



Carmex
Precision Tools Ltd.
x-treme thread cutting™



New

高效能硬质合金螺纹铣刀

FMT Fast MT



Fast MT

- Carmex has designed a unique line of solid carbide thread milling tools FMT for increased productivity, and high performance.
Carmex独特设计的整体硬质合金螺纹铣刀FMT用于高性能和高效率螺纹铣削加工
- Large number of flutes enables to achieve significant shorter machining time.
多槽设计显著的缩短了加工时间

FMT vs. Taps FMT对比丝锥

Features 特点	FMT FMT	Taps 丝锥
Thread up to bottom at blind hole 盲孔至平底	Possible 可以	Not possible 不可以
Machining load 切削扭矩	Very low 低	High 高
Thread surface quality 螺纹表面质量	High 高	Medium 中
Process reliability 切削过程	Very reliable, especially for expensive work pieces 非常可靠, 特别是对昂贵的工件	Medium 中
Thread geometry 螺纹的几何形状	Very accurate 非常的精确	Medium 中
Cycle time 加工周期	Same or faster than tap 相同或优于丝锥	Fast 快速

Carbide grade MT8: MT8级硬质合金

Sub Micron grade with advanced PVD triple coating (ISO K10-K20). 亚微粒级带三层PVD涂层 (ISO K10-K20)
Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions.
General purpose for all materials. 特别的耐热和耐磨, 光滑的切削, 高效能和常规机加条件
适用所有材料加工

Test Report 试验报告

Application 应用数据

Internal right hand thread: M6x1.0 右手内螺纹: M6*1
Thread length: 10 mm, Blind hole 螺纹深度10mm, 盲孔
Bore size: Ø 5 mm 孔径5mm
Chamfer: 0.9 mm 倒角0.9mm

Work piece material 工件材料

Steel SAE 4340 美国 SAE 4340 合金钢, 相当于42CrMo

Cutter description 螺纹铣刀描述

FMT08048F10 1.0 ISO- with internal coolant FMT08048F 10 1.0 ISO-带内冷
Shank diameter: Ø8 mm 柄径8mm
Cutting diameter: Ø4.8 mm 切削直径4.8mm
Number of flutes: 6 切削槽数 6
Cutting length: 10.5 mm 切削深度 10.5mm
Total length: 64 mm 螺纹铣刀总长度 64 mm

Cutting conditions 切削条件

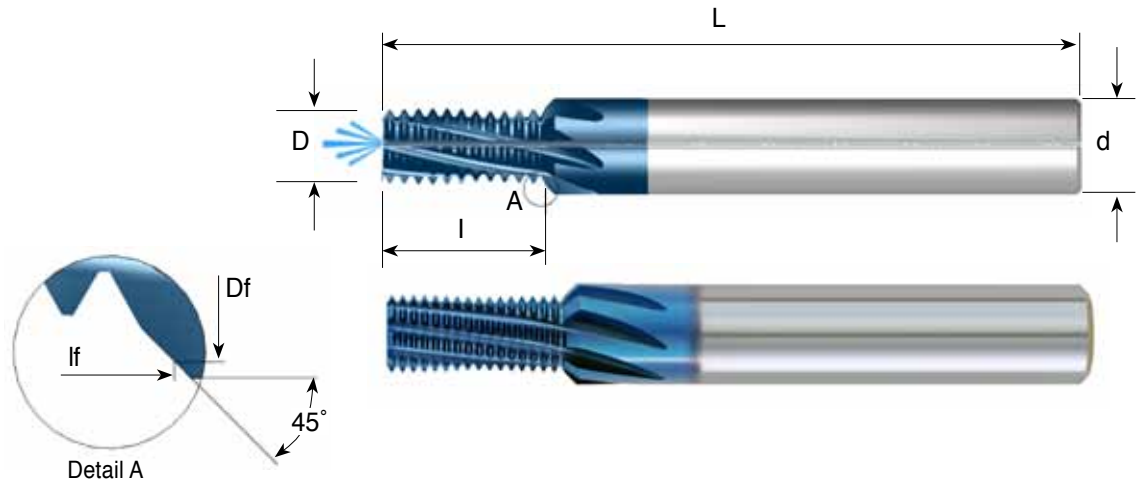
Cutting speed: 130 m/min Feed: 0.016 mm/tooth 切削速度: 130m/min, 进给0.016mm/tooth

Machine 机床

Mori Seiki NV5000 Coolant: emulsion 5% Mori Seiki 森精机 NV5000 乳化液5%

Results 结果

Tool life : 2,170 threads 螺纹铣刀寿命: 2170个螺纹
Cycle time: 1.5 sec 加工时间: 1.5秒/个



ISO

带45°倒角刃

Pitch mm	M coarse	M fine	Ordering Code	d	D	Df	Flutes	I	lf	L
1.0	M6	$\varnothing \geq 7$	FMT 08048 F10 1.0 ISO	8	4.8	6.8	6	10.5	11.5	64
1.25	M8	$\varnothing \geq 10$	FMT 10064 G14 1.25 ISO	10	6.4	9.6	7	14.4	16.0	73
1.5	M10	$\varnothing \geq 12$	FMT 1008 G17 1.5 ISO	10	8.0	9.8	7	17.3	18.2	73
1.75	M12	$\varnothing \geq 12$	FMT 12095 G20 1.75 ISO	12	9.5	11.7	7	20.1	21.2	84

UN

Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	Df	Flutes	I	lf	L
24		5/16, 3/8	9/16, 5/8, 11/16	FMT 10066 G14 24 UN	10	6.6	9.6	7	14.3	15.8	73
20	1/4			* FMT 08048 E12 20 UN	8	4.8	6.8	5	12.1	13.1	64
20		7/16, 1/2	3/4, 1	FMT 12092 H21 20 UN	12	9.2	11.4	8	21.0	22.1	84
18	5/16	9/16, 5/8	11/16	FMT 1006 F14 18 UN	10	6.0	8.4	6	14.8	16.0	73
16	3/8	3/4		FMT 10074 F16 16 UN	10	7.4	9.6	6	16.7	17.8	73
14	7/16	7/8		FMT 12085 F20 14 UN	12	8.5	10.7	6	20.9	22.0	84

* without internal coolant

Cutting Data 切削数据



ISO Standard	Materials	Cutting Speed m/min	Feed mm/tooth Cutting Diameter = D				
			Ø 5	Ø 6	Ø 8	Ø 10	Ø 12
P	Low&Medium Carbon Steels <0.55%C	100-250	0.03	0.06	0.07	0.08	0.09
	High Carbon Steels ≥0.55%C	110-180	0.03	0.05	0.06	0.07	0.08
	Alloy Steels, Treated Steels	90-60	0.02	0.03	0.04	0.05	0.05
M	Stainless Steel-Free Cutting	60-160	0.03	0.04	0.05	0.06	0.06
	Stainless Steel-Austenitic	60-120	0.01	0.03	0.04	0.05	0.05
	Cast Steels	130-170	0.02	0.03	0.04	0.05	0.05
K	Cast Iron	70-150	0.04	0.06	0.07	0.08	0.09
N	Aluminum ≤12%Si, Copper	150-350	0.04	0.06	0.07	0.08	0.09
	Aluminum >12%Si	100-250	0.03	0.03	0.04	0.05	0.05
	Synthetics, duroplastics, thermoplastics	100-400	0.06	0.08	0.10	0.11	0.12
S	Nickel alloys, Titanium alloys.	20-80	0.02	0.03	0.03	0.03	0.03
H	Hardened Steel, 45-50HRc	60-70	0.02	0.03	0.03	0.03	0.03



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