

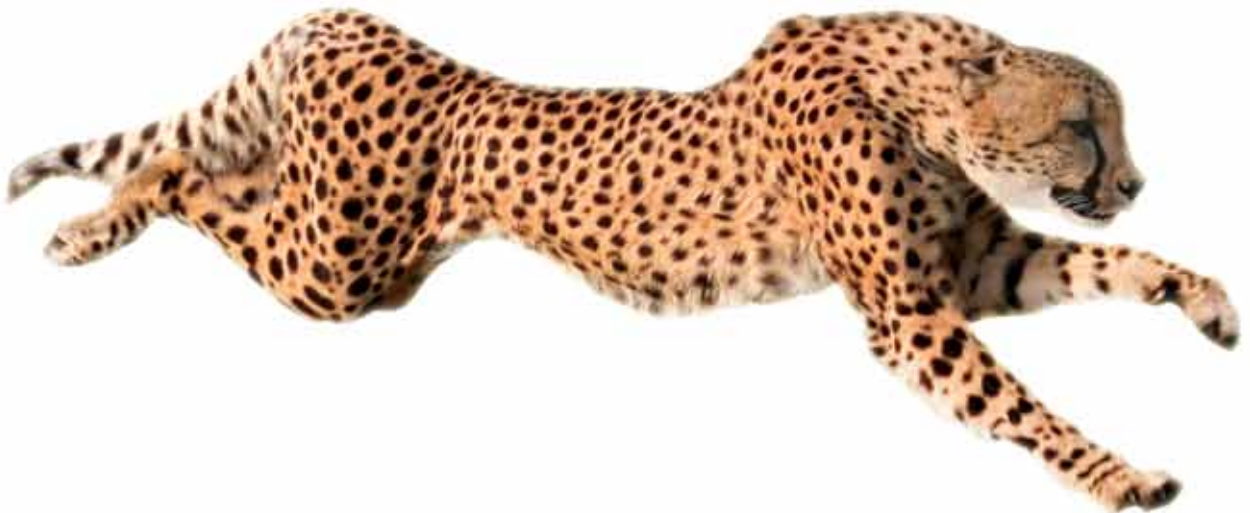


Carmex
Precision Tools Ltd.
x-treme thread cutting™



New

FMT Fast MT



Fast MT

- Carmex has designed a unique line of solid carbide thread milling tools FMT for increased productivity, and high performance.
- Large number of flutes enables to achieve significant shorter machining time.

FMT vs. Taps

| Features | FMT | Taps |
|-----------------------------------|-----------------------------------------------------|--------------|
| Thread up to bottom at blind hole | Possible | Not possible |
| Machining load | Very low | High |
| Thread surface quality | High | Medium |
| Process reliability | Very reliable, especially for expensive work pieces | Medium |
| Thread geometry | Very accurate | Medium |
| Cycle time | Same or faster than tap | Fast |

Carbide grade MT8:

Sub Micron grade with advanced PVD triple coating (ISO K10-K20).

Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

Test Report

Application

Internal right hand thread: M6x1.0
 Thread length: 10 mm, Blind hole
 Bore size: Ø 5 mm
 Chamfer: 0.9 mm

Work piece material

Steel SAE 4340

Cutter description

FMT08048F10 1.0 ISO- with internal coolant
 Shank diameter: Ø8 mm
 Cutting diameter: Ø4.8 mm
 Number of flutes: 6
 Cutting length: 10.5 mm
 Total length: 64 mm

Cutting conditions

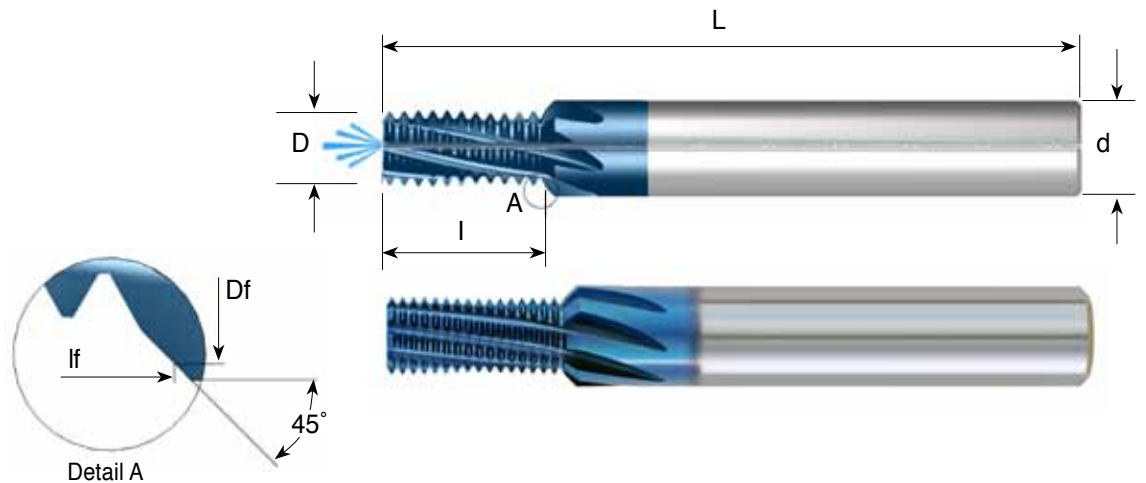
Cutting speed: 130 m/min Feed: 0.016 mm/tooth

Machine

Mori Seiki NV5000 Coolant: emulsion 5%

Results

Tool life : 2,170 threads
 Cycle time: 1.5 sec



ISO

| Pitch mm | M coarse | M fine | Ordering Code | d | D | Df | Flutes | I | If | L |
|----------|----------|---------------------|-------------------------------|----|-----|------|--------|------|------|----|
| 1.0 | M6 | $\emptyset \geq 7$ | FMT 08048 F10 1.0 ISO | 8 | 4.8 | 6.8 | 6 | 10.5 | 11.5 | 64 |
| 1.25 | M8 | $\emptyset \geq 10$ | FMT 10064 G14 1.25 ISO | 10 | 6.4 | 9.6 | 7 | 14.4 | 16.0 | 73 |
| 1.5 | M10 | $\emptyset \geq 12$ | FMT 1008 G17 1.5 ISO | 10 | 8.0 | 9.8 | 7 | 17.3 | 18.2 | 73 |
| 1.75 | M12 | $\emptyset \geq 12$ | 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 | If | 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



| 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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