



For more information

Coated solid carbide drill for excellent stability

# SOLIDDRILL

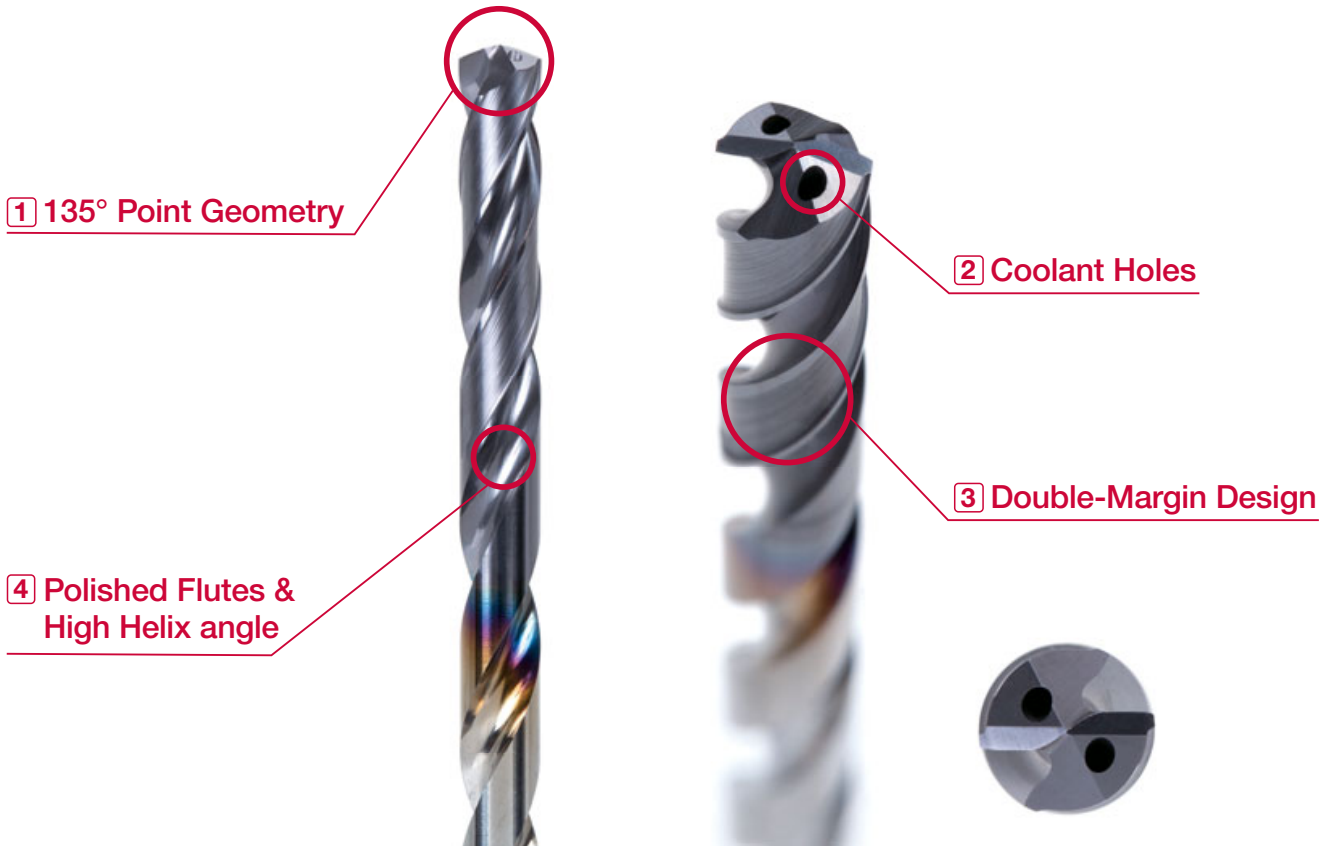
Tungaloy Report No. 405S1-G

Long solid carbide drills line with exceptional productivity **DSW 16xD, 20xD, 30xD**

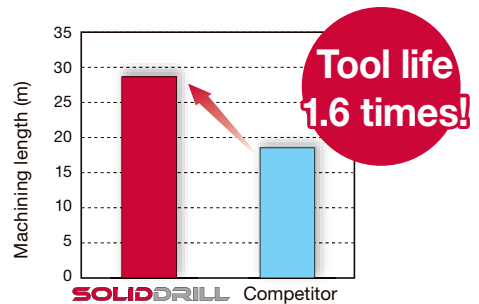
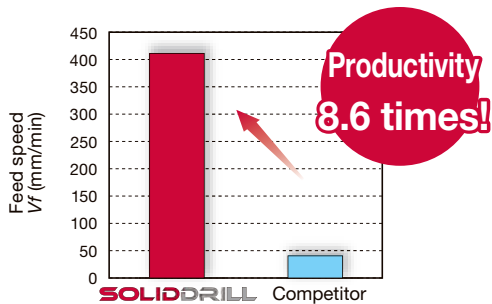


# SOLIDDRILL

## Features



## Tool life

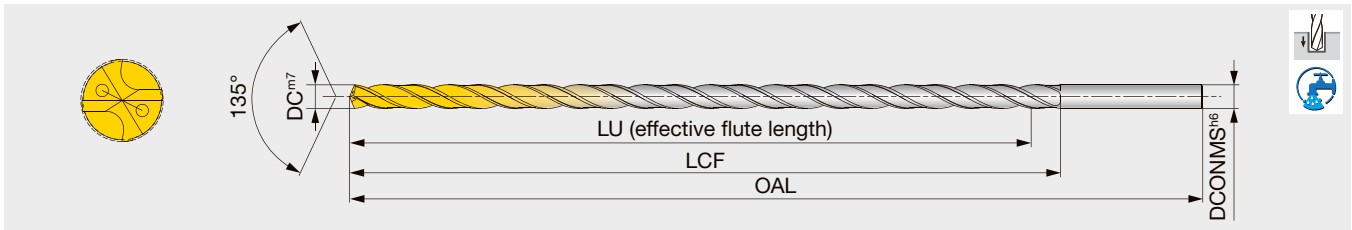


**P** Tool : DSW040-127-06Cl30 (ø4 mm)  
 Grade : AH725  
 Workpiece material : Alloy steel (30HRC)  
 Cutting speed :  $V_c = 65$  m/min  
 Feed :  $f = 0.1$  mm/rev  
 Feed speed :  $V_f = 414$  mm/min  
 Hole depth :  $H = 120$  mm  
 Coolant : Internal

**M** Tool : DSW050-157-06Cl30 (ø5 mm)  
 Grade : AH725  
 Workpiece material : Austenitic stainless steel  
 Cutting speed :  $V_c = 53$  m/min  
 Feed :  $f = 0.05$  mm/rev  
 Feed speed :  $V_f = 170$  mm/min  
 Hole depth :  $H = 185$  mm  
 Coolant : Internal

## DSW-CI16/20/30

Solid drill, L/D = 16, 20, 30, cylindrical shank, with coolant holes



Designation	DC	AH725	DCONMS	LU	LCF	OAL
DSW030-055-06CI16	3	●	6	55	60	100
DSW040-069-06CI16	4	●	6	69	75	115
DSW050-082-06CI16	5	●	6	82	90	130
DSW060-099-08CI16	6	●	6	99	108	150
DSW070-114-08CI16	7	●	8	114	125	165
DSW080-128-08CI16	8	●	8	128	140	180
DSW030-075-06CI20	3	●	6	75	80	120
DSW040-084-06CI20	4	●	6	84	90	130
DSW050-112-06CI20	5	●	6	112	120	160
DSW060-131-06CI20	6	●	6	131	140	185
DSW080-168-08CI20	8	●	8	168	180	230
DSW100-215-10CI20	10	●	10	215	230	290
DSW030-097-06CI30	3	●	6	97	105	150
DSW040-127-06CI30	4	●	6	127	135	185
DSW050-157-06CI30	5	●	6	157	165	215
DSW060-172-06CI30	6	●	6	172	180	230
DSW070-222-08CI30	7	●	8	222	230	280
DSW080-257-08CI30	8	●	8	257	265	315

● : New product

## STANDARD CUTTING CONDITIONS

16xD, 20xD

ISO	Workpiece material	Cutting speed Vc (m/min)	Feed: f (mm/rev)		
			Tool diameter: DC (mm)		
			ø3 - ø5	ø5.1 - ø8	ø8.1 - ø10
<b>P</b>	Low carbon steels (C < 0.3) SS400, SM490, S25C, etc. C15E4, E275A, E355D, etc.	70 - 90	0.1 - 0.18	0.1 - 0.2	0.1 - 0.25
	High carbon steels (C > 0.3) S45C, S55C, etc. C45, C55, etc.	70 - 90	0.1 - 0.18	0.1 - 0.2	0.1 - 0.25
	Low alloy steels SCM415, etc. 18CrMo4, etc.	70 - 90	0.1 - 0.18	0.1 - 0.2	0.1 - 0.25
	Alloy steels SCM440, SCr420, etc. 42CrMo4, 20Cr4, etc.	75 - 85	0.08 - 0.14	0.08 - 0.18	0.12 - 0.2
<b>M</b>	Stainless steels SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-2, etc.	55 - 65	0.04 - 0.12	0.08 - 0.16	0.1 - 0.18
<b>K</b>	Grey cast irons FC250, etc. GG25, etc.	80 - 100	0.14 - 0.24	0.16 - 0.26	0.18 - 0.3
	Ductile cast irons FCD700, etc. GGG70, etc.	80 - 100	0.14 - 0.24	0.16 - 0.26	0.18 - 0.3
<b>S</b>	Titanium alloys Ti-6Al-4V, etc.	35 - 45	0.06 - 0.12	0.08 - 0.16	0.1 - 0.18
	Nickel-based alloys	30 - 40	0.06 - 0.12	0.08 - 0.16	0.1 - 0.18

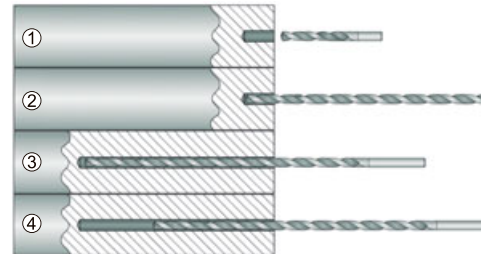
# STANDARD CUTTING CONDITIONS

30xD

ISO	Workpiece material	Cutting speed Vc (m/min)	Feed: <i>f</i> (mm/rev)		
			Tool diameter: DC (mm)		
			ø3 - ø5	ø5.1 - ø8	ø8.1 - ø10
<b>P</b>	Low carbon steels (C < 0.3) SS400, SM490, S25C, etc. C15E4, E275A, E355D, etc.	70 - 90	0.08 - 0.11	0.12 - 0.17	0.1 - 0.22
	High carbon steels (C > 0.3) S45C, S55C, etc. C45, C55, etc.	70 - 90	0.08 - 0.11	0.12 - 0.17	0.1 - 0.22
	Low alloy steels SCM415, etc. 18CrMo4, etc.	70 - 90	0.08 - 0.11	0.12 - 0.17	0.1 - 0.22
	Alloy steels SCM440, SCr420, etc. 42CrMo4, 20Cr4, etc.	75 - 85	0.06 - 0.09	0.08 - 0.14	0.1 - 0.18
<b>M</b>	Stainless steels SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-2, etc.	55 - 65	0.04 - 0.1	0.08 - 0.14	0.1 - 0.16
<b>K</b>	Grey cast irons FC250, etc. GG25, etc.	80 - 100	0.14 - 0.22	0.16 - 0.26	0.18 - 0.25
	Ductile cast irons FCD700, etc. GGG70, etc.	80 - 100	0.14 - 0.22	0.16 - 0.24	0.18 - 0.25
<b>S</b>	Titanium alloys Ti-6Al-4V, etc.	35 - 45	0.06 - 0.1	0.08 - 0.12	0.1 - 0.13
	Nickel-based alloys	30 - 40	0.06 - 0.1	0.08 - 0.12	0.08 - 0.13

## Recommended Drilling Procedure for Deep Hole Drilling

- ① Drill a pilot hole 1 - 2xD deep with a short drill. The pilot hole diameter should be up to 0.05 mm larger than the long drill and its point angle should also be bigger than 135°.
- ② Enter the pre-hole using low feed and rotate at low speed (50 - 100 RPM) until it engages the material.
- ③ Activate the coolant system and increase rotation speed to the recommended cutting parameter, maintain for 2 - 3 seconds, then continue at recommended drilling feed. No pecking is required.
- ④ After having reached the required depth, reduce speed to 50 - 100 RPM before retracting from the hole.



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