

CARBIDE STRAIGHT FLUTE DRILLS FOR ALUMINUM & COPPER- 2F(5xd)

Technical drawing of a double-flute drill bit. The drawing shows the bit from the side with the following dimensions labeled:

- L_1 : Length of the cutting edge.
- L_2 : Length of the cutting edge plus the length of the flute.
- L : Total length of the drill bit.
- d : Diameter of the cutting edge.
- $D(h6)$: Diameter of the shank.

The bit features a double-flute design and a logo on the shank.

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➡ 技術資料 Technical Data P.630

Table 56

CDHCS 鎢鋼長刃內冷型高速鑽頭- 2刃(7倍長)(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	120m/min		85m/min		50m/min		40m/min		130m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	12,700	910	10,600	680	5,310	450	4,200	250	13,800	950
4mm	9,500	910	8,000	680	3,980	450	3,100	250	10,300	950
5mm	7,600	690	6,400	510	3,190	340	2,500	190	8,200	710
6mm	6,400	690	5,300	510	2,650	340	2,100	190	6,900	710
8mm	4,800	640	4,000	470	1,990	320	1,600	180	5,100	670
10mm	3,800	560	3,200	430	1,590	280	1,300	160	4,100	590
12mm	3,200	510	2,600	390	1,330	270	1,000	150	3,500	530
14mm	2,700	510	2,300	390	1,140	270	910	150	3,000	530
16mm	2,400	450	2,000	330	995	210	700	120	2,300	470
18mm	2,100	450	1,800	330	890	210	700	120	2,300	470
20mm	1,900	360	1,600	260	800	170	650	100	2,000	380
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

※ 切削公式 Cutting Formula : $S(\text{主軸轉速}) = Vc(\text{切削速度}) \times 1000 / D(\text{外徑}) / \pi (3.14)$ $F(\text{進給速度}) = f(\text{每轉進給量}) \times S(\text{主軸轉速})$

Table 57

鎢鋼銅鋁用直刃鑽鉸刀(白刀) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

加工材質 Material	鑄鐵 Cast Iron		青銅 Bronze		鋁合金 Aluminum Alloys	
工件料號 Material Code	FC,FCD		—		Al 5052 / 6061 / 7075	
硬度 Hardness	HRC<30		HRC≤25		—	
切削速度 Vc	120m/min		80m/min		140m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
5mm	7,640	960	5,100	410	8,920	1,430
6mm	6,370	800	4,250	340	7,430	1,190
8mm	4,780	600	3,190	260	5,570	890
10mm	3,820	480	2,550	200	4,460	710
12mm	3,190	400	2,120	170	3,720	600
16mm	2,390	300	1,590	130	2,790	450
20mm	1,910	240	1,270	100	2,230	360
備註 Remarks						

※ 切削公式 Cutting Formula : $S(\text{主軸轉速}) = Vc(\text{切削速度}) \times 1000 / D(\text{外徑}) / \pi (3.14)$ $F(\text{進給速度}) = f(\text{每轉進給量}) \times S(\text{主軸轉速})$

- 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。When the sound is piercing, please lower the spindle speed(S) (10~40%).
- 當機台震動太大時，請調降進給速度(F) (10~40%)。When the machine is vibrating, please decrease the feed rate(F) (10~40%).
- 當主軸負載太大時，請調降進給速度(F) (10~40%)。When the spindle load is high, please decrease the feed rate(F) (10~40%).
- 以上數據為建議值，適當的條件仍需視機台狀況，夾治具品質，潤滑冷卻系統...等而改變。

These are recommended values which depend on the condition of the machine, fixture, lubricating & cooling systems... etc. They may have to be adapted.