

SECTION

E

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



Aerospace



Agriculture



Automotive



Firearms



General Machining



Medical



Oil & Gas



Renewable Energy



Tool, Mold & Die

Your safety and the safety of others is very important. This catalog 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 catalog, 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 catalog. 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.

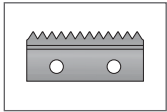
NOTICE means that failure to follow the precautions in this message could result in damage to the tool or machine but not result in personal injury.

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

Visit www.alliedmachine.com for the most up-to-date information and procedures.

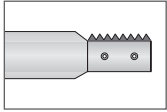
Reference Icons

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



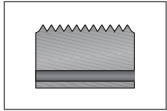
Bolt-in Style Inserts

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



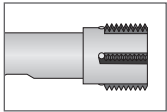
Bolt-in Style Insert Holders

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.



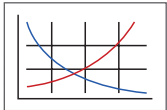
Pin Style Insert Holders

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



Coolant Through Option

Indicates that the product is coolant through

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Solid Carbide Thread Mills

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Indexable Thread Mills

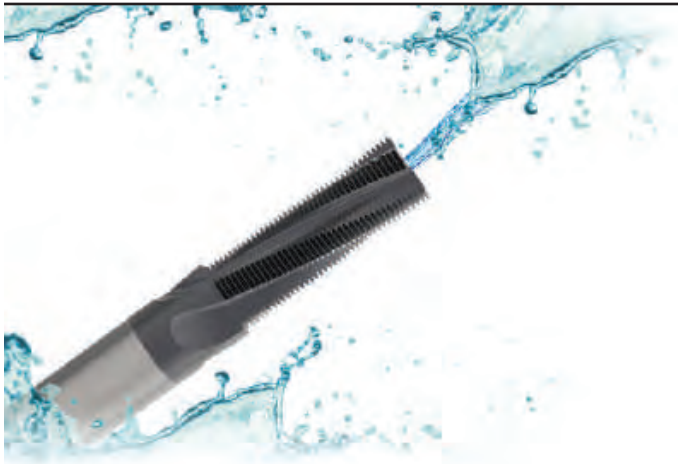
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High Performance Threading Solutions

THREAD MILLING DONE *RIGHT*



Solid Carbide Thread Mills		Notes
AccuThread™ 856 		<ul style="list-style-type: none"> • Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products • Standard cutting lengths allow for multiple applications without the need for special thread mills • Helical flute offers increased strength and rigidity when cutting forces are applied
ThreadMills USA 		<ul style="list-style-type: none"> • Helical flute offers increased strength and rigidity when cutting forces are applied • High quality for consistent, predictable production • Coolant through options available • TiAlN coating improves tool life versus uncoated tools 
AccuThread™ T3 		<ul style="list-style-type: none"> • Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products • Standard cutting lengths allow for multiple applications without the need for special thread mills • Helical flute offers increased strength and rigidity when cutting forces are applied
Indexable Insert Thread Mills		Notes
AccuThread™ 856 Bolt-in Style 		<ul style="list-style-type: none"> • Thread mill holders are manufactured from stainless steel that is engineered to dampen vibration during operation • Extensive range of thread forms with two thread lengths • Can produce left or right handed threads
AccuThread™ 856 Pin Style 		<ul style="list-style-type: none"> • Patented pin style locking system ensures unsurpassed repeatability • Thread mill holders are manufactured from stainless steel that is engineered to dampen vibration during operation • Extensive range of thread forms with two thread lengths
AccuThread™ 856 Indexable Inserts  	<p>Bolt-in Style</p> <p>Pin Style</p>	<ul style="list-style-type: none"> • Full profiles present on all inserts allow 100% thread form against 65-75% for tapping • Allied Machine's premium carbide allows for extended tool life while providing high quality thread forms • Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products

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

Online Tools

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.

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 log-in 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

<p>1</p> <p>Download and open Allied_Machine_Insta-Code.zip</p>	<p>2</p> <p>Click on setup.exe to install the program</p>	<p>3</p> <p>One click updates are available for online computers</p>
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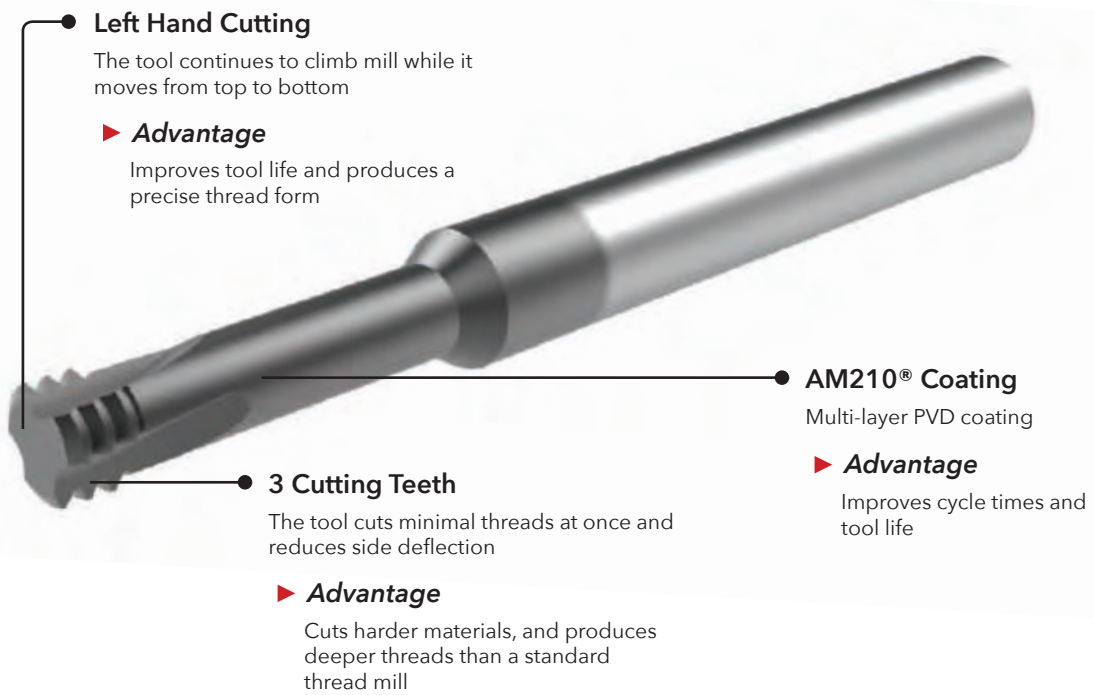
 Supported on all Windows OS

www.alliedmachine.com/InstaCode

Solid Carbide Styles and Thread Forms

	Straight BSW	Helical BSPP, 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 non-coolant)	 ThreadMills USA™ (coolant and non-coolant)	 ThreadMills USA™ (coolant and non-coolant)	

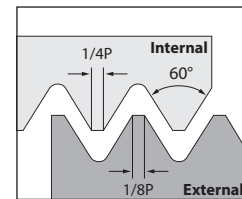
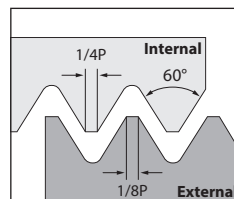
AccuThread™ T3



- 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**
 Multi-layer 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



Port and Thread Finishing Kits



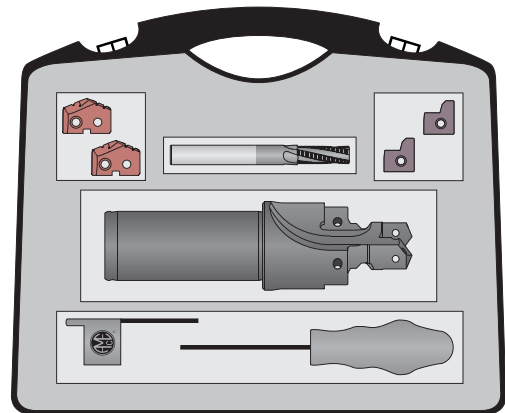
WE HAVE A **KIT** FOR THAT

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 catalog 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 catalog for full AccuPort 432 product line information.

Product Nomenclature

AccuThread™ 856 Solid Carbide Thread Mills

TM	U	K	0250	-	20	M
1	2	3	4		5	6



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

ThreadMills USA Solid Carbide Thread Mills

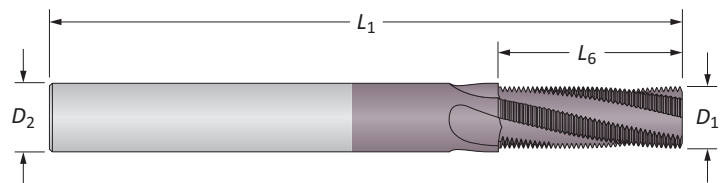
TM	250	20	CH	M
1	2	3	4	5



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

Reference Key

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



Product Nomenclature

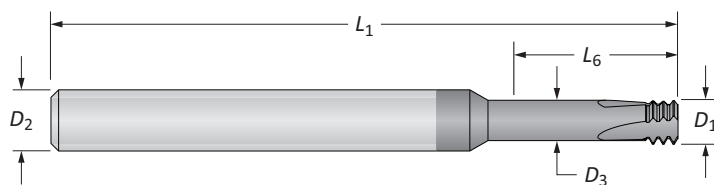
AccuThread T3 Solid Carbide Thread Mills

TM	073	64	M	-	3T	2X
1	2	3	4		5	6

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

B

BORING

C

REAMING

D

BURNISHING

E

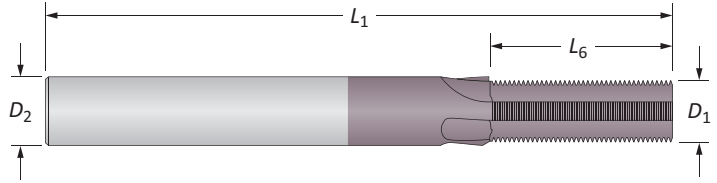
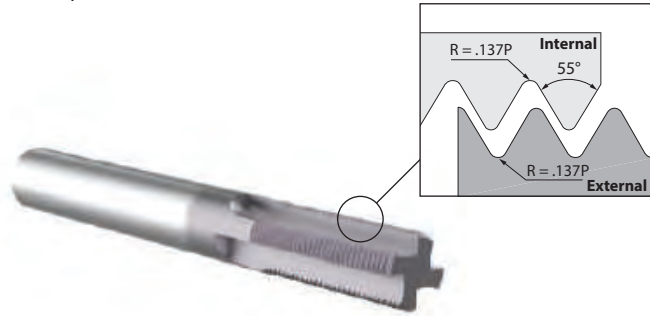
THREADING

X

SPECIALS

Solid Carbide Thread Mills

BSW | Non-Coolant



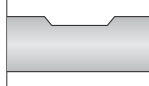
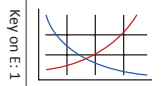
BSW | Non-Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D_1	D_2	L_6	L_1	ThreadMills USA	AccuThread™ 856
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	-
i 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	-
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
m 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

E: 52 - 55

E: 4

Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TW**NK0500-NPT | Weldon shank flat = **TWN**K0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

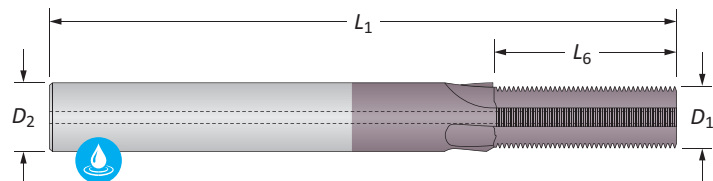
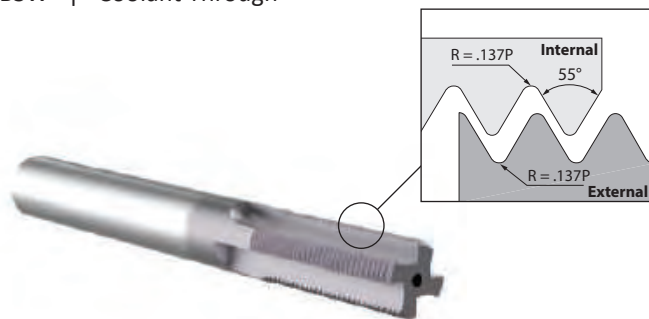
i = Imperial (in)
m = Metric (mm)

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

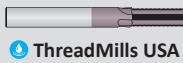


Solid Carbide Thread Mills

BSW | Coolant Through



BSW | Coolant Through

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	
i	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	TM9BSWCH
	8	1	6	0.620	0.625	1.375	4.000	TM8BSWCH
m	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	15.90	16.00	34.94	93.00	TM8BSWCHM	

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

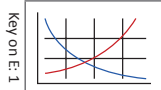
E

THREADING

X

SPECIALS

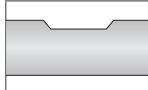
E: 52 - 55



E: 4



Weldon Flat

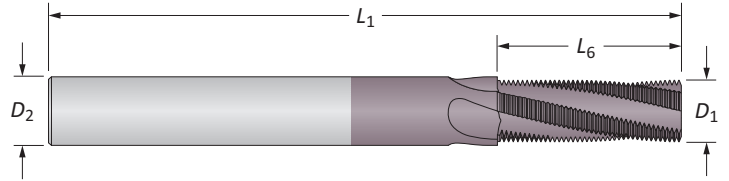
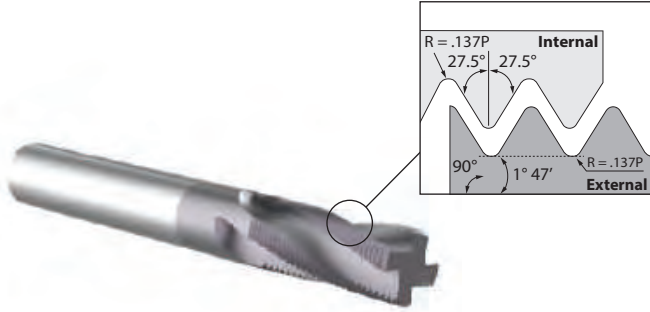


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces



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

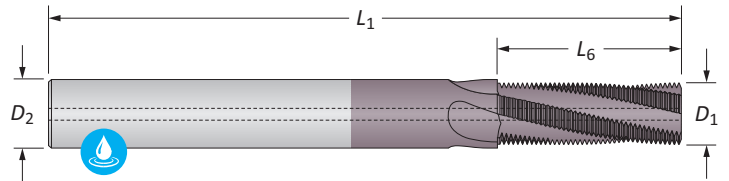
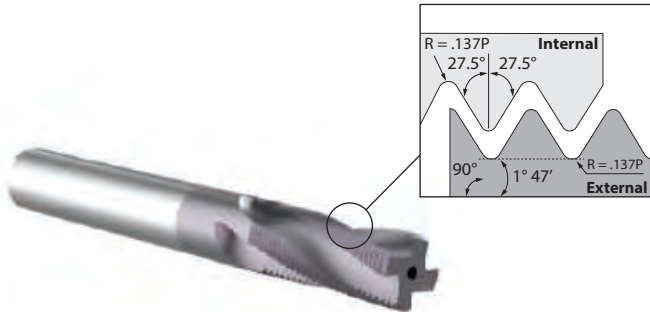
Solid Carbide Thread Mills

BSPT




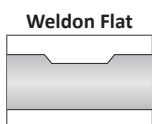
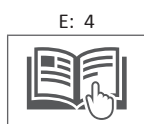
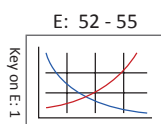
BSPT | Non-Coolant

	TPI (Pitch)	Min Thread ϕ	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	 ThreadMills USA	 AccuThread™ 856
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	-
m	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



BSPT | Coolant Through

	TPI (Pitch)	Min Thread ϕ	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	 ThreadMills USA
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
m	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



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TW**NK0500-NPT | Weldon shank flat = **TWN**K0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

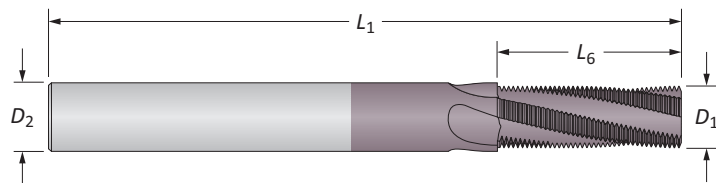
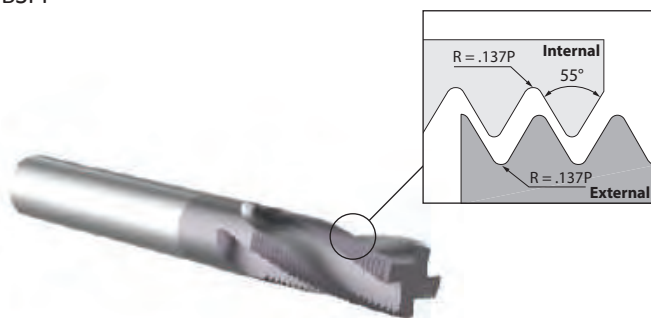
i = Imperial (in)
 m = Metric (mm)

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



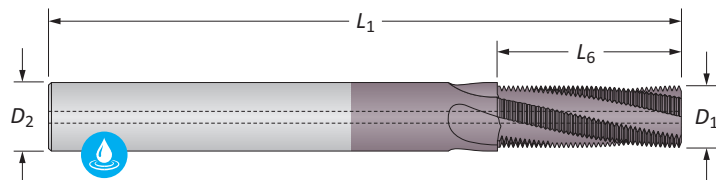
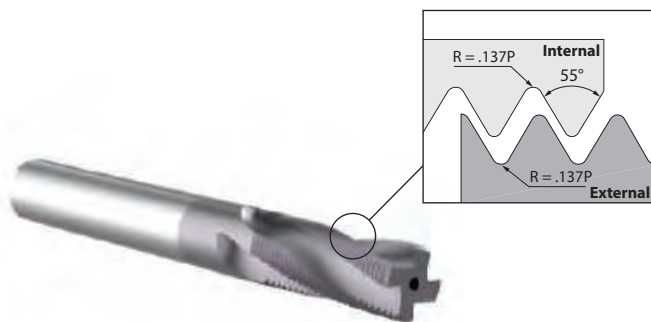
Solid Carbide Thread Mills

BSPB



BSPB | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D ₁	D ₂	L ₆	L ₁	ThreadMills USA	AccuThread™ 856
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	-
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



BSPB | Coolant Through

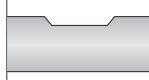
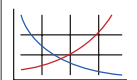
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D ₁	D ₂	L ₆	L ₁	ThreadMills USA
i	28	1/16 and 1/8	3	0.240	0.250	0.572	2.375	TM28BSPPCH
	19	1/4 and 3/8	4	0.310	0.312	0.737	3.000	TM19BSPPCH
	14	1/2 and 3/4	4	0.470	0.500	1.143	3.500	TM14BSPPCH
	11	1	4	0.620	0.625	1.365	4.000	TM11BSPPCH
m	28	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

E: 52 - 55

E: 4

Weldon Flat

Key on E: 1

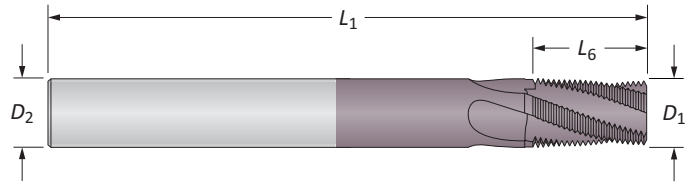
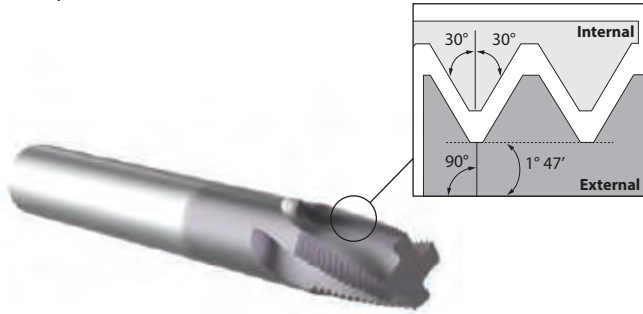


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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

Solid Carbide Thread Mills

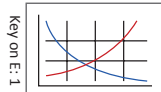
NPT | Non-Coolant



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
27	1/16 and 1/8	3	0.245	0.250	0.437	2.500	TM27NPT	TMNK0063-NPT
	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
	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
	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
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
	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
	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

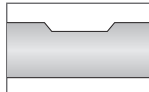
E: 52 - 55



E: 4



Weldon Flat



To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TWN**K0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

ⓘ = Imperial (in)
 ⓘ = Metric (mm)

A DRILLING

B BORING

C REAMING

D BURNISHING

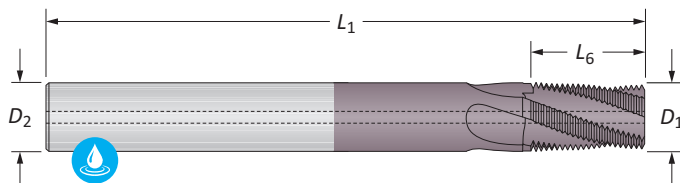
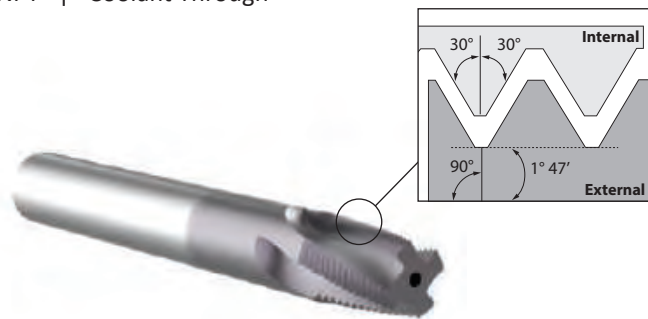
E THREADING

X SPECIALS



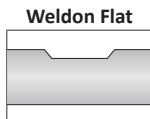
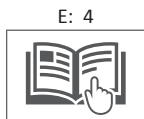
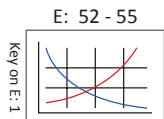
Solid Carbide Thread Mills

NPT | Coolant Through



NPT | Coolant Through

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D ₁	D ₂	L ₆	L ₁	ThreadMills USA
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
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

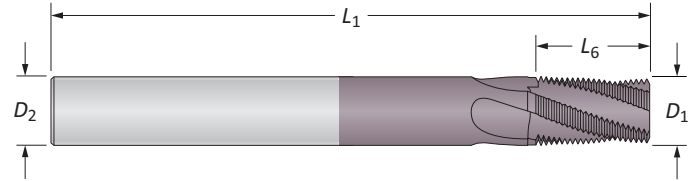
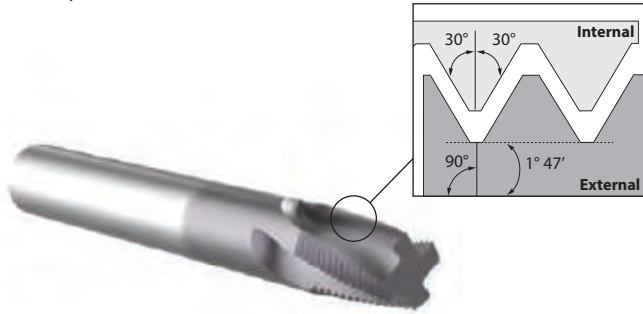


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces



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

Solid Carbide Thread Mills

NPTF | Non-Coolant



NPTF | Non-Coolant

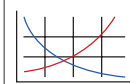
	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
				D_1	D_2	L_6	L_1	 ThreadMills USA	 AccuThread™ 856
i	27	1/16 and 1/8	3	0.245	0.250	0.437	2.500	TM27NPTF	TMNK0063-NPTF
	18	1/4 and 3/8	4	0.305	0.312	0.625	3.000	TM18NPTF	TMNK0250-NPTF
	14	1/2 and 3/4	4	0.495	0.500	0.875	3.500	TM14NPTF	TMNK0500-NPTF
	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
m	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

D BURNISHING


F THREADING

X SPECIALS

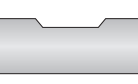
E: 52 - 55



E: 4



Weldon Flat



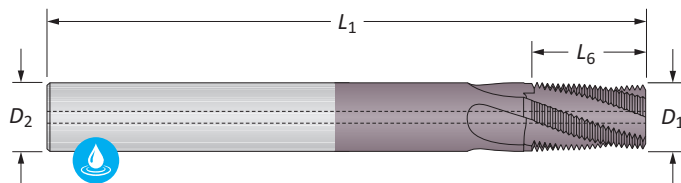
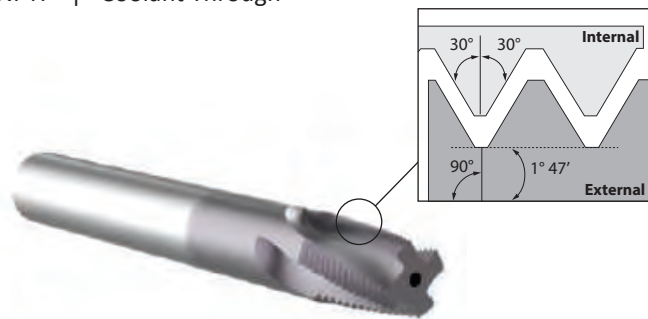
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TMNK0500-NPT** | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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



Solid Carbide Thread Mills

NPTF | Coolant Through



NPTF | Coolant Through

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D_1	D_2	L_6	L_1	ThreadMills USA
i	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
m	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

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

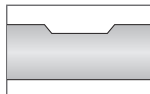
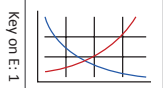
X

SPECIALS

E: 52 - 55

E: 4

Weldon Flat

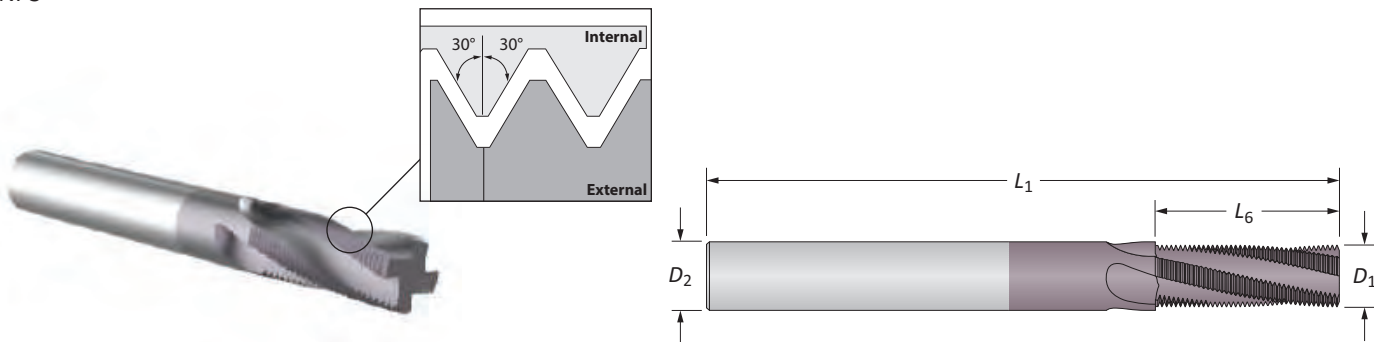


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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

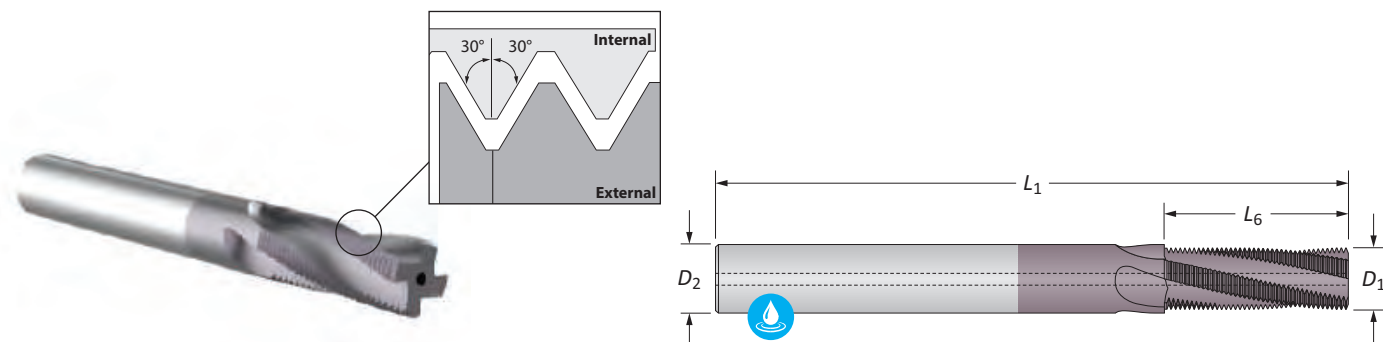
Solid Carbide Thread Mills

NPS



NPS | Non-Coolant

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
			D ₁	D ₂	L ₆	L ₁	
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
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



NPS | Coolant Through

TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
			D ₁	D ₂	L ₆	L ₁	
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
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

E: 52 - 55

E: 4

Weldon Flat

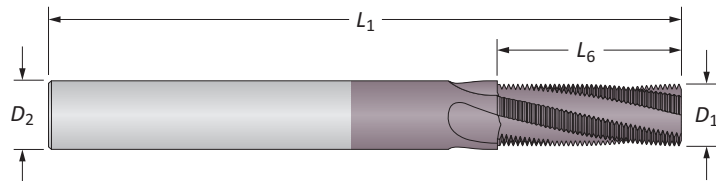
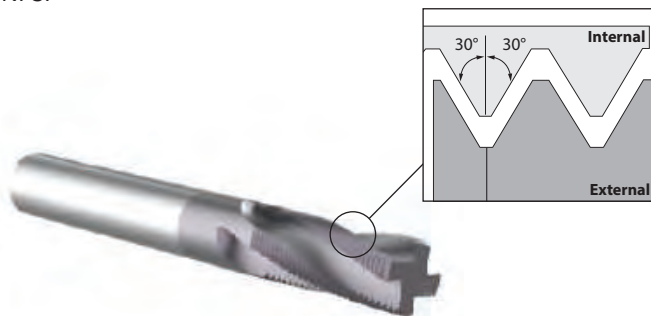
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TW**NK0500-NPT | Weldon shank flat = **TWN**K0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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



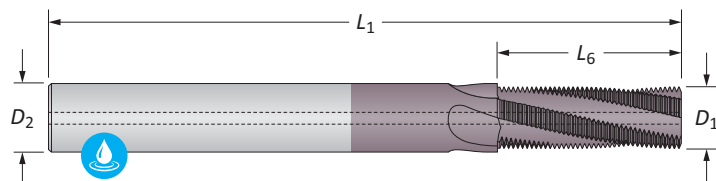
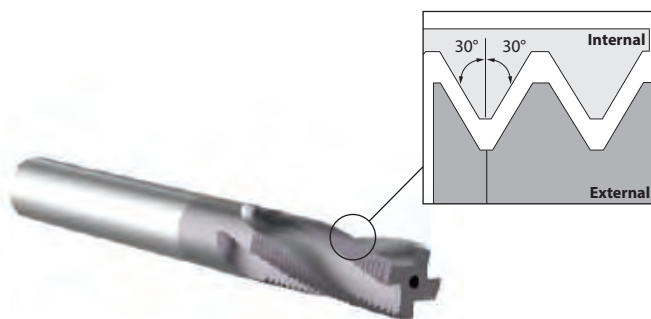
Solid Carbide Thread Mills

NPSF



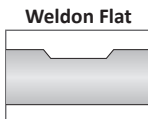
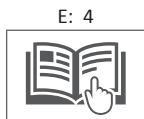
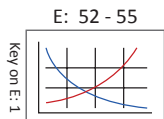
NPSF | Non-Coolant

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D ₁	D ₂	L ₆	L ₁	ThreadMills USA
i	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
m	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



NPSF | Coolant Through

	TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.
				D ₁	D ₂	L ₆	L ₁	ThreadMills USA
i	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
m	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



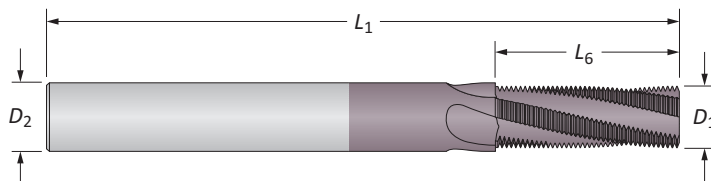
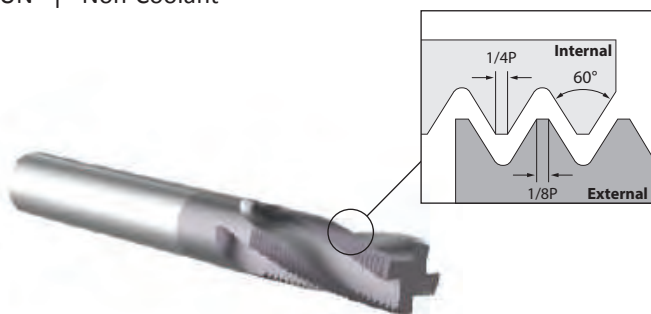
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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



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

Solid Carbide Thread Mills

UN | Non-Coolant

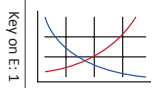


UN | Non-Coolant

TPI (Pitch)	Min Thread ϕ	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	–
i 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

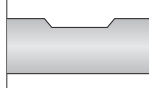
E: 52 - 55



E: 4



Weldon Flat



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

Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TWN**K0500-NPT

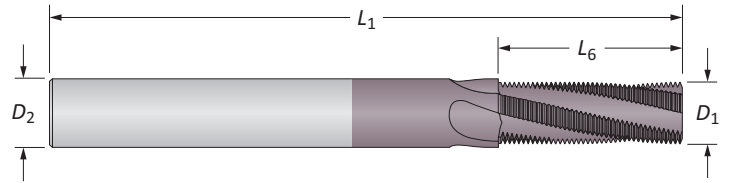
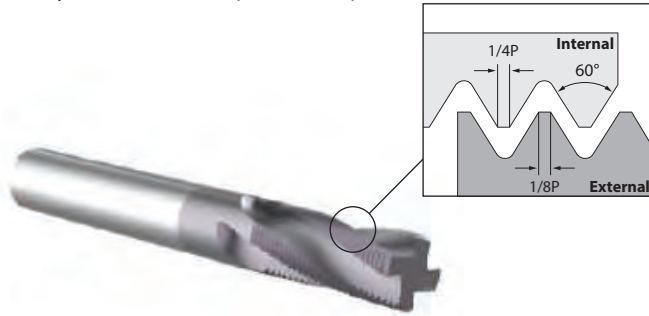
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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



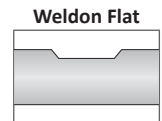
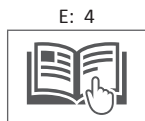
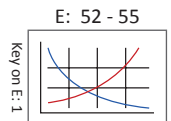
Solid Carbide Thread Mills

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
i	12	3/4	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	-



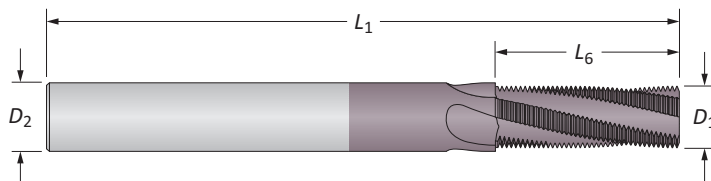
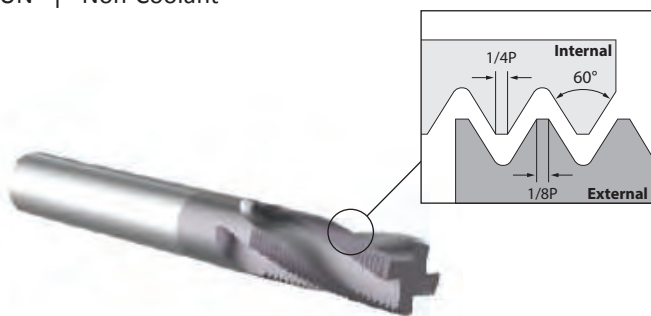
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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



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

Solid Carbide Thread Mills

UN | Non-Coolant

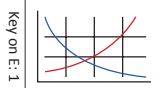


UN | Non-Coolant

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	TMUK0313-24M
24	5/16	3	5.95	6.00	16.00	58.00	TM31224M	TMUK0375-24M
24	3/8	4	7.25	8.00	19.00	64.00	TM37524M	-
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

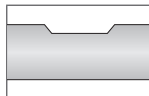
E: 52 - 55



E: 4



Weldon Flat



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

Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TWN**K0500-NPT

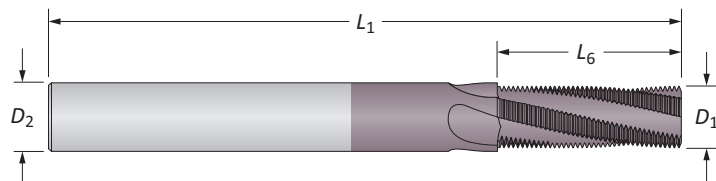
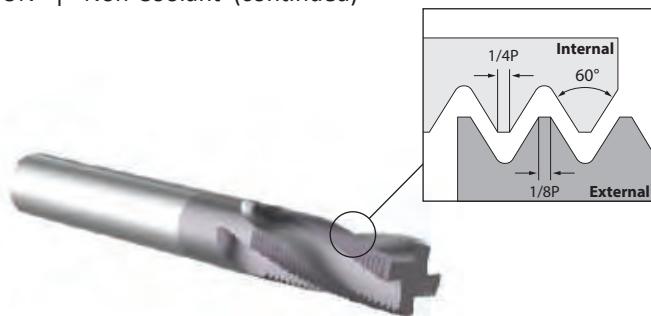
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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



Solid Carbide Thread Mills

UN | Non-Coolant (continued)



UN | Non-Coolant

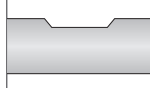
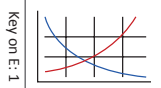
TPI (Pitch)	Min Thread Ø	Flutes	Thread Mill				Part No.	
			D ₁	D ₂	L ₆	L ₁	ThreadMills USA	AccuThread™ 856
18	5/16	3	5.95	6.00	17.00	58.00	TM31218M	TMUK0313-18M
18	5/16	3	6.22	8.00	15.87	64.00	HDTM31218M	-
18	9/16	4	9.90	10.00	22.65	73.00	TM56218M	TMUK0563-18M
16	3/8	4	7.25	8.00	19.05	64.00	TM37516M	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: 52 - 55

E: 4

Weldon Flat

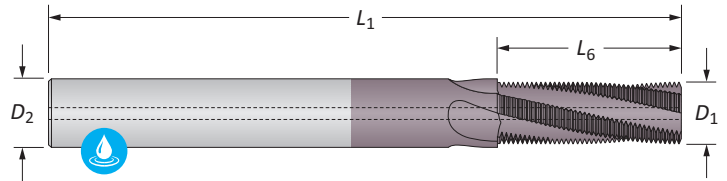
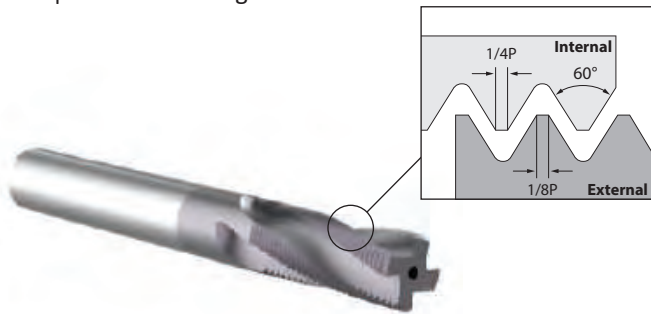


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Imperial (in)
 Ⓜ = Metric (mm)

Solid Carbide Thread Mills

UN | Coolant Through

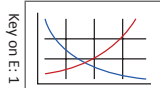


UN | Coolant Through

TPI (Pitch)	Min Thread Ø	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
i 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: 52 - 55

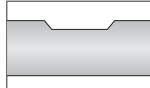


Key on E: 1

E: 4



Weldon Flat



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

Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TWNK**0500-NPT

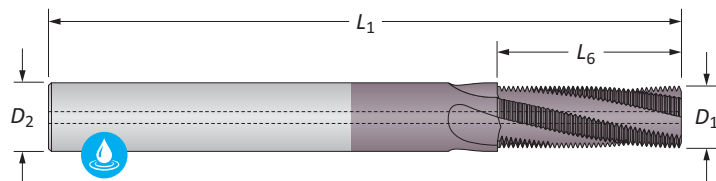
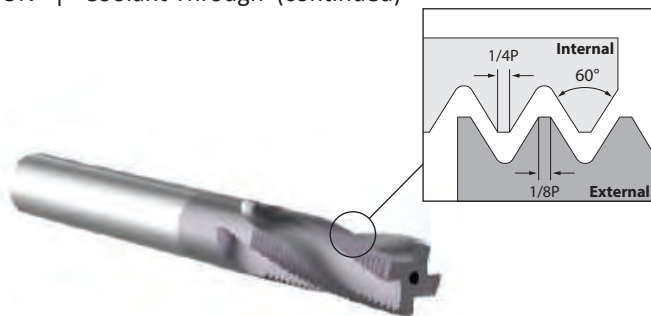
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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



Solid Carbide Thread Mills

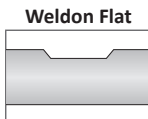
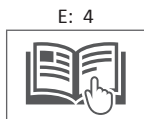
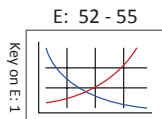
UN | Coolant Through (continued)



UN | Coolant Through

TPI (Pitch)	Min Thread ϕ	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

i

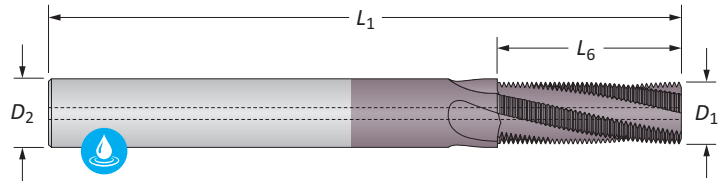
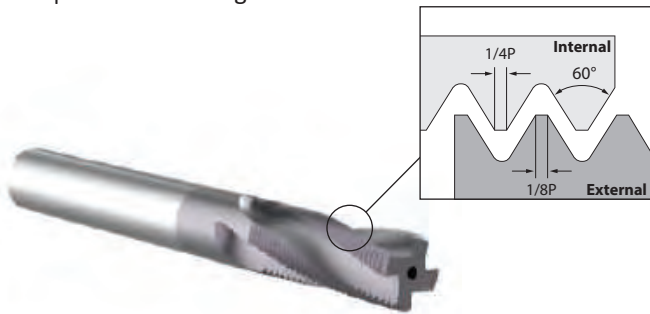


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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

Solid Carbide Thread Mills

UN | Coolant Through

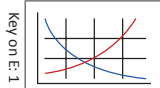


UN | Coolant Through

TPI (Pitch)	Min Thread Ø	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
m 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

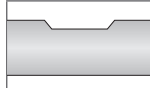
E: 52 - 55



E: 4



Weldon Flat



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

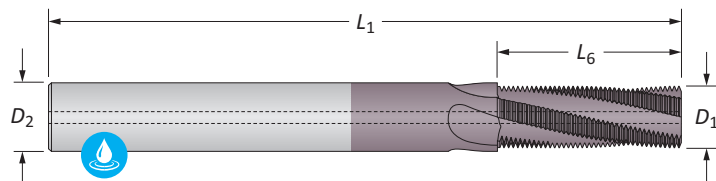
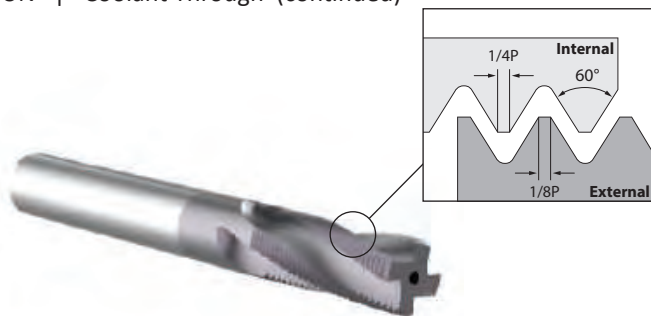
i = Imperial (in)

m = Metric (mm)



Solid Carbide Thread Mills

UN | Coolant Through (continued)



UN | Coolant Through

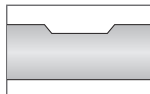
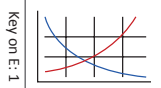
TPI (Pitch)	Min Thread ϕ	Flutes	Thread Mill				Part No.
			D_1	D_2	L_6	L_1	
18	5/16	3	5.95	6.00	17.00	58.00	TM31218CHM
18	5/16	3	6.22	8.00	15.87	64.00	HDTM31218CHM
18	9/16	4	9.90	10.00	22.65	84.00	TM56218CHM
16	3/8	4	7.25	8.00	19.05	64.00	TM37516CHM
16	3/8	4	7.62	10.00	19.05	84.00	HDTM37516CHM
16	3/4	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

Ⓜ

E: 52 - 55

E: 4

Weldon Flat

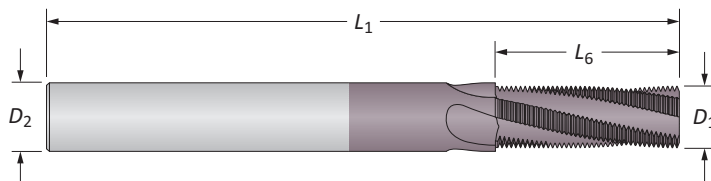
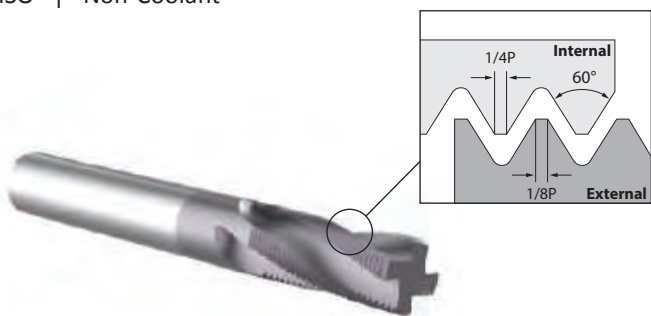


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Imperial (in)
 Ⓜ = Metric (mm)

Solid Carbide Thread Mills

ISO | Non-Coolant

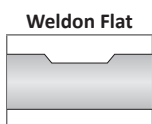
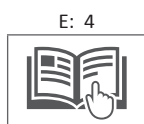
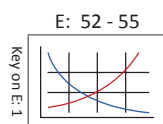


ISO | Non-Coolant

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

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



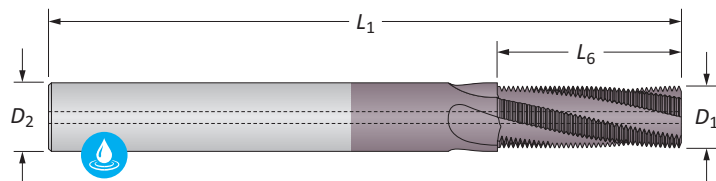
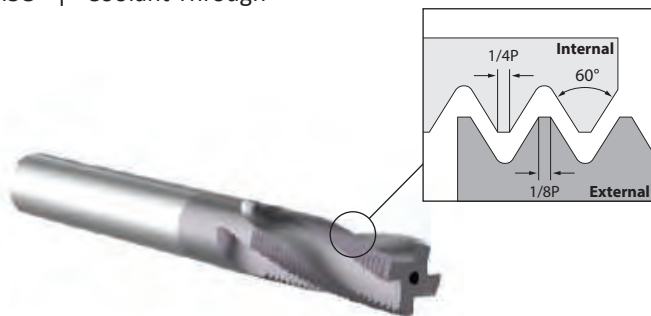
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TW**NK0500-NPT | Weldon shank flat = **TWN**K0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

ⓘ = Imperial (in)
 ⓘ = Metric (mm)



Solid Carbide Thread Mills

ISO | Coolant Through

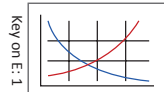


ISO | Coolant Through

Pitch	Min Thread ϕ	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

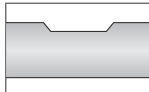
E: 52 - 55



E: 4



Weldon Flat

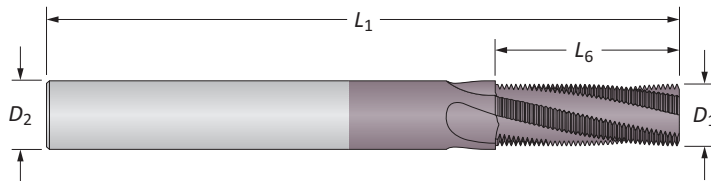
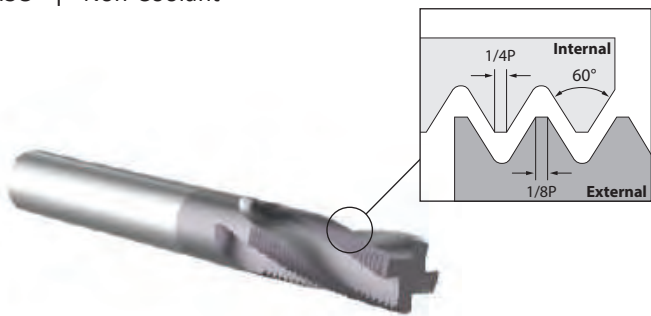


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

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

Solid Carbide Thread Mills

ISO | Non-Coolant



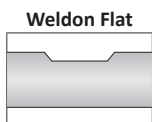
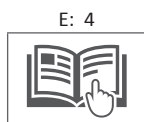
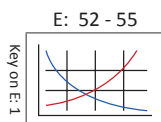
ISO | Non-Coolant

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*	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	TMMK2000-200M
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

E THREADING

X SPECIALS



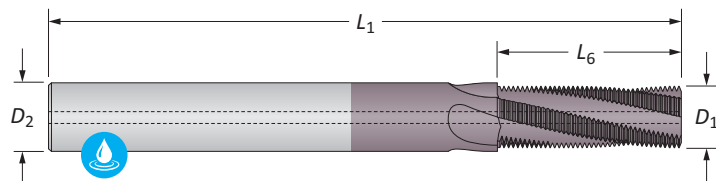
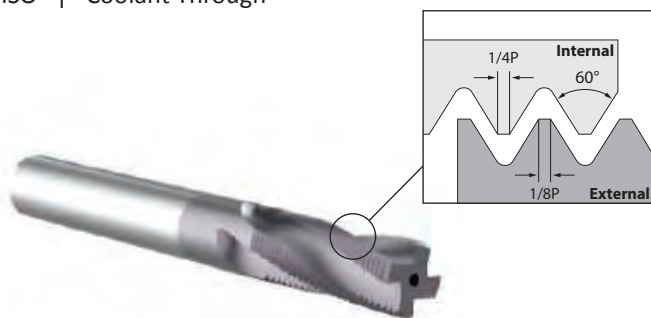
To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TWN**K0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

ⓘ = Imperial (in)
 ⓘ = Metric (mm)



Solid Carbide Thread Mills

ISO | Coolant Through

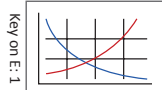


ISO | Coolant Through

Pitch	Min Thread ϕ	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

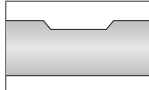
E: 52 - 55



E: 4



Weldon Flat

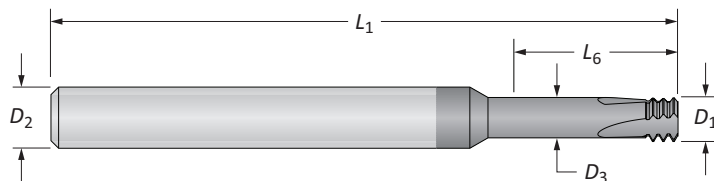
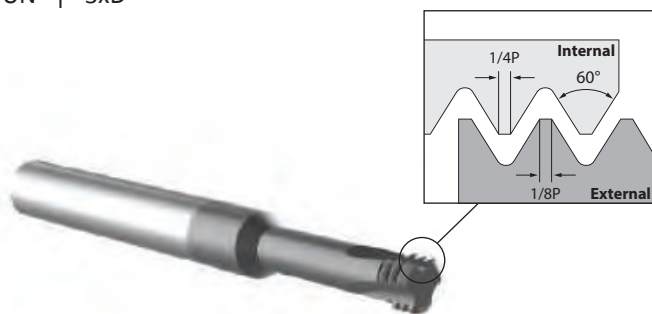


To order a thread mill with a Weldon flat, replace the leading TM designator with TW (available for inch shanks 3/8 and above, or metric shanks 6mm and above)
Example: Cylindrical shank = **TM**NK0500-NPT | Weldon shank flat = **TW**NK0500-NPT
NOTE: Weldon flats have a minimum order quantity of 2 pieces

Ⓜ = Imperial (in)
 Ⓜ = Metric (mm)

Solid Carbide Thread Mills

UN | 3xD



UN | Non-Coolant

	TPI (Pitch)	Min Thread ϕ	Flutes	Thread Mill					Part No.
				D_1	D_3	D_2	L_6	L_1	AccuThread T3
i	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	#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
m	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	#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

A

DRILLING

B

BORING

C

REAMING

D

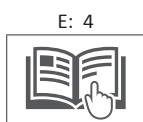
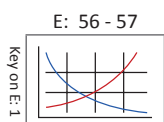
BURNISHING

E

THREADING

X

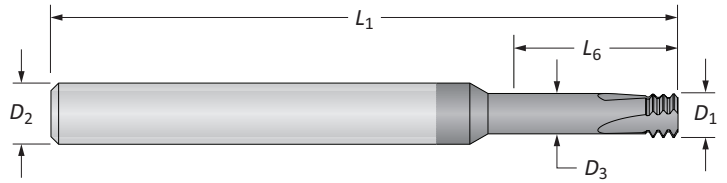
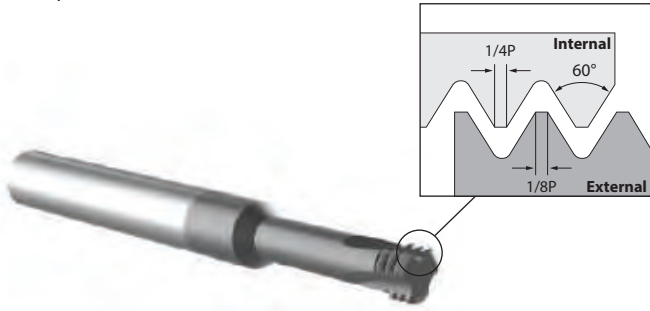
SPECIALS



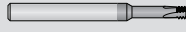
i = Imperial (in)
m = Metric (mm)

Solid Carbide Thread Mills

ISO | 2xD

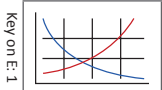


ISO | Non-Coolant

	Pitch	Min Thread Ø	Flutes	Thread Mill					Part No.
				D_1	D_3	D_2	L_6	L_1	 AccuThread T3
i	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
	0.80	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
1.75	M12	4	0.310	0.225	0.312	0.945	2.500	TM12175-3T2X	
m	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
	0.80	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
1.75	M12	4	7.92	5.78	8.00	24.00	64.00	TM12175M-3T2X	

E: 56 - 57

E: 4



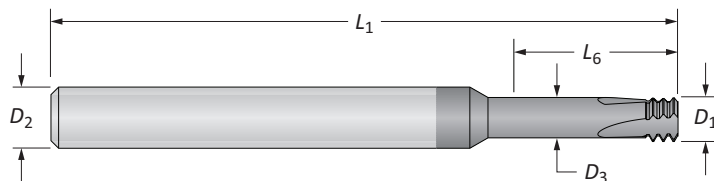
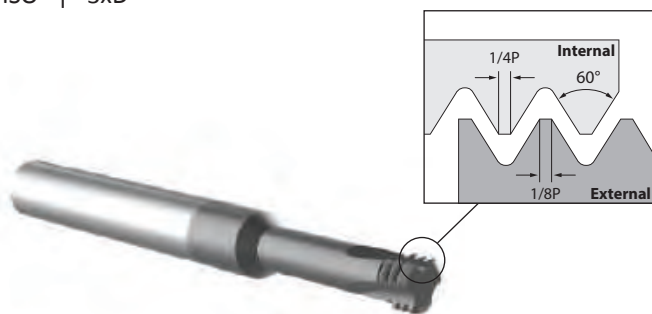
i = Imperial (in)
m = Metric (mm)

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



Solid Carbide Thread Mills

ISO | 3xD

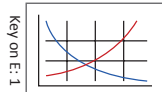


ISO | Non-Coolant

	Pitch	Min Thread ϕ	Flutes	Thread Mill					Part No.
				D_1	D_3	D_2	L_6	L_1	AccuThread T3
i	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
	1.75	M12	4	0.310	0.225	0.312	1.418	2.500	TM12175-3T3X
m	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
	1.75	M12	4	7.92	5.78	8.00	36.00	64.00	TM12175M-3T3X

E: 56 - 57

E: 4



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

Indexable Insert Thread Mills Overview

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



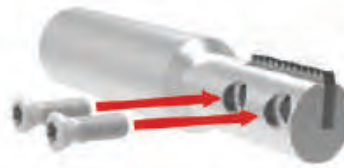
Bolt-in Style

- Replaceable inserts allow for quick set-ups 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

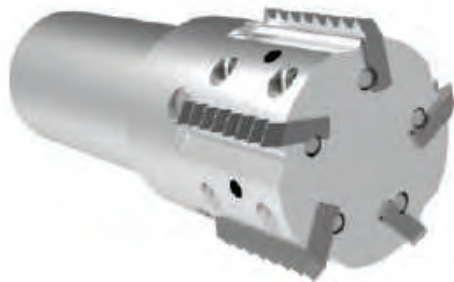
Bolt-in Style Indexable Thread Mill Assembly



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



Step 2:
Tighten the screws to hold the insert in place.



Pin Style

- Replaceable inserts allow for quick set-ups 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.

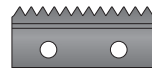


Step 3:
Tighten the screws to hold both the insert and pin in place.

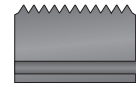
Product Nomenclature

AccuThread™ 856 Indexable Inserts

TP	075	K	-	UN	32	I
1	2	3		4	5	6



Bolt-in Style

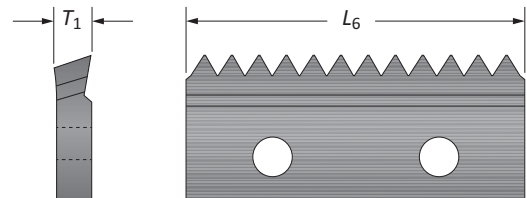


Pin Style

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

Indexable Inserts

Symbol	Attribute
L_6	Length of insert
T_1	Insert thickness



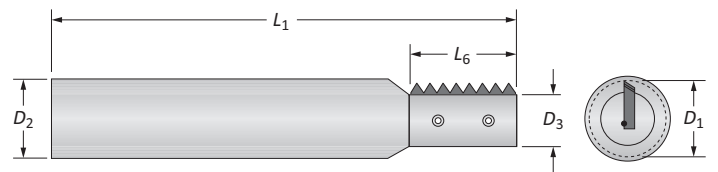
AccuThread™ 856 Indexable Insert Holders

THT	-	0400	-	1F	075	M
1		2		3	4	5

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

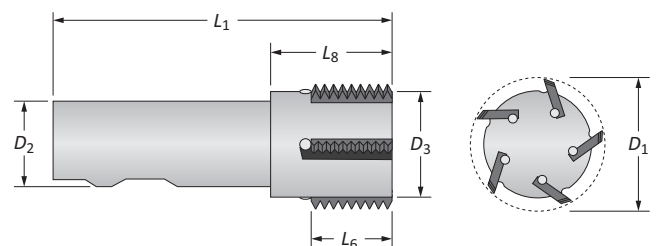
2. Cutter Diameter	3. Shank Designation
0400 = 0.400	1F = 1 flute 6F = 6 flutes 2F = 2 flutes 7F = 7 flutes 3F = 3 flutes 8F = 8 flutes 5F = 5 flutes

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



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		



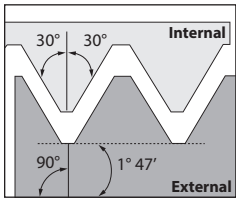
Pin Style Holders

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)

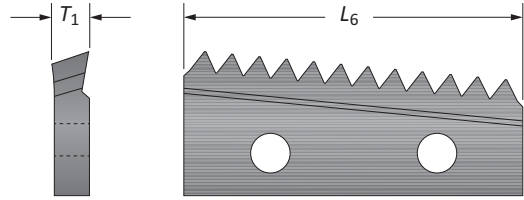
AccuThread™ 856 Thread Mill Inserts

Bolt-in Style | NPT / NPTF

A
DRILLING



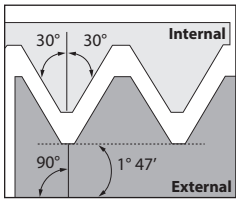
NPT
Internal / External



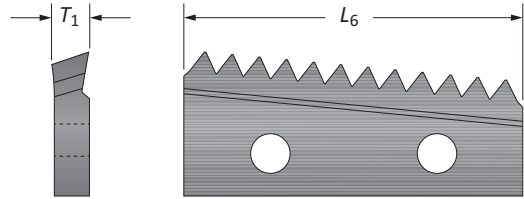
B
BORING

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

C
REAMING



NPTF
Internal / External



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

D
BURNISHING

E
THREADING

X
SPECIALS

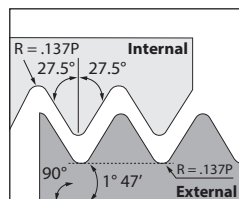
E: 58 - 61 E: 34 E: 41

Inserts sold in quantities of 2

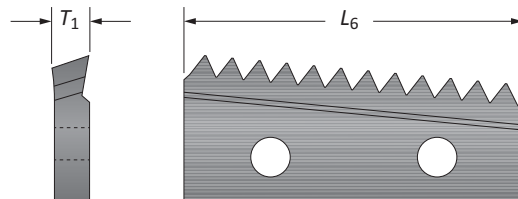


AccuThread™ 856 Thread Mill Inserts

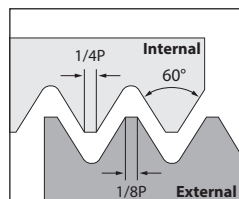
Bolt-in Style | BSPT / BSPP



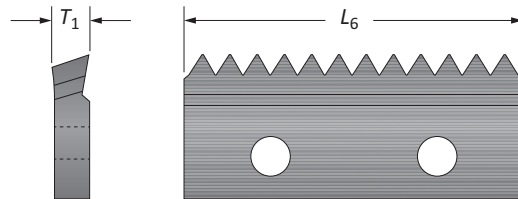
BSPT
Internal / External



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



BSPP
Internal / External



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

E: 58 - 61

E: 34

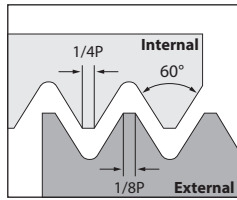
E: 41

Key on E: 1

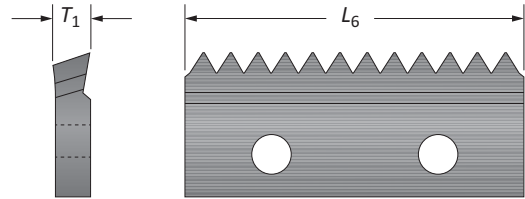
Inserts sold in quantities of 2

AccuThread™ 856 Thread Mill Inserts

Bolt-in Style | UN

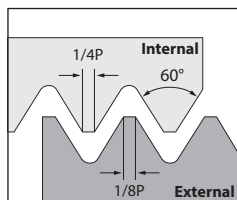


UN
Internal

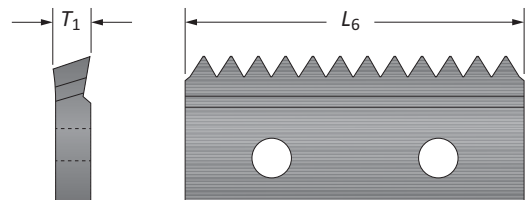


TPI (Pitch)	Insert				Part No. UN Internal
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	
32	0.750	19.05	0.080	2.03	TP075K-UN32I
32	1.000	25.40	0.140	3.56	TP100K-UN32I
24	0.750	19.05	0.080	2.03	TP075K-UN24I
24	1.000	25.40	0.140	3.56	TP100K-UN24I
20	0.750	19.05	0.080	2.03	TP075K-UN20I
20	1.000	25.40	0.140	3.56	TP100K-UN20I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

*This item is only used with THN-0611-1F100 or THN-0611-1F100M. The reduced body allows a 3/4"-10 UN/UNJ to be produced.

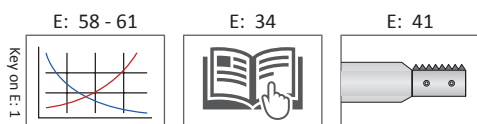


UN
External



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

*This item is only used with THN-0611-1F100 or THN-0611-1F100M. The reduced body allows a 3/4"-10 UN/UNJ to be produced.

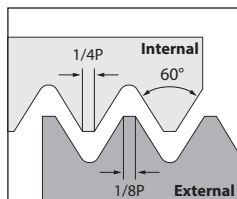


Inserts sold in quantities of 2

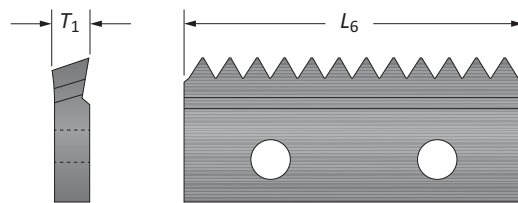


AccuThread™ 856 Thread Mill Inserts

Bolt-in Style | UNJ

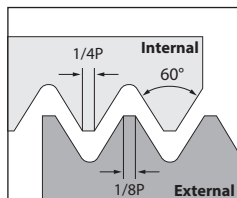


UNJ
Internal

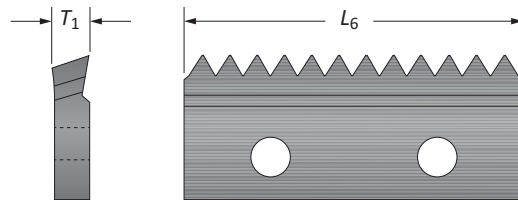


TPI (Pitch)	Insert				Part No.
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	UNJ Internal
32	0.750	19.05	0.080	2.03	TP075K-UNJ32I
32	1.000	25.40	0.140	3.56	TP100K-UNJ32I
24	0.750	19.05	0.080	2.03	TP075K-UNJ24I
24	1.000	25.40	0.140	3.56	TP100K-UNJ24I
20	0.750	19.05	0.080	2.03	TP075K-UNJ20I
20	1.000	25.40	0.140	3.56	TP100K-UNJ20I
18	0.750	19.05	0.080	2.03	TP075K-UNJ18I
18	1.000	25.40	0.140	3.56	TP100K-UNJ18I
16	0.750	19.05	0.080	2.03	TP075K-UNJ16I
16	1.000	25.40	0.140	3.56	TP100K-UNJ16I
14	1.000	25.40	0.140	3.56	TP100K-UNJ14I
12	1.000	25.40	0.140	3.56	TP100K-UNJ12I
10*	1.000	25.40	0.140	3.56	TP100K-UNJ10I

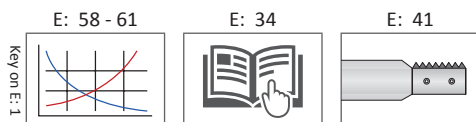
*This item is only used with THN-0611-1F100 or THN-0611-1F100M. The reduced body allows a 3/4"-10 UN/UNJ to be produced.



UNJ
External



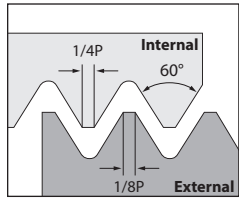
TPI (Pitch)	Insert				Part No.
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	UNJ External
32	0.750	19.05	0.080	2.03	TP075K-UNJ32E
32	1.000	25.40	0.140	3.56	TP100K-UNJ32E
24	0.750	19.05	0.080	2.03	TP075K-UNJ24E
24	1.000	25.40	0.140	3.56	TP100K-UNJ24E
20	0.750	19.05	0.080	2.03	TP075K-UNJ20E
20	1.000	25.40	0.140	3.56	TP100K-UNJ20E
18	0.750	19.05	0.080	2.03	TP075K-UNJ18E
18	1.000	25.40	0.140	3.56	TP100K-UNJ18E
16	0.750	19.05	0.080	2.03	TP075K-UNJ16E
16	1.000	25.40	0.140	3.56	TP100K-UNJ16E
12	1.000	25.40	0.140	3.56	TP100K-UNJ12E



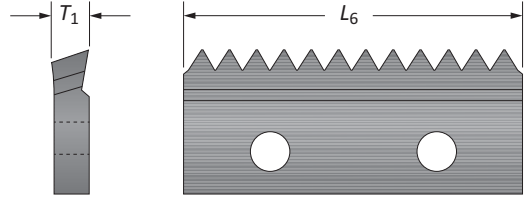
Inserts sold in quantities of 2

AccuThread™ 856 Thread Mill Inserts

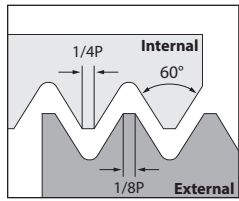
Bolt-in Style | ISO



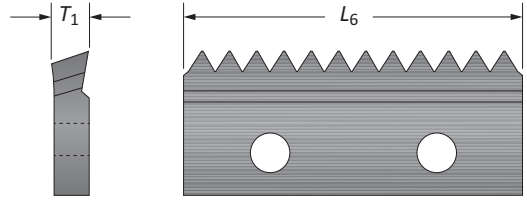
ISO
Internal



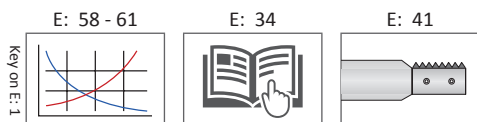
Pitch	Insert				Part No.
	L_6 inch	L_6 mm	T_1 inch	T_1 mm	ISO Internal
0.5	0.750	19.05	0.080	2.03	TP075K-M0.5I
1.0	0.750	19.05	0.080	2.03	TP075K-M1.0I
1.0	1.000	24.40	0.140	3.56	TP100K-M1.0I
1.25	0.750	19.05	0.080	2.03	TP075K-M1.25I
1.5	0.750	19.05	0.080	2.03	TP075K-M1.5I
1.5	1.000	25.40	0.140	3.56	TP100K-M1.5I
2.0	1.000	25.40	0.140	3.56	TP100K-M2.0I



ISO
External



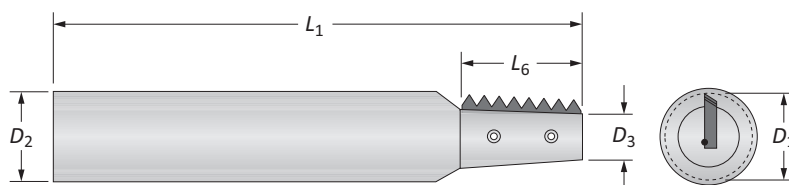
Pitch	Insert				Part No.
	L_6 inch	L_6 mm	T_1 inch	T_1 mm	ISO External
1.0	1.000	24.40	0.140	3.56	TP100K-M1.0E
1.5	1.000	25.40	0.140	3.56	TP100K-M1.5E
2.0	1.000	25.40	0.140	3.56	TP100K-M2.0E



Inserts sold in quantities of 2

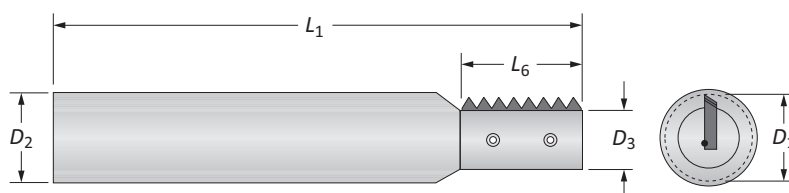
AccuThread™ 856 Thread Mill Insert Holders

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					
i	0.400	0.229	0.500	0.750	3.000	1	THT-0400-1F075	TP075K...	TMS-250	8T-8
	0.659	0.379	0.500	1.000	3.000	1	THT-0659-1F100	TP100K...	TMS-45	8T-9
m	10.16	5.82	13.00	19.05	76.20	1	THT-0400-1F075M	TP075K...	TMS-250	8T-8
	16.74	9.65	13.00	25.40	76.20	1	THT-0659-1F100M	TP100K...	TMS-45	8T-9



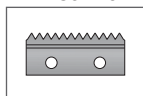
Straight Insert Holders | BSPP / UN / UNJ / ISO

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

E: 34

E: 36 - 40

Key on E: 1

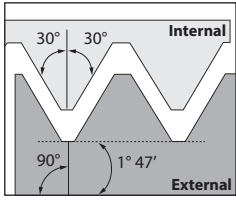


i = Imperial (in)
m = Metric (mm)

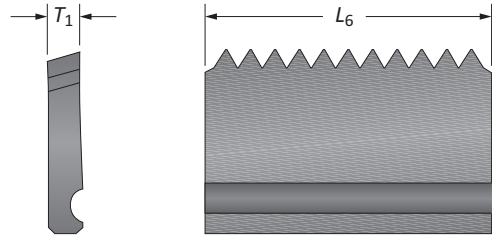
AccuThread™ 856 Thread Mill Inserts

Pin Style | NPT / NPTF / BSPT

A
DRILLING



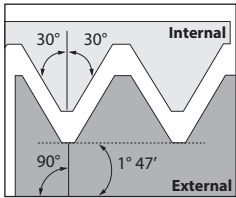
NPT
Internal / External



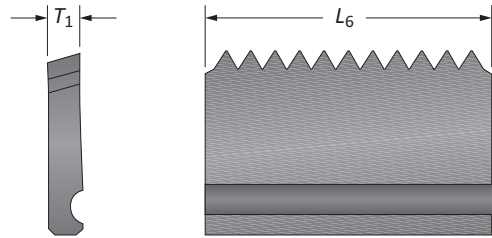
B
BORING

TPI (Pitch)	Insert				Part No.
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	NPT Internal/External
11.5	1.500	38.10	0.140	3.56	TN150K-NPT11.5
8	1.500	38.10	0.140	3.56	TN150K-NPT8

C
REAMING

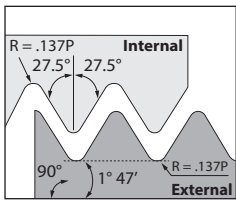


NPTF
Internal / External

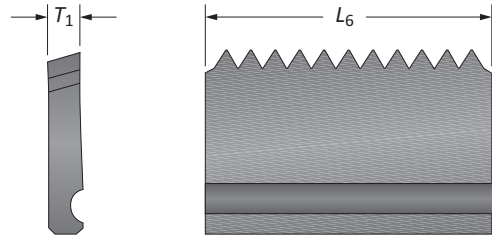


TPI (Pitch)	Insert				Part No.
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	NPTF Internal/External
11.5	1.500	38.10	0.140	3.56	TN150K-NPTF11.5
8	1.500	38.10	0.140	3.56	TN150K-NPTF8

D
BURNISHING



BSPT
Internal / External



TPI (Pitch)	Insert				Part No.
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	BSPT Internal/External
11	1.500	38.10	0.140	3.56	TN150K-BSPT11

E
THREADING

X
SPECIALS

E: 58 - 61 E: 34 E: 48 - 49

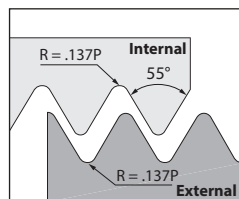


AccuThread™ 856 Thread Mill Inserts

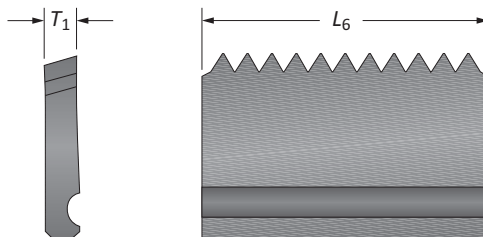
Pin Style | BSPP / API-ROUND / ACME

A

DRILLING



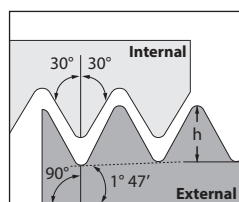
BSPP
Internal / External



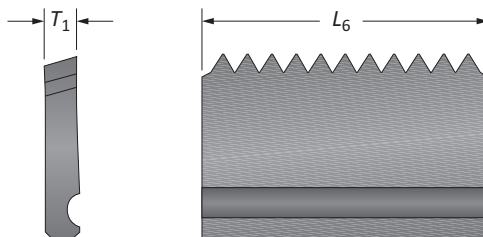
B

BORING

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



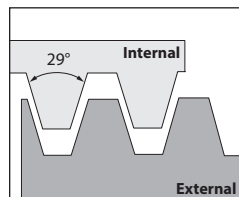
API-ROUND
Internal / External



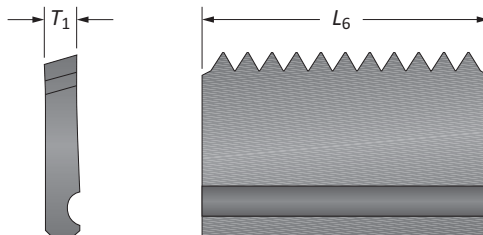
C

REAMING

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



ACME
Full Profile



D

BURNISHING

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

E

THREADING

X

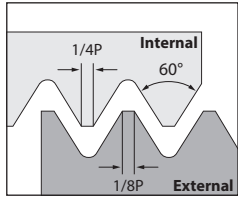
SPECIALS

E: 58 - 61 E: 34 E: 48 - 49

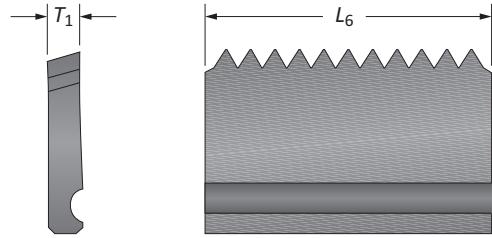
Inserts sold in quantities of 2

AccuThread™ 856 Thread Mill Inserts

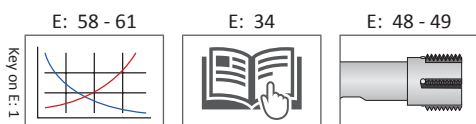
Pin Style | UN



UN
Internal



TPI (Pitch)	Insert				Part No.
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	UN Internal
32	1.000	25.40	0.140	3.56	TN100K-UN32I
24	1.000	25.40	0.140	3.56	TN100K-UN24I
24	1.500	38.10	0.140	3.56	TN150K-UN24I
20	1.000	25.40	0.140	3.56	TN100K-UN20I
20	1.500	38.10	0.140	3.56	TN150K-UN20I
18	1.000	25.40	0.140	3.56	TN100K-UN18I
18	1.500	38.10	0.140	3.56	TN150K-UN18I
16	1.000	25.40	0.140	3.56	TN100K-UN16I
16	1.500	38.10	0.140	3.56	TN150K-UN16I
14	1.500	38.10	0.140	3.56	TN150K-UN14I
12	1.000	25.40	0.140	3.56	TN100K-UN12I
12	1.500	38.10	0.140	3.56	TN150K-UN12I
10	1.000	25.40	0.140	3.56	TN100K-UN10I
10	1.500	38.10	0.140	3.56	TN150K-UN10I
8	1.000	25.40	0.140	3.56	TN100K-UN8I
8	1.500	38.10	0.140	3.56	TN150K-UN8I
7	1.000	25.40	0.140	3.56	TN100K-UN7I
7	1.500	38.10	0.140	3.56	TN150K-UN7I
6	1.500	38.10	0.140	3.56	TN150K-UN6I

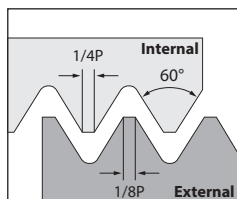


Inserts sold in quantities of 2

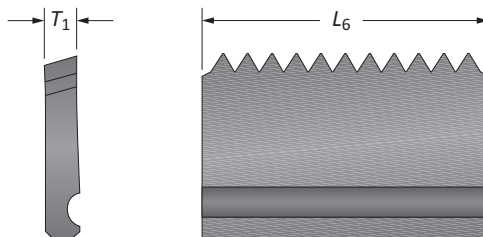


AccuThread™ 856 Thread Mill Inserts

Pin Style | UN



UN
External



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

A

DRILLING

B

BORING

C

REAMING

D

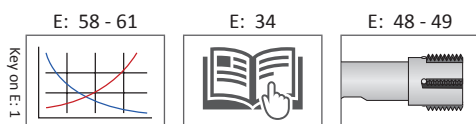
BURNISHING

E

THREADING

X

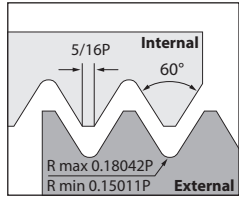
SPECIALS



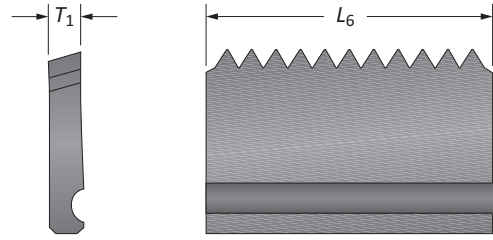
Inserts sold in quantities of 2

AccuThread™ 856 Thread Mill Inserts

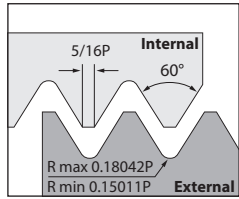
Pin Style | UNJ



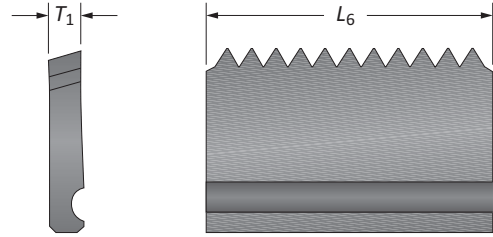
UNJ
Internal



TPI (Pitch)	Insert				Part No.
	L_6 inch	L_6 mm	T_1 inch	T_1 mm	UNJ Internal
32	1.000	25.40	0.140	3.56	TN100K-UNJ32I
24	1.000	25.40	0.140	3.56	TN100K-UNJ24I
24	1.500	38.10	0.140	3.56	TN150K-UNJ24I
20	1.000	25.40	0.140	3.56	TN100K-UNJ20I
20	1.500	38.10	0.140	3.56	TN150K-UNJ20I
18	1.000	25.40	0.140	3.56	TN100K-UNJ18I
18	1.500	38.10	0.140	3.56	TN150K-UNJ18I
16	1.000	25.40	0.140	3.56	TN100K-UNJ16I
16	1.500	38.10	0.140	3.56	TN150K-UNJ16I
12	1.000	25.40	0.140	3.56	TN100K-UNJ12I
12	1.500	38.10	0.140	3.56	TN150K-UNJ12I
8	1.500	38.10	0.140	3.56	TN150K-UNJ8I



UNJ
External



TPI (Pitch)	Insert				Part No.
	L_6 inch	L_6 mm	T_1 inch	T_1 mm	UNJ External
32	1.000	25.40	0.140	3.56	TN100K-UNJ32E
24	1.000	25.40	0.140	3.56	TN100K-UNJ24E
24	1.500	38.10	0.140	3.56	TN150K-UNJ24E
20	1.000	25.40	0.140	3.56	TN100K-UNJ20E
20	1.500	38.10	0.140	3.56	TN150K-UNJ20E
18	1.000	25.40	0.140	3.56	TN100K-UNJ18E
18	1.500	38.10	0.140	3.56	TN150K-UNJ18E
16	1.000	25.40	0.140	3.56	TN100K-UNJ16E
16	1.500	38.10	0.140	3.56	TN150K-UNJ16E
12	1.000	25.40	0.140	3.56	TN100K-UNJ12E
12	1.500	38.10	0.140	3.56	TN150K-UNJ12E
8	1.500	38.10	0.140	3.56	TN150K-UNJ8E

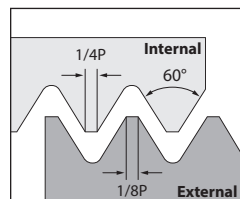
E: 58 - 61 E: 34 E: 48 - 49

Inserts sold in quantities of 2

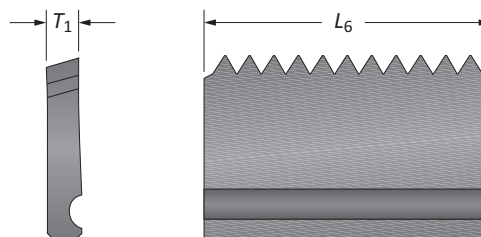


AccuThread™ 856 Thread Mill Inserts

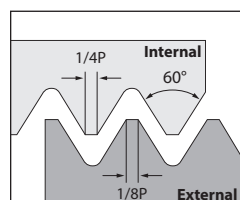
Pin Style | ISO



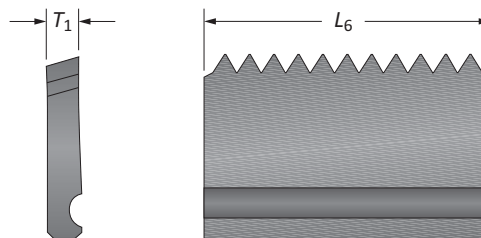
ISO
Internal



Pitch	Insert				Part No.
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	ISO Internal
1.5	1.500	38.10	0.140	3.56	TN150K-M1.5I
2.0	1.500	38.10	0.140	3.56	TN150K-M2.0I
2.5	1.500	38.10	0.140	3.56	TN150K-M2.5I
3.0	1.500	38.10	0.140	3.56	TN150K-M3.0I
3.5	1.500	38.10	0.140	3.56	TN150K-M3.5I
4.0	1.500	38.10	0.140	3.56	TN150K-M4.0I
4.5	1.500	38.10	0.140	3.56	TN150K-M4.5I
5.0	1.500	38.10	0.140	3.56	TN150K-M5.0I
6.0	1.500	38.10	0.140	3.56	TN150K-M6.0I



ISO
External



Pitch	Insert				Part No.
	L ₆ inch	L ₆ mm	T ₁ inch	T ₁ mm	ISO External
2.0	1.500	38.10	0.140	3.56	TN150K-M2.0E
4.0	1.500	38.10	0.140	3.56	TN150K-M4.0E
4.5	1.500	38.10	0.140	3.56	TN150K-M4.5E
5.0	1.500	38.10	0.140	3.56	TN150K-M5.0E
6.0	1.500	38.10	0.140	3.56	TN150K-M6.0E

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

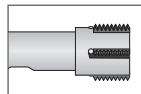
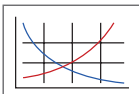
SPECIALS

E: 58 - 61

E: 34

E: 48 - 49

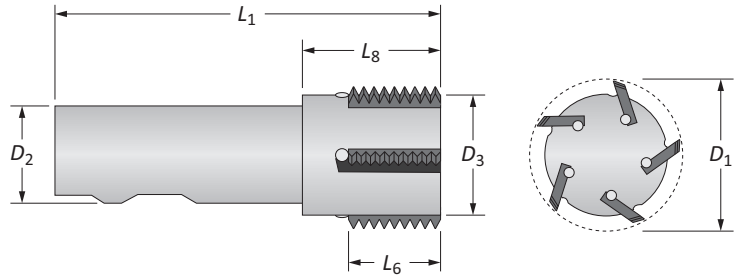
Key on E: 1



Inserts sold in quantities of 2

AccuThread™ Pin Style Holders

Weldon Shank



Positive Rake

D_1		Holder					Coolant	Flutes	Part No.	Inserts	Screw	Key Size	Pin
Standard	Oversize*	D_3	L_8	L_6	L_1	D_2							
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
i 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
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


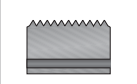
*See note at bottom of page

Neutral Rake

D_1		Holder					Coolant	Flutes	Part No.	Inserts	Screw	Key Size	Pin
Standard	Oversize*	D_3	L_8	L_6	L_1	D_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
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

*See note at bottom of page

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

E: 34 	E: 42 - 47 	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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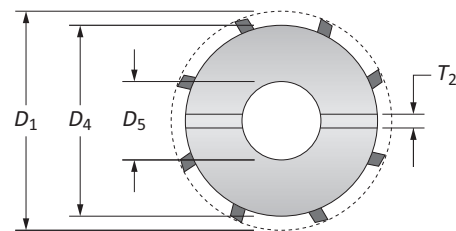
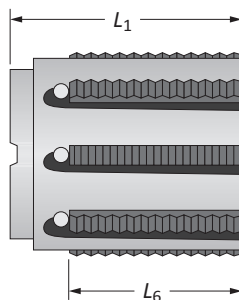
i = Imperial (in)
m = Metric (mm)

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



AccuThread™ Pin Style Holders

Shell Mill



Positive Rake

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

*See note at bottom of page

Neutral Rake

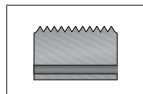
	D ₁		Holder					Flutes	Part No.	Inserts	Screw	Key Size	Pin
	Standard	Oversize*	D ₄	D ₅	L ₆	L ₁	T ₂						
i	2.217	2.349	2.000	0.750	1.500	2.250	0.312	6	TSR-2217-6F150	TN150K...	TMSS-2	3/32	TMP-2
m	56.31	59.66	50.80	22.00	38.10	57.15	10.00	6	TSR-2217-6F150M	TN150K...	TMSS-2	3/32	TMP-2

*See note at bottom of page

E: 34

E: 42 - 47

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



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

Thread Mill Pre-Drill Information

Linear Feed Rate (LFR)

$$LFR = RPM \cdot (IPT \cdot \text{Number of flutes})$$

RPM = Revolutions per minute

IPT = Recommended feed (inch / tooth)

Surface Feet per Minute (SFM)

$$SFM = RPM \cdot 0.262 \cdot \text{Diameter}$$

RPM = Revolutions per minute

Revolutions per Minute (RPM)

$$RPM = \frac{SFM \cdot 3.82}{\text{Diameter}}$$

SFM = Surface feet per minute

Adjusted Feed Rate (AFR) - For Internal Threading

$$AFR = \frac{\text{Major Diameter} - \text{Cutter Diameter}}{\text{Major Diameter}} [LFR]$$

LFR = Linear feed rate

NOTICE: 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:

Cast iron 125 BHN with a 1/2-13 thread form using AccuThread 856 solid carbide (TMUK0500-13)

STEP 1:

$$RPM = \frac{SFM \cdot 3.82}{\text{Diameter}}$$

$$RPM = \frac{675 \cdot 3.82}{0.350}$$

$$RPM = 7367$$

STEP 2:

$$LFR = RPM \cdot (IPT \cdot \text{Number of flutes})$$

$$LFR = 7367 \cdot (0.0010 \cdot 4)$$

$$LFR = 29.47 \text{ IPM}$$

STEP 3:

$$AFR = \frac{\text{Major Diameter} - \text{Cutter Diameter}}{\text{Major Diameter}} [LFR]$$

$$AFR = \frac{0.500 - 0.350}{0.500} [29.47]$$

$$AFR = 8.84 \text{ IPM}$$

Thread Mill Calculations and Recommended Passes

Thread Mill Drill Calculation

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

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

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

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

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

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

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

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

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

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 to 0.125	0.126 to 0.188	0.189 to 0.250	0.251 to 0.312	0.313 to 0.375	0.376 to 0.500	0.501 to 0.625	0.626 to 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
		225 - 275	Average	500	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
		275 - 325	Average	400	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 Aluminum 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 Aluminum** 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: 45 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminum applications

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 to 3.18	3.19 to 4.76	4.77 to 6.35	6.36 to 7.94	7.95 to 9.53	9.54 to 12.70	12.71 to 15.88	15.89 to 19.05
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
		225 - 275	Average	137	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	Alloy Steel 4140, 5140, 8640	275 - 325	Average	122	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		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
		225 - 275	Average	137	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		275 - 325	Difficult	122	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
	High Strength Alloy 4340, 4330V, 300M	325 - 375	Difficult	114	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051
		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
Structural Steel A36, A285, A516	350 - 400	Difficult	107	0.010	0.013	0.015	0.020	0.025	0.033	0.046	0.051	
	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	
S	High Temp Alloy Hastelloy B, Inconel 600	250 - 350	Difficult	137	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		140 - 220	Difficult	37	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
M	Stainless Steel 303, 416, 420	220 - 310	Difficult	27	0.008	0.010	0.015	0.020	0.023	0.025	0.030	0.038
		135 - 185	Difficult	160	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Stainless Steel PH 17-4	185 - 275	Difficult	152	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
		185 - 275	Difficult	91	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
	Tool Steel H-13, H21, A-4	275 - 325	Difficult	46	0.010	0.013	0.015	0.020	0.023	0.025	0.038	0.051
150 - 200		Difficult	175	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064	
K	Cast Iron Grey, Ductile, Nodular	200 - 250	Difficult	152	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		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
N	Wrought Aluminum 6061 T6	260 - 320	Average	145	0.010	0.013	0.018	0.023	0.025	0.038	0.051	0.064
		30	Easy	335	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
	Cast Aluminum** up to 10% silicon	180	Easy	305	0.013	0.015	0.023	0.025	0.038	0.051	0.064	0.076
		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: 45 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminum applications

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

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 to 0.125	0.126 to 0.188	0.189 to 0.250	0.251 to 0.312	0.313 to 0.375	0.376 to 0.500	0.501 to 0.625	0.626 to 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
		225 - 275	Average	400	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	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
		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
	Alloy Steel 4140, 5140, 8640	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
		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
	High Strength Alloy 4340, 4330V, 300M	225 - 300	Average	350	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
		300 - 350	Difficult	300	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020
350 - 400		Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0018	0.0020	
Structural Steel A36, A285, A516	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	
	250 - 350	Difficult	300	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	100	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0015
		220 - 310	Difficult	75	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	425	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		185 - 275	Difficult	400	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
	Stainless Steel PH 17-4	185 - 275	Difficult	250	0.0004	0.0005	0.0006	0.0008	0.0009	0.0010	0.0015	0.0020
		275 - 325	Difficult	125	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 Aluminum 6061 T6	30	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 Aluminum** 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: 45 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminum applications

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 to 3.18	3.19 to 4.76	4.77 to 6.35	6.36 to 7.94	7.95 to 9.53	9.54 to 12.70	12.71 to 15.88	15.89 to 19.05
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
		275 - 325	Difficult	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 Aluminum 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 Aluminum** 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: 45 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminum applications

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

Recommended Cutting Data | Imperial (inch)

Solid Carbide | AccuThread™ T3

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

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 to 3.17	3.18 to 4.77	4.78 to 6.35	6.36 to 7.92
P	Free Machining Steel 1118, 1215, 12L14, etc.	100 - 150	115	0.020	0.025	0.035	0.045
		150 - 200	85	0.020	0.025	0.035	0.045
		200 - 250	70	0.020	0.025	0.035	0.045
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	115	0.020	0.025	0.035	0.045
		125 - 175	85	0.020	0.025	0.035	0.045
		175 - 225	70	0.020	0.025	0.035	0.045
		225 - 275	60	0.020	0.025	0.035	0.045
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	70	0.020	0.025	0.030	0.040
		175 - 225	60	0.020	0.025	0.030	0.040
		225 - 275	50	0.020	0.025	0.030	0.040
		275 - 325	45	0.020	0.025	0.030	0.040
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	70	0.020	0.025	0.030	0.040
		175 - 225	60	0.020	0.025	0.030	0.040
		225 - 275	50	0.020	0.025	0.030	0.040
		275 - 325	45	0.020	0.025	0.030	0.040
		325 - 375	38	0.020	0.025	0.030	0.040
	High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	50	0.020	0.025	0.030	0.040
		300 - 350	45	0.020	0.025	0.030	0.040
		350 - 400	38	0.020	0.025	0.030	0.040
	Structural Steel A36, A285, A516, etc.	100 - 150	70	0.020	0.025	0.035	0.045
		150 - 250	60	0.020	0.025	0.035	0.045
250 - 350		45	0.020	0.025	0.035	0.045	
Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	50	0.020	0.025	0.030	0.040	
	200 - 250	38	0.020	0.025	0.030	0.040	
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	30	0.015	0.020	0.030	0.040
		220 - 310	23	0.015	0.020	0.030	0.040
	Titanium Alloy	140 - 220	30	0.015	0.020	0.030	0.040
		220 - 310	23	0.015	0.020	0.030	0.040
	Aerospace Alloy S82	185 - 275	30	0.015	0.020	0.030	0.040
275 - 350		23	0.015	0.020	0.030	0.040	
M	Stainless Steel 416, 420, etc.	185 - 275	70	0.020	0.025	0.030	0.040
		275 - 350	60	0.020	0.025	0.030	0.040
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	38	0.020	0.025	0.030	0.040
		185 - 275	23	0.020	0.025	0.030	0.040
	Super Duplex Stainless Steel	135 - 185	38	0.015	0.020	0.030	0.040
185 - 275		23	0.015	0.020	0.030	0.040	
H	Hardened Steels	450 - 500	50	0.015	0.020	0.030	0.040
		500 - 550	38	0.015	0.020	0.030	0.040
K	Cast Iron Grey, Ductile, Nodular	120 - 150	85	0.020	0.025	0.035	0.045
		150 - 200	75	0.020	0.025	0.035	0.045
		200 - 220	70	0.020	0.025	0.035	0.045
		220 - 260	60	0.020	0.025	0.035	0.045
		260 - 320	60	0.020	0.025	0.035	0.045
N	Wrought Aluminum	30	150	0.025	0.030	0.045	0.050
		180	135	0.025	0.030	0.045	0.050
	Cast Aluminum	30 - 180	75	0.025	0.030	0.045	0.050
Brass	30 - 100	150	0.025	0.030	0.045	0.050	

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

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 Aluminum 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 Aluminum** 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: 45 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminum applications

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 - 12.70	12.71 - 19.05	19.06 - 25.40	25.41 - 38.10	38.11 - 50.80	50.81 - 69.85	69.86 - 88.90
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 Aluminum 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 Aluminum** 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: 45 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminum 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 1.000 - 1.499	5 flutes 1.500 - 1.999	6 flutes 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 Aluminum 6061 T6	30	Easy	-	-	-	
		180	Easy	-	-	-	
	Cast Aluminum** 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: 45 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminum applications

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	5 flutes	6 flutes
					25.41 - 38.09	38.10 - 50.77	50.78 - 69.85
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
		325 - 375	Difficult	97	0.026	0.032	0.043
	High Strength Alloy 4340, 4330V, 300M	225 - 300	Average	116	0.026	0.032	0.043
		300 - 350	Difficult	104	0.026	0.032	0.043
		350 - 400	Difficult	91	0.026	0.032	0.043
	Structural Steel A36, A285, A516	100 - 150	Average	156	0.032	0.043	0.054
		150 - 250	Average	129	0.032	0.043	0.054
250 - 350		Difficult	116	0.032	0.043	0.054	
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	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 Aluminum 6061 T6	30	Easy	-	-	-	
		180	Easy	-	-	-	
	Cast Aluminum** 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: 45 when referencing material machinability

**Uncoated thread mills are recommended for cast aluminum 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 6 basic steps

AVAILABLE ONLINE 24/7
or download INSTA-CODE™

visit www.alliedmachine.com

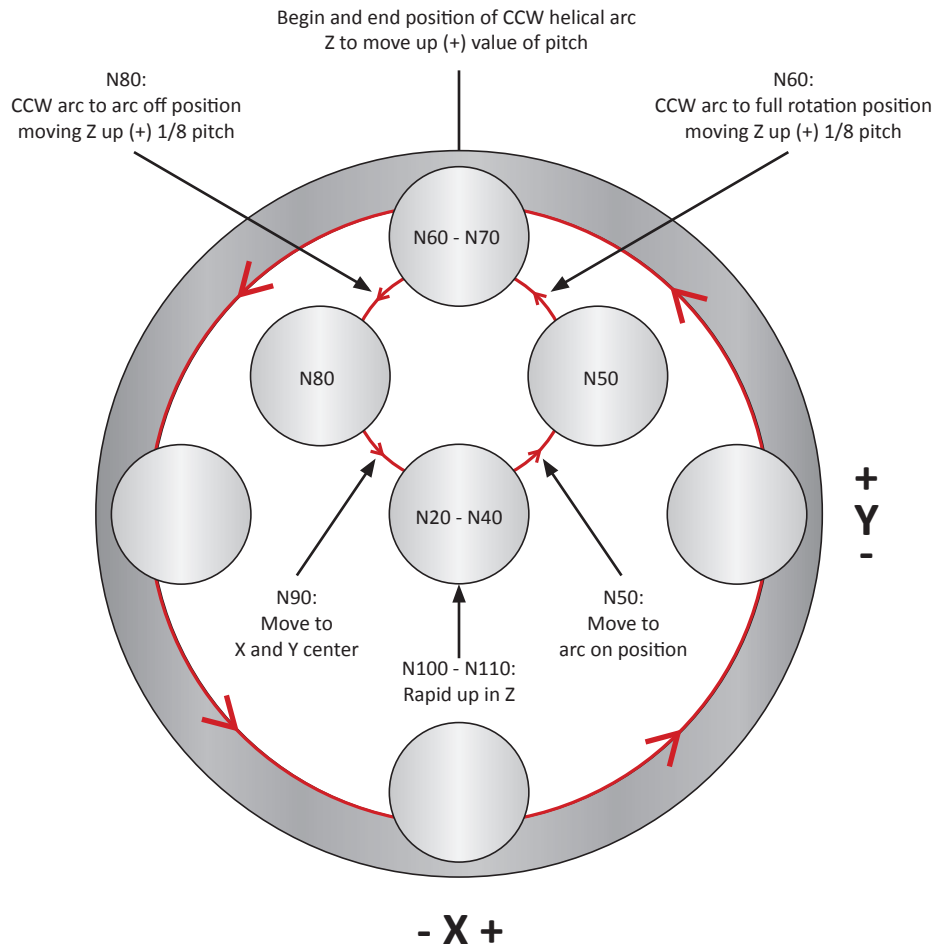
The following are examples of how to calculate and program a 7/16-20 right hand thread that will be 1/2 deep produced in one pass

Major thread diameter	0.4375	Major diameter of thread (7/16 = 0.4375)
Threads per inch	20	Number of threads per inch (20 is from 7/16-20 designation)
Length of thread	0.5	Desired length of cut
SFM	475	Recommended surface footage for material to be cut
Feed per flute	0.0025	Recommended feed rate per cutting edge
Number of flutes	4	Number of flutes on tool to be used
Tool diameter	0.335	Diameter of cutting tool
Using the information above, the values can be calculated:		
Pitch	0.05	= 1 / thread per inch
RPM	5416	(SFM • 3.82) / Tool diameter
Linear feed	54.16	RPM • Feed per flute • Number of flutes
Feed rate for thread milling	12.69	Linear feed • ((Major thread diameter - Tool diameter) / Major thread diameter)
Z axis move on arc on	0.0063	(Pitch / 8)
Z axis move for full thread	0.5063	(Pitch / 8) + Length of cut
Arc on/off	0.0256	(Major thread diameter - Tool diameter) / 4
Full rotation value	0.05125	(Major thread diameter - Tool diameter) / 2

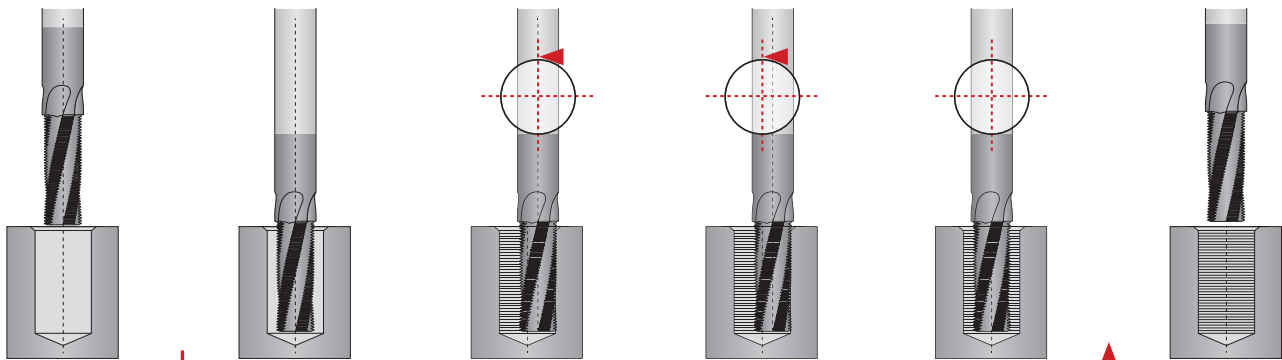
Major thread diameter	0.4375
Cutter diameter	0.335
Length of thread	0.5

Feed rate for thread milling	12.69
Z axis depth for full thread	0.5063
Z axis for arc on/off	0.0063

Arc on/off value	0.0256
Full rotation value	0.05125
Pitch value	0.05



1	N10	S	5416 M03				Absolute position in rapid to center of hole in X and Y, then rapid to Z0 (level with surface of hole)(assumed to be X0, Y0, Z0 for demonstration purposes). To be done by customer.			
	N20	G90	G00	X 0.0000	Y 0.0000					
	N30					Z 0.0000				
2	N 40	G91	G01		Z -0.5063	F 50.0				
	Switch to incremental positioning and high feed to Z axis depth for full thread.									
3	N50	G41	G01		X 0.0256	Y 0.0256	D1	F 3.17		
	Activate left diameter compensation for tool number 1 (needs to be whatever tool number you are using) and feed to arc on/off position at 1/4 feed rate for thread milling.									
	N60			G03	X -0.0256	Y 0.0256	Z 0.0063	I -0.0256	J 0.0000	F 12.69
CCW arc from full rotation from the arc on position at the calculated thread milling feed rate moving Z up (+) 1/8 pitch value (Z axis move up for arc on/off). X and Y positions are the incremental distance from where tool is to where it will be after arc (arc on/off value). I is the incremental X value of center of rotation from where tool currently is arc on/off value *-1. J is the incremental Y value from current tool position to center of rotation.										
4	N70			G03	X 0.0000	Y 0.0000	Z 0.0500	I 0.0000	J -0.0513	F 12.69
	One complete CCW arc from the full arc rotation position at the calculated thread milling feed rate moving Z up (positive pitch value). I and J values are calculated same as above. I will be 0.0 and J will be full rotation value *-1.									
5	N80			G03	X -0.0256	Y -0.0256	Z 0.0063	I 0.0000	J -0.0256	F 25.38
	CCw arc from full rotation diameter to arc off position at double the calculated thread milling feed rate moving Z up (+) 1/8 pitch value (Z axis move up for arc on/off). I and J values are calculated same as above.									
	N90	G40	G01		X 0.0256	Y -0.0256				
Shut off cutter comp and move from arc off position to center of hole in X (arc on/off value -1) and Y (arc on/off value *-1) at high feed rate.										
6	N100			G00	Z 0.4438					
	Rapid Z up incremental value (length of thread - all Z values in G03 arc commands).									
	N110	G90	G00		Z 1.0000					
Switch back to absolute positioning and rapid to a safe point in Z above part level (assumed to be 1 above part level for demonstration purposes).										



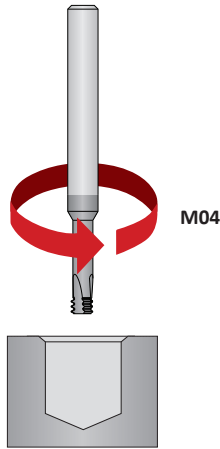
Step 1 N10 - N30	Step 2 N40	Step 3 N50 - N60	Step 4 N70	Step 5 N80 - N90	Step 6 N100 - N110
<ul style="list-style-type: none"> Preparatory commands Positioning above hole center and at hole level in Z In absolute position mode 	<ul style="list-style-type: none"> Change to incremental Feed to bottom of hole Z axis depth for full thread 	<ul style="list-style-type: none"> Activate left cutter comp Feed to arc on position Arc to full rotation value while moving Z up 1/8 pitch Z axis move for arc on 	<ul style="list-style-type: none"> One complete CCW rotation at full arc rotation value while moving Z up 1 pitch value 	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Rapid up in Z

Technical Information

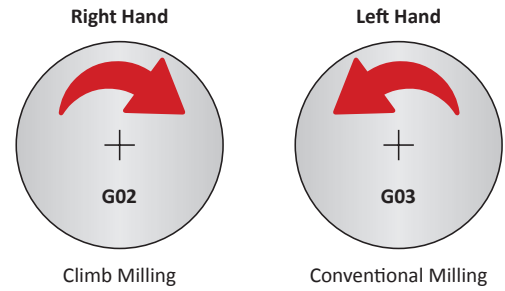
AccuThread™ T3

Spindle Rotation

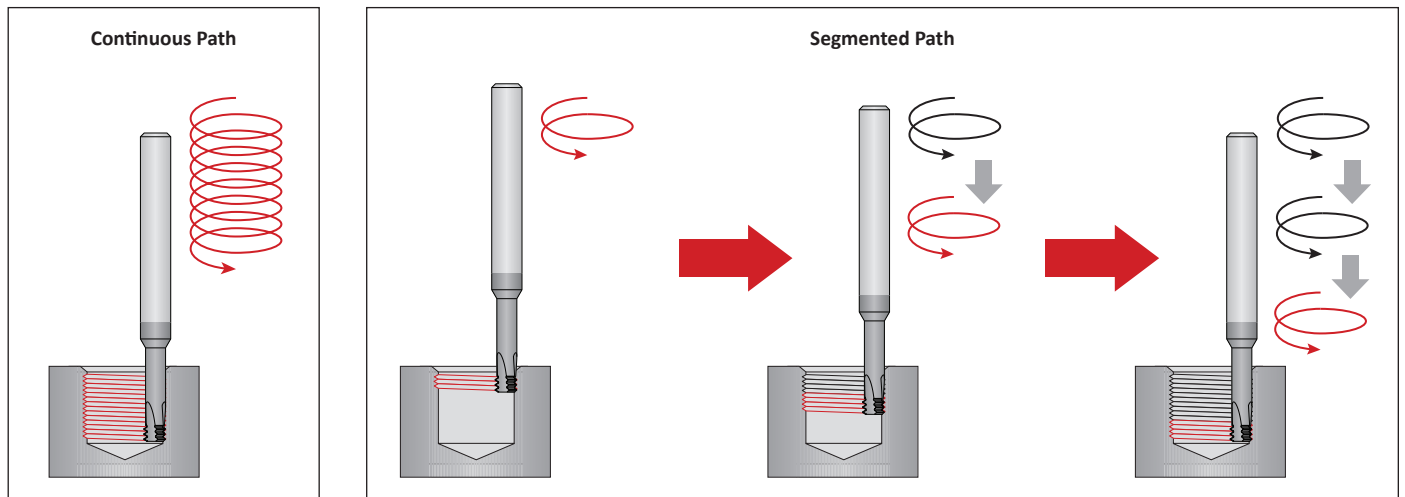
! Tools are left hand cutting. The left hand cut allows the tool to climb mill when creating a right hand thread with an AccuThread T3. Climb milling reduces deflection and heat generated during the cut.



Direction of Helical Interpolation



Programming Z-Axis Cutting Path



Start Point

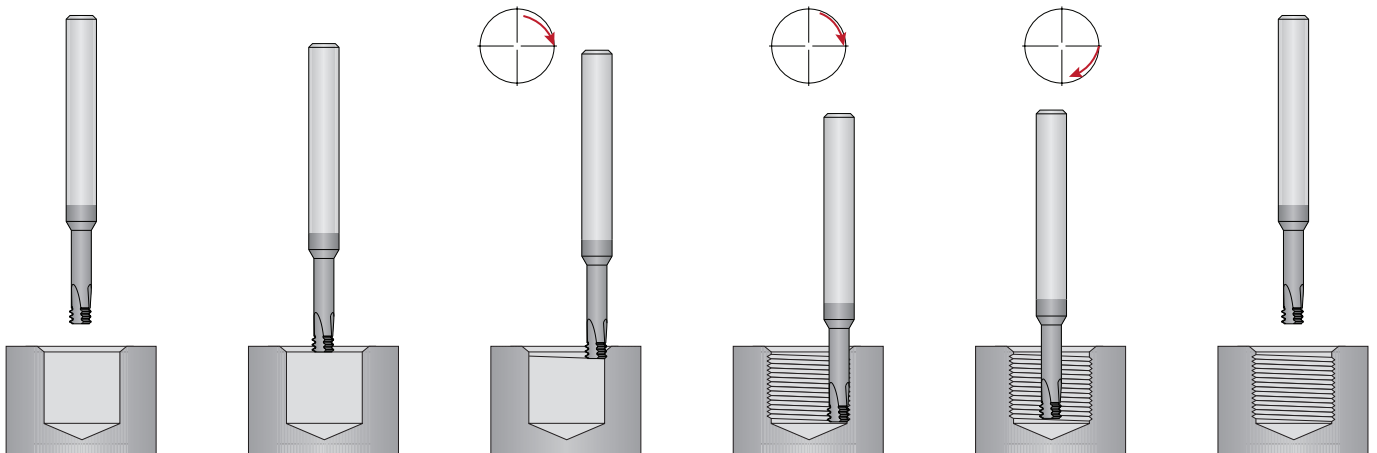
Center Location

Arc Entrance

Thread Milling

Arc Exit

End Point



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												
Catalog	Incorrect tool selection			1	1							
	Incorrect speed and feed selection	2, 3	2, 3		2, 3			2, 3				
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			
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				
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				
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

Troubleshooting Solutions

1. Refer to catalog to ensure proper tool selection.
2. Verify the correct speed was selected from the catalog speed and feed chart.
3. Verify the correct feed rate was selected from the catalog 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. Re-tighten 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 appeng@alliedmachine.com.

