



**ALLIED MACHINE  
& ENGINEERING**

**WOHLHAUPTER®**

Holemaking Solutions for Today's Manufacturing



Drilling



Boring



Reaming



Burnishing



# Thread Milling

▶ *THREADING*

Solid Carbide and Indexable Thread Mills



Specials

AccuThread® 856

AccuThread® T3





SECTION

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E

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Threading

# Threading Solutions

Solid Carbide and Indexable Thread Mills | AccuThread® 856 | ThreadMills USA™



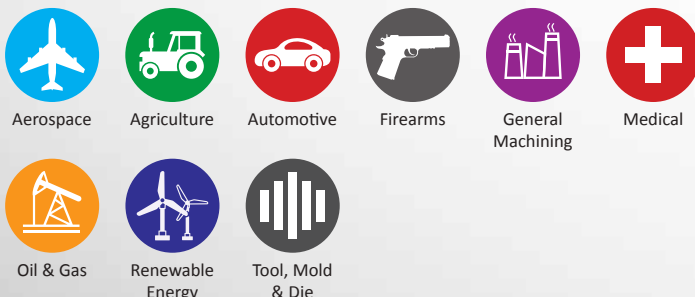
## Any Thread, Any Time

Allied Machine's thread milling product line has developed into a comprehensive range of high-precision tooling that offers outstanding productivity with exceptional levels of tool life and thread accuracy. The thread mill range covers both solid carbide and indexable replaceable insert tools with an extensive range of thread forms.

Our thread milling product line has been specifically designed to provide customers with a wide range of options. This is achieved by offering two thread mill ranges within our product lineup: the low cost, general production ThreadMills USA range and the high performance, high productivity AccuThread range.

Online programmer available 24/7.	Solid carbide and indexable insert styles.	Large range of thread form options.
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## Applicable Industries



Your safety and the safety of others is very important. This catalogue contains important safety messages. Always read and follow all safety precautions.



This triangle is a safety hazard symbol. It alerts you to potential safety hazards that can cause tool failure and serious injury.

When you see this symbol in the catalogue, look for a related safety message that may be near this triangle or referred to in the nearby text.

There are safety signal words also used in the catalogue. Safety messages follow these words.

### **WARNING**

**WARNING** (shown above) means that failure to follow the precautions in this message could result in tool failure and serious injury.

**NOTICE** means that failure to follow the precautions in this message could result in damage to the tool or machine but not result in personal injury.

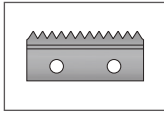
**NOTE** and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

Visit [www.alliedmachine.com](http://www.alliedmachine.com) for the most up-to-date information and procedures.

# Threading Solutions Contents

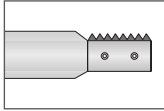
## Reference Icons

The following icons will appear throughout the catalogue to help you navigate between products.



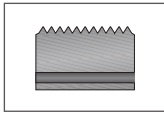
### Bolt-in Style Inserts

Refers to the available bolt-in style thread mill insert options



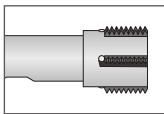
### Bolt-in Style Insert Holders

Refers to the range of holder options available for bolt-in style inserts



### Pin Style Inserts

Refers to the available pin style thread mill insert options.



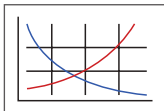
### Pin Style Insert Holders

Refers to the range of holder options available for pin style inserts



### Setup / Assembly Information

Detailed instructions and information regarding the corresponding part(s)



### Recommended Cutting Data

Speed and feed recommendations for optimum and safe threading



### Through Coolant Option

Indicates that the product is through coolant

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## Solid Carbide Thread Mills

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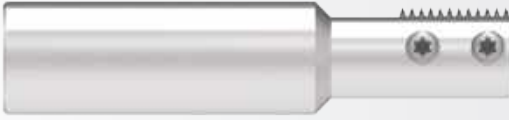



## High Performance Threading Solutions



## THREAD MILLING DONE *RIGHT*



Solid Carbide Thread Mills		Notes
AccuThread® 856		<ul style="list-style-type: none"> <li>Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products.</li> <li>Standard cutting lengths allow for multiple applications without the need for special thread mills.</li> <li>Helical flute offers increased strength and rigidity when cutting forces are applied.</li> </ul>
ThreadMills USA™		<ul style="list-style-type: none"> <li>Helical flute offers increased strength and rigidity when cutting forces are applied.</li> <li>High quality for consistent, predictable production.</li> <li>Through coolant options available. </li> <li>TiAlN coating improves tool life versus uncoated tools.</li> </ul>
AccuThread® T3		<ul style="list-style-type: none"> <li>Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products.</li> <li>Standard cutting lengths allow for multiple applications without the need for special thread mills.</li> <li>Helical flute offers increased strength and rigidity when cutting forces are applied.</li> </ul>

Indexable Insert Thread Mills		Notes
AccuThread® 856 Bolt-in Style		<ul style="list-style-type: none"> <li>Thread mill holders are manufactured from stainless steel that is engineered to dampen vibration during operation.</li> <li>Extensive range of thread forms with two thread lengths.</li> <li>Can produce left- or right-handed threads.</li> </ul>
AccuThread® 856 Pin Style		<ul style="list-style-type: none"> <li>Patented pin style locking system ensures unsurpassed repeatability.</li> <li>Thread mill holders are manufactured from stainless steel that is engineered to dampen vibration during operation.</li> <li>Extensive range of thread forms with two thread lengths.</li> </ul>
AccuThread® 856 Indexable Inserts	  <p>Bolt-in Style                      Pin Style</p>	<ul style="list-style-type: none"> <li>Full profiles present on all inserts allow 100% thread form against 65-75% for tapping.</li> <li>Allied Machine's premium carbide allows for extended tool life while providing high-quality thread forms.</li> <li>Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products.</li> </ul>

A DRILLING

B BORING

C REAMING

D BURNISHING

E THREADING

X SPECIALS

# Insta-Code®

Find your thread mill. Create your program.

The all new software lets you choose the best thread mill product for your application and create the program code for your machine. Insta-Code is available as a PC download app (that can be used offline) and an online web app available 24/7 at [www.alliedmachine.com/InstaCode](http://www.alliedmachine.com/InstaCode).

Eliminate the wait. Get your program now.



Insta-Code also has a **Cycle Time Calculator**



## Online Version



- Generates thread mill G-code programs.
- Available online 24/7.
- No login required.
- No updates needed.
- Easily share the program code.
- Supported on all web browsers.

## Download Version



- Creates program code for multiple machine platforms.
- Suggests a thread mill based on application details.
- Provides estimated cycle time for improved production.
- Available for use offline.

## Offline Version Updates



- Update your offline Insta-Code software.
- Download the updated .zip file, then transfer to the offline computer. Click "check for update" in your Insta-Code software and navigate to the downloaded zip file.
- This allows you to keep all your saved programs.

1


Download and open **Allied\_Machine\_Insta-Code.zip**

2

Click on **setup.exe** to install the program

3

**One click updates** are available for online computers


 Supported on all Windows OS

[www.alliedmachine.com/InstaCode](http://www.alliedmachine.com/InstaCode)

Solid Carbide Styles and Thread Forms

	Straight BSW	Helical BSPF, NPS, NPSF, UN, ISO	Taper Helical BSPT, NPT, NPTF	Helical (3-Tooth Style) UN, ISO
A DRILLING	 AccuThread® 856	 AccuThread® 856	 AccuThread® 856	 AccuThread® T3
B BORING	 ThreadMills USA™ (coolant and noncoolant)	 ThreadMills USA™ (coolant and noncoolant)	 ThreadMills USA™ (coolant and noncoolant)	

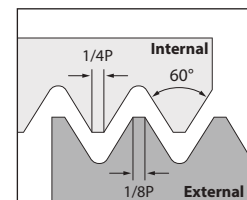
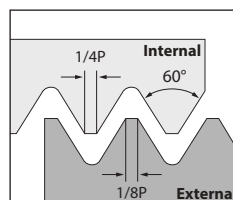
# AccuThread® T3



- Left-Hand Cutting**  
 The tool continues to climb mill while it moves from top to bottom  
 ► **Advantage**  
 Improves tool life and produces a precise thread form
- AM210® Coating**  
 Multilayer PVD coating  
 ► **Advantage**  
 Improves cycle times and tool life
- 3 Cutting Teeth**  
 The tool cuts minimal threads at once and reduces side deflection  
 ► **Advantage**  
 Cuts harder materials and produces deeper threads than a standard thread mill

**Additional Information**

- Available in UN and ISO thread forms.
- Available in imperial and metric shanks.
- Available in 2xD and 3xD lengths.



A  
DRILLING

B  
BORING

C  
REAMING

D  
BURNISHING

E  
THREADING

X  
SPECIALS

Port and Thread Finishing Kits



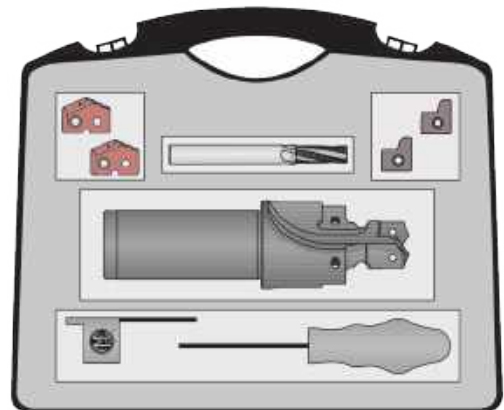
# WE HAVE A **KIT** FOR THAT

Kits aren't for everyone, but if you work on different projects from day to day, you need to **be prepared for the work tomorrow will bring.**

**The Complete Package**

Producing fully finished threaded hydraulic ports has never been easier. The Port and Thread Finishing Kit includes the AccuPort 432® port contour cutter with a dedicated AccuThread® 856 solid carbide thread mill in a single kit. You also receive the T-A® inserts and port form inserts needed to complete the assembly.

Port kits incorporate the AccuThread 856 solid carbide thread mills to increase the manufacturing flexibility by allowing hydraulic ports to be produced in just two operations. In addition, where a unique port profile is required, Allied Machine provides a dedicated special tooling solution using our extensive tool design and manufacturing experience to meet precise specifications.



**NOTE:** See Section A92 of our product catalogue for the complete list of Port and Thread Finishing Kits.



**One Tool, FOUR Operations**

- Spot Face
- Port Contour
- Tap Drill
- Spot Drill



**NOTE:** See Section A92 of our product catalogue for full AccuPort 432 product line information.

Product Nomenclature

A DRILLING

AccuThread® 856 Solid Carbide Thread Mills

<b>TM</b>	<b>U</b>	<b>K</b>	<b>0250</b>	-	<b>20</b>	<b>M</b>
1	2	3	4		5	6

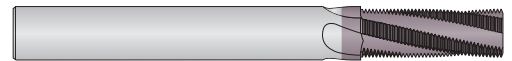


1. Thread Mill	2. Thread Class	3. Coating	4. Min Thread Diameter	5. Thread Pitch	6. Shank
<b>TM</b> = Standard <b>HDTM</b> = Heavy duty <b>TW</b> = Weldon flat	<b>U</b> = UN <b>N</b> = NPT, NPTF <b>B</b> = BSPP, BSPT, BSW <b>M</b> = ISO <b>A</b> = AccuPort® specific	<b>K</b> = AM210® <b>U</b> = Uncoated	<b>0250</b> = 1/4 (Imperial) <b>0008</b> = #8 (Number Drill) <b>0450</b> = M4.5 (ISO)	<b>20</b> = UN 20 TPI <b>075</b> = ISO 0.75 <b>NPT</b> = All pipe threads will show thread form	<b>M</b> = Metric <b>Blank</b> = Imperial

B BORING

ThreadMills USA™ Solid Carbide Thread Mills

<b>TM</b>	<b>250</b>	<b>20</b>	<b>CH</b>	<b>M</b>
1	2	3	4	5



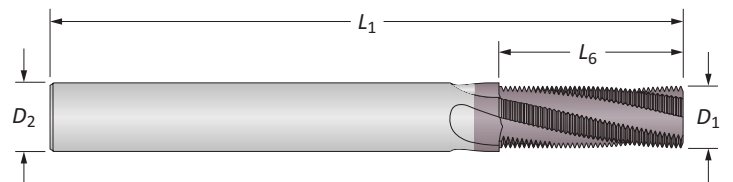
1. Thread Mill	2. Min Thread Diameter	3. Thread Pitch	4. Optional	5. Shank
<b>TM</b> = TiAlN <b>TMFT</b> = Uncoated <b>HDTM</b> = Heavy duty <b>HDTMFT</b> = Heavy duty uncoated	<b>250</b> = 1/4 (Imperial) <b>08</b> = #8 (Number Drill) <b>45</b> = M4.5 (ISO)	<b>20</b> = UN 20 TPI <b>075</b> = ISO 0.75 <b>NPT</b> = All pipe threads will show thread form	<b>CH</b> = Coolant hole <b>DE</b> = Double end <b>NPT</b> = All pipe threads will show thread form	<b>M</b> = Metric <b>Blank</b> = Imperial

C REAMING

D BURNISHING

Reference Key

Symbol	Attribute
$D_1$	Maximum cutter diameter
$D_2$	Shank diameter
$L_1$	Overall length
$L_6$	Length of cut



E THREADING

X SPECIALS



Product Nomenclature

AccuThread® T3 Solid Carbide Thread Mills

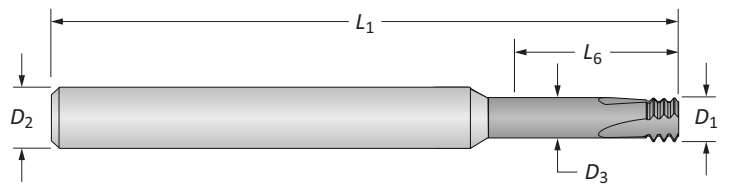
<b>TM</b>	<b>073</b>	<b>64</b>	<b>M</b>	-	<b>3T</b>	<b>2X</b>
1	2	3	4		5	6



1. Thread Mill	2. Min Thread Diameter	3. Pitch	4. Shank	5. Style	6. Depth to Diameter Ratio
<b>TM</b> = Standard	<b>45</b> = M4.5 (Metric) <b>250</b> = 1/4 (Imperial)	<b>20</b> = UN 20 TPI <b>075</b> = ISO 0.75	<b>M</b> = Metric <b>Blank</b> = Imperial	<b>3T</b> = 3 tooth	<b>2X</b> = 2xD <b>3X</b> = 3xD

Reference Key

Symbol	Attribute
$D_1$	Maximum cutter diameter
$D_2$	Shank diameter
$D_3$	Undercut diameter
$L_1$	Overall length
$L_6$	Length of cut



A

DRILLING

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BORING

C

REAMING

D

BURNISHING

E

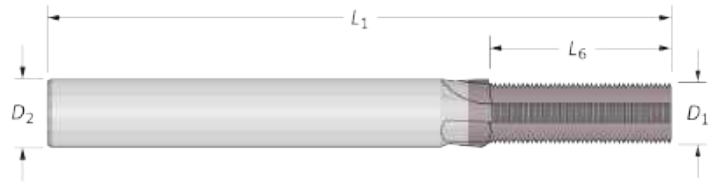
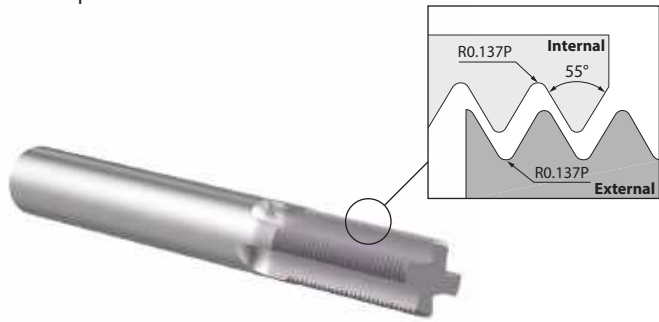
THREADING

X

SPECIALS

### Solid Carbide Thread Mills

BSW | Non-Coolant

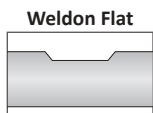
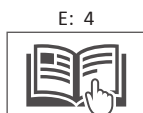
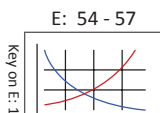


BSW | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D <sub>1</sub>	D <sub>2</sub>	L <sub>6</sub>	L <sub>1</sub>	ThreadMills USA™	AccuThread® 856
<b>m</b>	20	1/4	3	4.50	6.00	10.16	58.00	TM20BSWM	TMBK0250-20M
	18	5/16	3	5.00	6.00	11.29	58.00	TM18BSWM	TMBK0312-18M
	16	3/8	5	7.00	8.00	14.29	64.00	TM16BSWM	TMBK0375-16M
	14	7/16	5	7.90	8.00	18.15	64.00	TM14BSWM	TMBK0437-14M
	12	1/2	5	9.00	10.00	19.10	73.00	TM12BSWM	TMBK0500-12M
	11	5/8	5	11.90	12.00	23.10	84.00	TM11BSWM	TMBK0625-11M
	10	3/4	5	11.90	12.00	27.94	84.00	TM10BSWM	TMBK0750-10M
	9	7/8	6	15.90	16.00	28.23	93.00	TM9BSWM	TMBK0875-9M
	8	1	6	15.90	16.00	34.94	93.00	TM8BSWM	TMBK1000-8M
<b>i</b>	20	1/4	3	0.177	0.250	0.400	2.500	TM20BSW	-
	18	5/16	3	0.197	0.250	0.445	2.500	TM18BSW	-
	16	3/8	5	0.276	0.312	0.563	3.000	TM16BSW	-
	14	7/16	5	0.311	0.312	0.715	3.000	TM14BSW	-
	12	1/2	5	0.354	0.375	0.750	3.500	TM12BSW	-
	11	5/8	5	0.468	0.500	0.910	3.500	TM11BSW	-
	10	3/4	5	0.468	0.500	1.100	3.500	TM10BSW	-
	9	7/8	6	0.620	0.625	1.112	4.000	TM9BSW	-
	8	1	6	0.620	0.625	1.375	4.000	TM8BSW	-

**F** THREADING

**X** SPECIALS



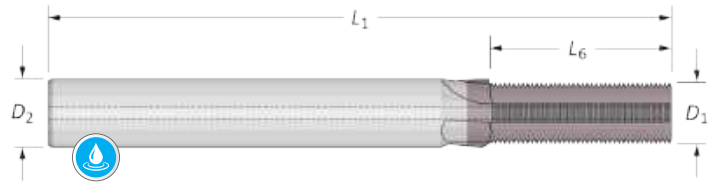
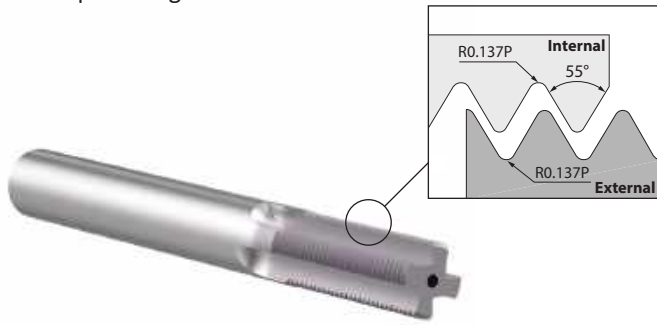
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces.

**m** = Metric (mm)  
**i** = Imperial (in)



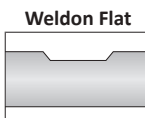
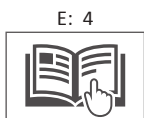
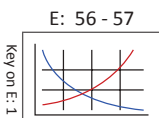
### Solid Carbide Thread Mills

BSW | Through Coolant



BSW | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				$D_1$	$D_2$	$L_6$	$L_1$	ThreadMills USA™
<b>m</b>	20	1/4	3	4.50	6.00	10.16	58.00	TM20BSWCHM
	18	5/16	3	5.00	6.00	11.29	58.00	TM18BSWCHM
	16	3/8	5	7.00	8.00	14.29	64.00	TM16BSWCHM
	14	7/16	5	7.90	8.00	18.15	64.00	TM14BSWCHM
	12	1/2	5	9.00	10.00	19.10	84.00	TM12BSWCHM
	11	5/8	5	11.90	12.00	23.10	84.00	TM11BSWCHM
	10	3/4	5	11.90	12.00	27.94	84.00	TM10BSWCHM
	9	7/8	6	15.90	16.00	28.23	93.00	TM9BSWCHM
	8	1	6	15.90	16.00	34.94	93.00	TM8BSWCHM
<b>i</b>	20	1/4	3	0.177	0.250	0.400	2.375	TM20BSWCH
	18	5/16	3	0.197	0.250	0.445	2.375	TM18BSWCH
	16	3/8	5	0.276	0.312	0.563	3.000	TM16BSWCH
	14	7/16	5	0.311	0.312	0.715	3.000	TM14BSWCH
	12	1/2	5	0.354	0.375	0.750	3.000	TM12BSWCH
	11	5/8	5	0.468	0.500	0.910	3.500	TM11BSWCH
	10	3/4	5	0.468	0.500	1.100	3.500	TM10BSWCH
		9	7/8	6	0.620	0.625	1.112	4.000
	8	1	6	0.620	0.625	1.375	4.000	TM8BSWCH

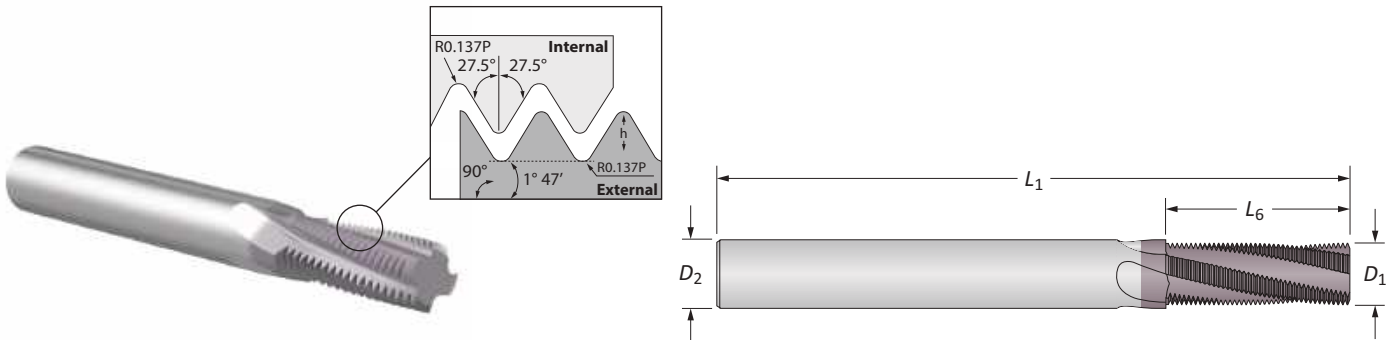


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces.

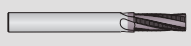
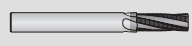
**m** = Metric (mm)  
**i** = Imperial (in)

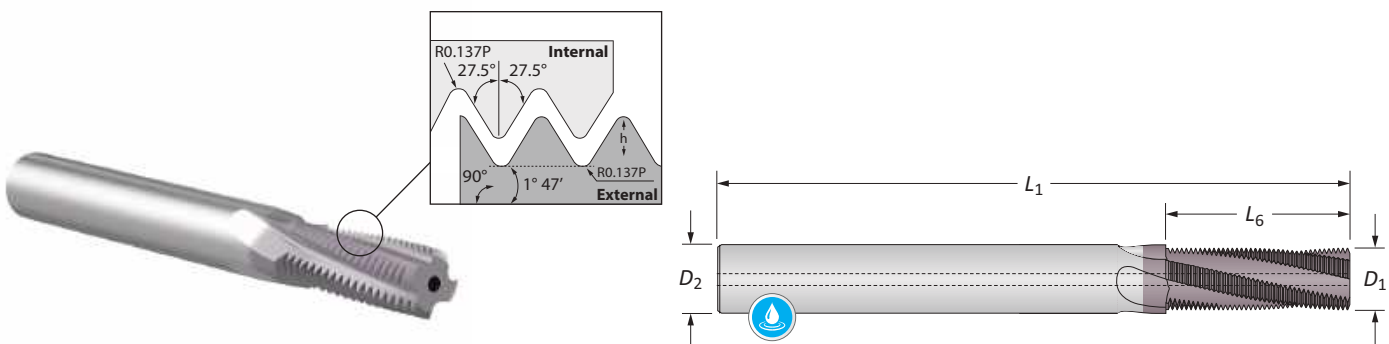
### Solid Carbide Thread Mills

BSPT

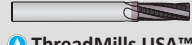


BSPT | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				$D_1$	$D_2$	$L_6$	$L_1$	 ThreadMills USA™	 AccuThread® 856
E	28	1/16 and 1/8	3	5.97	6.00	9.98	58.00	TM28BSPTM	TMBK0063-BSPTM
	19	1/4 and 3/8	4	9.91	10.00	14.73	73.00	TM19BSPTM	TMBK0250-BSPTM
	14	1/2 and 3/4	4	11.94	12.00	20.00	84.00	TM14BSPTM	TMBK0500-BSPTM
	11	1	4	15.75	16.00	32.31	93.00	TM11BSPTM	TMBK1000-BSPTM
I	28	1/16 and 1/8	3	0.240	0.250	0.393	2.500	TM28BSPT	-
	19	1/4 and 3/8	4	0.310	0.312	0.580	3.000	TM19BSPT	-
	14	1/2 and 3/4	4	0.470	0.500	0.787	3.500	TM14BSPT	-
	11	1	4	0.620	0.625	1.546	4.000	TM11BSPT	-



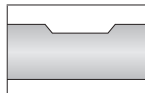
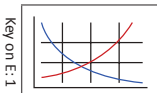
BSPT | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				$D_1$	$D_2$	$L_6$	$L_1$	 ThreadMills USA™
E	28	1/16 and 1/8	3	5.97	6.00	9.98	58.00	TM28BSPTCHM
	19	1/4 and 3/8	4	9.91	10.00	14.73	84.00	TM19BSPTCHM
	14	1/2 and 3/4	4	11.94	12.00	20.00	84.00	TM14BSPTCHM
	11	1	4	15.75	16.00	32.31	93.00	TM11BSPTCHM
I	28	1/16 and 1/8	3	0.240	0.250	0.393	2.375	TM28BSPTCH
	19	1/4 and 3/8	4	0.310	0.312	0.580	3.000	TM19BSPTCH
	14	1/2 and 3/4	4	0.470	0.500	0.787	3.500	TM14BSPTCH
	11	1	4	0.620	0.625	1.546	4.000	TM11BSPTCH

E: 54 - 57

E: 4

Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces.

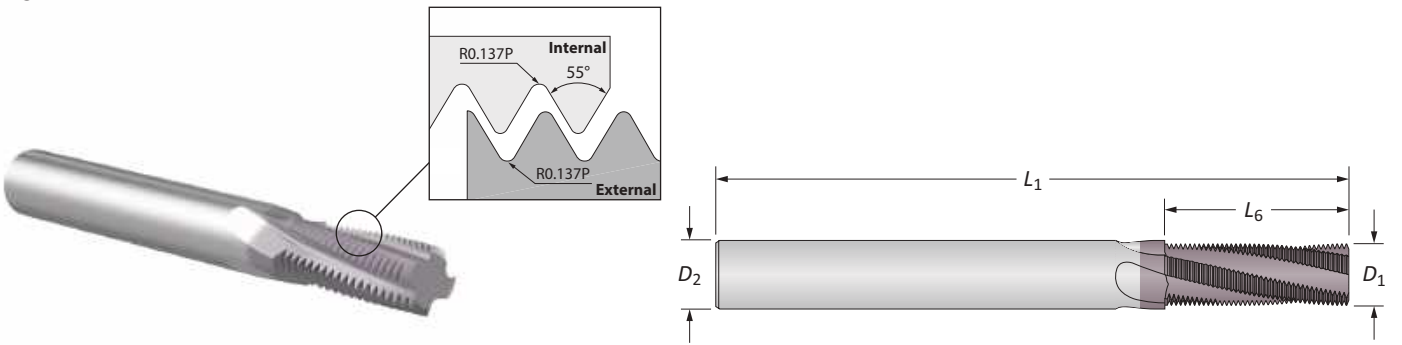
E = Metric (mm)  
 I = Imperial (in)

A DRILLING  
 B BORING  
 C REAMING  
 D BURNISHING  
 E THREADING  
 X SPECIALS



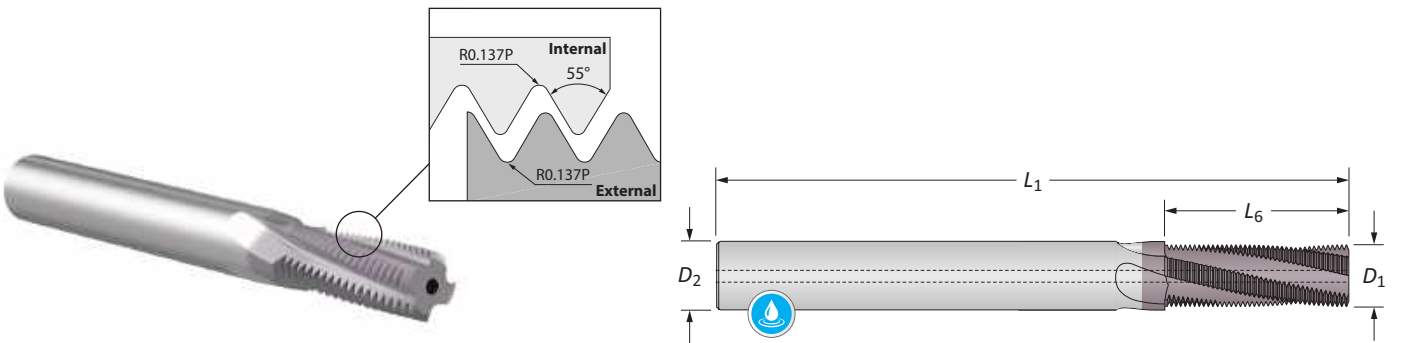
### Solid Carbide Thread Mills

BSPP



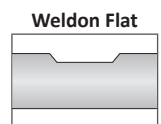
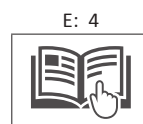
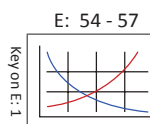
BSPP | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				$D_1$	$D_2$	$L_6$	$L_1$	ThreadMills USA™	AccuThread® 856
m	28	1/16 and 1/8	3	5.97	6.00	14.53	58.00	TM28BSPPM	TMBK0063-BSPPM
	19	1/4 and 3/8	4	9.91	10.00	18.72	73.00	TM19BSPPM	TMBK0250-BSPPM
	19	3/8	4	11.94	12.00	28.41	84.00	HDTM19BSPPM	-
	14	1/2 and 3/4	4	11.94	12.00	29.03	84.00	TM14BSPPM	TMBK0500-BSPPM
	14	3/4	5	15.75	16.00	34.47	93.00	HDTM14BSPPM	-
	11	1	4	15.75	16.00	34.67	93.00	TM11BSPPM	TMBK1000-BSPPM
i	28	1/16 and 1/8	3	0.240	0.250	0.572	2.500	TM28BSPP	-
	19	1/4 and 3/8	4	0.310	0.312	0.737	3.000	TM19BSPP	-
	14	1/2 and 3/4	4	0.470	0.500	1.143	3.500	TM14BSPP	-
	11	1	4	0.620	0.625	1.365	4.000	TM11BSPP	-



BSPP | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				$D_1$	$D_2$	$L_6$	$L_1$	ThreadMills USA™
m	28	1/16 and 1/8	3	5.97	6.00	14.53	58.00	TM28BSPPCHM
	19	1/4 and 3/8	4	9.91	10.00	18.72	84.00	TM19BSPPCHM
	14	1/2 and 3/4	4	11.94	12.00	29.03	84.00	TM14BSPPCHM
	11	1	4	15.75	16.00	34.67	93.00	TM11BSPPCHM
i	28	1/16 and 1/8	3	0.240	0.250	0.572	2.375	TM28BSPPCH
	19	1/4 and 3/8	4	0.310	0.312	0.737	3.000	TM19BSPPCH
	14	1/2 and 3/4	4	0.470	0.500	1.143	3.500	TM14BSPPCH
	11	1	4	0.620	0.625	1.365	4.000	TM11BSPPCH



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = TMNK0500-NPT | Weldon shank flat = TWNK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces.

m = Metric (mm)  
 i = Imperial (in)

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

NPT

THREADING | Solid Carbide and Indexable Thread Mills

**Solid Carbide Thread Mills**

NPT | Non-Coolant

NPT | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				$D_1$	$D_2$	$L_6$	$L_1$	ThreadMills USA™	AccuThread® 856
m	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTM	TMNK0063-NPTM
	27	1/8	4	7.62	8.00	12.25	64.00	HDTM27NPTM	-
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTM	TMNK0250-NPTM
	18	1/4 and 3/8	4	9.22	10.00	17.25	84.00	HDTM18NPTM	-
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTM	TMNK0500-NPTM
	14	3/4	4	15.75	16.00	25.40	93.00	HDTM14NPTM	-
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTM	TMNK1000-NPTM
	11.5	1	5	18.92	20.00	30.95	105.00	HDTM11NPTM	-
	8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTM	TMNK2500-NPTM
i	27	1/16 and 1/8	3	0.245	0.250	0.437	2.500	TM27NPT	TMNK0063-NPT
	27	1/8	4	0.300	0.312	0.482	3.000	HDTM27NPT	HDTMNK0125-NPT
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPT	TMNK0250-NPT
	18	1/4 and 3/8	4	0.363	0.375	0.680	3.500	HDTM18NPT	HDTMNK0250-NPT
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPT	TMNK0500-NPT
	14	3/4	4	0.620	0.625	1.000	4.000	HDTM14NPT	HDTMNK0750-NPT
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPT	TMNK1000-NPT
	11.5	1	5	0.745	0.750	1.219	4.000	HDTM11NPT	HDTMNK1000-NPT
	8	2-1/2	4	0.745	0.750	1.500	5.000	TM8NPT	TMNK2500-NPT

D

BURNISHING

F

THREADING

X

SPECIALS

E: 54 - 57

E: 4

Weldon Flat

To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWNK0500-NPT**  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces.

m = Metric (mm)  
 i = Imperial (in)

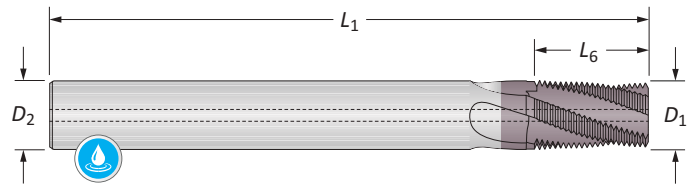
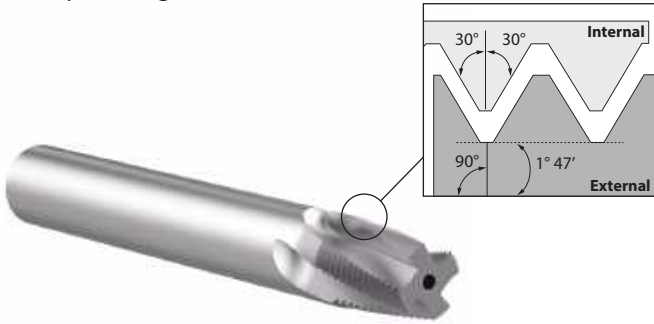
E: 12

www.alliedmachine.com | +44 (0) 1384 400 900 | enquiries.eu@alliedmachine.com



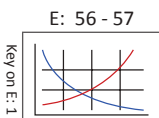
### Solid Carbide Thread Mills

NPT | Through Coolant



NPT | Through Coolant

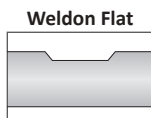
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D <sub>1</sub>	D <sub>2</sub>	L <sub>6</sub>	L <sub>1</sub>	ThreadMills USA™
m	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTCHM
	27	1/8	4	7.62	8.00	12.25	64.00	HDTM27NPTCHM
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTCHM
	18	1/4 and 3/8	4	9.22	10.00	17.25	84.00	HDTM18NPTCHM
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTCHM
	14	3/4	4	15.75	16.00	25.40	93.00	HDTM14NPTCHM
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTCHM
	11.5	1	5	18.92	20.00	30.95	105.00	HDTM11NPTCHM
	8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTCHM
i	27	1/16 and 1/8	3	0.245	0.250	0.437	2.375	TM27NPTCH
	27	1/8	4	0.300	0.312	0.482	3.000	HDTM27NPTCH
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPTCH
	18	1/4 and 3/8	4	0.363	0.375	0.680	3.000	HDTM18NPTCH
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPTCH
	14	3/4	4	0.620	0.625	1.000	4.000	HDTM14NPTCH
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPTCH
	11	1	5	0.745	0.750	1.219	4.000	HDTM11NPTCH
	8	2-1/2	4	0.745	0.750	1.500	5.000	TM8NPTCH



E: 56 - 57



E: 4



Weldon Flat

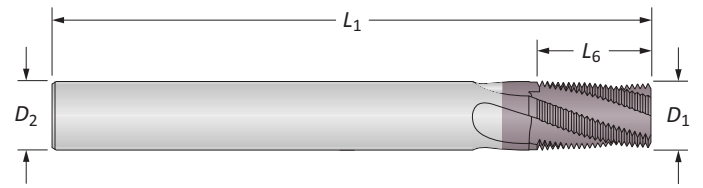
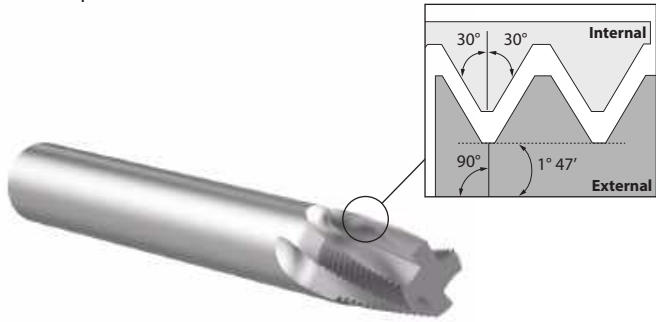
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces.

m = Metric (mm)  
 i = Imperial (in)

### Solid Carbide Thread Mills

NPTF | Non-Coolant

A  
DRILLING



B  
BORING

NPTF | Non-Coolant

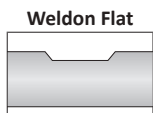
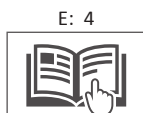
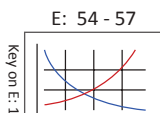
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				$D_1$	$D_2$	$L_6$	$L_1$	ThreadMills USA™	AccuThread® 856
Ⓜ	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTFM	TMNK0063-NPTFM
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTFM	TMNK0250-NPTFM
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTFM	TMNK0500-NPTFM
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTFM	TMNK1000-NPTFM
	8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTFM	TMNK2500-NPTFM
Ⓢ	27	1/16 and 1/8	3	0.245	0.250	0.437	2.500	TM27NPTF	TMNK0063-NPTF
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPTF	TMNK0250-NPTF
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPTF	TMNK0500-NPTF
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPTF	TMNK1000-NPTF
	8	2-1/2	4	0.745	0.750	1.500	5.000	TM8NPTF	TMNK2500-NPTF

C  
REAMING

D  
BURNISHING

E  
THREADING

X  
SPECIALS



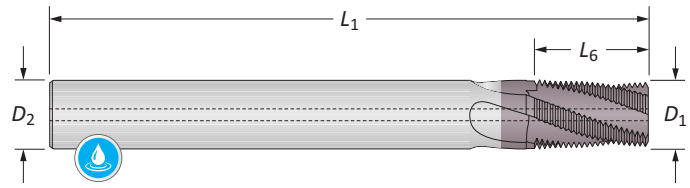
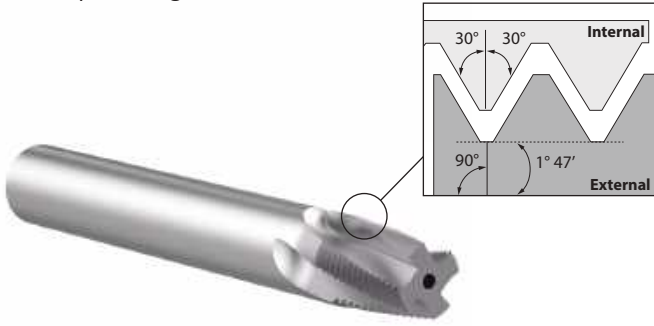
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWnk0500-NPT**  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)  
 ⓘ = Imperial (in)



### Solid Carbide Thread Mills

NPTF | Through Coolant



NPTF | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				$D_1$	$D_2$	$L_6$	$L_1$	ThreadMills USA™
Ⓜ	27	1/16 and 1/8	3	5.95	6.00	11.30	58.00	TM27NPTFCHM
	18	1/4 and 3/8	4	7.75	8.00	15.70	64.00	TM18NPTFCHM
	14	1/2 and 3/4	4	11.95	12.00	23.70	84.00	TM14NPTFCHM
	11.5	1	4	15.75	16.00	28.75	93.00	TM11NPTFCHM
	8	2-1/2	5	19.75	20.00	38.10	115.00	TM8NPTFCHM
Ⓢ	27	1/16 and 1/8	3	0.245	0.250	0.437	2.375	TM27NPTFCH
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPTFCH
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPTFCH
	11.5	1	4	0.620	0.625	1.125	4.000	TM11NPTFCH
	8	2-1/2	4	0.745	0.750	1.500	5.000	TM8NPTFCH

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

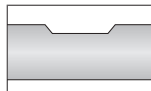
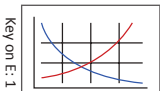
X

SPECIALS

E: 56 - 57

E: 4

Weldon Flat

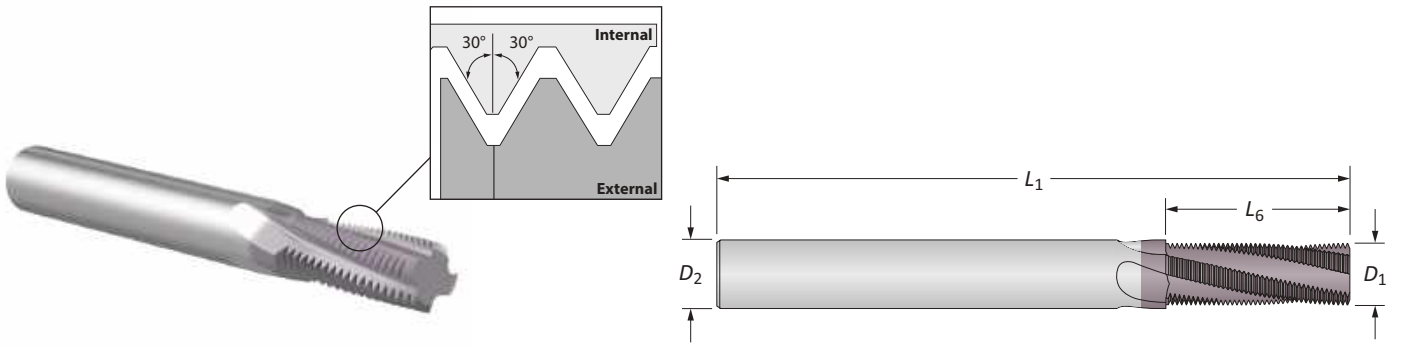


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

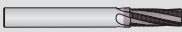
Ⓜ = Metric (mm)  
 Ⓢ = Imperial (in)

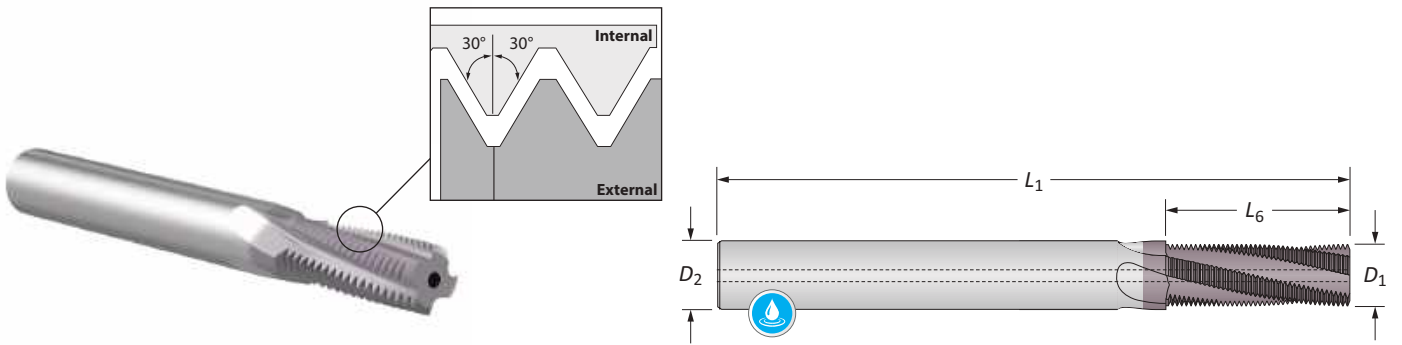
### Solid Carbide Thread Mills

NPS

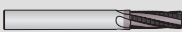


NPS | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				$D_1$	$D_2$	$L_6$	$L_1$	 ThreadMills USA™
E	27	1/8	3	5.95	6.00	16.00	58.00	TM27NPSM
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	TM18NPSM
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	TM14NPSM
	11.5	1	4	15.75	16.00	35.35	93.00	TM11NPSM
I	27	1/8	3	0.245	0.250	0.630	2.500	TM27NPS
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.500	TM18NPS
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPS
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPS



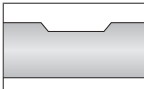
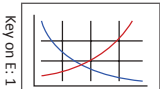
NPS | Through Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				$D_1$	$D_2$	$L_6$	$L_1$	 ThreadMills USA™
E	27	1/8	3	5.95	6.00	16.00	58.00	TM27NPSCHM
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	TM18NPSCHM
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	TM14NPSCHM
	11.5	1	4	15.75	16.00	35.35	93.00	TM11NPSCHM
I	27	1/8	3	0.245	0.250	0.630	2.375	TM27NPSCH
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.000	TM18NPSCH
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPSCH
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPSCH

E: 56 - 57

E: 4

Weldon Flat



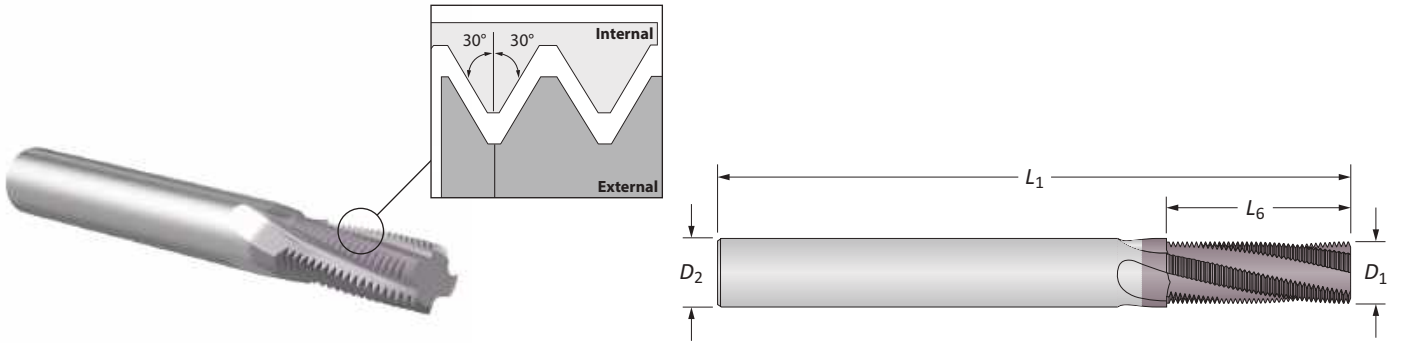
To order a thread mill with a Weldon flat, replace the leading TM designer with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

**m** = Metric (mm)  
**i** = Imperial (in)



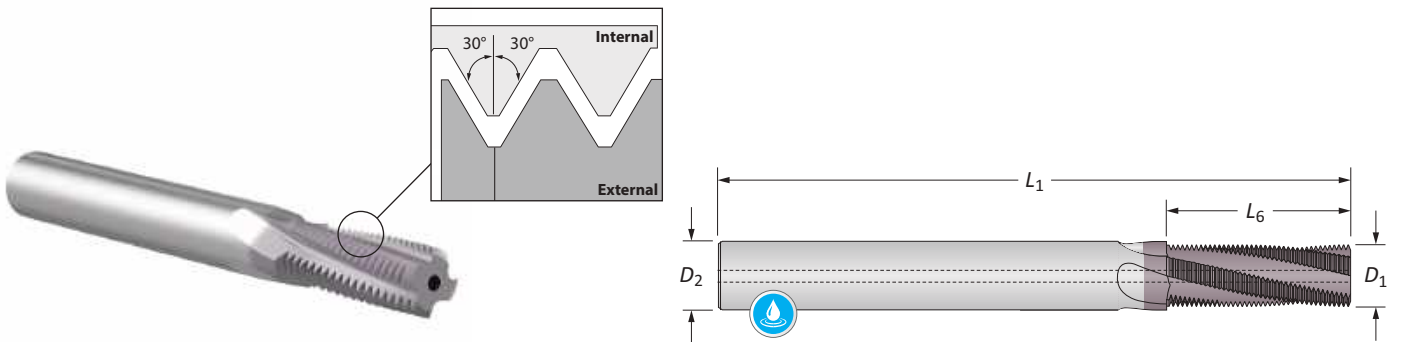
Solid Carbide Thread Mills

NPSF



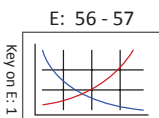
NPSF | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D <sub>1</sub>	D <sub>2</sub>	L <sub>6</sub>	L <sub>1</sub>	ThreadMills USA™
Ⓜ	27	1/8	3	5.95	6.00	16.00	58.00	TM27NPSFM
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	TM18NPSFM
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	TM14NPSFM
	11.5	1	4	15.75	16.00	35.35	93.00	TM11NPSFM
Ⓢ	27	1/8	3	0.245	0.250	0.630	2.500	TM27NPSF
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.500	TM18NPSF
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPSF
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPSF



NPSF | Through Coolant

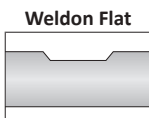
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D <sub>1</sub>	D <sub>2</sub>	L <sub>6</sub>	L <sub>1</sub>	ThreadMills USA™
Ⓜ	27	1/8	3	5.95	6.00	16.00	58.00	TM27NPSFCHM
	18	1/4 and 3/8	4	9.40	10.00	22.60	84.00	TM18NPSFCHM
	14	1/2 and 3/4	4	11.94	12.00	32.70	84.00	TM14NPSFCHM
	11.5	1	4	15.75	16.00	35.35	93.00	TM11NPSFCHM
Ⓢ	27	1/8	3	0.245	0.250	0.630	2.375	TM27NPSFCH
	18	1/4 and 3/8	4	0.370	0.375	0.889	3.000	TM18NPSFCH
	14	1/2 and 3/4	4	0.490	0.500	1.288	3.500	TM14NPSFCH
	11.5	1	4	0.620	0.625	1.392	4.000	TM11NPSFCH



E: 56 - 57



E: 4



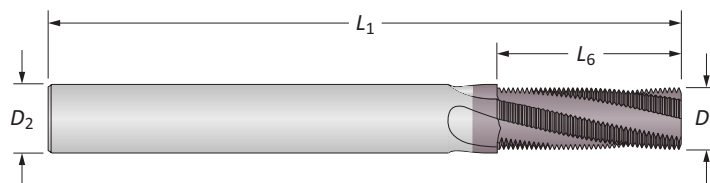
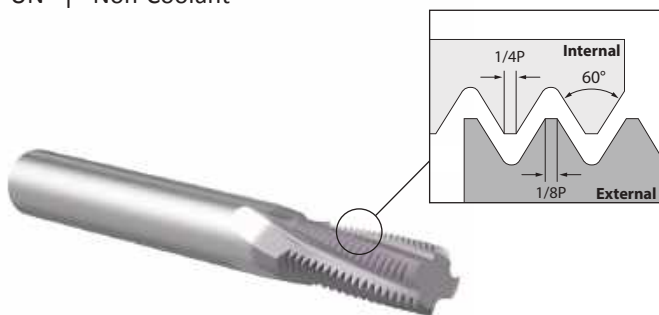
Weldon Flat

To order a thread mill with a Weldon flat, replace the leading TM designer with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

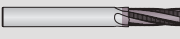
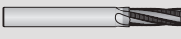
Ⓜ = Metric (mm)  
 Ⓢ = Imperial (in)

## Solid Carbide Thread Mills

UN | Non-Coolant



UN | Non-Coolant

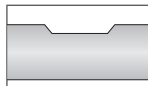
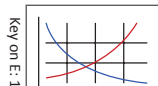
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			$D_1$	$D_2$	$L_6$	$L_1$	 ThreadMills USA™	 AccuThread® 856
64	#2	3*	1.65	3.00	3.20	39.00	TM08664M	TMUK0002-64M
56	#2	3*	1.65	3.00	3.20	39.00	TM08656M	TMUK0002-56M
48	#3	3*	1.80	3.00	3.75	39.00	TM09948M	TMUK0003-48M
44	#5	3	2.40	3.00	4.65	39.00	TM12544M	TMUK0005-44M
40	#4	3*	2.20	3.00	4.45	39.00	TM12540M	TMUK0004-40M
36	#8	3	3.00	4.00	6.35	51.00	TM16436M	TMUK0008-36M
32	#6	3	2.50	3.00	5.55	39.00	TM13832M	TMUK0006-32M
32	#8	3	3.20	4.00	6.35	51.00	TM16432M	TMUK0008-32M
32	#10	3	3.80	4.00	7.95	51.00	TM19032M	TMUK0010-32M
32	#10	3	3.80	4.00	7.95	51.00	HDTM19032M	–
32	1/2	6	9.40	10.00	25.40	84.00	TM50032M	–
28	#10	3	3.80	4.00	8.20	51.00	TM19028M	TMUK0010-28M
28	1/4	3	4.75	6.00	12.70	58.00	TM25028M	TMUK0250-28M
28	7/16	4	7.90	8.00	19.95	64.00	–	TMUK0438-28M
28	1/2	6	9.40	10.00	25.40	84.00	TM50028M	–
24	#10	3	3.70	4.00	8.50	51.00	TM19024M	TMUK0010-24M
24	#10	3	3.70	4.00	8.50	51.00	HDTM19024M	–
24	5/16	3	5.95	6.00	16.00	58.00	TM31224M	TMUK0313-24M
24	3/8	4	7.25	8.00	19.00	64.00	TM37524M	TMUK0375-24M
24	1/2	6	9.40	10.00	25.40	84.00	TM50024M	–
20	1/4	3	4.75	6.00	12.70	58.00	TM25020M	TMUK0250-20M
20	1/4	3	4.95	6.00	12.70	58.00	HDTM25020M	–
20	7/16	4	8.75	10.00	22.85	73.00	TM43720M	TMUK0438-20M
20	1/2	6	9.40	10.00	25.40	84.00	TM50020M	–

\*Straight fluted.

E: 54 - 57

E: 4

Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)

**Example:** Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWVK0500-NPT**

**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

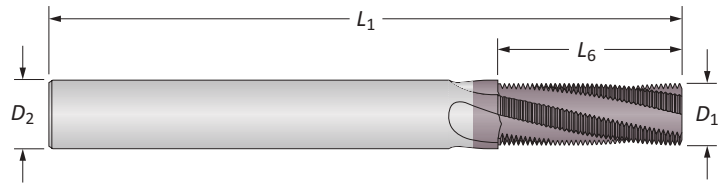
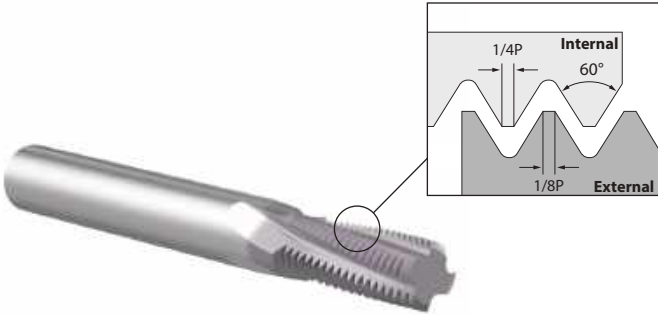
Ⓜ = Metric (mm)

Ⓢ = Imperial (in)



Solid Carbide Thread Mills

UN | Non-Coolant (continued)



UN | Non-Coolant

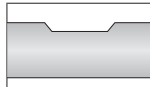
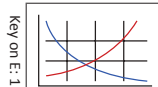
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D <sub>1</sub>	D <sub>2</sub>	L <sub>6</sub>	L <sub>1</sub>	ThreadMills USA™	AccuThread® 856
18	5/16	3	5.95	6.00	17.00	58.00	TM31218M	TMUK0313-18M
18	5/16	3	6.22	8.00	15.87	64.00	HDTM31218M	-
18	9/16	4	9.90	10.00	22.65	73.00	TM56218M	TMUK0563-18M
16	3/8	4	7.25	8.00	19.05	64.00	TM37516M	TMUK0375-16M
16	3/8	4	7.62	10.00	19.05	84.00	HDTM37516M	-
16	3/4	4	11.95	12.00	31.75	84.00	TM75016M	TMUK0750-16M
14	7/16	4	7.75	8.00	20.00	64.00	TM43714M	TMUK0438-14M
14	7/8	4	11.95	12.00	32.70	84.00	TM87514M	TMUK0875-14M
13	1/2	4	9.40	10.00	23.50	73.00	TM50013M	TMUK0500-13M
13	1/2	4	10.16	12.00	23.50	84.00	HDTM50013M	-
12	9/16	4	9.90	10.00	23.35	73.00	TM56212M	TMUK0563-12M
12	3/4	4	11.95	12.00	31.75	84.00	TM75012M	TMUK0750-12M
12	1	6	18.92	20.00	38.10	105.00	TM10012M	-
11	5/8	4	11.95	12.00	32.40	84.00	TM62511M	TMUK0625-11M
11	5/8	4	11.95	12.00	37.00	100.00	TM62511M-XL	TMUK0625-11XLM
10	3/4	4	11.95	12.00	33.00	84.00	TM75010M	TMUK0750-10M
10	3/4	4	11.95	12.00	40.70	100.00	TM75010M-XL	TMUK0750-10XLM
9	7/8	4	15.75	16.00	36.75	93.00	TM87509M	TMUK0875-9M
9	7/8	4	15.75	16.00	45.20	100.00	TM87509M-XL	TMUK0875-9XLM
8	1	4	15.75	16.00	35.00	93.00	TM10008M	TMUK1000-8M
8	1	6	19.90	20.00	50.80	115.00	TM10008M-XL	TMUK1000-8XLM
7	1-1/8	5	19.90	20.00	36.30	105.00	TM12507M	TMUK1125-7M
6	1-3/8	5	19.90	20.00	38.10	105.00	TM13706M	TMUK1375-6M

Ⓜ

E: 54 - 57

E: 4

Weldon Flat

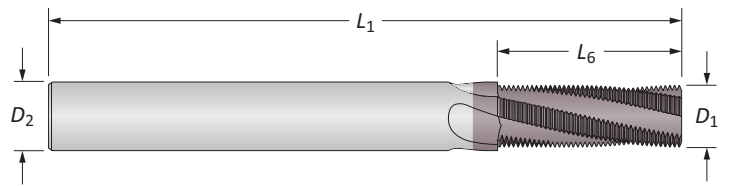
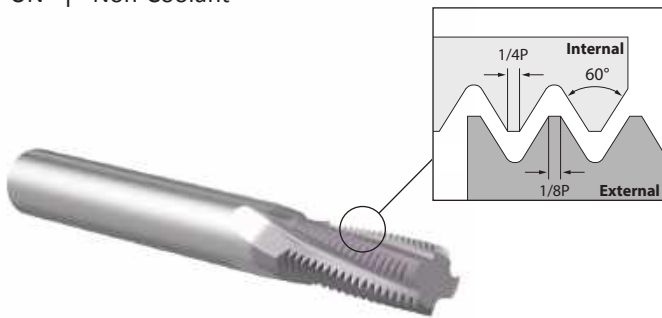


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWNK0500-NPT**  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

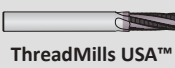

Ⓜ = Metric (mm)  
 ⓘ = Imperial (in)

## Solid Carbide Thread Mills

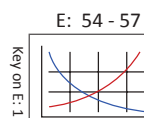
UN | Non-Coolant



UN | Non-Coolant

TPI (Pitch)	Min Thread $\phi$	Flutes	Thread Mill				Part No.	
			$D_1$	$D_2$	$L_6$	$L_1$	 ThreadMills USA™	 AccuThread® 856
64	#2	3*	0.065	0.125	0.125	2.000	TM08664	–
56	#2	3*	0.065	0.125	0.125	2.000	TM08656	TMUK0002-56
48	#3	3*	0.075	0.125	0.167	2.000	TM09948	–
44	#5	3	0.095	0.125	0.228	2.000	TM12544	–
40	#4	3*	0.085	0.125	0.175	2.000	TM12540	TMUK0004-40
36	#8	3	0.115	0.125	0.250	2.000	TM16436	–
32	#6	3	0.100	0.125	0.218	2.000	TM13832	TMUK0006-32
32	#8	3	0.115	0.125	0.250	2.000	TM16432	TMUK0008-32
32	#10	3	0.120	0.125	0.312	2.000	TM19032	TMUK0010-32
32	#10	3	0.150	0.187	0.312	2.500	HDTM19032	–
32	1/2	6	0.370	0.375	1.000	3.500	TM50032	–
28	#10	3	0.120	0.125	0.312	2.000	TM19028	TMUK0010-28
28	1/4	3	0.180	0.187	0.500	2.500	TM25028	TMUK0250-28
28	1/2	6	0.370	0.375	1.000	3.500	TM50028	–
24	#10	3	0.120	0.125	0.312	2.000	TM19024	TMUK0010-24
24	#10	3	0.145	0.187	0.312	2.500	HDTM19024	–
24	5/16	3	0.235	0.250	0.625	2.500	TM31224	TMUK0313-24
24	3/8	4	0.285	0.312	0.750	3.000	TM37524	TMUK0375-24
24	1/2	6	0.370	0.375	1.000	3.500	TM50024	–
20	1/4	3	0.180	0.187	0.500	2.500	TM25020	TMUK0250-20
20	1/4	3	0.195	0.250	0.500	2.500	HDTM25020	–
20	7/16	4	0.335	0.375	0.875	3.500	TM43720	TMUK0438-20
20	1/2	6	0.370	0.375	1.000	3.500	TM50020	–

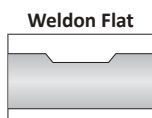
\*Straight fluted.



E: 54 - 57



E: 4



Weldon Flat

To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)

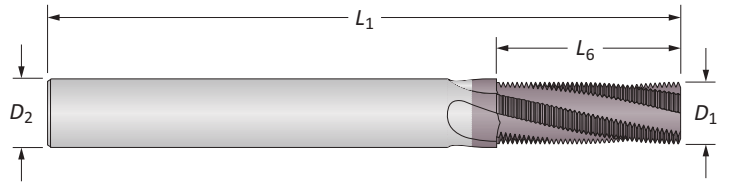
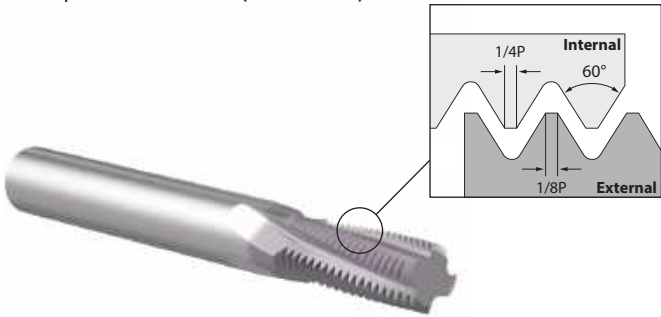
**Example:** Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TWVK0500-NPT**  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

 = Metric (mm)  
 = Imperial (in)



### Solid Carbide Thread Mills

UN | Non-Coolant (continued)



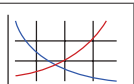
UN | Non-Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			$D_1$	$D_2$	$L_6$	$L_1$	ThreadMills USA™	AccuThread® 856
18	5/16	3	0.235	0.250	0.625	2.500	TM31218	TMUK0313-18
18	5/16	3	0.245	0.312	0.625	3.000	HDTM31218	-
18	9/16	4	0.370	0.375	0.875	3.500	TM56218	TMUK0563-18
16	3/8	4	0.285	0.312	0.750	3.000	TM37516	TMUK0375-16
16	3/8	4	0.300	0.375	0.750	3.500	HDTM37516	-
16	3/4	4	0.490	0.500	1.250	3.500	TM75016	TMUK0750-16
14	7/16	4	0.305	0.312	0.750	3.000	TM43714	TMUK0438-14
14	7/8	4	0.490	0.500	1.250	3.500	TM87514	TMUK0875-14
13	1/2	4	0.350	0.375	0.875	3.500	TM50013	TMUK0500-13
13	1/2	4	0.400	0.500	0.875	3.500	HDTM50013	-
12	9/16	4	0.370	0.375	0.875	3.500	TM56212	TMUK0563-12
12	3/4	4	0.495	0.500	1.250	3.500	TM75012	TMUK0750-12
12	1	6	0.745	0.750	1.500	4.000	TM10012	-
11	5/8	4	0.470	0.500	1.250	3.500	TM62511	TMUK0625-11
11	5/8	4	0.470	0.500	1.455	3.500	TM62511-XL	TMUK0625-11XL
10	3/4	4	0.495	0.500	1.250	3.500	TM75010	TMUK0750-10
10	3/4	4	0.495	0.500	1.600	4.000	TM75010-XL	TMUK0750-10XL
9	7/8	4	0.620	0.625	1.375	4.000	TM87509	TMUK0875-9
9	7/8	4	0.620	0.625	1.778	4.000	TM87509-XL	TMUK0875-9XL
8	1	4	0.620	0.625	1.375	4.000	TM10008	TMUK1000-8
8	1	6	0.745	0.750	2.000	4.500	TM10008-XL	TMUK1000-8XL
7	1-1/8	5	0.745	0.750	1.572	4.500	TM12507	-
6	1-3/8	5	0.745	0.750	1.500	4.500	TM13706	-

①

Key on E: 1

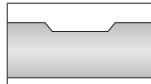
E: 54 - 57



E: 4



Weldon Flat

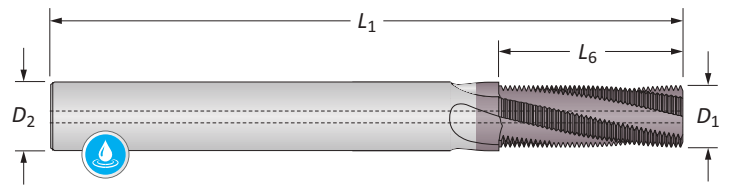
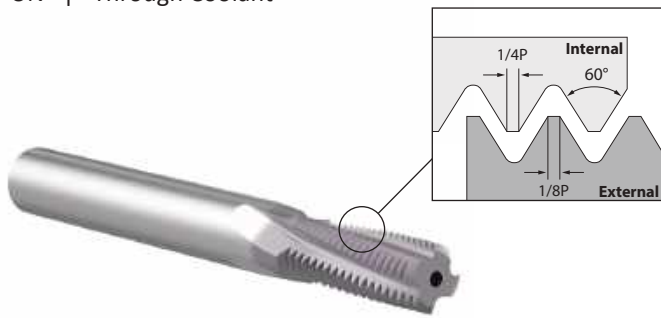


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces


Ⓜ = Metric (mm)  
 Ⓢ = Imperial (in)

## Solid Carbide Thread Mills

UN | Through Coolant

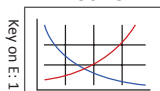


UN | Through Coolant

TPI (Pitch)	Min Thread $\varnothing$	Flutes	Thread Mill				Part No. 
			$D_1$	$D_2$	$L_6$	$L_1$	
64	#2	3*	1.65	3.00	3.20	39.00	TM08664CHM
56	#2	3*	1.65	3.00	3.20	39.00	TM08656CHM
48	#3	3*	1.80	3.00	3.75	39.00	TM09948CHM
44	#5	3	2.40	3.00	4.65	39.00	TM12544CHM
40	#4	3*	2.20	3.00	4.45	39.00	TM12540CHM
36	#8	3	3.00	4.00	6.35	51.00	TM16436CHM
32	#6	3	2.50	3.00	5.55	39.00	TM13832CHM
32	#8	3	3.20	4.00	6.35	51.00	TM16432CHM
32	#10	3	3.80	4.00	7.95	51.00	TM19032CHM
32	#10	3	3.80	4.00	7.95	51.00	HDTM19032CHM
32	1/2	6	9.40	10.00	25.40	84.00	TM50032CHM
28	#10	3	3.80	4.00	8.20	51.00	TM19028CHM
28	1/4	3	4.75	6.00	12.70	58.00	TM25028CHM
28	1/2	6	9.40	10.00	25.40	84.00	TM50028CHM
24	#10	3	3.68	4.00	8.50	51.00	TM19024CHM
24	#10	3	3.70	4.00	8.50	51.00	HDTM19024CHM
24	5/16	3	5.95	6.00	16.00	58.00	TM31224CHM
24	3/8	4	7.25	8.00	19.00	64.00	TM37524CHM
24	1/2	6	9.40	10.00	25.40	84.00	TM50024CHM
20	1/4	3	4.75	6.00	12.70	58.00	TM25020CHM
20	1/4	3	4.95	6.00	12.70	58.00	HDTM25020CHM
20	7/16	4	8.75	10.00	22.85	84.00	TM43720CHM
20	1/2	6	9.40	10.00	25.40	84.00	TM50020CHM

\*Straight fluted.

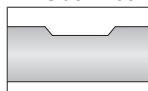
E: 56 - 57



E: 4



Weldon Flat



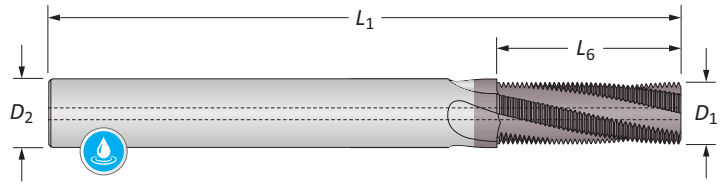
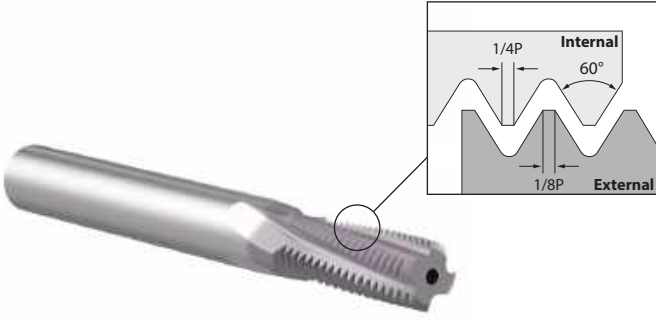
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)  
 ⓘ = Imperial (in)

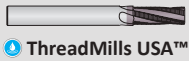


### Solid Carbide Thread Mills

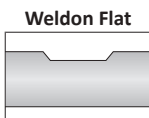
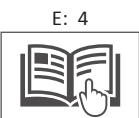
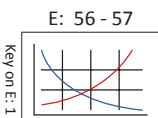
UN | Through Coolant (continued)



UN | Through Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No. 
			$D_1$	$D_2$	$L_6$	$L_1$	
18	5/16	3	5.95	6.00	17.00	58.00	TM31218CHM
18	5/16	3	6.22	8.00	15.87	64.00	HDTM31218CHM
18	9/16	4	9.90	10.00	22.65	84.00	TM56218CHM
16	3/8	4	7.25	8.00	19.05	64.00	TM37516CHM
16	3/8	4	7.62	10.00	19.05	84.00	HDTM37516CHM
16	3/4	4	11.95	12.00	31.75	84.00	TM75016CHM
14	7/16	4	7.75	8.00	20.00	64.00	TM43714CHM
14	7/8	4	11.95	12.00	32.70	84.00	TM87514CHM
13	1/2	4	9.40	10.00	23.50	84.00	TM50013CHM
13	1/2	4	10.16	12.00	23.50	84.00	HDTM50013CHM
12	9/16	4	9.90	10.00	23.35	84.00	TM56212CHM
12	3/4	4	11.95	12.00	31.75	84.00	TM75012CHM
12	1	6	18.92	20.00	38.10	105.00	TM10012CHM
11	5/8	4	11.95	12.00	32.40	84.00	TM62511CHM
11	5/8	4	11.95	12.00	37.00	100.00	TM62511CHM-XL
10	3/4	4	11.95	12.00	33.00	84.00	TM75010CHM
10	3/4	4	11.95	12.00	40.70	100.00	TM75010CHM-XL
9	7/8	4	15.75	16.00	36.75	93.00	TM87509CHM
9	7/8	4	15.75	16.00	45.20	100.00	TM87509CHM-XL
8	1	4	15.75	16.00	35.00	93.00	TM10008CHM
8	1	6	19.90	20.00	50.80	115.00	TM10008CHM-XL
7	1-1/8	5	19.90	20.00	36.10	105.00	TM12507CHM
6	1-3/8	5	19.90	20.00	38.10	105.00	TM13706CHM

Ⓜ

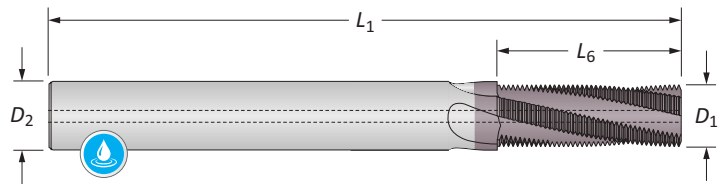
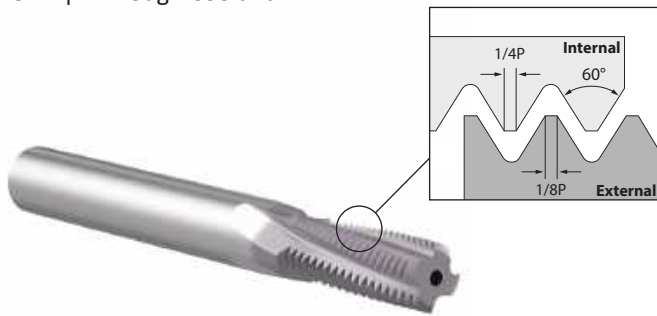


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

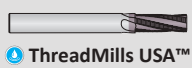
Ⓜ = Metric (mm)  
 ⓘ = Imperial (in)

## Solid Carbide Thread Mills

UN | Through Coolant

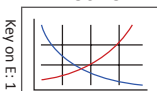


UN | Through Coolant

TPI (Pitch)	Min Thread $\varnothing$	Flutes	Thread Mill				Part No. 
			$D_1$	$D_2$	$L_6$	$L_1$	
64	#2	3*	0.065	0.125	0.125	1.500	TM08664CH
56	#2	3*	0.065	0.125	0.125	1.500	TM08656CH
48	#3	3*	0.075	0.125	0.167	1.500	TM09948CH
44	#5	3	0.095	0.125	0.228	1.500	TM12544CH
40	#4	3*	0.085	0.125	0.175	1.500	TM12540CH
36	#8	3	0.115	0.125	0.250	1.500	TM16436CH
32	#6	3	0.100	0.125	0.218	1.500	TM13832CH
32	#8	3	0.115	0.125	0.250	1.500	TM16432CH
32	#10	3	0.150	0.187	0.312	2.375	TM19032CH
32	#10	3	0.150	0.187	0.312	2.375	HDTM19032CH
32	1/2	6	0.370	0.375	1.000	3.500	TM50032CH
28	#10	3	0.120	0.125	0.312	1.500	TM19028CH
28	1/4	3	0.180	0.187	0.500	2.375	TM25028CH
28	1/2	6	0.370	0.375	1.000	3.500	TM50028CH
24	#10	3	0.145	0.187	0.312	2.375	TM19024CH
24	#10	3	0.145	0.187	0.312	2.375	HDTM19024CH
24	5/16	3	0.235	0.250	0.625	2.375	TM31224CH
24	3/8	4	0.285	0.312	0.750	3.000	TM37524CH
24	1/2	6	0.370	0.375	1.000	3.500	TM50024CH
20	1/4	3	0.180	0.187	0.500	2.375	TM25020CH
20	1/4	3	0.195	0.250	0.500	2.375	HDTM25020CH
20	7/16	4	0.335	0.375	0.875	3.000	TM43720CH
20	1/2	6	0.370	0.375	1.000	3.500	TM50020CH

\*Straight fluted.

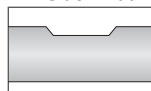
E: 56 - 57



E: 4



Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)

**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

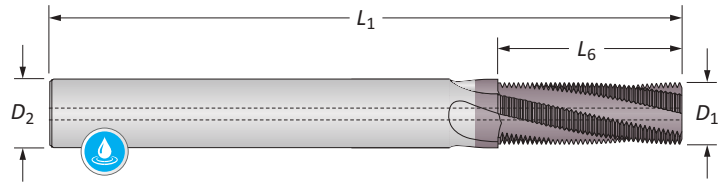
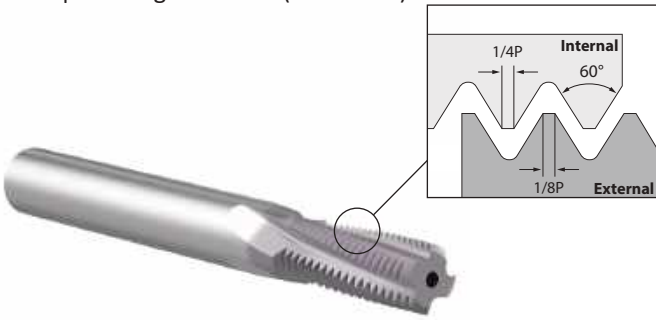
 = Metric (mm)

 = Imperial (in)

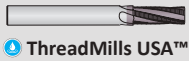


### Solid Carbide Thread Mills

UN | Through Coolant (continued)



UN | Through Coolant

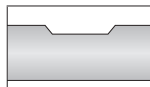
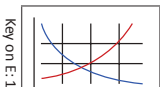
TPI (Pitch)	Min Thread $\phi$	Flutes	Thread Mill				Part No. 
			$D_1$	$D_2$	$L_6$	$L_1$	
18	5/16	3	0.235	0.250	0.625	2.375	TM31218CH
18	5/16	3	0.245	0.312	0.625	3.000	HDTM31218CH
18	9/16	4	0.370	0.375	0.875	3.000	TM56218CH
16	3/8	4	0.285	0.312	0.750	3.000	TM37516CH
16	3/8	4	0.300	0.375	0.750	3.000	HDTM37516CH
16	3/4	4	0.490	0.500	1.250	3.500	TM75016CH
14	7/16	4	0.305	0.312	0.750	3.000	TM43714CH
14	7/8	4	0.490	0.500	1.250	3.500	TM87514CH
13	1/2	4	0.350	0.375	0.875	3.000	TM50013CH
13	1/2	4	0.400	0.500	0.875	3.500	HDTM50013CH
12	9/16	4	0.370	0.375	0.875	3.500	TM56212CH
12	3/4	4	0.495	0.500	1.250	3.500	TM75012CH
12	1	6	0.745	0.750	1.500	4.000	TM10012CH
11	5/8	4	0.470	0.500	1.250	3.500	TM62511CH
11	5/8	4	0.470	0.500	1.455	3.500	TM62511CH-XL
10	3/4	4	0.495	0.500	1.250	3.500	TM75010CH
10	3/4	4	0.495	0.500	1.600	4.000	TM75010CH-XL
9	7/8	4	0.620	0.625	1.375	4.000	TM87509CH
9	7/8	4	0.620	0.625	1.778	4.000	TM87509CH-XL
8	1	4	0.620	0.625	1.375	4.000	TM10008CH
8	1	6	0.745	0.750	2.000	4.500	TM10008CH-XL
7	1-1/8	5	0.745	0.750	1.572	4.500	TM12507CH
6	1-3/8	5	0.745	0.750	1.500	4.500	TM13706CH

1

E: 56 - 57

E: 4

Weldon Flat

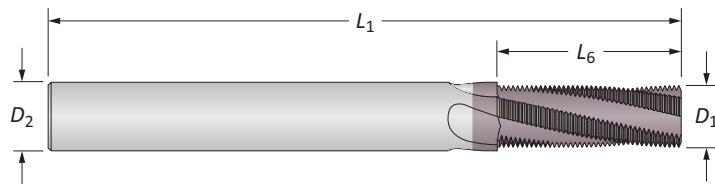
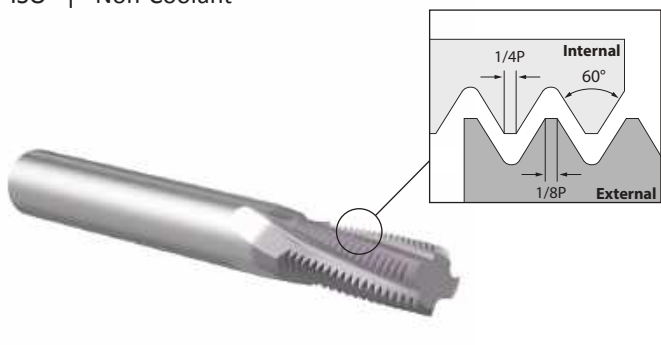


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

$\text{m}$  = Metric (mm)  
 $\text{i}$  = Imperial (in)

### Solid Carbide Thread Mills

ISO | Non-Coolant



ISO | Non-Coolant

Pitch	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D <sub>1</sub>	D <sub>2</sub>	L <sub>6</sub>	L <sub>1</sub>	ThreadMills USA™	AccuThread® 856
0.40	M2	3*	1.50	3.00	3.20	39.00	TM20040M	TMMK0200-040M
0.45	M2.5	3*	1.50	3.00	3.60	39.00	TM25045M	TMMK0250-045M
0.50	M3	3*	2.15	3.00	4.50	39.00	TM30050M	TMMK0300-050M
0.50	M6	3	4.60	6.00	12.00	58.00	TM60050M	TMMK0600-050M
0.50	M10	4	7.95	8.00	15.00	64.00	TM10050M	TMMK1000-050M
0.70	M4	3	2.90	3.00	8.00	39.00	TM40070M	TMMK0400-070M
0.75	M4.5	3	3.00	4.00	6.75	51.00	TM45075M	TMMK0450-075M
0.75	M6	3	4.60	6.00	12.00	58.00	TM60075M	TMMK0600-075M
0.75	M10	4	7.95	8.00	15.00	64.00	TM10075M	TMMK1000-075M
0.80	M5	3	3.60	4.00	8.00	51.00	TM50080M	TMMK0500-080M
1.00	M6	3	4.60	6.00	12.00	58.00	TM60100M	TMMK0600-100M
1.00	M12	4	9.40	10.00	20.00	73.00	TM12100M	TMMK1200-100M
1.25	M8	3	5.90	6.00	16.25	58.00	TM80125M	TMMK0800-125M
1.50	M10	4	7.40	8.00	19.50	64.00	TM10150M	TMMK1000-150M
1.50	M14	4	10.90	12.00	27.00	84.00	TM14150M	TMMK1400-150M
1.50	M18	4	11.90	12.00	31.50	84.00	TM18150M	TMMK1800-150M
1.50	M20	5	15.75	16.00	36.00	93.00	TM20150M	-
1.75	M12	4	9.40	10.00	22.71	73.00	TM12175M	TMMK1200-175M
2.00	M14	4	10.90	12.00	28.00	84.00	TM14200M	TMMK1400-200M
2.00	M16	4	11.95	12.00	30.00	84.00	TM16200M	-
2.50	M20	4	11.90	12.00	30.00	84.00	TM20250M	TMMK2000-250M
3.00	M24	4	15.90	16.00	36.00	93.00	TM24300M	TMMK2400-300M
3.50	M30	4	15.75	16.00	38.50	100.00	TM30350M	TMMK3000-350M
4.00	M36	5	19.90	20.00	40.00	105.00	TM36400M	TMMK3600-400M

\*Straight fluted.

A DRILLING

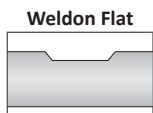
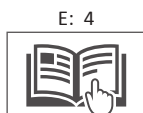
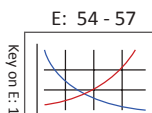
B BORING

C REAMING

D BURNISHING

E THREADING

X SPECIALS



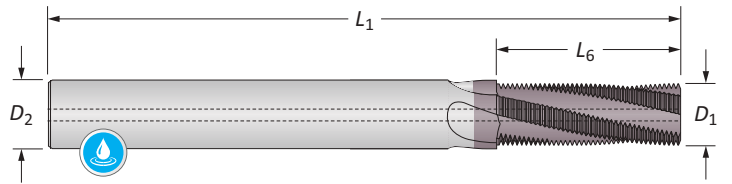
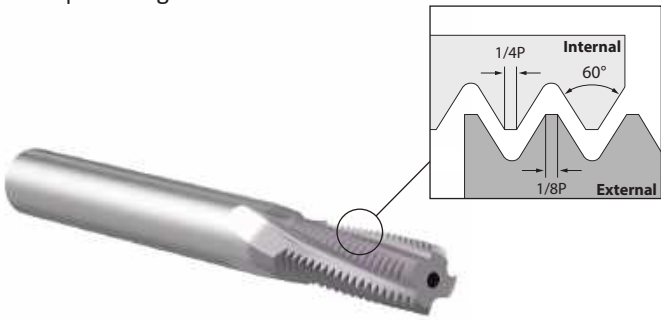
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)  
 ⓘ = Imperial (in)

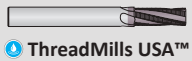


### Solid Carbide Thread Mills

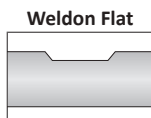
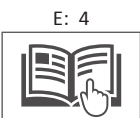
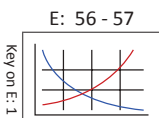
ISO | Through Coolant



ISO | Through Coolant

Pitch	Min Thread $\varnothing$	Flutes	Thread Mill				Part No. 
			$D_1$	$D_2$	$L_6$	$L_1$	
0.40	M2	3*	1.50	3.00	3.20	39.00	TM20040CHM
0.45	M2.5	3*	1.50	3.00	3.60	39.00	TM25045CHM
0.50	M3	3*	2.15	3.00	4.50	39.00	TM30050CHM
0.50	M6	3	4.60	6.00	12.00	58.00	TM60050CHM
0.50	M10	4	7.95	8.00	15.00	64.00	TM10050CHM
0.70	M4	3	2.90	3.00	8.00	39.00	TM40070CHM
0.75	M4.5	3	3.00	4.00	6.75	51.00	TM45075CHM
0.75	M6	3	4.60	6.00	12.00	58.00	TM60075CHM
0.75	M10	4	7.95	8.00	15.00	64.00	TM10075CHM
0.80	M5	3	3.60	4.00	8.00	51.00	TM50080CHM
1.00	M6	3	4.60	6.00	12.00	58.00	TM60100CHM
1.00	M12	4	9.40	10.00	20.00	84.00	TM12100CHM
1.25	M8	3	5.90	6.00	16.25	58.00	TM80125CHM
1.50	M10	4	7.40	8.00	19.50	64.00	TM10150CHM
1.50	M14	4	10.90	12.00	27.00	84.00	TM14150CHM
1.50	M18	4	11.90	12.00	31.50	84.00	TM18150CHM
1.50	M20	5	15.75	16.00	36.00	93.00	TM20150CHM
1.75	M12	4	9.40	10.00	22.71	84.00	TM12175CHM
2.00	M14	4	10.90	12.00	28.00	84.00	TM14200CHM
2.00	M16	4	11.95	12.00	30.00	84.00	TM16200CHM
2.50	M20	4	11.90	12.00	30.00	84.00	TM20250CHM
3.00	M24	4	15.90	16.00	36.00	93.00	TM24300CHM
3.50	M30	4	15.75	16.00	38.50	100.00	TM30350CHM
4.00	M36	5	19.90	20.00	40.00	105.00	TM36400CHM

\*Straight fluted.

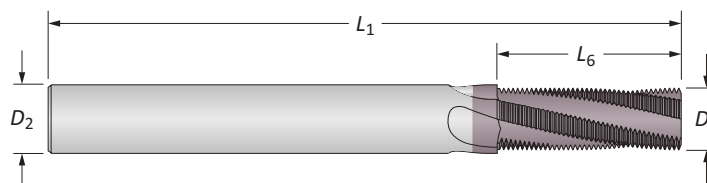
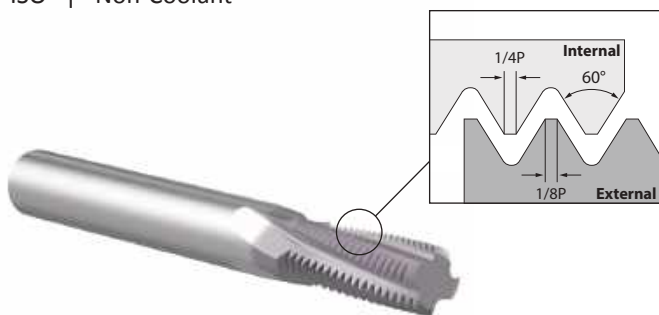


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

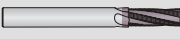
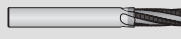
Ⓜ = Metric (mm)  
 ⓘ = Imperial (in)

## Solid Carbide Thread Mills

ISO | Non-Coolant

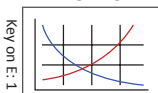


ISO | Non-Coolant

Pitch	Min Thread Ø	Flutes	Thread Mill				Part No.	
			$D_1$	$D_2$	$L_6$	$L_1$	 ThreadMills USA™	 AccuThread® 856
0.40	M2	3*	0.059	0.125	0.126	2.000	TM20040	–
0.45	M2.5	3*	0.059	0.125	0.142	2.000	TM25045	–
0.50	M3	3*	0.085	0.125	0.178	2.000	TM30050	–
0.50	M6	3	0.181	0.187	0.473	2.500	TM60050	–
0.50	M10	4	0.310	0.312	0.591	3.000	TM10050	–
0.70	M4	3	0.115	0.125	0.276	2.000	TM40070	–
0.75	M4.5	3	0.120	0.125	0.266	2.000	TM45075	TMMK0450-075
0.75	M8	3	0.235	0.250	0.625	2.500	TM80075	TMMK0800-075
0.75	M10	4	0.310	0.312	0.591	3.000	TM10075	–
0.80	M5	3	0.120	0.125	0.312	2.000	TM50080	TMMK0500-080
1.00	M6	3	0.170	0.187	0.500	2.500	TM60100	TMMK0600-100
1.00	M12	4	0.360	0.375	0.875	3.500	TM12100	TMMK1200-100
1.25	M8	3	0.235	0.250	0.625	2.500	TM80125	TMMK0800-125
1.50	M10	4	0.300	0.312	0.750	3.000	TM10150	TMMK1000-150
1.50	M14	4	0.370	0.375	0.875	3.500	TM14150	TMMK1400-150
1.50	M18	4	0.490	0.500	1.250	3.500	TM18150	TMMK1800-150
1.50	M20	5	0.620	0.625	1.418	4.000	TM20150	–
1.75	M12	4	0.360	0.375	0.875	3.500	TM12175	TMMK1200-175
2.00	M14	4	0.429	0.500	1.103	3.500	TM14200	–
2.00	M16	4	0.470	0.500	1.250	3.500	TM16200	TMMK1600-200
2.50	M20	4	0.495	0.500	1.250	3.500	TM20250	TMMK2000-250
3.00	M24	4	0.620	0.625	1.375	4.000	TM24300	TMMK2400-300
3.50	M30	4	0.620	0.625	1.516	4.000	TM30350	–
4.00	M36	5	0.745	0.750	1.575	4.500	TM36400	–

\*Straight fluted.

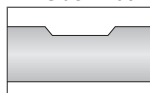
E: 54 - 57



E: 4



Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)

**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT

**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

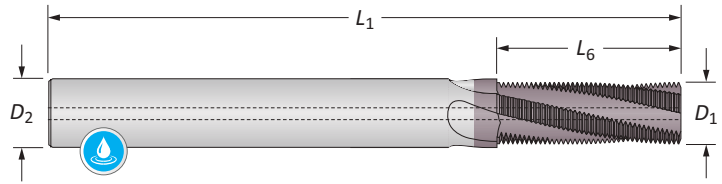
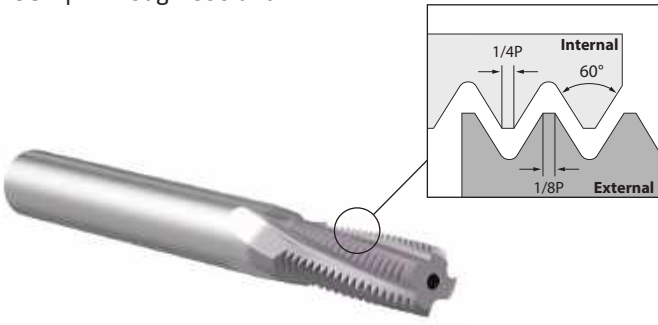
 = Metric (mm)

 = Imperial (in)



### Solid Carbide Thread Mills

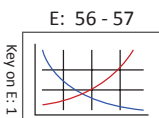
ISO | Through Coolant



ISO | Through Coolant

Pitch	Min Thread Ø	Flutes	Thread Mill				Part No.
			$D_1$	$D_2$	$L_6$	$L_1$	
0.40	M2	3*	0.059	0.125	0.126	1.500	TM20040CH
0.45	M2.5	3*	0.059	0.125	0.142	1.500	TM25045CH
0.50	M3	3*	0.085	0.125	0.178	1.500	TM30050CH
0.50	M6	3	0.181	0.187	0.473	2.375	TM60050CH
0.50	M10	4	0.310	0.312	0.591	3.000	TM10050CH
0.70	M4	3	0.115	0.125	0.276	1.500	TM40070CH
0.75	M4.5	3	0.120	0.125	0.266	1.500	TM45075CH
0.75	M8	3	0.235	0.250	0.625	2.375	TM80075CH
0.75	M10	4	0.310	0.312	0.591	3.000	TM10075CH
0.80	M5	3	0.120	0.125	0.312	1.500	TM50080CH
1.00	M6	3	0.170	0.187	0.500	2.375	TM60100CH
1.00	M12	4	0.360	0.375	0.875	3.000	TM12100CH
1.25	M8	3	0.235	0.250	0.625	2.375	TM80125CH
1.50	M10	4	0.300	0.312	0.750	3.000	TM10150CH
1.50	M14	4	0.370	0.375	0.875	3.000	TM14150CH
1.50	M18	4	0.490	0.500	1.250	3.500	TM18150CH
1.50	M20	5	0.620	0.625	1.418	4.000	TM20150CH
1.75	M12	4	0.360	0.375	0.875	3.000	TM12175CH
2.00	M14	4	0.429	0.500	1.103	3.500	TM14200CH
2.00	M16	4	0.470	0.500	1.250	3.500	TM16200CH
2.50	M20	4	0.495	0.500	1.250	3.500	TM20250CH
3.00	M24	4	0.620	0.625	1.375	4.000	TM24300CH
3.50	M30	4	0.620	0.625	1.516	4.000	TM30350CH
4.00	M36	5	0.745	0.750	1.575	4.500	TM36400CH

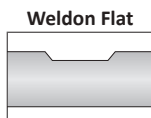
\*Straight fluted.



E: 56 - 57



E: 4



Weldon Flat

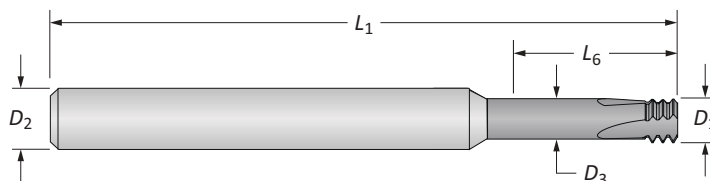
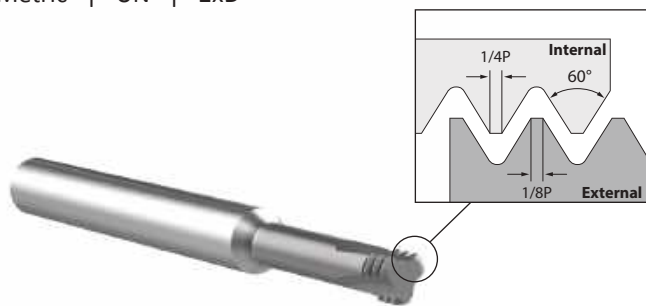
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for metric shanks 6 mm and above, or inch shanks 3/8 and above)  
**Example:** Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT  
**NOTE:** Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Metric (mm)  
 ⓘ = Imperial (in)

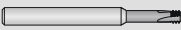


## Solid Carbide Thread Mills

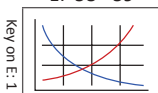
Metric | UN | 2xD



UN | Non-Coolant

TPI (Pitch)	Min Thread $\varnothing$	Flutes	Thread Mill					Part No.  AccuThread® T3
			$D_1$	$D_3$	$D_2$	$L_6$	$L_1$	
64	#1	3	1.40	0.89	6.00	3.81	63.00	TM07364M-3T2X
56	#2	3	1.65	1.08	6.00	4.32	63.00	TM08656M-3T2X
48	#3	3	1.91	1.24	6.00	5.08	63.00	TM09948M-3T2X
40	#4	3	2.16	1.36	6.00	6.35	63.00	TM11240M-3T2X
36	#8	3	3.30	2.42	6.00	8.89	63.00	TM16436M-3T2X
32	#6	3	2.54	1.55	6.00	7.11	63.00	TM13832M-3T2X
32	#8	3	3.20	2.21	6.00	9.40	63.00	TM16432M-3T2X
32	#10	3	3.68	2.70	6.00	10.41	63.00	TM19032M-3T2X
28	1/4	3	5.00	3.88	6.00	14.48	63.00	TM25028M-3T2X
24	#10	3	3.51	2.20	6.00	10.67	63.00	TM19024M-3T2X
24	5/16	3	6.60	5.30	8.00	17.02	64.00	TM31224M-3T2X
$\text{mm}$ 20	1/4	3	4.75	3.18	6.00	13.97	63.00	TM25020M-3T2X
20	7/16	4	7.92	6.36	8.00	24.89	64.00	TM43720M-3T2X
18	5/16	3	5.94	4.26	6.00	17.02	63.00	TM31218M-3T2X
16	3/8	3	6.71	4.76	8.00	22.10	64.00	TM37516M-3T2X
16	3/4	4	11.94	9.88	12.00	38.10	88.90	TM75016M-3T2X
14	7/16	4	7.62	5.39	8.00	24.89	64.00	TM43714M-3T2X
14	7/8	4	15.75	13.42	16.00	44.45	100.00	TM87514M-3T2X
12	3/4	4	11.94	9.24	12.00	38.10	88.90	TM75012M-3T2X
11	5/8	4	11.94	9.01	12.00	31.75	88.90	TM62511M-3T2X
10	3/4	4	11.94	8.73	12.00	38.10	88.90	TM75010M-3T2X
9	7/8	4	15.75	12.20	16.00	44.45	100.00	TM87509M-3T2X
8	1	4	15.75	11.77	16.00	50.80	100.00	TM10008M-3T2X

E: 58 - 59



E: 4

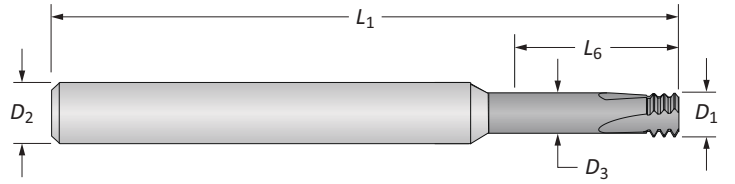
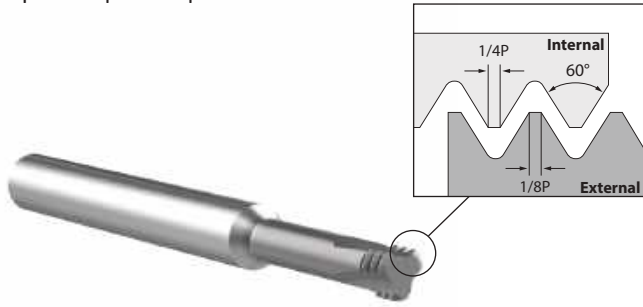


$\text{mm}$  = Metric (mm)  
 $\text{i}$  = Imperial (in)

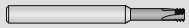


### Solid Carbide Thread Mills

Imperial | UN | 2xD



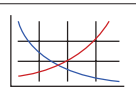
UN | Non-Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill					Part No.  AccuThread® T3
			D <sub>1</sub>	D <sub>3</sub>	D <sub>2</sub>	L <sub>6</sub>	L <sub>1</sub>	
64	#1	3	0.055	0.035	0.250	0.150	2.500	TM07364-3T2X
56	#2	3	0.065	0.042	0.250	0.170	2.500	TM08656-3T2X
48	#3	3	0.075	0.049	0.250	0.200	2.500	TM09948-3T2X
40	#4	3	0.085	0.054	0.250	0.250	2.500	TM11240-3T2X
36	#8	3	0.130	0.095	0.250	0.350	2.500	TM16436-3T2X
32	#6	3	0.100	0.061	0.250	0.280	2.500	TM13832-3T2X
32	#8	3	0.126	0.087	0.250	0.370	2.500	TM16432-3T2X
32	#10	3	0.145	0.106	0.250	0.410	2.500	TM19032-3T2X
28	1/4	3	0.197	0.153	0.250	0.570	2.500	TM25028-3T2X
24	#10	3	0.138	0.086	0.250	0.420	2.500	TM19024-3T2X
24	5/16	3	0.260	0.208	0.312	0.670	2.500	TM31224-3T2X
20	1/4	3	0.187	0.125	0.250	0.550	2.500	TM25020-3T2X
20	7/16	4	0.312	0.250	0.312	0.980	2.500	TM43720-3T2X
18	5/16	3	0.236	0.168	0.250	0.670	2.500	TM31218-3T2X
16	3/8	3	0.264	0.187	0.312	0.870	2.500	TM37516-3T2X
16	3/4	4	0.495	0.414	0.500	1.500	3.500	TM75016-3T2X
14	7/16	4	0.300	0.212	0.312	0.980	2.500	TM43714-3T2X
14	7/8	4	0.620	0.528	0.625	1.750	4.000	TM87514-3T2X
13	1/2	4	0.360	0.266	0.375	1.080	3.000	TM50013-3T2X
12	9/16	4	0.410	0.308	0.500	1.240	3.500	TM56212-3T2X
12	3/4	4	0.495	0.389	0.500	1.500	3.500	TM75012-3T2X
11	5/8	4	0.470	0.355	0.500	1.250	3.500	TM62511-3T2X
10	3/4	4	0.495	0.369	0.500	1.500	3.500	TM75010-3T2X
9	7/8	4	0.620	0.480	0.625	1.750	4.000	TM87509-3T2X
8	1	4	0.620	0.463	0.625	2.000	4.000	TM10008-3T2X

①

Key on E: 1

E: 58 - 59



E: 4

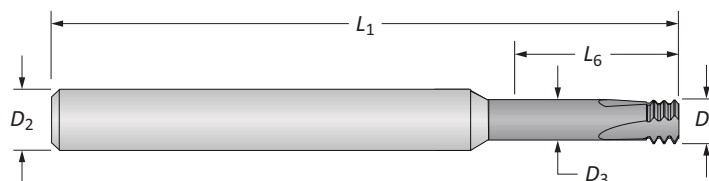
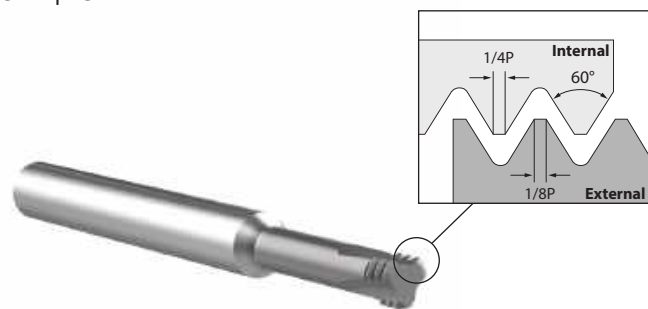


Ⓜ = Metric (mm)  
① = Imperial (in)




## Solid Carbide Thread Mills

UN | 3xD



UN | Non-Coolant

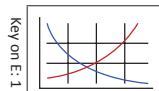
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill					Part No. 
			$D_1$	$D_3$	$D_2$	$L_6$	$L_1$	
40	#4	3	2.16	1.36	6.00	7.87	63.00	TM11240M-3T3X
32	#6	3	2.54	1.55	6.00	10.41	63.00	TM13832M-3T3X
32	#8	3	3.20	2.21	6.00	12.45	63.00	TM16432M-3T3X
32	#10	3	3.68	2.70	6.00	14.99	63.00	TM19032M-3T3X
28	1/4	3	5.00	3.88	6.00	19.05	63.00	TM25028M-3T3X
24	#10	3	3.51	2.20	6.00	14.99	63.00	TM19024M-3T3X
24	5/16	3	6.60	5.30	8.00	23.88	64.00	TM31224M-3T3X
20	1/4	3	4.75	3.18	6.00	19.05	63.00	TM25020M-3T3X
18	5/16	3	5.94	4.21	6.00	23.11	63.00	TM31218M-3T3X
16	3/4	4	11.94	9.88	12.00	57.15	88.90	TM75016M-3T3X
14	7/8	4	15.75	13.42	16.00	66.68	100.00	TM87514M-3T3X
12	3/4	4	11.94	9.24	12.00	57.15	88.90	TM75012M-3T3X
11	5/8	4	11.94	9.01	12.00	47.63	88.90	TM62511M-3T3X
10	3/4	4	11.94	8.73	12.00	57.15	88.90	TM75010M-3T3X
9	7/8	4	15.75	12.20	16.00	66.68	100.00	TM87509M-3T3X
8	1	4	15.75	11.77	16.00	76.20	114.30	TM10008M-3T3X
40	#4	3	0.085	0.054	0.250	0.310	2.500	TM11240-3T3X
32	#6	3	0.100	0.061	0.250	0.410	2.500	TM13832-3T3X
32	#8	3	0.126	0.087	0.250	0.490	2.500	TM16432-3T3X
32	#10	3	0.145	0.106	0.250	0.590	2.500	TM19032-3T3X
28	1/4	3	0.197	0.153	0.250	0.750	2.500	TM25028-3T3X
24	#10	3	0.138	0.086	0.250	0.590	2.500	TM19024-3T3X
24	5/16	3	0.260	0.208	0.312	0.940	2.500	TM31224-3T3X
20	1/4	3	0.187	0.125	0.250	0.750	2.500	TM25020-3T3X
18	5/16	3	0.236	0.168	0.250	0.910	2.500	TM31218-3T3X
16	3/4	4	0.495	0.414	0.500	2.250	4.000	TM75016-3T3X
14	7/8	4	0.620	0.528	0.625	2.625	4.000	TM87514-3T3X
12	3/4	4	0.495	0.389	0.500	2.250	4.000	TM75012-3T3X
11	5/8	4	0.470	0.355	0.500	1.875	4.000	TM62511-3T3X
10	3/4	4	0.495	0.369	0.500	2.250	4.000	TM75010-3T3X
9	7/8	4	0.620	0.480	0.625	2.625	4.000	TM87509-3T3X
8	1	4	0.620	0.463	0.625	3.000	4.500	TM10008-3T3X

M

I

E: 58 - 59

E: 4



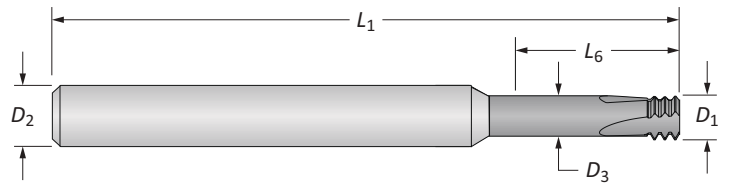
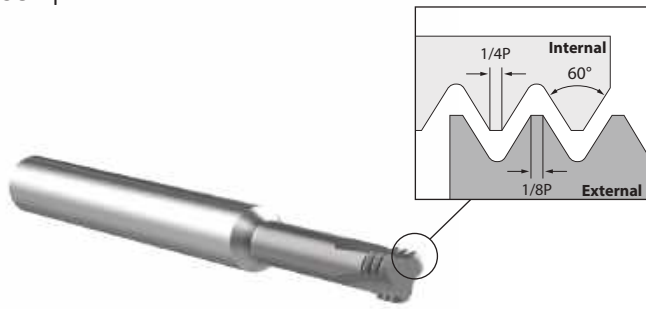
M = Metric (mm)

I = Imperial (in)



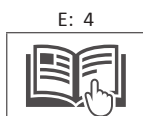
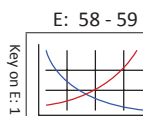
Solid Carbide Thread Mills

ISO | 2xD



ISO | Non-Coolant

	Pitch	Min Thread $\varnothing$	Flutes	Thread Mill					Part No.
				$D_1$	$D_3$	$D_2$	$L_6$	$L_1$	AccuThread® T3
m	0.35	M1.8	3	1.35	0.84	6.00	4.32	63.00	TM18035M-3T2X
	0.40	M2	3	1.55	1.04	6.00	4.60	63.00	TM20040M-3T2X
	0.45	M2.5	3	1.96	1.38	6.00	5.60	63.00	TM25045M-3T2X
	0.50	M3	3	2.36	1.73	6.00	6.60	63.00	TM30050M-3T2X
	0.60	M3.5	3	2.74	1.99	6.00	7.60	63.00	TM35060M-3T2X
	0.70	M4	3	3.10	2.22	6.00	8.90	63.00	TM40070M-3T2X
	0.75	M4.5	3	3.38	2.41	6.00	10.92	63.00	TM45075M-3T2X
	0.80	M5	3	3.81	2.81	6.00	12.40	63.00	TM50080M-3T2X
	1.00	M6	3	4.65	3.41	6.00	14.00	63.00	TM60100M-3T2X
	1.25	M8	3	5.94	4.40	6.00	18.00	63.00	TM80125M-3T2X
	1.50	M10	4	7.80	5.95	8.00	23.10	64.00	TM10150M-3T2X
	1.50	M14	4	9.40	7.45	10.00	27.94	88.90	TM14150M-3T2X
	1.50	M18	4	11.94	9.98	12.00	36.07	88.90	TM18150M-3T2X
	1.75	M12	4	7.92	5.78	8.00	24.00	64.00	TM12175M-3T2X
	2.00	M16	4	11.94	9.40	12.00	32.00	88.90	TM16200M-3T2X
	2.50	M20	4	14.99	11.83	16.00	39.88	100.00	TM20250M-3T2X
3.00	M24	4	15.75	11.98	16.00	48.01	100.00	TM24300M-3T2X	
i	0.35	M1.8	3	0.053	0.033	0.250	0.170	2.500	TM18035-3T2X
	0.40	M2	3	0.061	0.041	0.250	0.180	2.500	TM20040-3T2X
	0.45	M2.5	3	0.077	0.055	0.250	0.220	2.500	TM25045-3T2X
	0.50	M3	3	0.093	0.068	0.250	0.260	2.500	TM30050-3T2X
	0.60	M3.5	3	0.108	0.078	0.250	0.300	2.500	TM35060-3T2X
	0.70	M4	3	0.122	0.088	0.250	0.350	2.500	TM40070-3T2X
	0.75	M4.5	3	0.133	0.095	0.250	0.430	2.500	TM45075-3T2X
	0.80	M5	3	0.150	0.111	0.250	0.490	2.500	TM50080-3T2X
	1.00	M6	3	0.183	0.134	0.250	0.550	2.500	TM60100-3T2X
	1.25	M8	3	0.234	0.173	0.250	0.710	2.500	TM80125-3T2X
	1.50	M10	4	0.307	0.234	0.312	0.910	2.500	TM10150-3T2X
	1.50	M14	4	0.370	0.293	0.375	1.100	3.500	TM14150-3T2X
	1.50	M18	4	0.495	0.418	0.500	1.420	3.500	TM18150-3T2X
	1.75	M12	4	0.310	0.225	0.312	0.945	2.500	TM12175-3T2X
	2.00	M16	4	0.470	0.370	0.500	1.260	3.500	TM16200-3T2X
	2.50	M20	4	0.590	0.466	0.625	1.570	4.000	TM20250-3T2X
3.00	M24	4	0.620	0.472	0.625	1.890	4.000	TM24300-3T2X	

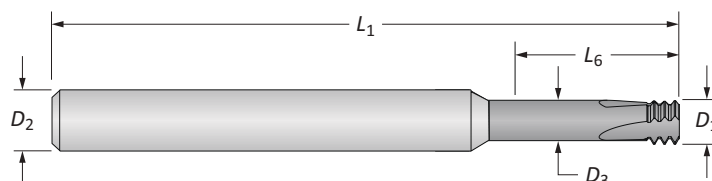
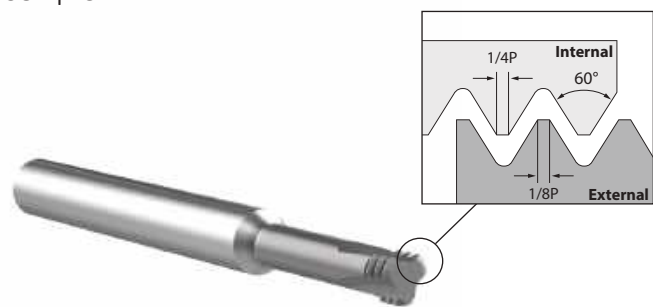


m = Metric (mm)  
i = Imperial (in)

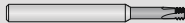


## Solid Carbide Thread Mills

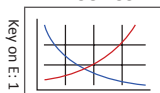
ISO | 3xD



ISO | Non-Coolant

Pitch	Min Thread Ø	Flutes	Thread Mill					Part No.
			$D_1$	$D_3$	$D_2$	$L_6$	$L_1$	
0.45	M2.5	3	1.96	1.38	6.00	7.60	63.00	 TM25045M-3T3X
0.50	M3	3	2.36	1.73	6.00	9.40	63.00	TM30050M-3T3X
0.60	M3.5	3	2.74	1.99	6.00	11.40	63.00	TM35060M-3T3X
0.70	M4	3	3.10	2.22	6.00	12.40	63.00	TM40070M-3T3X
0.80	M5	3	3.81	2.81	6.00	16.00	63.00	TM50080M-3T3X
1.00	M6	3	4.65	3.41	6.00	20.10	63.00	TM60100M-3T3X
1.25	M8	3	5.94	4.40	6.00	23.90	63.00	TM80125M-3T3X
1.50	M10	4	7.80	5.95	8.00	28.40	64.00	TM10150M-3T3X
1.50	M14	4	9.40	7.45	10.00	41.91	88.90	TM14150M-3T3X
1.50	M18	4	11.94	9.98	12.00	53.85	88.90	TM18150M-3T3X
1.75	M12	4	7.92	5.78	8.00	36.00	64.00	TM12175M-3T3X
2.00	M16	4	11.94	9.40	12.00	49.53	88.90	TM16200M-3T3X
2.50	M20	4	14.99	11.83	16.00	59.94	100.00	TM20250M-3T3X
3.00	M24	4	15.75	11.98	16.00	71.88	100.00	TM24300M-3T3X
0.45	M2.5	3	0.077	0.055	0.250	0.300	2.500	TM25045-3T3X
0.50	M3	3	0.093	0.068	0.250	0.370	2.500	TM30050-3T3X
0.60	M3.5	3	0.108	0.078	0.250	0.450	2.500	TM35060-3T3X
0.70	M4	3	0.122	0.088	0.250	0.490	2.500	TM40070-3T3X
0.80	M5	3	0.150	0.111	0.250	0.630	2.500	TM50080-3T3X
1.00	M6	3	0.183	0.134	0.250	0.790	2.500	TM60100-3T3X
1.25	M8	3	0.234	0.173	0.250	0.940	2.500	TM80125-3T3X
1.50	M10	4	0.307	0.234	0.312	1.120	2.500	TM10150-3T3X
1.50	M14	4	0.370	0.293	0.375	1.650	3.500	TM14150-3T3X
1.50	M18	4	0.495	0.418	0.500	2.120	4.000	TM18150-3T3X
1.75	M12	4	0.310	0.225	0.312	1.418	2.500	TM12175-3T3X
2.00	M16	4	0.470	0.370	0.500	1.950	4.000	TM16200-3T3X
2.50	M20	4	0.590	0.466	0.625	2.360	4.000	TM20250-3T3X
3.00	M24	4	0.620	0.472	0.625	2.830	4.000	TM24300-3T3X

E: 58 - 59



E: 4



m = Metric (mm)

i = Imperial (in)



## Indexable Insert Thread Mills Overview

A DRILLING  
B BORING  
C REAMING  
D BURNISHING  
E THREADING  
X SPECIALS



### Bolt-in Style

- Replaceable inserts allow for quick setups and tool changes to keep the production process moving smoothly.
- Inserts are available with AM210® coating, which increases tool life.
- Available with 1 flute only.
- Multiple thread form styles are available.
- Tapered thread forms: NPT, NPTF, BSPT.
- Straight thread forms: BSPP, UN, UNJ, ISO.

#### Bolt-in Style Indexable Thread Mill Assembly



**Step 1:**  
Slide the thread mill insert into the insert holder slot.

**Step 2:**  
Hand tighten insert screws to hold insert in place.

**Step 3:**  
Tighten each screw to 1.5 Nm (1.1 ft-lbs).

**Step 4:**  
Tighten each screw to 3.5 Nm (2.6 ft-lbs).



### Pin Style

- Replaceable inserts allow for quick setups and tool changes to keep the production process moving smoothly.
- Inserts are available with AM210® coating, which increases tool life.
- Holders available in 2 styles: Weldon Shank and Shell Mill.
- Weldon Shank holders available with 1, 2, 3, and 5 flutes.
- Shell Mill holders available with 6, 7, and 8 flutes.
- Thread forms available: NPT, NPTF, BSPT, BSPP, API-ROUND, ACME, UN, UNJ, ISO.

#### Pin Style Indexable Thread Mill Assembly



**Step 1:**  
Slide the thread mill insert into the insert holder slot.

**Step 2:**  
Slide the pin into the pin holder slot to hold the insert in place.

**Step 3:**  
Hand tighten insert screws to hold insert in place. If there are three insert screws, start tightening the middle screw, then the two outer screws. Repeat for each insert.

**Step 4:**  
Following the order from step three, tighten each screw to 1.5 Nm (1.1 ft-lbs).

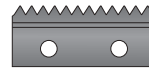
**Step 5:**  
Following the order from step three, tighten each screw to 3.5 Nm (2.6 ft-lbs).



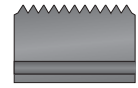
Product Nomenclature

AccuThread® 856 Indexable Inserts

<b>TP</b>	<b>075</b>	<b>K</b>	<b>UN</b>	<b>32</b>	<b>I</b>
1	2	3	4	5	6



Bolt-in Style

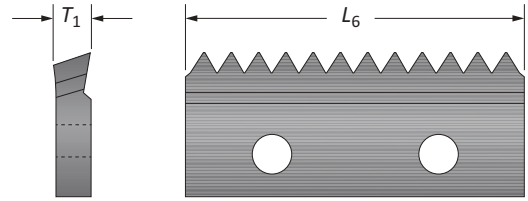


Pin Style

<b>1. Insert Style</b> TP = Bolt-in TN = Pin style	<b>2. Insert Length</b> 075 = 3/4 100 = 1.00 150 = 1.50	<b>3. Coating</b> K = AM210® A = TiAlN U = Uncoated	<b>4. Thread Class</b> UN = UN      BSPT = BSPT UNJ = UNJ    M = ISO NPT = NPT    FA = Full ACME NPTF = NPTF   AP = API Round BSPP = BSPP	<b>5. Thread Pitch</b> 20 = UN 1.0 = ISO	<b>6. Thread Style</b> I = Internal E = External
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Indexable Inserts

Symbol	Attribute
$L_6$	Length of insert
$T_1$	Insert thickness



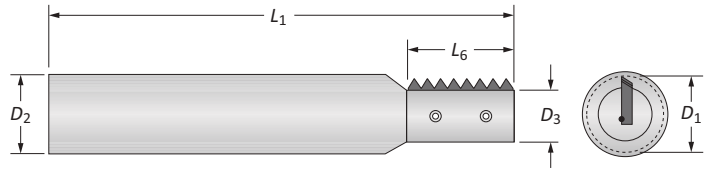
AccuThread® 856 Indexable Insert Holders

<b>THT</b>	<b>0400</b>	<b>1F</b>	<b>075</b>	<b>M</b>
1	2	3	4	5

1. Holder Style	
<b>Bolt-in Style</b>	<b>Pin Style</b>
THT = Tapered Head	THP = Weldon Positive Rake
THN = Straight Head	TNR = Weldon Neutral Rake
	TSN = Shell Mill Positive Rake
	TSR = Shell Mill Neutral Rake

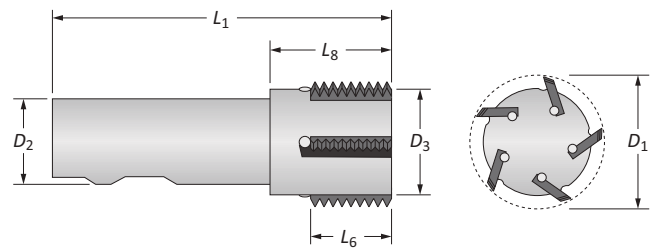
2. Cutter Diameter	3. Shank Designation
0400 = 0.400	1F = 1 flute      6F = 6 flutes 2F = 2 flutes    7F = 7 flutes 3F = 3 flutes    8F = 8 flutes 5F = 5 flutes

4. Length of Insert	5. Shank Designation
075 = 3/4 100 = 1.00 150 = 1.50	M = Metric Blank = Imperial



Bolt-in Style Holders

Symbol	Attribute	Symbol	Attribute
$D_1$	Maximum cutter diameter	$L_1$	Overall length
$D_2$	Shank diameter	$L_6$	Length of insert
$D_3$	Pilot diameter		



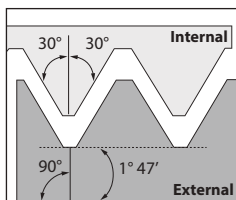
Pin Style Holders

Symbol	Attribute	Symbol	Attribute
$D_1$	Cutter diameter	$D_5$	Bore diameter (Shell Mill)
$D_1^*$	Oversized cutter diameter	$L_1$	Overall length
$D_2$	Shank diameter	$L_6$	Length of insert
$D_3$	Pilot diameter	$L_8$	Flute length
$D_4$	Body diameter (Shell Mill)	$T_2$	Slot width (Shell Mill)

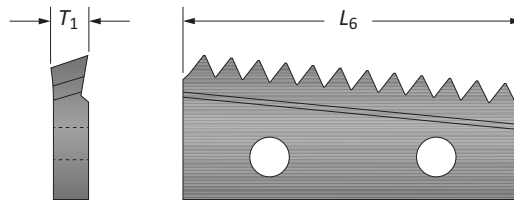
## AccuThread® 856 Thread Mill Inserts

Bolt-in Style | NPT / NPTF

**A**  
DRILLING



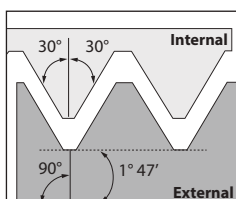
**NPT**  
Internal / External



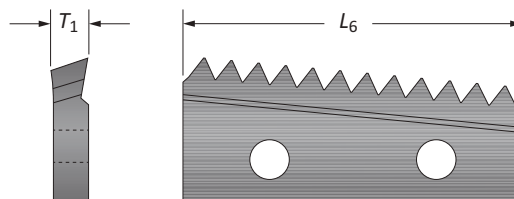
**B**  
BORING

TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	NPT Internal/External
18	19.05	0.750	2.03	0.080	<b>TP075K-NPT18</b>
14	25.40	1.000	3.56	0.140	<b>TP100K-NPT14</b>

**C**  
REAMING



**NPTF**  
Internal / External



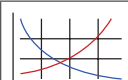
TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	NPTF Internal/External
18	19.05	0.750	2.03	0.080	<b>TP075K-NPTF18</b>
14	25.40	1.000	3.56	0.140	<b>TP100K-NPTF14</b>

**D**  
BURISHING

**F**  
THREADING


**X**  
SPECIALS

E: 60 - 63

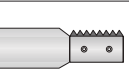


Key on E: 1

E: 36



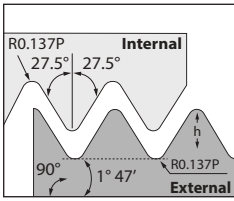
E: 43



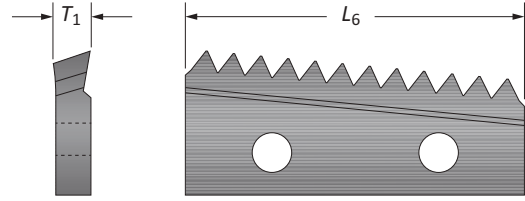
Inserts sold in quantities of 2

# AccuThread® 856 Thread Mill Inserts

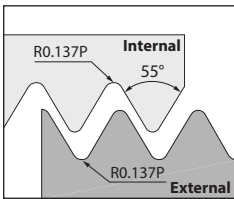
Bolt-in Style | BSPT / BSPP



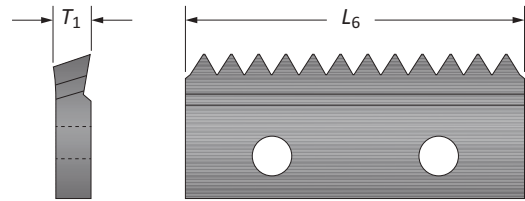
**BSPT**  
Internal / External



TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	BSPT Internal/External
19	19.05	0.750	2.03	0.080	<b>TP075K-BSPT19</b>
19	25.40	1.000	3.56	0.140	<b>TP100K-BSPT19</b>
14	25.40	1.000	3.56	0.140	<b>TP100K-BSPT14</b>



**BSPP**  
Internal / External



TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	BSPP Internal/External
19	19.05	0.750	2.03	0.080	<b>TP075K-BSPP19</b>
19	25.40	1.000	3.56	0.140	<b>TP100K-BSPP19</b>
14	25.40	1.000	3.56	0.140	<b>TP100K-BSPP14</b>

A

DRILLING

B

BORING

C

REAMING

D

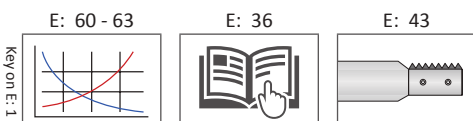
BURNISHING

E

THREADING

X

SPECIALS

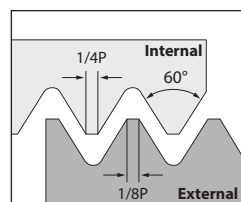


Inserts sold in quantities of 2

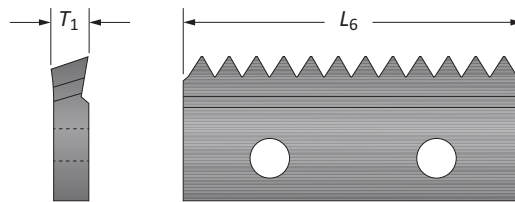
### AccuThread® 856 Thread Mill Inserts

Bolt-in Style | UN

A DRILLING



**UN**  
Internal

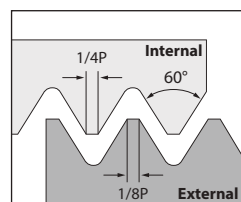


B BORING

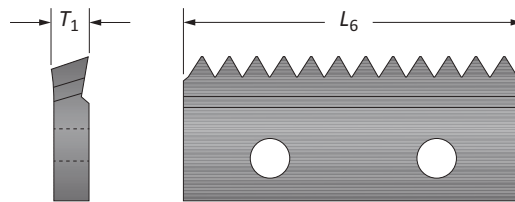
TPI (Pitch)	Insert				Part No.
	L <sub>6</sub> mm	L <sub>6</sub> inch	T <sub>1</sub> mm	T <sub>1</sub> inch	UN Internal
32	19.05	0.750	2.03	0.080	TP075K-UN32I
32	25.40	1.000	3.56	0.140	TP100K-UN32I
24	19.05	0.750	2.03	0.080	TP075K-UN24I
24	25.40	1.000	3.56	0.140	TP100K-UN24I
20	19.05	0.750	2.03	0.080	TP075K-UN20I
20	25.40	1.000	3.56	0.140	TP100K-UN20I
18	19.05	0.750	2.03	0.080	TP075K-UN18I
18	25.40	1.000	3.56	0.140	TP100K-UN18I
16	19.05	0.750	2.03	0.080	TP075K-UN16I
16	25.40	1.000	3.56	0.140	TP100K-UN16I
14	25.40	1.000	3.56	0.140	TP100K-UN14I
13	25.40	1.000	3.56	0.140	TP100K-UN13I
12	25.40	1.000	3.56	0.140	TP100K-UN12I
10*	25.40	1.000	3.56	0.140	TP100K-UN10I*

\*This item is only used with THN-0611-1F100. The reduced body allows a 3/4"-10 UN/UNJ to be produced.

C REAMING



**UN**  
External



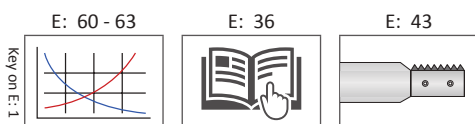
D BURNISHING

TPI (Pitch)	Insert				Part No.
	L <sub>6</sub> mm	L <sub>6</sub> inch	T <sub>1</sub> mm	T <sub>1</sub> inch	UN External
32	19.05	0.750	2.03	0.080	TP075K-UN32E
32	25.40	1.000	3.56	0.140	TP100K-UN32E
24	19.05	0.750	2.03	0.080	TP075K-UN24E
24	25.40	1.000	3.56	0.140	TP100K-UN24E
20	19.05	0.750	2.03	0.080	TP075K-UN20E
20	25.40	1.000	3.56	0.140	TP100K-UN20E
18	19.05	0.750	2.03	0.080	TP075K-UN18E
18	25.40	1.000	3.56	0.140	TP100K-UN18E
16	19.05	0.750	2.03	0.080	TP075K-UN16E
16	25.40	1.000	3.56	0.140	TP100K-UN16E
14	25.40	1.000	3.56	0.140	TP100K-UN14E
13	25.40	1.000	3.56	0.140	TP100K-UN13E
12	25.40	1.000	3.56	0.140	TP100K-UN12E
10*	25.40	1.000	3.56	0.140	TP100K-UN10E*

\*This item is only used with THN-0611-1F100. The reduced body allows a 3/4"-10 UN/UNJ to be produced.

E THREADING

X SPECIALS

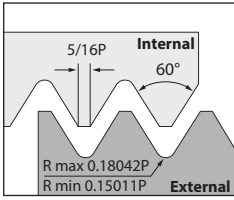


Inserts sold in quantities of 2

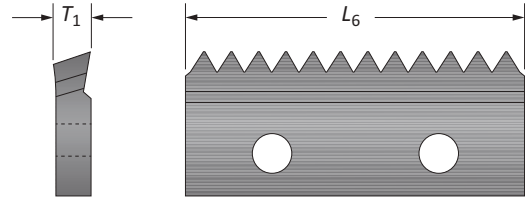


# AccuThread® 856 Thread Mill Inserts

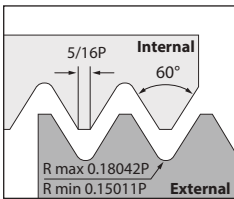
Bolt-in Style | UNJ



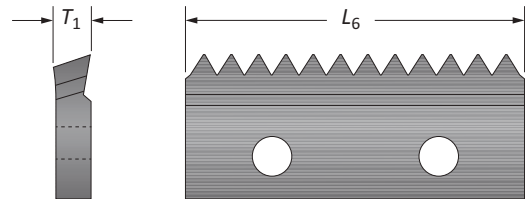
**UNJ**  
Internal



TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	UNJ Internal
32	19.05	0.750	2.03	0.080	TP075K-UNJ32I
32	25.40	1.000	3.56	0.140	TP100K-UNJ32I
24	19.05	0.750	2.03	0.080	TP075K-UNJ24I
24	25.40	1.000	3.56	0.140	TP100K-UNJ24I
20	19.05	0.750	2.03	0.080	TP075K-UNJ20I
20	25.40	1.000	3.56	0.140	TP100K-UNJ20I
18	19.05	0.750	2.03	0.080	TP075K-UNJ18I
18	25.40	1.000	3.56	0.140	TP100K-UNJ18I
16	19.05	0.750	2.03	0.080	TP075K-UNJ16I
16	25.40	1.000	3.56	0.140	TP100K-UNJ16I
14	25.40	1.000	3.56	0.140	TP100K-UNJ14I
12	25.40	1.000	3.56	0.140	TP100K-UNJ12I



**UNJ**  
External



TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	UNJ External
32	19.05	0.750	2.03	0.080	TP075K-UNJ32E
32	25.40	1.000	3.56	0.140	TP100K-UNJ32E
24	19.05	0.750	2.03	0.080	TP075K-UNJ24E
24	25.40	1.000	3.56	0.140	TP100K-UNJ24E
20	19.05	0.750	2.03	0.080	TP075K-UNJ20E
20	25.40	1.000	3.56	0.140	TP100K-UNJ20E
18	19.05	0.750	2.03	0.080	TP075K-UNJ18E
18	25.40	1.000	3.56	0.140	TP100K-UNJ18E
16	19.05	0.750	2.03	0.080	TP075K-UNJ16E
16	25.40	1.000	3.56	0.140	TP100K-UNJ16E
12	25.40	1.000	3.56	0.140	TP100K-UNJ12E

E: 60 - 63 E: 36 E: 43

Inserts sold in quantities of 2

IDX

**AMC** THREADING | Solid Carbide and Indexable Thread Mills

**AccuThread® 856 Thread Mill Inserts**

Bolt-in Style | ISO

A

DRILLING

**ISO**  
Internal

B

BORING

Pitch	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	ISO Internal
0.5	19.05	0.5	2.03	0.080	TP075K-M0.5I
1.0	19.05	1.0	2.03	0.080	TP075K-M1.0I
1.0	24.40	1.0	3.56	0.140	TP100K-M1.0I
1.25	19.05	1.25	2.03	0.080	TP075K-M1.25I
1.5	19.05	1.5	2.03	0.080	TP075K-M1.5I
1.5	25.40	1.5	3.56	0.140	TP100K-M1.5I
2.0	25.40	2.0	3.56	0.140	TP100K-M2.0I

C

REAMING

**ISO**  
External

D

BURNISHING

Pitch	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	ISO External
1.0	19.05	1.5	2.03	0.080	TP100K-M1.0E
1.5	25.40	1.5	3.56	0.140	TP100K-M1.5E
2.0	25.40	2.0	3.56	0.140	TP100K-M2.0E

F

THREADING

X

SPECIALS

E: 60 - 63 Key on E: 1

E: 36

E: 43

Inserts sold in quantities of 2

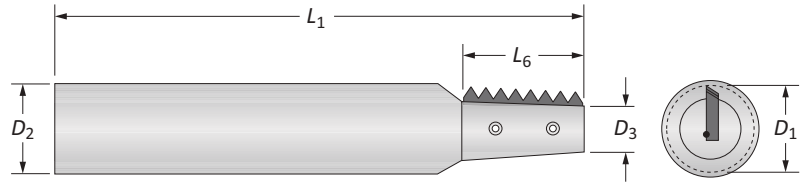
E: 42

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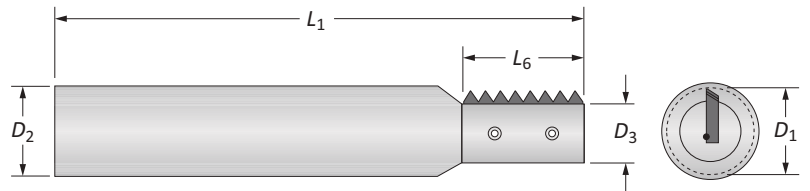
## AccuThread® 856 Thread Mill Insert Holders

Bolt-in Style



### Tapered Insert Holders | NPT / NPTF / BSPT

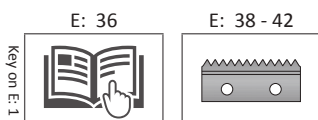
	Holder					Flutes	Part No.	Inserts	Screw	Wrench
	$D_1$	$D_3$	$D_2$	$L_6$	$L_1$					
m	10.16	5.82	13.00	19.05	76.20	1	<b>THT-0400-1F075M</b>	TP075K...	TMS-250	8T-8
	16.74	9.65	13.00	25.40	76.20	1	<b>THT-0659-1F100M</b>	TP100K...	TMS-45	8T-9
i	0.400	0.229	0.500	0.750	3.000	1	<b>THT-0400-1F075</b>	TP075K...	TMS-250	8T-8
	0.659	0.379	0.500	1.000	3.000	1	<b>THT-0659-1F100</b>	TP100K...	TMS-45	8T-9



### Straight Insert Holders | BSPP / UN / UNJ / ISO

	Holder					Flutes	Part No.	Inserts	Screw	Wrench
	$D_1$	$D_3$	$D_2$	$L_6$	$L_1$					
m	10.01	6.35	13.00	19.05	76.20	1	<b>THN-0394-1F075M</b>	TP075K...	TMS-250	8T-8
	15.88	11.58	25.00	25.40	88.90	1	<b>THN-0625-1F100M</b>	TP100K...	TMS-40	8T-9
i	0.394	0.250	0.500	0.750	3.000	1	<b>THN-0394-1F075</b>	TP075K...	TMS-250	8T-8
	0.611	0.383	0.750	1.000	3.500	1	<b>THN-0611-1F100</b>	*SEE NOTE	TMS-40	8T-9
	0.625	0.454	0.750	1.000	3.500	1	<b>THN-0625-1F100</b>	TP100K...	TMS-40	8T-9

\*NOTE: Only UN/UNJ 10 TPI inserts can be used in this holder. Please refer to inserts on pages E: 38-39.

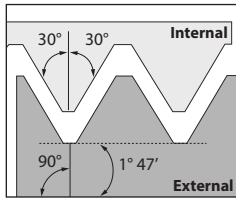


m = Metric (mm)  
i = Imperial (in)

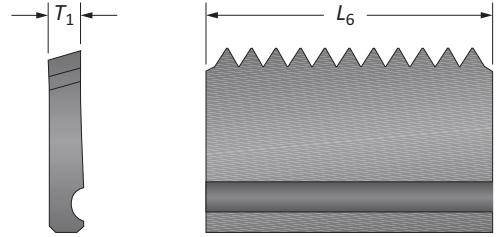
# AccuThread® 856 Thread Mill Inserts

Pin Style | NPT / NPTF / BSPT

A DRILLING



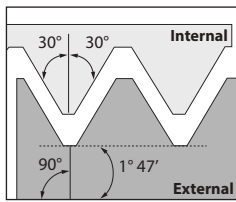
**NPT**  
Internal / External



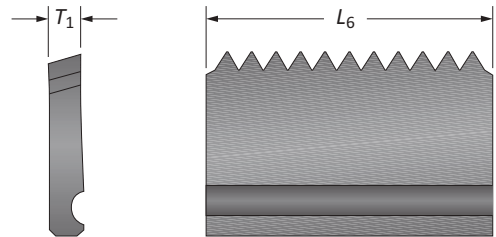
B BORING

TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	NPT Internal/External
11.5	38.10	1.500	3.56	0.140	<b>TN150K-NPT11.5</b>
8	38.10	1.500	3.56	0.140	<b>TN150K-NPT8</b>

C REAMING

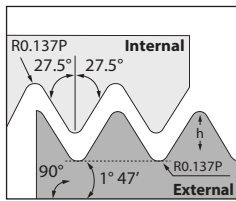


**NPTF**  
Internal / External

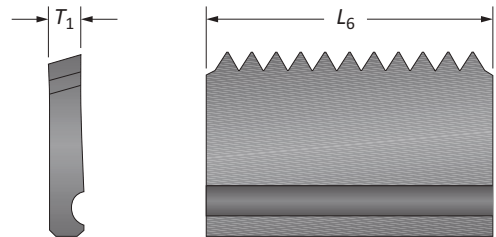


TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	NPTF Internal/External
11.5	38.10	1.500	3.56	0.140	<b>TN150K-NPTF11.5</b>
8	38.10	1.500	3.56	0.140	<b>TN150K-NPTF8</b>

D BURNISHING



**BSPT**  
Internal / External



TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	BSPT Internal/External
11	38.10	1.500	3.56	0.140	<b>TN150K-BSPT11</b>

E THREADING

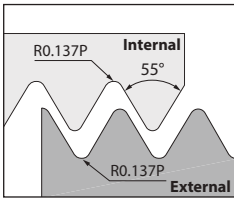
X SPECIALS

E: 60 - 63      E: 36      E: 50 - 51

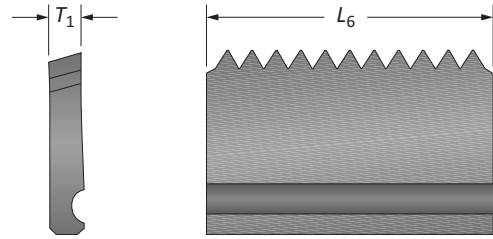
Inserts sold in quantities of 2

# AccuThread® 856 Thread Mill Inserts

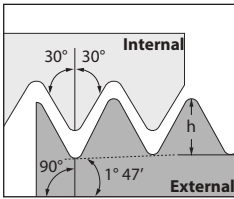
Pin Style | BSPP / API-ROUND / ACME



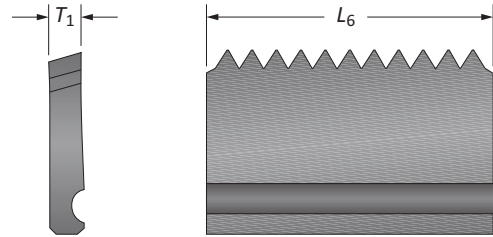
**BSPP**  
Internal / External



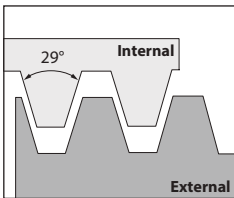
TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	BSPP Internal/External
11	38.10	1.500	3.56	0.140	<b>TN150K-BSPP11</b>



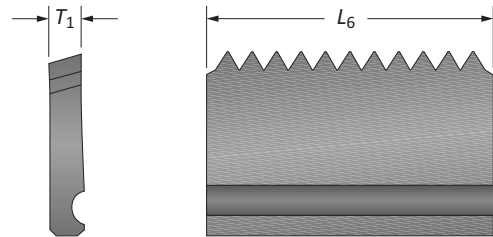
**API-ROUND**  
Internal / External



TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	API-ROUND Internal/External
10	38.10	1.500	3.56	0.140	<b>TN150K-AP10</b>
8	38.10	1.500	3.56	0.140	<b>TN150K-AP8</b>



**ACME**  
Full Profile



TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	ACME Full Profile
12	25.40	1.000	3.56	0.140	<b>TN100K-FA12</b>
12	38.10	1.500	3.56	0.140	<b>TN150K-FA12</b>
10	25.40	1.000	3.56	0.140	<b>TN100K-FA10</b>
10	38.10	1.500	3.56	0.140	<b>TN150K-FA10</b>
8	25.40	1.000	3.56	0.140	<b>TN100K-FA8</b>
8	38.10	1.500	3.56	0.140	<b>TN150K-FA8</b>
6	38.10	1.500	3.56	0.140	<b>TN150K-FA6</b>
5	38.10	1.500	3.56	0.140	<b>TN150K-FA5</b>

E: 60 - 63 E: 36 E: 50 - 51

Key on E: 1

Inserts sold in quantities of 2

IDX

AMC THREADING | Solid Carbide and Indexable Thread Mills

### AccuThread® 856 Thread Mill Inserts

Pin Style | UN

A  
DRILLING

**UN**  
Internal

B  
BORING

TPI (Pitch)	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	UN Internal
32	25.40	1.000	3.56	0.140	TN100K-UN32I
24	25.40	1.000	3.56	0.140	TN100K-UN24I
24	38.10	1.500	3.56	0.140	TN150K-UN24I
20	25.40	1.000	3.56	0.140	TN100K-UN20I
20	38.10	1.500	3.56	0.140	TN150K-UN20I
18	25.40	1.000	3.56	0.140	TN100K-UN18I
18	38.10	1.500	3.56	0.140	TN150K-UN18I
16	25.40	1.000	3.56	0.140	TN100K-UN16I
16	38.10	1.500	3.56	0.140	TN150K-UN16I
14	38.10	1.500	3.56	0.140	TN150K-UN14I
12	25.40	1.000	3.56	0.140	TN100K-UN12I
12	38.10	1.500	3.56	0.140	TN150K-UN12I
10	25.40	1.000	3.56	0.140	TN100K-UN10I
10	38.10	1.500	3.56	0.140	TN150K-UN10I
8	25.40	1.000	3.56	0.140	TN100K-UN8I
8	38.10	1.500	3.56	0.140	TN150K-UN8I
7	25.40	1.000	3.56	0.140	TN100K-UN7I
7	38.10	1.500	3.56	0.140	TN150K-UN7I
6	38.10	1.500	3.56	0.140	TN150K-UN6I

C  
REAMING

D  
BURNISHING

E  
THREADING

X  
SPECIALS

E: 60 - 63 E: 36 E: 50 - 51

Inserts sold in quantities of 2

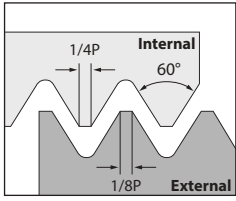
E: 46

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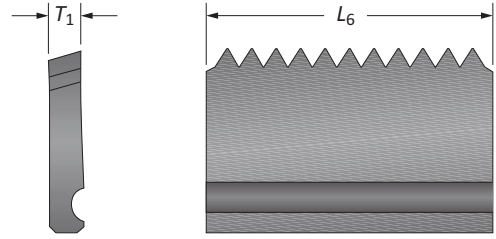


# AccuThread® 856 Thread Mill Inserts

Pin Style | UN



**UN**  
External



TPI (Pitch)	Insert				Part No.
	L <sub>6</sub> mm	L <sub>6</sub> inch	T <sub>1</sub> mm	T <sub>1</sub> inch	UN External
32	25.40	1.000	3.56	0.140	TN100K-UN32E
24	25.40	1.000	3.56	0.140	TN100K-UN24E
20	25.40	1.000	3.56	0.140	TN100K-UN20E
20	38.10	1.500	3.56	0.140	TN150K-UN20E
18	25.40	1.000	3.56	0.140	TN100K-UN18E
18	38.10	1.500	3.56	0.140	TN150K-UN18E
16	25.40	1.000	3.56	0.140	TN100K-UN16E
16	38.10	1.500	3.56	0.140	TN150K-UN16E
12	25.40	1.000	3.56	0.140	TN100K-UN12E
12	38.10	1.500	3.56	0.140	TN150K-UN12E
10	25.40	1.000	3.56	0.140	TN100K-UN10E
10	38.10	1.500	3.56	0.140	TN150K-UN10E
8	25.40	1.000	3.56	0.140	TN100K-UN8E
8	38.10	1.500	3.56	0.140	TN150K-UN8E
6	38.10	1.500	3.56	0.140	TN150K-UN6E

A

DRILLING

B

BORING

C

REAMING

D

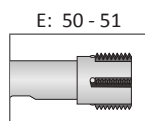
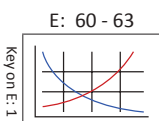
BURNISHING

E

THREADING

X

SPECIALS



Inserts sold in quantities of 2

IDX

AMC THREADING | Solid Carbide and Indexable Thread Mills

AccuThread® 856 Thread Mill Inserts

Pin Style | UNJ

A  
DRILLING

UNJ  
Internal

B  
BORING

TPI (Pitch)	Insert				Part No. UNJ Internal
	L <sub>6</sub> mm	L <sub>6</sub> inch	T <sub>1</sub> mm	T <sub>1</sub> inch	
32	25.40	1.000	3.56	0.140	TN100K-UNJ32I
24	25.40	1.000	3.56	0.140	TN100K-UNJ24I
24	38.10	1.500	3.56	0.140	TN150K-UNJ24I
20	25.40	1.000	3.56	0.140	TN100K-UNJ20I
20	38.10	1.500	3.56	0.140	TN150K-UNJ20I
18	25.40	1.000	3.56	0.140	TN100K-UNJ18I
18	38.10	1.500	3.56	0.140	TN150K-UNJ18I
16	25.40	1.000	3.56	0.140	TN100K-UNJ16I
16	38.10	1.500	3.56	0.140	TN150K-UNJ16I
12	25.40	1.000	3.56	0.140	TN100K-UNJ12I
12	38.10	1.500	3.56	0.140	TN150K-UNJ12I
8	38.10	1.500	3.56	0.140	TN150K-UNJ8I

C  
REAMING

UNJ  
External

D  
BURNISHING

TPI (Pitch)	Insert				Part No. UNJ External
	L <sub>6</sub> mm	L <sub>6</sub> inch	T <sub>1</sub> mm	T <sub>1</sub> inch	
32	25.40	1.000	3.56	0.140	TN100K-UNJ32E
24	25.40	1.000	3.56	0.140	TN100K-UNJ24E
24	38.10	1.500	3.56	0.140	TN150K-UNJ24E
20	25.40	1.000	3.56	0.140	TN100K-UNJ20E
20	38.10	1.500	3.56	0.140	TN150K-UNJ20E
18	25.40	1.000	3.56	0.140	TN100K-UNJ18E
18	38.10	1.500	3.56	0.140	TN150K-UNJ18E
16	25.40	1.000	3.56	0.140	TN100K-UNJ16E
16	38.10	1.500	3.56	0.140	TN150K-UNJ16E
12	25.40	1.000	3.56	0.140	TN100K-UNJ12E
12	38.10	1.500	3.56	0.140	TN150K-UNJ12E
8	38.10	1.500	3.56	0.140	TN150K-UNJ8E

E  
THREADING

X  
SPECIALS

E: 60 - 63 E: 36 E: 50 - 51

Key on E: 1

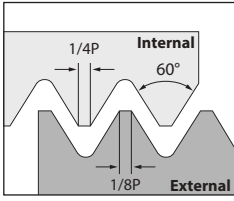
Inserts sold in quantities of 2

E: 48

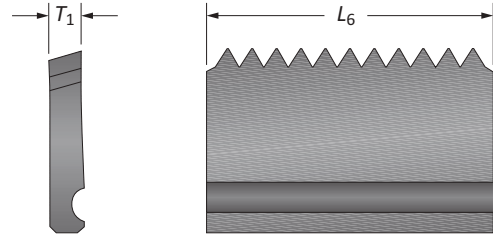
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# AccuThread® 856 Thread Mill Inserts

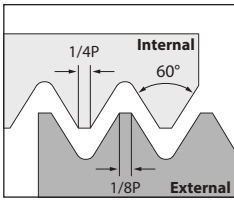
Pin Style | ISO



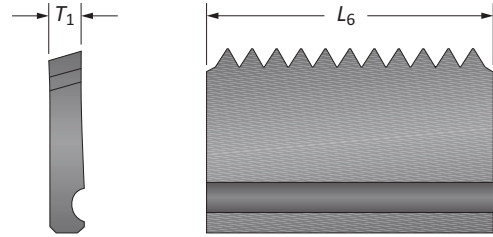
**ISO**  
Internal



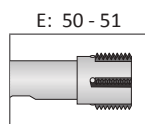
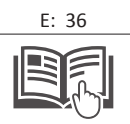
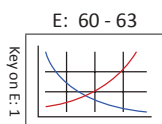
Pitch	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	ISO Internal
1.5	38.10	1.500	3.56	0.140	TN150K-M1.5I
2.0	38.10	1.500	3.56	0.140	TN150K-M2.0I
2.5	38.10	1.500	3.56	0.140	TN150K-M2.5I
3.0	38.10	1.500	3.56	0.140	TN150K-M3.0I
3.5	38.10	1.500	3.56	0.140	TN150K-M3.5I
4.0	38.10	1.500	3.56	0.140	TN150K-M4.0I
4.5	38.10	1.500	3.56	0.140	TN150K-M4.5I
5.0	38.10	1.500	3.56	0.140	TN150K-M5.0I
6.0	38.10	1.500	3.56	0.140	TN150K-M6.0I



**ISO**  
External



Pitch	Insert				Part No.
	$L_6$ mm	$L_6$ inch	$T_1$ mm	$T_1$ inch	ISO External
2.0	38.10	1.500	3.56	0.140	TN150K-M2.0E
4.0	38.10	1.500	3.56	0.140	TN150K-M4.0E
4.5	38.10	1.500	3.56	0.140	TN150K-M4.5E
5.0	38.10	1.500	3.56	0.140	TN150K-M5.0E
6.0	38.10	1.500	3.56	0.140	TN150K-M6.0E



Inserts sold in quantities of 2

IDX

THREADING | Solid Carbide and Indexable Thread Mills

AccuThread® Pin Style Holders

Weldon Shank

Positive Rake

	D <sub>1</sub>		Holder					Coolant	Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	D <sub>3</sub>	L <sub>8</sub>	L <sub>6</sub>	L <sub>1</sub>	D <sub>2</sub>							
m	24.61	-	19.05	35.05	25.40	114.30	25.00	N	2	THP-0969-2F100M	TN100K...	TMSS-3	3/32	TMP-1
	44.58	-	38.10	57.15	25.40	101.60	32.00	Y	5	THP-1755-5F100M	TN100K...	TMSS-2	3/32	TMP-1
	23.67	27.00	18.34	48.44	38.10	114.30	25.00	N	1	THP-0932-1F150M	TN150K...	TMSS-2	3/32	TMP-2
	24.61	27.94	19.05	50.80	38.10	114.30	25.00	N	2	THP-0969-2F150M	TN150K...	TMSS-3	3/32	TMP-2
	28.35	31.67	20.63	50.80	38.10	114.30	25.00	Y	3	THP-1116-3F150M	TN150K...	TMSS-3	3/32	TMP-2
	44.58	47.93	38.10	57.15	38.10	114.30	32.00	Y	5	THP-1755-5F150M	TN150K...	TMSS-2	3/32	TMP-2
i	0.969	-	0.750	1.38	1.000	4.500	1.000	N	2	THP-0969-2F100	TN100K...	TMSS-3	3/32	TMP-1
	1.755	-	1.500	2.25	1.000	4.000	1.250	Y	5	THP-1755-5F100	TN100K...	TMSS-2	3/32	TMP-1
	0.932	1.063	0.722	1.90	1.500	4.500	1.000	N	1	THP-0932-1F150	TN150K...	TMSS-2	3/32	TMP-2
	0.969	1.100	0.750	2.00	1.500	4.500	1.000	N	2	THP-0969-2F150	TN150K...	TMSS-3	3/32	TMP-2
	1.116	1.247	0.812	2.00	1.500	4.500	1.000	Y	3	THP-1116-3F150	TN150K...	TMSS-3	3/32	TMP-2
	1.755	1.887	1.500	2.25	1.500	4.500	1.250	Y	5	THP-1755-5F150	TN150K...	TMSS-2	3/32	TMP-2

\*See note at bottom of page.

Neutral Rake

	D <sub>1</sub>		Holder					Coolant	Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	D <sub>3</sub>	L <sub>8</sub>	L <sub>6</sub>	L <sub>1</sub>	D <sub>2</sub>							
m	28.35	31.67	20.63	50.80	38.10	114.30	25.00	Y	3	TNR-1116-3F150M	TN150K...	TMSS-3	3/32	TMP-2
	44.58	47.93	38.10	57.15	38.10	114.30	32.00	Y	5	TNR-1755-5F150M	TN150K...	TMSS-2	3/32	TMP-2
i	1.116	1.247	0.812	2.00	1.500	4.500	1.000	Y	3	TNR-1116-3F150	TN150K...	TMSS-3	3/32	TMP-2
	1.755	1.887	1.500	2.25	1.500	4.531	1.250	Y	5	TNR-1755-5F150	TN150K...	TMSS-2	3/32	TMP-2

\*See note at bottom of page.

\*Oversized cutter diameter occurs when assembled with the following pin style inserts:

E: 36  
Key on E: 1

E: 44 - 49

NPT 8 NPTF 11.5 NPTF 8	API 8	Metric 6.0 Metric 5.0 Metric 4.5	ACME 5 ACME 6
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m = Metric (mm)  
i = Imperial (in)

E: 50

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A DRILLING

B BORING

C REAMING

D BURNISHING

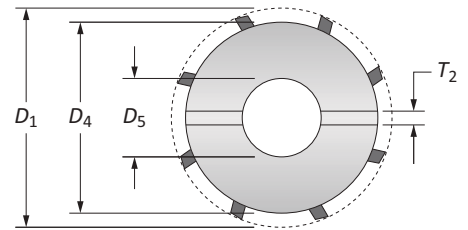
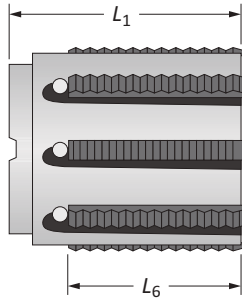
E THREADING

X SPECIALS



# AccuThread® Pin Style Holders

## Shell Mill



### Positive Rake

	D <sub>1</sub>		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	D <sub>4</sub>	D <sub>5</sub>	L <sub>6</sub>	L <sub>1</sub>	T <sub>2</sub>						
<b>m</b>	68.94	72.26	63.50	27.00	38.10	57.15	12	7	<b>TSN-2846-7F150M</b>	TN150K...	TMSS-2	3/32	TMP-2
	81.48	84.84	76.20	32.00	38.10	57.15	14	8	<b>TSN-3341-8F150M</b>	TN150K...	TMSS-2	3/32	TMP-2
<b>i</b>	2.714	2.845	2.500	1.000	1.500	2.250	0.375	7	<b>TSN-2846-7F150</b>	TN150K...	TMSS-2	3/32	TMP-2
	3.208	3.340	3.000	1.250	1.500	2.250	0.500	8	<b>TSN-3341-8F150</b>	TN150K...	TMSS-2	3/32	TMP-2

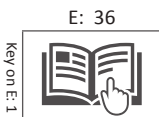
\*See note at bottom of page.

### Neutral Rake

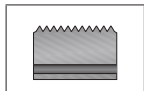
	D <sub>1</sub>		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	D <sub>4</sub>	D <sub>5</sub>	L <sub>6</sub>	L <sub>1</sub>	T <sub>2</sub>						
<b>m</b>	56.31	59.66	50.80	22.00	38.10	57.15	10.00	6	<b>TSR-2217-6F150M</b>	TN150K...	TMSS-2	3/32	TMP-2
<b>i</b>	2.217	2.349	2.000	0.750	1.500	2.250	0.312	6	<b>TSR-2217-6F150</b>	TN150K...	TMSS-2	3/32	TMP-2

\*See note at bottom of page.

\*Oversized cutter diameter occurs when assembled with the following pin style inserts:



E: 36



E: 44 - 49

NPT 8 NPTF 11.5 NPTF 8	API 8	Metric 6.0 Metric 5.0 Metric 4.5	ACME 5 ACME 6
------------------------------	-------	--	------------------

**m** = Metric (mm)  
**i** = Imperial (in)

## Thread Mill Pre-Drill Information

Formula	Metric	Imperial
Velocity	$m/min = RPM \cdot 0.003 \cdot \text{Cutter Diameter}$	$SFM = RPM \cdot 0.262 \cdot \text{Cutter Diameter}$
Speed	$RPM = \frac{(m/min \cdot 318.47)}{\text{Cutter Diameter}}$	$RPM = \frac{(SFM \cdot 3.82)}{\text{Cutter Diameter}}$
Linear Feed Rate (LFR)	$mm/min = RPM \cdot (mm/tooth \cdot \text{Number of Flutes})$	$IPM = RPM \cdot (IPT \cdot \text{Number of Flutes})$
Adjusted Feed Rate (AFR) <i>See Note Below</i>	$AFR = \left( \frac{(\text{Major Diameter} - \text{Cutter Diameter})}{\text{Major Diameter}} \right) \cdot LFR$	

**NOTE:** The above formula on an internal thread program adjusts the linear feed rate to be applied to the outer diameter instead of the center of the cutting tool. If the feed rate is not adjusted, the excessive feed rate will cause the thread mill cutting edges to fail.

### Example of an Internal Adjusted Feed Rate Calculation:

Free-machining steel at 125 BHN with a M16x2 2B thread using ThreadMills USA™ solid carbide thread mill (TM16200) running at 221 m/min and 0.038 mm/tooth

<b>STEP 1:</b>	$RPM = \frac{(m/min \cdot 318.47)}{\text{Cutter Diameter}}$	$RPM = \frac{(221 \cdot 318.47)}{11.94}$	$RPM = 5895$
<b>STEP 2:</b>	$LFR = RPM \cdot (mm/tooth \cdot \text{Number of flutes})$	$LFR = 5895 \cdot (0.038 \cdot 4)$	$LFR = 896.04 \text{ mm/min}$
<b>STEP 3:</b>	$AFR = \left( \frac{(\text{Major Diameter} - \text{Cutter Diameter})}{\text{Major Diameter}} \right) \cdot LFR$	$AFR = \left( \frac{(16.00 - 11.94)}{16.00} \right) \cdot 896.04$	$AFR = 227.37 \text{ mm/min}$

### Unit Definitions

Velocity	<b>m/min</b> = meters per minute <b>SFM</b> = surface feet per minute
Speed	<b>RPM</b> = revolutions per minute
Feed	<b>mm/rev</b> = millimeters per revolution <b>mm/tooth</b> = millimeters per tooth <i>also known as</i> millimeters per flute <b>IPR</b> = inch per revolution <b>IPT</b> = inch per tooth <i>also known as</i> inch per flute <b>mm/min</b> = millimeters per minute <b>IPM</b> = inches per minute

## Thread Mill Calculations and Recommended Passes

### Thread Mill Drill Calculation

Based on nominal tap drill diameter. Based on 0.075 mm or 0.003" probable mean oversize.

To calculate the percent of full thread for a given hole diameter:

**METRIC:** 
$$\% \text{ of thread} = \frac{76.96}{\text{Pitch (mm)}} \cdot [\text{Basic major diameter of thread} - \text{Drill hole size}]$$

**IMPERIAL:** 
$$\% \text{ of thread} = \# \text{ of threads per inch} \cdot \frac{\text{Basic major diameter of thread} - \text{Drill hole size}}{0.0130}$$

### Major Thread Diameter for # Drills

Drill #	Thread Diameter
# 2	0.086
# 3	0.099
# 4	0.112
# 5	0.125
# 6	0.132
# 8	0.164
# 10	0.190
# 12	0.216

### Recommended Passes

NPT / NPTF / BSPT / API			
Pitch Size	Machinability		
	Easy	Average	Difficult
28	1	1	2
27	1	1	2
19	1	1	2
18	1	1	2
14	1	2	3
11.5	1	2	3
11	1	2	3
10	1	2	3
8	2	3	4

ISO			
Pitch Size	Machinability		
	Easy	Average	Difficult
0.40	1	1	2
0.45	1	1	2
0.50	1	1	2
0.70	1	1	2
0.75	1	1	2
0.80	1	1	2
1.00	1	1	2
1.25	1	2	3
1.50	1	2	3
1.75	1	2	3
2.00	1	2	3
2.50	2	3	4
3.00	2	3	4
3.50	2	3	4
4.00	2	3	4
4.50	2	3	4
5.00	2	3	4
6.00	2	3	4

UN / UNJ / BSPP / BSW / NPS / NPSF			
Pitch Size	Machinability		
	Easy	Average	Difficult
64	1	1	2
56	1	1	2
48	1	1	2
44	1	1	2
40	1	1	2
36	1	1	2
32	1	1	2
28	1	1	2
24	1	1	2
20	1	2	3
19	1	2	3
18	1	2	3
16	1	2	3
14	1	2	3
13	1	2	3
12	1	2	3
11	2	2	4
10	2	3	4
9	2	3	4
8	2	3	4
7	2	3	4
6	2	3	4

- 1 Pass
- 2 Passes
- 3 Passes
- 4 Passes



## Recommended Cutting Data | Metric (mm)

Solid Carbide | AccuThread® 856

ISO	Material	Hardness (BHN)	Machinability*	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter							
					1.50 mm	3.19 mm	4.77 mm	6.36 mm	7.95 mm	9.54 mm	12.71 mm	15.89 mm
					3.18 mm	4.76 mm	6.35 mm	7.94 mm	9.53 mm	12.70 mm	15.88 mm	19.05 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	274	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 200	Easy	213	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 250	Easy	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	274	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		125 - 175	Average	213	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		175 - 225	Average	183	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	225 - 275	Average	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		125 - 175	Average	175	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		175 - 225	Average	152	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	Alloy Steel 4140, 5140, 8640	225 - 275	Average	137	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		275 - 325	Average	122	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		325 - 375	Difficult	114	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	137	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		300 - 350	Difficult	122	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		350 - 400	Difficult	107	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	Structural Steel A36, A285, A516	100 - 150	Average	183	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 250	Average	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		250 - 350	Difficult	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	37	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
		220 - 310	Difficult	27	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	160	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		185 - 275	Difficult	152	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Stainless Steel PH 17-4	185 - 275	Difficult	91	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		275 - 325	Difficult	46	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	175	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
200 - 250		Difficult	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064	
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	206	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 200	Easy	191	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 220	Easy	175	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		220 - 260	Average	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		260 - 320	Average	145	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
N	Wrought Aluminium 6061 T6	30	Easy	335	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
		180	Easy	305	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Cast Aluminium** up to 10% silicon	120	Easy	191	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Brass	30 - 125	Easy	335	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

## Recommended Cutting Data | Imperial (inch)

Solid Carbide | AccuThread® 856

ISO	Material	Hardness (BHN)	Machinability*	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter							
					0.060" - 0.125"	0.126" - 0.188"	0.189" - 0.250"	0.251" - 0.312"	0.313" - 0.375"	0.376" - 0.500"	0.501" - 0.625"	0.626" - 0.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	900	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 200	Easy	700	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		200 - 250	Easy	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	900	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		125 - 175	Average	700	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		175 - 225	Average	600	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	125 - 175	Average	575	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		175 - 225	Average	500	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		225 - 275	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Alloy Steel 4140, 5140, 8640	125 - 175	Average	575	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		175 - 225	Average	500	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		225 - 275	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		275 - 325	Difficult	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		325 - 375	Difficult	375	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		300 - 350	Difficult	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		350 - 400	Difficult	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Structural Steel A36, A285, A516	100 - 150	Average	600	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
150 - 250		Average	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025	
250 - 350		Difficult	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025	
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	120	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015
		220 - 310	Difficult	90	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	525	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		185 - 275	Difficult	500	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Stainless Steel PH 17-4	185 - 275	Difficult	300	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		275 - 325	Difficult	150	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	575	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
200 - 250		Difficult	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025	
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	675	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 200	Easy	625	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		200 - 220	Easy	575	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		220 - 260	Average	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		260 - 320	Average	475	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
N	Wrought Aluminium 6061 T6	30	Easy	1100	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
		180	Easy	1000	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
	Cast Aluminium** up to 10% silicon	120	Easy	625	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
	Brass	30 - 125	Easy	1100	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

A  
DRILLING  
B  
BORING  
C  
REAMING  
D  
BURNISHING  
E  
THREADING  
X  
SPECIALS



## Recommended Cutting Data | Metric (mm)

Solid Carbide | ThreadMills USA™

ISO	Material	Hardness (BHN)	Machinability*	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter							
					1.50 mm - 3.18 mm	3.19 mm - 4.76 mm	4.77 mm - 6.35 mm	6.36 mm - 7.94 mm	7.95 mm - 9.53 mm	9.54 mm - 12.70 mm	12.71 mm - 15.88 mm	15.89 mm - 19.05 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	221	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 200	Easy	168	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 250	Easy	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	221	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		125 - 175	Average	168	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		175 - 225	Average	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	225 - 275	Average	122	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		125 - 175	Average	137	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		175 - 225	Average	122	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
	Alloy Steel 4140, 5140, 8640	225 - 275	Average	107	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		275 - 325	Average	91	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		325 - 375	Difficult	76	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
	High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	107	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		300 - 350	Difficult	91	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
		350 - 400	Difficult	76	0.010	0.013	0.015	0.020	0.025	0.038	0.046	0.051
	Structural Steel A36, A285, A516	100 - 150	Average	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 250	Average	122	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		250 - 350	Difficult	91	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	30	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
		220 - 310	Difficult	23	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	130	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		185 - 275	Difficult	122	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Stainless Steel PH 17-4	185 - 275	Difficult	76	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		275 - 325	Difficult	38	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	99	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
200 - 250		Difficult	69	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064	
R	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	168	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		150 - 200	Easy	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		200 - 220	Easy	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		220 - 260	Average	122	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		260 - 320	Average	114	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
S	Wrought Aluminium 6061 T6	30	Easy	305	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
		180	Easy	274	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Cast Aluminium** up to 10% silicon	120	Easy	152	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Brass	30 - 125	Easy	305	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

## Recommended Cutting Data | Imperial (inch)

Solid Carbide | ThreadMills USA™

ISO	Material	Hardness (BHN)	Machinability*	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter							
					0.060" - 0.125"	0.126" - 0.188"	0.189" - 0.250"	0.251" - 0.312"	0.313" - 0.375"	0.376" - 0.500"	0.501" - 0.625"	0.626" - 0.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	725	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 200	Easy	550	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		200 - 250	Easy	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	725	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		125 - 175	Average	550	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		175 - 225	Average	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	225 - 275	Average	400	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		125 - 175	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		175 - 225	Average	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Alloy Steel 4140, 5140, 8640	225 - 275	Average	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		275 - 325	Average	300	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		125 - 175	Average	450	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		175 - 225	Average	400	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	High-Strength Alloy 4340, 4330V, 300M	225 - 275	Average	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		275 - 325	Difficult	300	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		325 - 375	Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
	Structural Steel A36, A285, A516	350 - 400	Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		100 - 150	Average	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
150 - 250		Average	400	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025	
S	High-Temp Alloy Hastelloy B, Inconel 600	250 - 350	Difficult	300	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		140 - 220	Difficult	100	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015
M	Stainless Steel 303, 416, 420	220 - 310	Difficult	75	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015
		135 - 185	Difficult	425	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Stainless Steel PH 17-4	185 - 275	Difficult	400	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		275 - 325	Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	325	0.0004	0.0005	0.0007	0.0008	0.0010	0.0015	0.0020	0.0025
200 - 250		Difficult	225	0.0004	0.0005	0.0007	0.0008	0.0010	0.0015	0.0020	0.0025	
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	550	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		150 - 200	Easy	500	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		200 - 220	Easy	450	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		220 - 260	Average	400	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
		260 - 320	Average	375	0.0004	0.0005	0.0007	0.0009	0.0010	0.0015	0.0020	0.0025
N	Wrought Aluminium 6061 T6	30 - 125	Easy	1000	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
		180	Easy	900	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
	Cast Aluminium** up to 10% silicon	120	Easy	500	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030
	Brass	30 - 125	Easy	1000	0.0005	0.0006	0.0009	0.0010	0.0015	0.0020	0.0025	0.0030

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

A  
DRILLING  
B  
BORING  
C  
REAMING  
D  
BURNISHING  
E  
THREADING  
X  
SPECIALS



## Recommended Cutting Data | Metric (mm)

Solid Carbide | AccuThread® T3

ISO	Material	Hardness (BHN)	Speed (m/min)	Chipload per Tooth (mm/tooth) by Cutter Diameter						
				1.40 mm - 3.17 mm	3.18 mm - 4.77 mm	4.78 mm - 6.35 mm	6.36 mm - 7.92 mm	7.93 mm - 9.52 mm	9.53 mm - 12.70 mm	12.71 mm - 19.05 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	115	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		150 - 200	85	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		200 - 250	70	0.020	0.025	0.035	0.045	0.050	0.075	0.090
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	115	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		125 - 175	85	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		175 - 225	70	0.020	0.025	0.035	0.045	0.050	0.075	0.090
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	60	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		125 - 175	70	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		175 - 225	60	0.020	0.025	0.030	0.040	0.050	0.065	0.080
	Alloy Steel 4140, 5140, 8640, etc.	225 - 275	50	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		275 - 325	45	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		125 - 175	70	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		175 - 225	60	0.020	0.025	0.030	0.040	0.050	0.065	0.080
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 275	50	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		300 - 350	45	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		350 - 400	38	0.020	0.025	0.030	0.040	0.050	0.065	0.080
	Structural Steel A36, A285, A516, etc.	225 - 275	45	0.020	0.025	0.030	0.040	0.050	0.065	0.080
		100 - 150	70	0.020	0.025	0.035	0.045	0.050	0.075	0.090
150 - 250		60	0.020	0.025	0.035	0.045	0.050	0.075	0.090	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	250 - 350	45	0.020	0.025	0.035	0.045	0.050	0.075	0.090	
	150 - 200	50	0.020	0.025	0.030	0.040	0.050	0.065	0.080	
200 - 250	38	0.020	0.025	0.030	0.040	0.050	0.065	0.080		
	140 - 220	30	0.015	0.020	0.030	0.040	0.045	0.050	0.065	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	220 - 310	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065
	Titanium Alloy	140 - 220	30	0.015	0.020	0.030	0.040	0.045	0.050	0.065
Aerospace Alloy S82	220 - 310	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065	
	185 - 275	30	0.015	0.020	0.030	0.040	0.045	0.050	0.065	
275 - 350	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065		
	M	Stainless Steel 416, 420, etc.	185 - 275	70	0.020	0.025	0.030	0.040	0.045	0.050
275 - 350			60	0.020	0.025	0.030	0.040	0.045	0.050	0.065
Stainless Steel 300 Series 304, 316, 17-4PH, etc.		135 - 185	38	0.020	0.025	0.030	0.040	0.045	0.050	0.065
		185 - 275	23	0.020	0.025	0.030	0.040	0.045	0.050	0.065
Super Duplex Stainless Steel		135 - 185	38	0.015	0.020	0.030	0.040	0.045	0.050	0.065
	185 - 275	23	0.015	0.020	0.030	0.040	0.045	0.050	0.065	
H	Hardened Steels	450 - 500	50	0.015	0.020	0.030	0.040	0.045	0.050	0.065
		500 - 550	38	0.015	0.020	0.030	0.040	0.045	0.050	0.065
K	Cast Iron Grey, Ductile, Nodular	120 - 150	85	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		150 - 200	75	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		200 - 220	70	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		220 - 260	60	0.020	0.025	0.035	0.045	0.050	0.075	0.090
		260 - 320	60	0.020	0.025	0.035	0.045	0.050	0.075	0.090
N	Wrought Aluminium	30	150	0.025	0.030	0.045	0.050	0.075	0.100	0.120
		180	135	0.025	0.030	0.045	0.050	0.075	0.100	0.120
	Cast Aluminium	30 - 180	75	0.025	0.030	0.045	0.050	0.075	0.100	0.120
	Brass	30 - 100	150	0.025	0.030	0.045	0.050	0.075	0.100	0.120

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

## Recommended Cutting Data | Imperial (inch)

Solid Carbide | AccuThread® T3

ISO	Material	Hardness (BHN)	Speed (SFM)	Chipload per Tooth (IPT) by Cutter Diameter						
				0.055" - 0.125"	0.126" - 0.188"	0.189" - 0.250"	0.251" - 0.312"	0.313" - 0.375"	0.376" - 0.500"	0.501" - 0.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	375	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		150 - 200	275	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		200 - 250	225	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	375	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		125 - 175	275	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		175 - 225	225	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
	Medium-Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	225	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		175 - 225	200	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		225 - 275	175	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	225	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		175 - 225	200	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		225 - 275	175	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		275 - 325	150	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
	High-Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	175	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		300 - 350	150	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
		350 - 400	125	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031
	Structural Steel A36, A285, A516, etc.	100 - 150	225	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		150 - 250	200	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
250 - 350		150	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	175	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031	
	200 - 250	125	0.0008	0.0010	0.0012	0.0016	0.0020	0.0026	0.0031	
S	High-Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	100	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
		220 - 310	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
	Titanium Alloy	140 - 220	100	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
		220 - 310	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
	Aerospace Alloy S82	185 - 275	100	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
275 - 350	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025		
M	Stainless Steel 416, 420, etc.	185 - 275	225	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
		275 - 350	200	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	125	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
		185 - 275	75	0.0008	0.0010	0.0012	0.0016	0.0018	0.0020	0.0025
	Super Duplex Stainless Steel	135 - 185	125	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
185 - 275	75	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025		
H	Hardened Steels	450 - 500	175	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
		500 - 550	125	0.0006	0.0008	0.0012	0.0016	0.0018	0.0020	0.0025
K	Cast Iron Grey, Ductile, Nodular	120 - 150	275	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		150 - 200	250	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		200 - 220	225	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		220 - 260	200	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
		260 - 320	200	0.0008	0.0010	0.0014	0.0018	0.0020	0.0030	0.0035
N	Wrought Aluminium	30	500	0.0010	0.0012	0.0018	0.0020	0.0030	0.0040	0.0048
		180	450	0.0010	0.0012	0.0018	0.0020	0.0030	0.0040	0.0048
	Cast Aluminium	30 - 180	250	0.0010	0.0012	0.0018	0.0020	0.0030	0.0040	0.0048
	Brass	30 - 100	500	0.0010	0.0012	0.0018	0.0020	0.0030	0.0040	0.0048

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

A DRILLING  
B BORING  
C REAMING  
D BURNISHING  
E THREADING  
X SPECIALS



## Recommended Cutting Data | Metric (mm)

Indexable | AccuThread® 856 | Positive Rake

ISO	Material	Hardness (BHN)	Machinability**	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter						
					1 flute		1 and 2 flutes	3 flutes	5 flutes	7 flutes	8 flutes
					9.53 mm - 12.70 mm	12.71 mm - 19.05 mm	19.06 mm - 25.40 mm	25.41 mm - 38.10 mm	38.11 mm - 50.80 mm	50.81 mm - 69.85 mm	69.86 mm - 88.90 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	274	0.020	0.025	0.030	0.038	0.051	0.064	0.076
		150 - 200	Easy	213	0.020	0.025	0.030	0.038	0.051	0.064	0.076
		200 - 250	Easy	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	274	0.020	0.025	0.030	0.038	0.051	0.064	0.076
		125 - 175	Average	213	0.020	0.025	0.030	0.038	0.051	0.064	0.076
		175 - 225	Average	183	0.020	0.025	0.030	0.038	0.051	0.064	0.076
		225 - 275	Average	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	125 - 175	Average	175	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		175 - 225	Average	152	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		225 - 275	Average	137	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		275 - 325	Average	122	0.020	0.023	0.025	0.030	0.038	0.051	0.064
	Alloy Steel 4140, 5140, 8640	125 - 175	Average	175	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		175 - 225	Average	152	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		225 - 275	Average	137	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		275 - 325	Difficult	122	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		325 - 375	Difficult	114	0.020	0.023	0.025	0.030	0.038	0.051	0.064
	High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	137	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		300 - 350	Difficult	122	0.020	0.023	0.025	0.030	0.038	0.051	0.064
		350 - 400	Difficult	107	0.020	0.023	0.025	0.030	0.038	0.051	0.064
	Structural Steel A36, A285, A516	100 - 150	Average	183	0.020	0.025	0.030	0.038	0.051	0.064	0.076
		150 - 250	Average	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076
250 - 350		Difficult	137	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	37	0.013	0.015	0.020	0.025	0.038	0.051	0.064
		220 - 310	Difficult	27	0.013	0.015	0.020	0.025	0.038	0.051	0.064
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	160	0.013	0.018	0.023	0.038	0.051	0.064	0.076
		185 - 275	Difficult	152	0.013	0.018	0.023	0.038	0.051	0.064	0.076
	Stainless Steel PH 17-4	185 - 275	Difficult	91	0.013	0.018	0.023	0.038	0.051	0.064	0.076
		275 - 325	Difficult	46	0.013	0.018	0.023	0.038	0.051	0.064	0.076
Tool Steel H-13, H21, A-4	150 - 200	Difficult	175	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
	200 - 250	Difficult	152	0.020	0.025	0.030	0.038	0.051	0.064	0.076	
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	206	0.020	0.030	0.038	0.051	0.076	0.102	0.127
		150 - 200	Easy	191	0.020	0.030	0.038	0.051	0.076	0.102	0.127
		200 - 220	Easy	175	0.020	0.030	0.038	0.051	0.076	0.102	0.127
		220 - 260	Average	152	0.020	0.030	0.038	0.051	0.076	0.102	0.127
		260 - 320	Average	145	0.020	0.030	0.038	0.051	0.076	0.102	0.127
N	Wrought Aluminium 6061 T6	30	Easy	335	0.038	0.051	0.064	0.076	0.102	0.127	0.152
		180	Easy	305	0.038	0.051	0.064	0.076	0.102	0.127	0.152
	Cast Aluminium** up to 10% silicon	120	Easy	191	0.038	0.051	0.064	0.076	0.102	0.127	0.152
	Brass	30 - 125	Easy	335	0.051	0.064	0.076	0.102	0.114	0.140	0.165

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

## Recommended Cutting Data | Imperial (inch)

Indexable | AccuThread® 856 | Positive Rake

ISO	Material	Hardness (BHN)	Machinability**	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter						
					1 flute		1 and 2 flutes	3 flutes	5 flutes	7 flutes	8 flutes
					0.375" - 0.500"	0.501" - 0.750"	0.751" - 1.000"	1.001" - 1.500"	1.501" - 2.000"	2.001" - 2.750"	2.751" - 3.500"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	900	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
		150 - 200	Easy	700	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
		200 - 250	Easy	500	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	900	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
		125 - 175	Average	700	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
		175 - 225	Average	600	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
		225 - 275	Average	500	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	125 - 175	Average	575	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		175 - 225	Average	500	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		225 - 275	Average	450	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		275 - 325	Average	400	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
	Alloy Steel 4140, 5140, 8640	125 - 175	Average	575	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		175 - 225	Average	500	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		225 - 275	Average	450	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		275 - 325	Difficult	400	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		325 - 375	Difficult	375	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
	High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	450	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		300 - 350	Difficult	400	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
		350 - 400	Difficult	350	0.0008	0.0009	0.0010	0.0012	0.0015	0.0020	0.0025
	Structural Steel A36, A285, A516	100 - 150	Average	600	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
150 - 250		Average	500	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
250 - 350		Difficult	450	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	120	0.0005	0.0006	0.0008	0.0010	0.0015	0.0020	0.0025
		220 - 310	Difficult	90	0.0005	0.0006	0.0008	0.0010	0.0015	0.0020	0.0025
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	525	0.0005	0.0007	0.0009	0.0015	0.0020	0.0025	0.0030
		185 - 275	Difficult	500	0.0005	0.0007	0.0009	0.0015	0.0020	0.0025	0.0030
	Stainless Steel PH 17-4	185 - 275	Difficult	300	0.0005	0.0007	0.0009	0.0015	0.0020	0.0025	0.0030
		275 - 325	Difficult	150	0.0005	0.0007	0.0009	0.0015	0.0020	0.0025	0.0030
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	575	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030
200 - 250		Difficult	500	0.0008	0.0010	0.0012	0.0015	0.0020	0.0025	0.0030	
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	675	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050
		150 - 200	Easy	625	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050
		200 - 220	Easy	575	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050
		220 - 260	Average	500	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050
		260 - 320	Average	475	0.0008	0.0012	0.0015	0.0020	0.0030	0.0040	0.0050
N	Wrought Aluminium 6061 T6	30	Easy	1100	0.0015	0.0020	0.0025	0.0030	0.0040	0.0050	0.0060
		180	Easy	1000	0.0015	0.0020	0.0025	0.0030	0.0040	0.0050	0.0060
	Cast Aluminium** up to 10% silicon	120	Easy	625	0.0015	0.0020	0.0025	0.0030	0.0040	0.0050	0.0060
	Brass	30 - 125	Easy	1100	0.0020	0.0025	0.0030	0.0040	0.0045	0.0055	0.0065

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

A  
DRILLING  
B  
BORING  
C  
REAMING  
D  
BURNISHING  
E  
THREADING  
X  
SPECIALS



## Recommended Cutting Data | Metric (mm)

Indexable | AccuThread® 856 | Neutral Rake

ISO	Material	Hardness (BHN)	Machinability**	Speed (m/min)	Recommended Feed (mm/tooth) by Cutter Diameter		
					3 flutes 25.41 mm - 38.09 mm	5 flutes 38.10 mm - 50.77 mm	6 flutes 50.78 mm - 69.85 mm
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	233	0.032	0.043	0.054
		150 - 200	Easy	181	0.032	0.043	0.054
		200 - 250	Easy	129	0.032	0.043	0.054
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	233	0.032	0.043	0.054
		125 - 175	Average	181	0.032	0.043	0.054
		175 - 225	Average	156	0.032	0.043	0.054
		225 - 275	Average	129	0.032	0.043	0.054
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	125 - 175	Average	149	0.026	0.032	0.043
		175 - 225	Average	129	0.026	0.032	0.043
		225 - 275	Average	116	0.026	0.032	0.043
		275 - 325	Average	104	0.026	0.032	0.043
	Alloy Steel 4140, 5140, 8640	125 - 175	Average	149	0.026	0.032	0.043
		175 - 225	Average	129	0.026	0.032	0.043
		225 - 275	Average	116	0.026	0.032	0.043
		275 - 325	Difficult	104	0.026	0.032	0.043
	High-Strength Alloy 4340, 4330V, 300M	325 - 375	Difficult	97	0.026	0.032	0.043
		225 - 300	Average	116	0.026	0.032	0.043
		300 - 350	Difficult	104	0.026	0.032	0.043
Structural Steel A36, A285, A516	350 - 400	Difficult	91	0.026	0.032	0.043	
	100 - 150	Average	156	0.032	0.043	0.054	
	150 - 250	Average	129	0.032	0.043	0.054	
S	High-Temp Alloy Hastelloy B, Inconel 600	250 - 350	Difficult	116	0.032	0.043	0.054
		140 - 220	Difficult	-	-	-	
M	Stainless Steel 303, 416, 420	220 - 310	Difficult	-	-	-	
		135 - 185	Difficult	-	-	-	
	Stainless Steel PH 17-4	185 - 275	Difficult	-	-	-	
		275 - 325	Difficult	-	-	-	
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	-	-	-	
		200 - 250	Difficult	-	-	-	
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	175	0.043	0.065	0.087
		150 - 200	Easy	162	0.043	0.065	0.087
		200 - 220	Easy	149	0.043	0.065	0.087
		220 - 260	Average	129	0.043	0.065	0.087
		260 - 320	Average	123	0.043	0.065	0.087
N	Wrought Aluminium 6061 T6	30	Easy	-	-	-	
		180	Easy	-	-	-	
	Cast Aluminium** up to 10% silicon	120	Easy	-	-	-	
	Brass	30 - 125	Easy	-	-	-	

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

A DRILLING

B BORING

C REAMING

D BURNISHING

E THREADING

X SPECIALS

## Recommended Cutting Data | Imperial (inch)

Indexable | AccuThread® 856 | Neutral Rake

ISO	Material	Hardness (BHN)	Machinability**	Speed (SFM)	Recommended Feed (inch/tooth) by Cutter Diameter		
					3 flutes	5 flutes	6 flutes
					1.000" - 1.499"	1.500" - 1.999"	2.000" - 2.750"
P	Free-Machining Steel 1118, 1215, 12L14, etc.	100 - 150	Easy	765	0.0013	0.0017	0.0021
		150 - 200	Easy	595	0.0013	0.0017	0.0021
		200 - 250	Easy	425	0.0013	0.0017	0.0021
	Low-Carbon Steel 1010, 1020, 1025, 1522, 1144	85 - 125	Average	765	0.0013	0.0017	0.0021
		125 - 175	Average	595	0.0013	0.0017	0.0021
		175 - 225	Average	510	0.0013	0.0017	0.0021
		225 - 275	Average	425	0.0013	0.0017	0.0021
	Medium-Carbon Steel 1010, 1040, 1050, 1527, 1140	125 - 175	Average	490	0.0010	0.0013	0.0017
		175 - 225	Average	425	0.0010	0.0013	0.0017
		225 - 275	Average	380	0.0010	0.0013	0.0017
		275 - 325	Average	340	0.0010	0.0013	0.0017
	Alloy Steel 4140, 5140, 8640	125 - 175	Average	490	0.0010	0.0013	0.0017
		175 - 225	Average	425	0.0010	0.0013	0.0017
		225 - 275	Average	380	0.0010	0.0013	0.0017
		275 - 325	Difficult	340	0.0010	0.0013	0.0017
		325 - 375	Difficult	320	0.0010	0.0013	0.0017
	High-Strength Alloy 4340, 4330V, 300M	225 - 300	Average	390	0.0010	0.0013	0.0017
		300 - 350	Difficult	340	0.0010	0.0013	0.0017
		350 - 400	Difficult	300	0.0010	0.0013	0.0017
	Structural Steel A36, A285, A516	100 - 150	Average	510	0.0013	0.0017	0.0021
150 - 250		Average	425	0.0013	0.0017	0.0021	
250 - 350		Difficult	390	0.0013	0.0017	0.0021	
S	High-Temp Alloy Hastelloy B, Inconel 600	140 - 220	Difficult	-	-	-	
		220 - 310	Difficult	-	-	-	
M	Stainless Steel 303, 416, 420	135 - 185	Difficult	-	-	-	
		185 - 275	Difficult	-	-	-	
	Stainless Steel PH 17-4	185 - 275	Difficult	-	-	-	
		275 - 325	Difficult	-	-	-	
	Tool Steel H-13, H21, A-4	150 - 200	Difficult	-	-	-	
200 - 250		Difficult	-	-	-		
K	Cast Iron Grey, Ductile, Nodular	120 - 150	Easy	575	0.0017	0.0026	0.0034
		150 - 200	Easy	525	0.0017	0.0026	0.0034
		200 - 220	Easy	490	0.0017	0.0026	0.0034
		220 - 260	Average	425	0.0017	0.0026	0.0034
		260 - 320	Average	400	0.0017	0.0026	0.0034
N	Wrought Aluminium 6061 T6	30	Easy	-	-	-	
		180	Easy	-	-	-	
	Cast Aluminium** up to 10% silicon	120	Easy	-	-	-	
	Brass	30 - 125	Easy	-	-	-	

**NOTICE:** Reduce feed and speed by 30% for tapered thread forms due to additional material removal.

\*Refer to recommended pass chart on page E: 53 when referencing material machinability.

\*\*Uncoated thread mills are recommended for cast aluminium applications.

A  
DRILLING  
B  
BORING  
C  
REAMING  
D  
BURNISHING  
E  
THREADING  
X  
SPECIALS

## Thread Mill Programming Guide

### What you need to know

- Thread milling can be easily accomplished with simple G code programming.
- If your machine is capable of 3 axis (helical) interpolation, you can and **should** be thread milling.
- Basic programming of a one pass thread mill can be achieved in six basic steps.

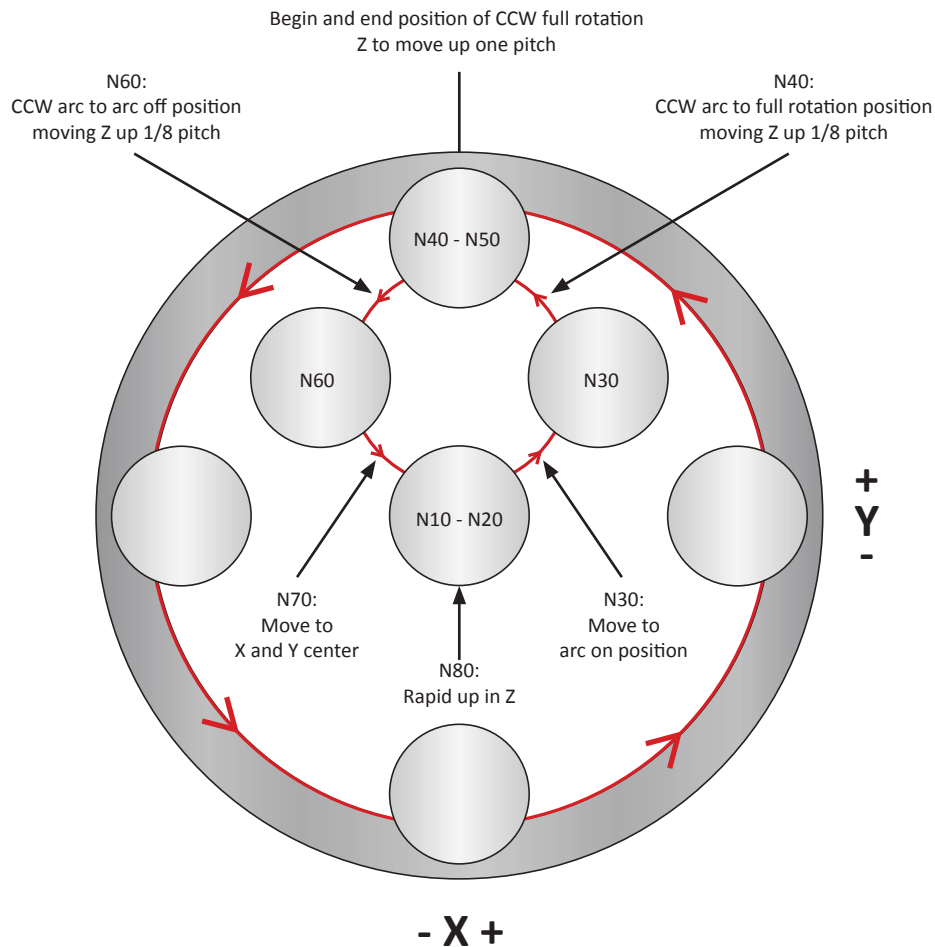
**AVAILABLE ONLINE 24/7  
or download INSTA-CODE®**

visit [www.alliedmachine.com](http://www.alliedmachine.com)

The following are examples of how to calculate and program a M16x2 right-hand thread that will be 10 mm deep produced in one pass.

Major thread diameter	<b>16 mm</b>	Major diameter of thread
Threads per inch		(only applies to imperial threads)
Length of thread	<b>10 mm</b>	Desired length of cut
Velocity	<b>221 m/min</b>	Recommended velocity for material to be cut
Feed per flute	<b>0.038 mm/tooth</b>	Recommended feed rate per cutting edge
Number of flutes	<b>4</b>	Number of flutes on tool to be used
Cutter diameter	<b>11.94 mm</b>	Diameter of cutting tool
<b>Using the information above, the values can be calculated:</b>		
Pitch	<b>2.0 mm</b>	Use 1/ threads per inch for imperial
Speed	<b>5895 RPM</b>	$(318.47 \cdot \text{m/min}) / \text{cutter diameter}$ or $(\text{SFM} \cdot 3.82) / \text{cutter diameter}$
Linear feed	<b>896.04 mm/min</b>	$\text{RPM} \cdot (\text{Feed per flute} \cdot \text{Number of flutes})$
Feed rate for thread milling	<b>227.37 mm/min</b>	$((\text{Major thread diameter} - \text{cutter diameter}) / \text{Major thread diameter}) \cdot \text{Linear feed}$
Z-axis travel on arc on	<b>0.25 mm</b>	$(\text{Pitch} / 8)$
Z-axis travel for full thread	<b>10.25 mm</b>	$(\text{Pitch} / 8) + \text{Length of cut}$
Arc on/off	<b>1.015 mm</b>	$(\text{Major thread diameter} - \text{cutter diameter}) / 4$
Full rotation value	<b>2.030 mm</b>	$(\text{Major thread diameter} - \text{cutter diameter}) / 2$

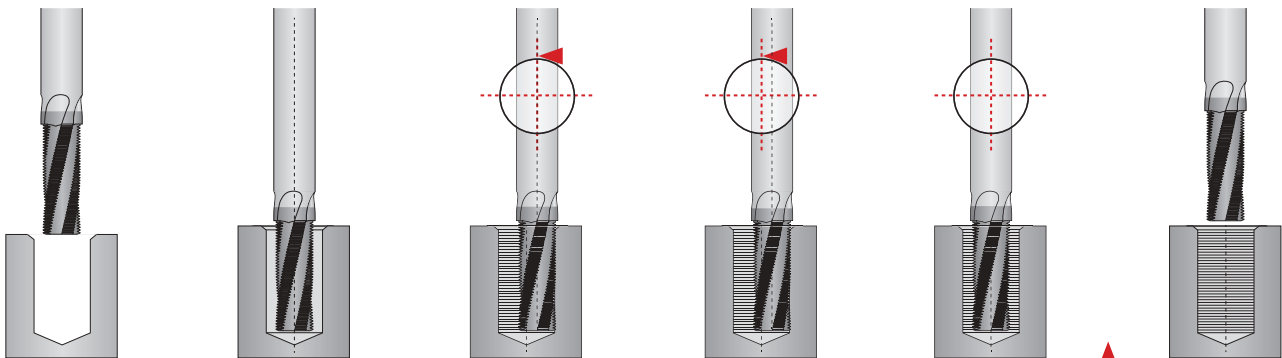
Major thread diameter	16 mm	Feed rate for thread milling	227.37 mm/min	Arc on/off value	1.015 mm
Cutter diameter	11.94 mm	Z-axis depth for full thread	10.25 mm	Full rotation value	2.030 mm
Length of thread	10.00 mm	Z-axis for arc on/off	0.25 mm	Pitch value	2.00 mm





# Thread Mill Programming Guide

			5895	M03				
1	N10	S	Turn on spindle in the clockwise direction.					
2	N20	G91	G01	Z -10.250	F 1136.25			
	N30	G41	X 1.015	Y 1.015	D1	F 681.75		
3	N40	G03	X -1.015	Y 1.015	Z 0.250	I -1.015	J 0.000	F 227.37
	N50	G03	X 0.000	Y 0.000	Z 2.000	I 0.000	J -2.030	
	N60	G03	X -1.015	Y -1.015	Z 0.250	I 0.000	J -1.015	F 909.00
5	N70	G40	G01	X 1.015	Y -1.015	F 1136.25		
	N80	G00	Z 7.750					
6	N90	G90	Switch back to absolute positioning and rapid to a safe point in Z above part level (assumed to be 1 pitch above part level for demonstration purposes below).					



Step 1 N10	Step 2 N20	Step 3 N30 - N40	Step 4 N50	Step 5 N60 - N70	Step 6 N80 - N90
<ul style="list-style-type: none"> <li>Preparatory commands.</li> <li>Positioning above hole center and at hole level in Z.</li> <li>In absolute position mode.</li> </ul>	<ul style="list-style-type: none"> <li>Change to incremental.</li> <li>Feed to bottom of hole.</li> <li>Z-axis depth for full thread.</li> </ul>	<ul style="list-style-type: none"> <li>Activate left cutter comp.</li> <li>Feed to arc on position.</li> <li>Arc to full rotation value while moving Z up 1/8 pitch.</li> <li>Z-axis move for arc on.</li> </ul>	<ul style="list-style-type: none"> <li>One complete CCW rotation at full arc rotation value while moving Z up 1 pitch value.</li> </ul>	<ul style="list-style-type: none"> <li>CCW arc from full rotation value to the arc on/off value while moving Z up 1/8 pitch (Z-axis move for arc off).</li> </ul>	<ul style="list-style-type: none"> <li>Rapid up in Z.</li> </ul>

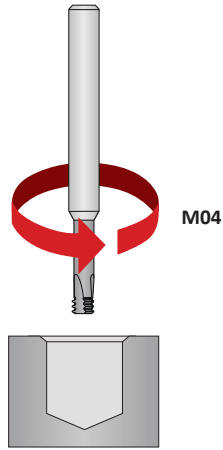
A DRILLING  
B BORING  
C REAMING  
D BURNISHING  
E THREADING  
X SPECIALS

Technical Information

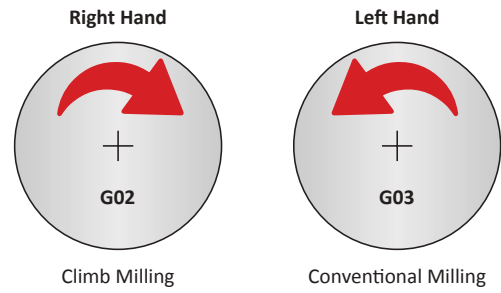
AccuThread® T3

Spindle Rotation

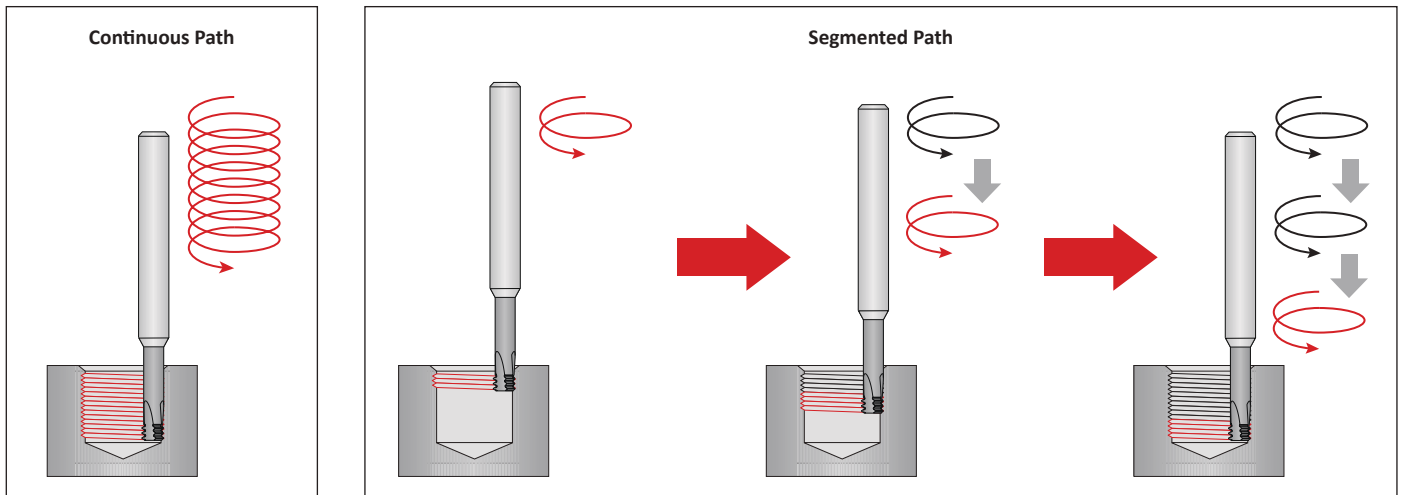
**!** Tools are left-hand cutting. The left-hand cut allows the tool to climb mill when creating a right-hand thread with an AccuThread® T3. Climb milling reduces deflection and heat generated during the cut.



Direction of Helical Interpolation



Programming Z-Axis Cutting Path



Start Point

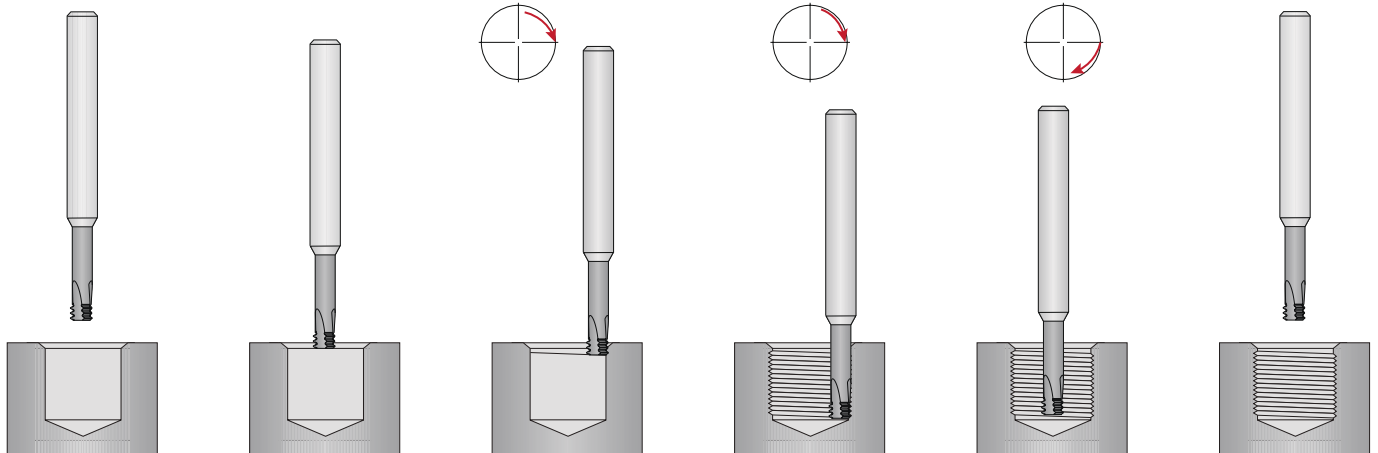
Center Location

Arc Entrance

Thread Milling

Arc Exit

End Point



A DRILLING

B BORING

C REAMING

D BURNISHING

E THREADING

X SPECIALS





## Thread Mill Troubleshooting Guide

		Problem											
		Thread mill is showing accelerated or excessive wear	Cutting edges are chipping	Thread mill is breaking in the first hole of part	Thread mill is creating excessive chatter	Out of round thread is produced	Bell-mouthed thread form (small at bottom, big at top)	Part rejection because of rough flank finish	Steps in thread profile	Gauge difference from part to part	Machine not making correct paths to create thread profile	Control not accepting the program	
Causes													
A DRILLING	Catalogue	Incorrect tool selection			1	1							
		Incorrect speed and feed selection	2, 3	2, 3		2, 3				2, 3			
B BORING	Speed and Feed	RPM too high	5										
		RPM too low				4		4	4				
		Machine tool specifications restrict RPMs			5, 19								
		Feed rate too high		7	7			7	7	7			
		Feed rate too low	6										
		Incorrect adjusted feed rate adjustment ratio			12								
		Machine tool specification restricts feed rate					7, 19						
		Ramp-in is programmed as an axial move			20					20			
		C REAMING	Tool	Thread mill moved or slipped in its holding device	13	13	13	13			13	13	
Tool is sticking out of the holder too far	15			15	15	15			15	15	15		
Runout between thread mill and holder						10			10				
Incorrect coating creating built up edge	8, 17										8, 17		
Helix angle too low						9			9				
Excessive thread mill wear										11	11		
Excessive tool pressure	7, 11, 14								7, 11, 14				
D BURNISHING	Machine	Workpiece moving in its fixturing	16	16	16	16			16		16		
		Insufficient coolant pressure or flow	17	17									
		Lack of machine rigidity	16	16		16		16	16				
E THREADING	Programming	Incorrect number of passes			22			22					
		Incorrect program variables			18, 26						18, 26		
		Did not account for X/Y radial moves for tapered threads									24, 26		
		Incorrect cutter compensation variables			23, 26								23, 26
		Helical interpolation option not on machine or turned off									21, 26	21, 26	
		Machine tool control is not formatted to standard EIA/ASCII/ISO Code											25, 26
X SPECIALS													



## Thread Mill Troubleshooting Guide

### Troubleshooting Solutions

1. Refer to catalogue to ensure proper tool selection.
2. Verify the correct speed was selected from the catalogue speed and feed chart.
3. Verify the correct feed rate was selected from the catalogue speed and feed chart.
4. Increase the spindle speed (RPM).
5. Decrease the spindle speed (RPM).
6. Increase feed per tooth.
7. Decrease feed per tooth.
8. Investigate other coatings.
9. Increase the tool helix.
10. Gauge runout between thread mill and tool holder.
11. Perform tool change at quicker intervals.
12. Adjust the feed rate ratio properly to the correct actual penetration rate for internal threads. Refer to speed and feed pages for formula.
13. Use hydraulic clamping chuck.
14. Check the tool for excessive wear. Beginning threads will wear the fastest.
15. Make the amount of overhang in the holding device as short as possible.
16. Verify the workpiece is properly clamped. Retighten or increase stability if necessary.
17. Increase the coolant flow and volume.
18. Check the milling program variables, especially the positive or negative value associated with I and J values.
19. Make sure the machine has the appropriate axis and path speed capabilities.
20. Make sure the thread mill is arcing in the major diameter instead of making a radial move.
21. Make sure the machine tool has a helical interpolation option that is on.
22. Increase the number of thread mill passes.
23. Make sure the cutter compensation variables are input into the G41 program line.
24. Adjust the program for pipe tap threads to taper out on diameter in X/Y directions to create proper form.
25. Request information from the machine tool builder regarding its programming formats.
26. Scan and email a copy of your program to the Application Engineering department at [engineering.eu@alliedmachine.com](mailto:engineering.eu@alliedmachine.com).

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

# AccuThread 856® & ThreadMills™ USA Guaranteed Application Form

\*The following must be filled out completely before your test will be considered

## CONTACT DETAILS

Trial P.O. No.\* ..... Date\* ..... Proposed Test Date\* .....  
 Favoured Distributor\* ..... Distributor Contact\* .....  
 Customer Name\* ..... Industry ..... Contact Name\* .....

Guaranteed Test  
 Programme Request (Please tick box) Distributor PO # .....

## APPLICATION INFORMATION

Thread Size ..... Thread Depth ..... Material ..... Hardness  BRN  RC  N/mm<sup>2</sup>  
 Pitch ..... Drill Size ..... Material State  Forged  Bar  Cast  Plate  
 Thread  Internal  External  Through  Blind Thread Form%  100  75  Other .....  
 Thread Mill  Indexable  Solid Carbide  Other .....

## MACHINE INFORMATION

Machine Type  Machine Centre  Lathe  Mill  Other Builder ..... Mode# .....  
 Maximum RPM .....  
 Available Power\*  KW .....  HP ..... Spindle Orientation  Vertical  
 Horizontal  
 Clamping Method  Side Lock Rigidity  Excellent Tool Rotating  Yes  
 Hydraulic Chuck  Good  No  
 Shrink Fit .....  Poor  
 CNC Control Type  Fanuc Helical Interpolation  Yes ISO - ASCII Compatible  Yes  
 Siemens  No  No  
 Mazatrol  
 Other .....

## COOLANT INFORMATION

Coolant Pressure ..... Bar Coolant Volume ..... L/Min Coolant Type .....

### Tooling to be Used

Item Number	Qty

### Programming Data

Dimensions:  Inch  Metric  
 Arc Centre:  I and J  R (Radius)  
 Tool Path:  Offset  No Offset  
 Arc Limitation:  Full Circle  Quadrant  
 K Value:  Not Required  Required  
 If Required:  In Radians  Per Revolution

**FOR OFFICE USE ONLY**  
 Application Engineer:

Number:

Status:

**engineering.eu@alliedmachine.com**

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