



Carmex
Precision Tools Ltd.

Carmex-2019

螺纹铣削软件 使用方法补充

这个补充说明，根据客户来电询问铣削的问题而制作。将原使用说明未及的螺纹标准举例说明，限于篇幅，仍然不能全面说明，有问题请来电。

有客户来电咨询：要加工螺纹规格系统里没有，请选择其它（**Other**）

Requirements

Requirements Materials Tool Data CNC Post Processor CNC Settings Program

Basic Requirements

Thread Profile 螺纹标准 Please select thread profile... 请选择螺纹标准

- NPSF - Dryseal
- NPSM
- MJ - ISO 5855
- UNJ - UNJC, UNJF, UNJEF, UNJS
- PG - DIN 40430
- Trapez - DIN 103
- ACME
- American Buttress

可提供的
所有螺纹
铣削标准

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现在选择你所需要加工的螺纹标准和螺距。

Requirements

Requirements | Materials | Tool Data | CNC Post Processor | CNC Settings | Program

Basic Requirements

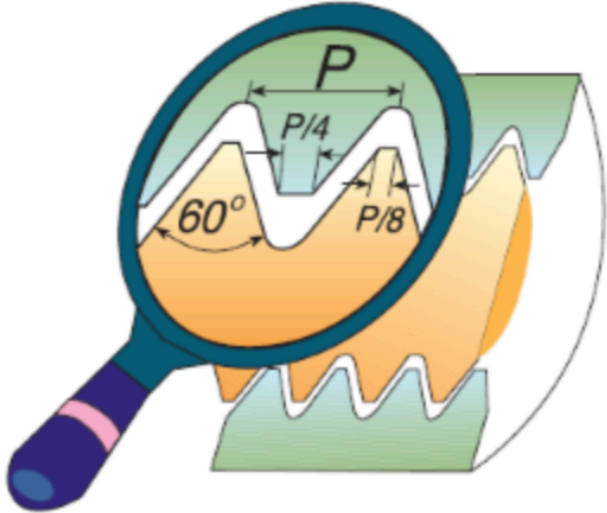
Thread Profile 螺纹标准

Pitch 螺距 请选择螺距

- Please select pitch...
- 0.25
- 0.3
- 0.35
- 0.4
- 0.45
- 0.5
- 0.6

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Profile



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假设我们选择螺距1.5mm。

Requirements



Requirements



Materials



Tool Data



CNC Post Processor



CNC Settings



Program

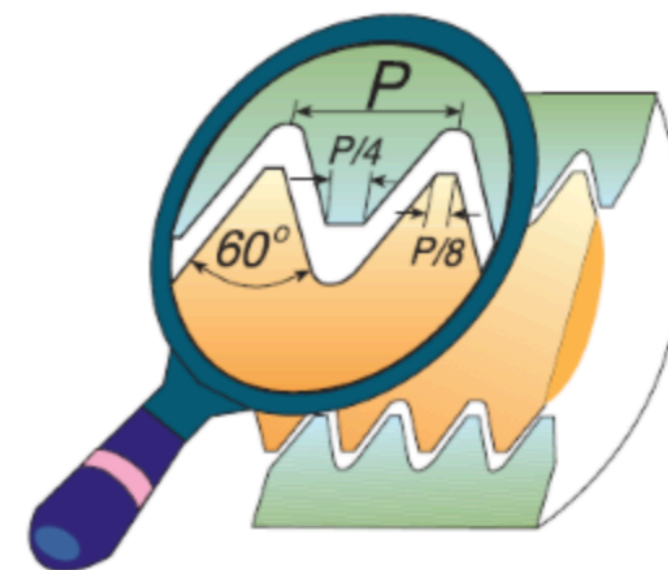
Basic Requirements

Thread Profile 螺纹标准

Pitch 螺距 如果选择螺距是 1.5mm

Standard 螺纹规格

Profile



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当我们要加工规格系统里没有，请点击其它（**Other**）



The screenshot shows the 'Requirements' section of the Carmex Tool Wizard. A dropdown menu is open for the 'Standard' field, listing various thread specifications: M45 x 1.5 Fine, M48 x 1.5 Fine, M50 x 1.5 Fine, M52 x 1.5 Fine, M55 x 1.5 Fine, M56 x 1.5 Fine, M58 x 1.5 Fine, and 'Other...'. Below the list is a blue button that says 'Please select standard...' and '请选择螺纹规格'. A red arrow points from the 'Other...' option to a text box below the interface.

Basic Requirements

Thread Profile 螺纹标准

Pitch 螺距

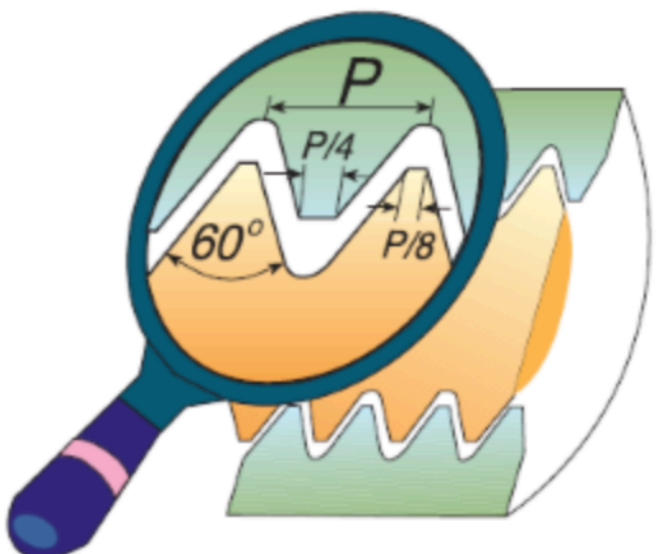
Standard 螺纹规格

Other...

Please select standard... 请选择螺纹规格

如果你要加工的螺纹规格表中没有，请点击“Other...(其它)”

Profile



下一步需要填写你所需要加工的螺纹直径，我们假设螺纹大径是（**DO**）是60mm，螺纹长度是30mm。选择加工内螺纹（**Internal**），系统会自动生成螺纹大径、螺纹中径、螺纹小径和螺旋升角。（螺纹铣削螺旋升角影响较小）

Requirements

Requirements Materials Tool Data CNC Post Processor CNC Settings Program

Basic Requirements

Thread Profile 螺纹标准 ISO

Pitch 螺距 1.5 mm

Standard 螺纹规格 Other... 规格里没有的选择Other... (其它)

Diameter (**Do**) 螺纹大径 60 mm

Length (**Lo**) 有效长度 30 此栏填写螺纹有效长度 mm

Internal/External 内/外螺纹 Internal 此栏目前选择的是内螺纹

Catalog Selection

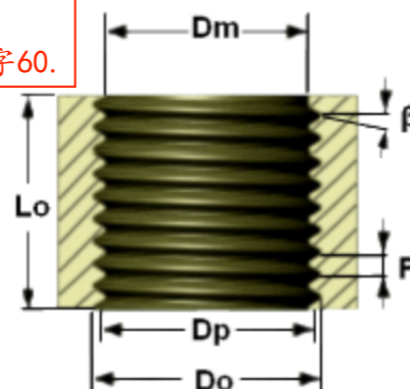
Catalog 目录 Metric 此栏可选择公制目录或者英制目录

Thread Data 螺纹数据

| | |
|------------------------------------|-----------|
| 螺纹大径 Major Diameter (Do): | 60.000 mm |
| 螺纹中径 Pitch Diameter (Dp): | 59.026 mm |
| 螺纹小径 Minor Diameter (Dm): | 58.376 mm |
| 螺旋升角 Helix Angle (β): | 0.5° |
| 钻孔直径 Drill Diameter: | 58.5 mm |

以上数据是系统自动生成

Thread Drawing



比如要加工的螺纹是 M60X1.5mm, 就在此栏填写数字60.

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可选择的螺纹铣刀很多，可根据自己的需求选择螺纹铣刀种类。

Tool Selection

Tool Family Selection:

MT (Solid carbide tools)

Solid Tools

MT (Solid carbide tools) 目前是选择MT系列螺纹铣刀

MTB (Solid carbide tools with coolant bore)

MTZ (Solid Carbide with internal coolant through the flutes)

MTQ (Solid carbide tools for long threads)

MTS (Mini mill-thread)

MTI (Partial profile 60/55° tools)

MTSB (Mini mill-thread with coolant bore)

Indexable Tools

SR (Toolholders and Inserts)

SRS (Single point mill-thread)

SRH (Spiral Toolholders and Inserts)

D-Thread (Toolholders and Inserts for deep threads)

CMT (Vertical mill-thread)

CMT (Spiral multi-flute)

CMT SRI (Multi-Insert milling cutters)

DR (Deep reach mill-thread)

可提供
螺纹
铣刀
种类

Tool Data

Tool Data
CNC Post
CNC Settings
Program

| | | | |
|---------------|--------------------------|--------------------------|---------------------|
| Part Code: | 订货号 MT1616F33 1.5 | Profile: 螺纹标准 | ISO |
| Thread Code: | 螺纹标准 ISO | Pitch (P): 螺距 | 1.5 mm |
| Part Code: | 代码 0040200169 | Profile Type: 螺纹牙型 | Full 完整牙 |
| Diameter (D): | 16 mm 铣刀直径 | Number of Flutes: 切削刃数 | 6 6刃 |
| Diameter (d): | 16 mm 铣刀柄径 | Number of Teeth: 螺纹牙数 | 22 22牙 (轴向) |
| Length (L): | 105 mm 铣刀总长 | Internal/External: 内/外螺纹 | Internal 内螺纹 |
| Length (l): | 33.8 mm 有效长度 | Cooling: 冷却 | No 无 |

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Requirements

Requirements

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Program

Basic Requirements

| | | |
|-------------------|----------|-----|
| Thread Profile | NPT | |
| Size | 1" | |
| Pitch | 11.5 | TPI |
| Diameter (Do) | 33.228 | mm |
| Length (Lo) | 17.343 | mm |
| Internal/External | Internal | |

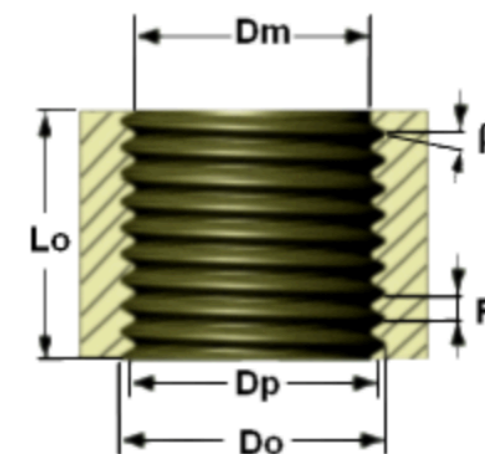
Catalog Selection

| | |
|-------------------------|--------|
| Catalog | Metric |
|-------------------------|--------|

Thread Data

| | |
|--------------------------|-----------|
| Major Diameter (Do): | 33.228 mm |
| Pitch Diameter (Dp): | 31.461 mm |
| Minor Diameter (Dm): | 29.694 mm |
| Helix Angle (β): | 1.3° |
| Drill Diameter: | 29.0 mm |

Thread Drawing



Requirements



Requirements



Materials



Tool Data



CNC Post Processor



CNC Settings



Program

Basic Requirements

| | |
|-------------------|---|
| Thread Profile | <input type="text" value="BSPT"/> |
| Size | <input type="text" value="3/4"/> |
| Pitch | <input type="text" value="14"/> <input type="text" value="TPI"/> |
| Diameter (Do) | <input type="text" value="26.441"/> <input type="text" value="mm"/> |
| Length (Lo) | <input type="text" value="14.5"/> <input type="text" value="mm"/> |
| Internal/External | <input type="text" value="Internal"/> |

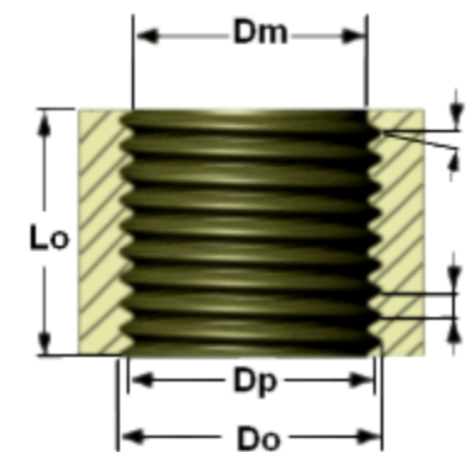
Catalog Selection

| | |
|-------------------------|-------------------------------------|
| Catalog | <input type="text" value="Metric"/> |
|-------------------------|-------------------------------------|

Thread Data

| | |
|--------------------------|------------------|
| Major Diameter (Do): | 26.441 mm |
| Pitch Diameter (Dp): | 25.279 mm |
| Minor Diameter (Dm): | 24.118 mm |
| Helix Angle (β): | 1.3° |
| Drill Diameter: | 23.5 mm |

Thread Drawing



系统会提示：对于锥度螺纹铣削，我们推荐在螺纹铣削操作之前进行铣削准备（使用专用锥度立铣刀加工锥孔）。准备工作有助于确保螺纹铣刀切削刃上的负荷均匀分布。这增加了铣刀/可转为铣刀的刀具寿命，同时缩短了加工时间。


注意：不经过锥度铣刀铣锥孔，直接进行锥度螺纹铣削会降低螺纹铣刀寿命。



Tip

i For conical threads, we recommend to perform a milling preparation (using a tapered end mill), before the thread milling operation.

The preparation helps to ensure that the load on the cutting edge of the mill thread cutter is distributed evenly. This increases the tool life of the mill thread cutters/indexable inserts, while reducing the machining time.



Ordering code(s) of matching end mills:

- SC1085D24 **Carmex提供锥度螺纹铣刀**
- SC1210D32 **SC1085D24 / SC1210D32**

对于锥度螺纹铣削，我们推荐在螺纹铣削操作之前进行铣削准备（使用专用锥度立铣刀加工锥孔）。准备工作有助于确保螺纹铣刀切削刃上的负荷均匀分布。这增加了铣刀/可转位刀片的刀具寿命，同时缩短了加工时间。

OK

14-14 BSPT
0050400020

BSPT
14 TPI
Full
14

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