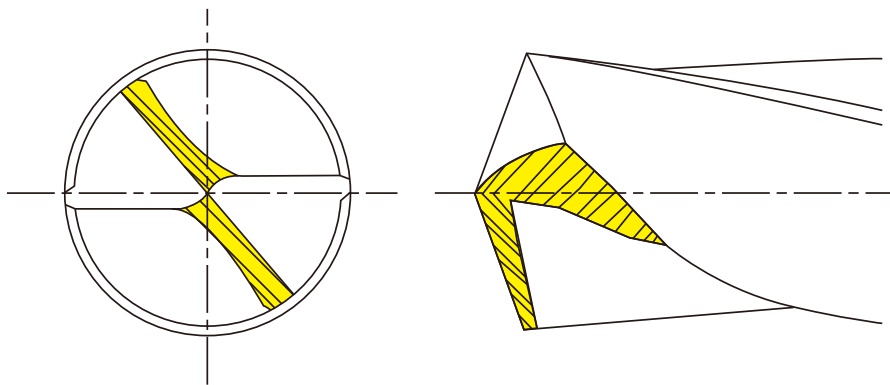
DREAM DRILLS for HIGH HARDENED STEELS

Low Helix

The low Helix angle maximizes tools' rigidity and stability with less deflection

Special Thinning (R+U Thinning)

Unique drill point geometry with special thinning to minimize cutting workload, axial thrust loading and heat generation.



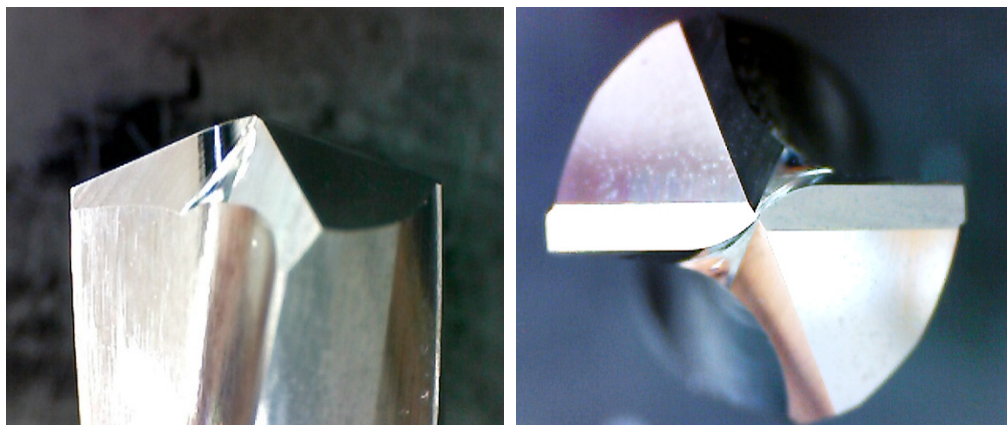
Coating

TiAlN nano coating combines high hardness with high thermal stability against oxidation, allows machining the upper level of hardened steels HRc 50-70.

Polished Flutes

Polished flutes improve coating addition, with better chip control and evacuation.

Point Shape

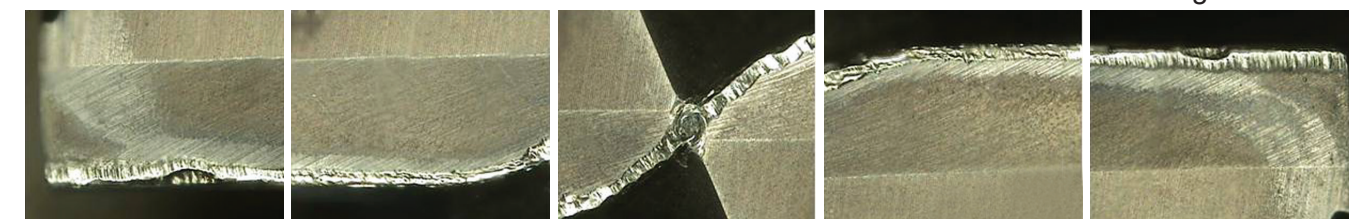
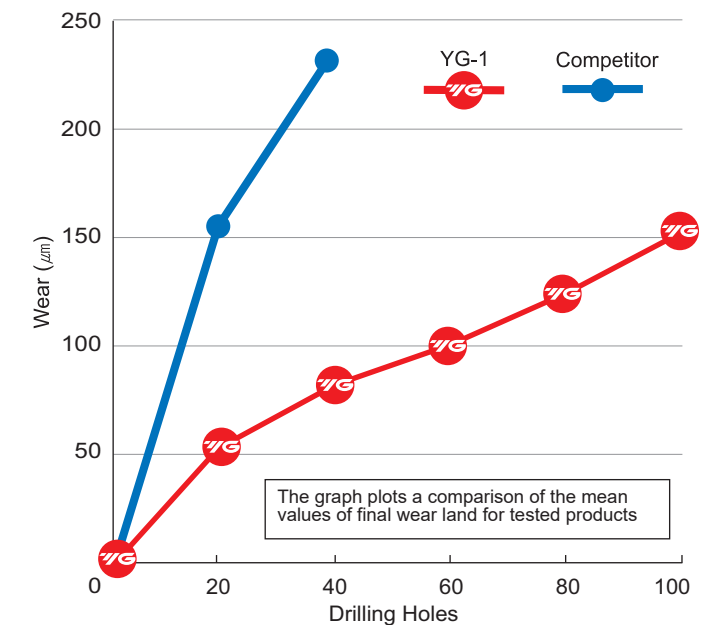


CASE STUDY

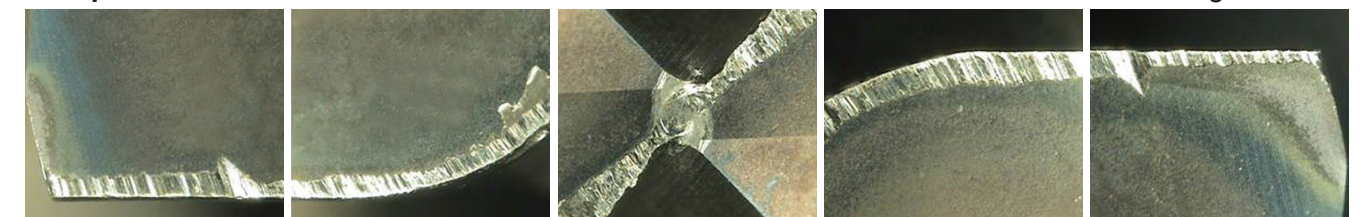
- Low Helix Angle to maximize tools' rigidity.
- Special Point Thinning to improve chip evacuation.
- Excellent Coating and Surface Treatment for improved surface and better chip evacuation.

► SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS (HRc50-70)

CUTTING CONDITION	
Tool	DH500100
Size(mm)	Ø10 × Ø10 × 63 × 111
Work Material	• DIN: X155CrV-Mo12-1 • WR: 1.2379 • JIS: SKD11(HRc60)
RPM	380 rev./min.
Feed	0.04 mm/rev.
Drilling Depth	25 mm
Coolant	Wet Cut

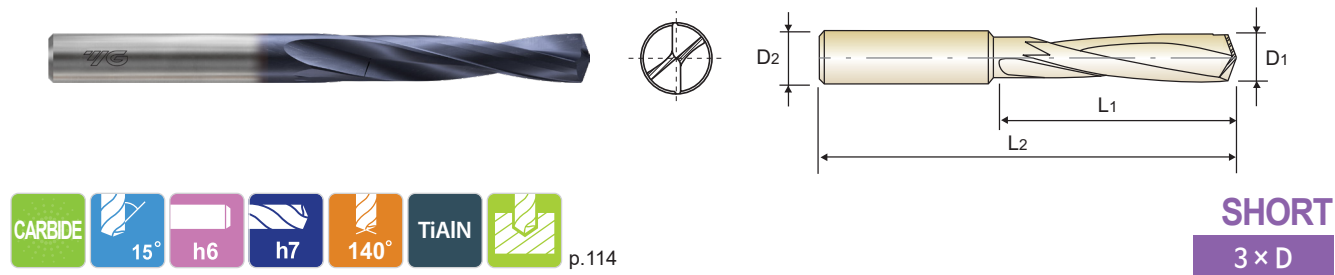


Competitor A



TiAIN-COATED SOLID CARBIDE
DREAM DRILLS HIGH HARDENED STEELS without COOLANT HOLES (3XD) **DH500**

- ▶ Drilling for High Hardened Steels; Quenched Steels, Tempered Steels (under HRc70)
- ▶ Special geometry design for Hardened Steels
- ▶ Minimum of cutting load through special thinning
- ▶ Performing good chip removal and powerful drilling



Unit : mm					Unit : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2	TiAIN	D1	D2	L1	L2
DH500026	2.6	3	14	44	DH500070	7.0	8	45	85
DH500030	3.0	3	16	46	DH500075	7.5	8	45	85
DH500033	3.3	4	18	48	DH500080	8.0	8	50	98
DH500034	3.4	4	20	50	DH500085	8.5	10	50	98
DH500035	3.5	4	20	50	DH500086	8.6	10	57	105
DH500040	4.0	4	22	52	DH500088	8.8	10	57	105
DH500042	4.2	6	25	65	DH500090	9.0	10	57	105
DH500043	4.3	6	28	68	DH500095	9.5	10	57	105
DH500044	4.4	6	28	68	DH500100	10.0	10	63	111
DH500045	4.5	6	28	68	DH500102	10.2	12	63	111
DH500050	5.0	6	32	72	DH500103	10.3	12	63	111
DH500051	5.1	6	32	72	DH500105	10.5	12	63	111
DH500052	5.2	6	32	72	DH500108	10.8	12	71	119
DH500055	5.5	6	35	75	DH500110	11.0	12	71	119
DH500060	6.0	6	35	75	DH500115	11.5	12	71	119
DH500065	6.5	8	40	80	DH500120	12.0	12	71	119
DH500068	6.8	8	45	85	DH500140	14.0	14	77	125
DH500069	6.9	8	45	85					

Recommended cutting conditions

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)								
					2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
H	38	Hardened steel	20	RPM	2550	2120	1590	1270	1060	800	640	530	450
	FEED			0.01-0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06	
	15		RPM	1910	1590	1190	950	800	600	480	400	340	
			FEED	0.01-0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06	
	39.1		12	RPM	1530	1270	950	760	640	480	380	320	270
	39.3			FEED	0.01-0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06

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	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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			15	30	25	38	34	320	400 Rm	550 Rm	55	60	70		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommended																		◎	◎	◎			

HIGH QUALITY PRODUCTS and ON TIME DELIVERY
for WORLD-WIDE CUSTOMERS

Since 1982, YG-1 has been committed to quality, innovation and the unique customer experience. Our performance and experience have granted YG-1 the global impression of one of the leading manufacturers of high quality cutting tool solutions. This global footprint expands over 75 countries, with international logistic centers, pledging to our customers to give the best service available today - and tomorrow.

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