



**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

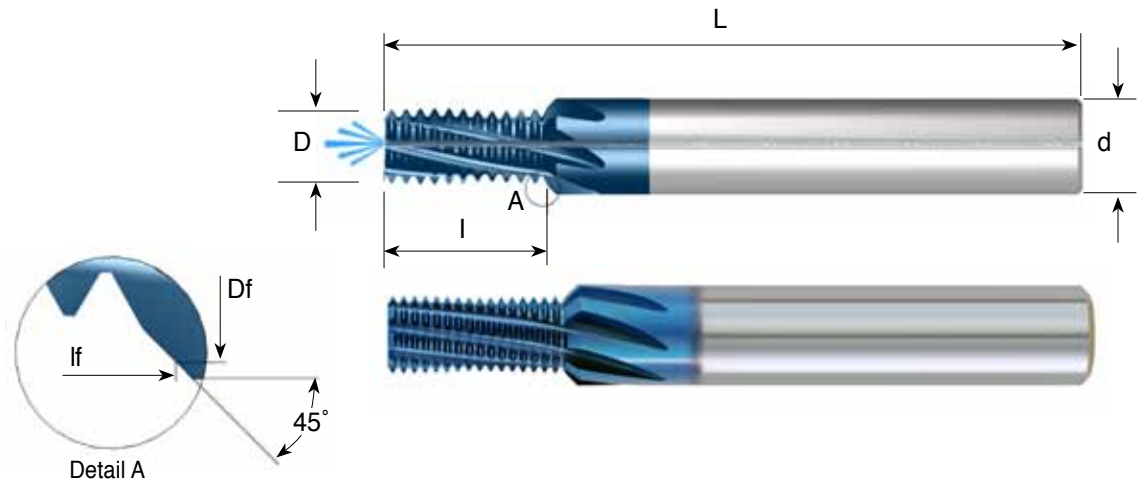
Cutting speed: 130 m/min Feed: 0.016 mm/tooth 切削速度: 130m/min, 进给0.016mm/tooth

### 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	$\varnothing \geq 7$	<b>FMT 08048 F10 1.0 ISO</b>	8	4.8	6.8	6	10.5	11.5	64
1.25	M8	$\varnothing \geq 10$	<b>FMT 10064 G14 1.25 ISO</b>	10	6.4	9.6	7	14.4	16.0	73
1.5	M10	$\varnothing \geq 12$	<b>FMT 1008 G17 1.5 ISO</b>	10	8.0	9.8	7	17.3	18.2	73
1.75	M12	$\varnothing \geq 12$	<b>FMT 12095 G20 1.75 ISO</b>	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	<b>FMT 10066 G14 24 UN</b>	10	6.6	9.6	7	14.3	15.8	73
20	1/4			<b>* FMT 08048 E12 20 UN</b>	8	4.8	6.8	5	12.1	13.1	64
20		7/16, 1/2	3/4, 1	<b>FMT 12092 H21 20 UN</b>	12	9.2	11.4	8	21.0	22.1	84
18	5/16	9/16, 5/8	11/16	<b>FMT 1006 F14 18 UN</b>	10	6.0	8.4	6	14.8	16.0	73
16	3/8	3/4		<b>FMT 10074 F16 16 UN</b>	10	7.4	9.6	6	16.7	17.8	73
14	7/16	7/8		<b>FMT 12085 F20 14 UN</b>	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
<b>P</b>	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
<b>M</b>	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
<b>K</b>	Cast Iron	70-150	0.04	0.06	0.07	0.08	0.09
<b>N</b>	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
<b>S</b>	Nickel alloys, Titanium alloys.	20-80	0.02	0.03	0.03	0.03	0.03
<b>H</b>	Hardened Steel, 45-50HRc	60-70	0.02	0.03	0.03	0.03	0.03



1st Hacharoshet St., Maalot Industrial Zone 2101302, ISRAEL  
 Tel: (972) 4-9077400, Fax: (972) 4-9077440.  
 E-mail: info@carmex.com Website: www.carmex.com  
 Postal address: P.O. Box 404, Maalot 2101302, ISRAEL.