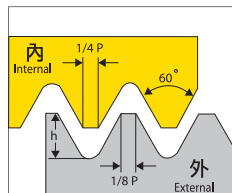
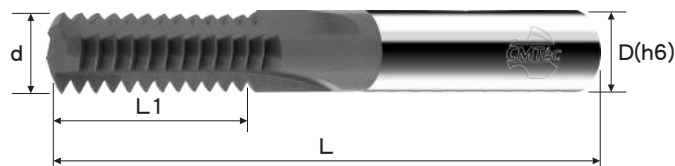


鎢鋼直刃銑牙刀- 外/內螺紋用(ISO規格)

CARBIDE THREAD MILLS- Straight Flute- External / Internal(ISO Metric)

· CTSI000000-000A

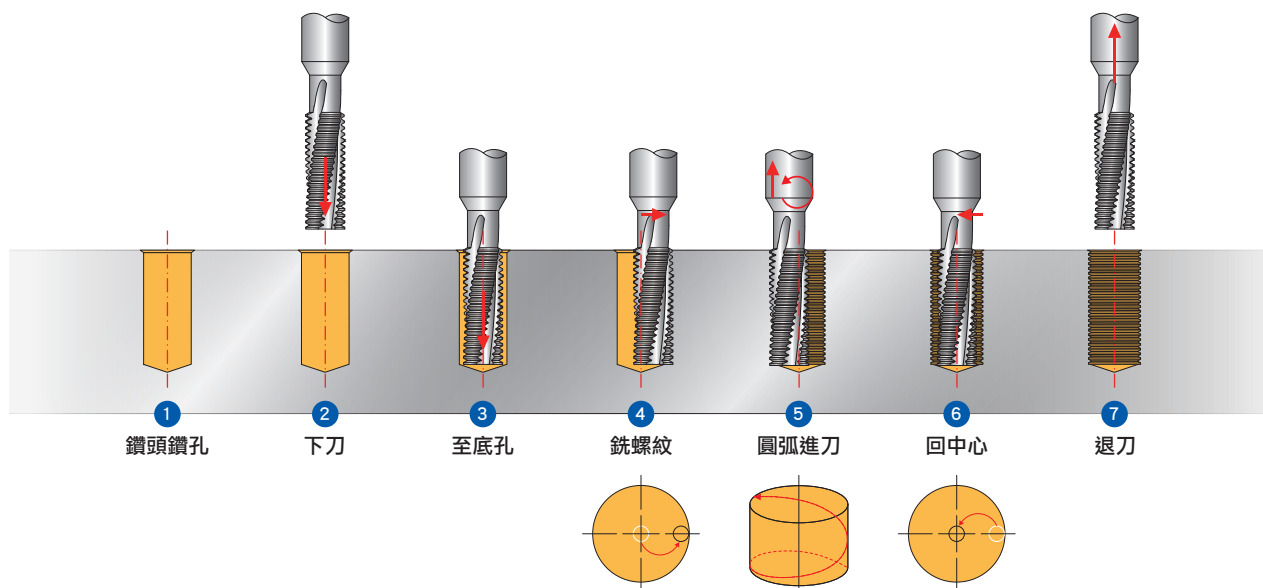


公差 Tolerance class
6g / 6H



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螺紋 Thread	螺距 Pitch	刃徑 d	刃長 L1	全長 L	柄徑 D	h (mm)	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
M4.5	0.75	3.0	6.7	50	4	0.43	9	3	CTSI303004-075A
M8	0.75	5.9	15.0	60	6	0.43	20	3	CTSI305906-075A
M5	0.80	3.6	8.0	50	4	0.46	10	3	CTSI303604-080A
M6	1.00	4.0	9.0	60	6	0.58	9	3	CTSI304006-100A
M12	1.00	7.9	20.0	60	8	0.58	20	3	CTSI307908-100A
M8	1.25	5.0	12.5	60	6	0.72	10	3	CTSI305006-125A
M10	1.50	5.9	15.0	60	6	0.87	10	3	CTSI305906-150A
M14	1.50	9.9	24.0	75	10	0.87	16	5	CTSI509910-150A
M18	1.50	11.9	30.0	100	12	0.87	20	5	CTSI511912-150A
M12	1.75	7.9	19.2	60	8	1.01	11	3	CTSI307908-175A
M16	2.00	9.9	24.0	75	10	1.15	12	5	CTSI509910-200A
M18	2.00	11.9	30.0	100	12	1.15	15	5	CTSI511912-200A
M20	2.50	11.9	30.0	100	12	1.44	12	5	CTSI511912-250A
M24	3.00	15.9	36.0	100	16	1.73	12	5	CTSI515916-300A
M30	3.50	15.9	38.5	100	16	2.02	11	5	CTSI515916-350A
M36	4.00	15.9	40.0	100	16	2.31	10	5	CTSI515916-400A
M48	5.00	19.9	40.0	100	20	2.89	8	5	CTSI519920-500A
M64	6.00	19.9	36.0	100	20	3.46	6	5	CTSI519920-600A



→ 切削條件表
Cutting Condition P.566

→ 下孔徑建議
Drill hole dia. P.652

Table 61

鎢鋼銑牙刀 切削條件表

SOLID CARBIDE THREAD MILLS- THREADING CONDITION TABLE

材質 Material Group		加工材質 Material	布式硬度 HB	直刀 Straight		螺旋刃 Helix	
				切削速度 Vc (m/min)	每刃進給量 fz (mm)	切削速度 Vc (m/min)	每刃進給量 fz (mm)
P	非合金鋼 Unalloyed steels	低碳(C=0.1~0.25%) Low carbon	125	40~140	0.008~0.08	65~200	0.024~0.12
		中碳(C=0.25~0.55%) Medium carbon	150	40~110	0.008~0.064	65~185	0.024~0.08
		高碳(C=0.55~0.85%) High carbon	170	40~100	0.008~0.04	65~160	0.024~0.064
	低合金鋼(含量5%) Low alloy steels	易切的 Non hardened	180	50~140	0.024~0.06	50~145	0.024~0.08
		調質的 Hardened	275	50~130	0.024~0.06	50~135	0.024~0.056
		調質的 Hardened	350	50~130	0.004~0.008	50~130	0.008~0.024
	高合金鋼(含量5>%) High alloy steels	退火的 Annealed	200	30~70	0.008~0.024	30~80	0.024~0.04
		淬硬的 Hardened	325	20~60	0.004~0.008	25~65	0.008~0.024
鑄鋼 Cast steels	低合金鋼(含量≤5%) Low alloy	200	60~160	0.008~0.024	65~200	0.024~0.08	
	高合金鋼(含量>5%) Hight alloy	225	50~120	0.004~0.008	50~135	0.008~0.024	
	M	鐵素不銹鋼 Stainless steels Ferritic	易切的 Non hardened	200	40~110	0.008~0.04	50~120
淬硬的 Hardened			330	40~90	0.004~0.008	50~95	0.008~0.04
奧氏不銹鋼 Stainless steels Austenitic		奧氏 Austenitic	180	50~100	0.006~0.016	50~110	0.032~0.08
		優良奧氏 Super Austenitic	200	40~100	0.006~0.016	50~105	0.032~0.08
鐵素鑄造不銹鋼 Stainless steels Cast Ferritic		易切的 Non hardened	200	40~120	0.008~0.024	50~130	0.032~0.08
		淬硬的 Hardened	330	40~80	0.004~0.008	50~90	0.024~0.04
奧氏鑄造不銹鋼 Stainless steels Cast Austenitic		奧氏 Austenitic	200	40~110	0.008~0.024	50~120	0.032~0.08
		淬硬的 Hardened	330	40~70	0.008~0.024	50~80	0.024~0.04
K	球墨鑄鐵 Malleabe Cast Iron	鐵素(短屑) Ferritic(short chips)	130	50~120	0.004~0.008	50~55	0.008~0.024
		珠光(長屑) Pearlitic(long chips)	230	40~110	0.004~0.008	50~120	0.024~0.04
	灰鑄鐵 Grey Cast Iron	低抗拉強度 Low tensile strength	180	40~110	0.006~0.016	55~130	0.02~0.08
		高抗拉強度 Hight tensile strength	260	30~90	0.004~0.008	30~95	0.024~0.04
	可鍛造鑄鐵 Nodular SG Iron	鐵素 Ferritic	160	30~80	0.006~0.016	30~90	0.04~0.08
		珠光 Pearlitic	260	30~70	0.004~0.12	30~80	0.024~0.04
N	可鍛壓鋁合金 Aluminium Alloys Wrought	鍛造 Non aging	60	120~200	0.04~0.12	160~240	0.08~0.2
		時效處理 Aged	100	80~180	0.024~0.12	120~200	0.08~0.16
	鋁合金 Aluminium Alloys	鑄造 Cast	75	60~120	0.04~0.12	80~160	0.08~0.16
		鑄造和時效 Cast & Aged	90	70~130	0.24~0.08	95~175	0.08~0.12
	鋁合金 Aluminium Alloys	鑄鋁，含矽量13~22% Cast Si	130	120~200	0.04~0.12	160~240	0.08~0.16
		銅及鋁合金 Copper & Aluminium Alloys	黃銅 Brass	90	120~200	0.04~0.12	160~240
青銅、紫銅 Bronze & non leaded copper	100		80~180	0.024~0.08	120~200	0.08~0.16	
S	高溫合金 High-Temp Alloys	退火的(鐵基)Annealed(iron based)	200	20~40	0.006~0.016	25~50	0.032~0.08
		時效的(鐵基)Aged(iron based)	280	15~30	0.004~0.008	15~40	0.008~0.024
		退火的(鎳或鈷基) Annealed(Nickel or Cobalt based)	250	10~20	0.004~0.008	10~30	0.008~0.024
		時效的(鎳或鈷基) Aged(Nickel or Cobalt based)	350	12~20	0.004~0.008	10~25	0.008~0.024
		純鈦(99.5%) Pure(99.5% Ti)	400Rm	20~60	0.006~0.016	30~65	0.024~0.04
		α + β 合金 α + β alloys	1050Rm	15~40	0.006~0.016	15~40	0.024~0.04
H	超硬鋼 Extra Hard Steels		45~50HRC	10~30	0.002~0.005	10~35	0.004~0.008
		調質鋼 Hardened & Tempered	50~55HRC	10~20	0.002~0.005	10~30	0.004~0.008

※ 刀具「切入進給量」建議採取低於「螺紋切削時進給量」60%。
At tools entry, set the Feed (mm) to 60% lower than the threading Feed.

※ 切削公式 Cutting Formula : S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14) F(進給速度) = fz(每刃進給量) × Z(刃數) × S(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.