

Mill - Thread Inserts and Kits



**Mill-Thread tools for threading on CNC milling machines
by using helical interpolation programs**

Advantages of Mill-Thread Tools

- Same toolholder and insert can produce both right-hand and left-hand threads.
- A single insert & toolholder can produce a given thread on many diameters (External & Internal).
- Prismatic shape of insert's tail ensures exact and reliable clamping in the toolholder.
- Most inserts are double sided, having two cutting edges.
- Thread is produced in one tool pass.
- MT tools can produce tapered threads.
- Improved productivity thanks to increased cutting speeds and multitooth type carbide inserts.
- Threading to one pitch of a shoulder in a blind hole.
- Longer tool life thanks to a special multilayer coating process.
- Lower tooling costs, considerably less expensive than using taps and dies.
- Since lower machine power is required, a smaller machine can produce larger threads in a single operation with less idle time and tool changes.

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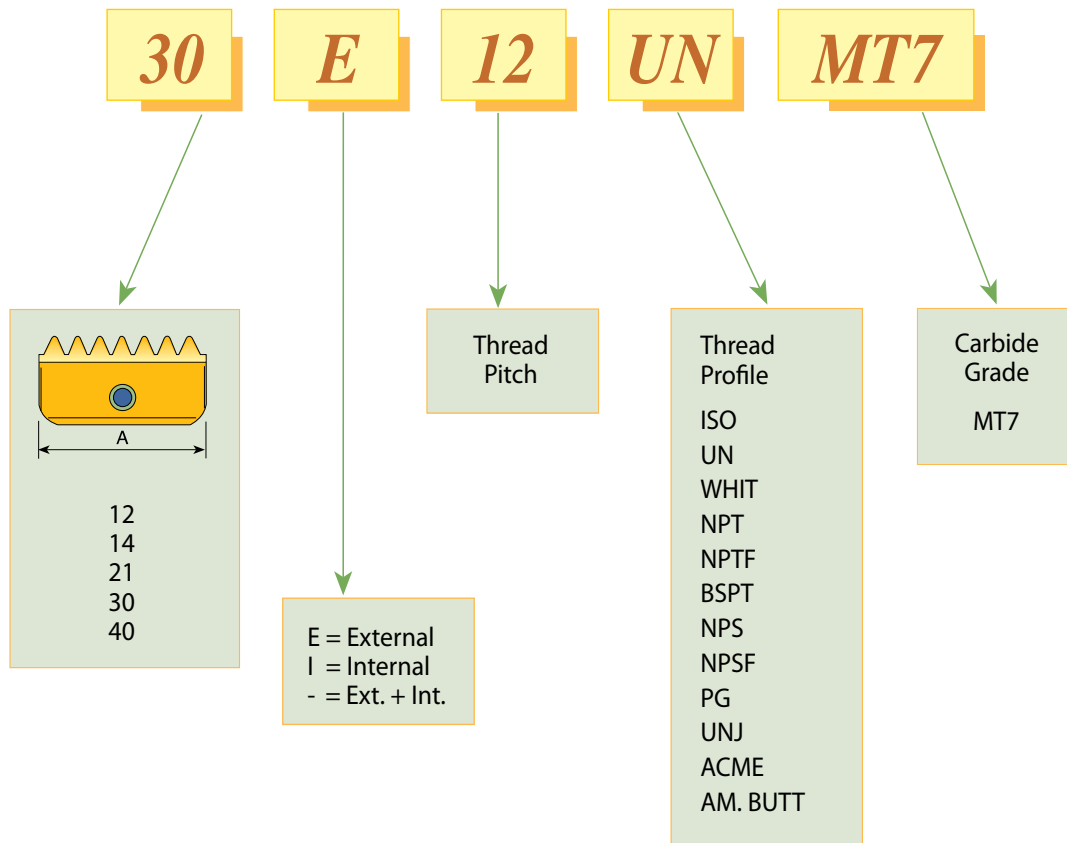
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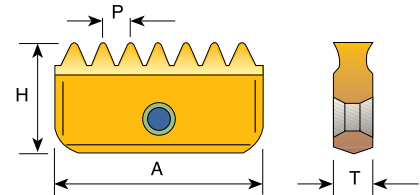
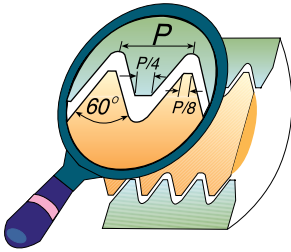
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Product Identification

Mill-Thread Inserts Ordering Codes



ISO

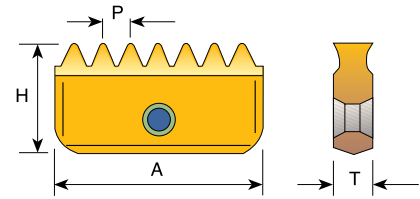
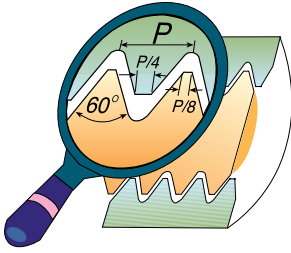


Pitch mm		Insert Size = A				
		12	14	21	30	40
0.5	Ext.					
0.5	Int.	* 12 0.5 ISO	14 0.5 ISO			
0.75	Ext.		14 E 0.75 ISO			
0.75	Int.	* 12 0.75 ISO	14 0.75 ISO			
1.0	Ext.		14 E 1.0 ISO	21 E 1.0 ISO		
1.0	Int.	* 12 1.0 ISO	14 1.0 ISO	21 1.0 ISO		
1.25	Ext.		14 E 1.25 ISO			
1.25	Int.	* 12 1.25 ISO	14 1.25 ISO			
1.5	Ext.		14 E 1.5 ISO	21 E 1.5 ISO	30 E 1.5 ISO	40 E 1.5 ISO
1.5	Int.	* 12 1.5 ISO	14 1.5 ISO	21 1.5 ISO	30 1.5 ISO	40 1.5 ISO
1.75	Ext.		14 E 1.75 ISO			
1.75	Int.		14 1.75 ISO	21 1.75 ISO		
2.0	Ext.		14 E 2.0 ISO	21 E 2.0 ISO	30 E 2.0 ISO	40 E 2.0 ISO
2.0	Int.		14 2.0 ISO	21 2.0 ISO	30 2.0 ISO	40 2.0 ISO
2.5	Ext.		14 E 2.5 ISO	21 E 2.5 ISO		
2.5	Int.		14 2.5 ISO	21 2.5 ISO		
3.0	Ext.			21 E 3.0 ISO	30 E 3.0 ISO	40 E 3.0 ISO
3.0	Int.			21 3.0 ISO	30 3.0 ISO	40 3.0 ISO
3.5	Ext.				30 E 3.5 ISO	
3.5	Int.			21 3.5 ISO	30 3.5 ISO	40 3.5 ISO
4.0	Ext.				30 E 4.0 ISO	40 E 4.0 ISO
4.0	Int.				30 4.0 ISO	40 4.0 ISO
4.5	Ext.					
4.5	Int.				30 4.5 ISO	40 4.5 ISO
5.0	Ext.					40 E 5.0 ISO
5.0	Int.				30 5.0 ISO	40 5.0 ISO
5.5	Ext.					
5.5	Int.				30 5.5 ISO	40 5.5 ISO
6.0	Ext.					40 E 6.0 ISO
6.0	Int.					40 6.0 ISO
H		6.3	7.5	12	16	20
T		2.9	3.1	4.7	5.5	6.3

* One cutting edge

Order example: 14 | 1.5 ISO MT7

UN UNC, UNF, UNEF, UNS



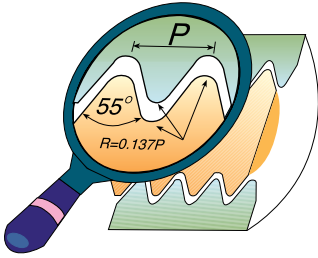
Pitch TPI		Insert Size = A				
		12	14	21	30	40
32	Ext.		14 E 32 UN			
32	Int.	* 12 32 UN	14 32 UN			
28	Ext.		14 E 28 UN			
28	Int.	* 12 28 UN	14 28 UN			
27	Ext.					
27	Int.		14 27 UN			
24	Ext.		14 E 24 UN	21 E 24 UN		
24	Int.	* 12 24 UN	14 24 UN	21 24 UN		
20	Ext.		14 E 20 UN	21 E 20 UN	30 E 20 UN	
20	Int.	* 12 20 UN	14 20 UN	21 20 UN	30 20 UN	
18	Ext.		14 E 18 UN	21 E 18 UN	30 E 18 UN	
18	Int.	* 12 18 UN	14 18 UN	21 18 UN	30 18 UN	
16	Ext.		14 E 16 UN	21 E 16 UN	30 E 16 UN	40 E 16 UN
16	Int.	* 12 16 UN	14 16 UN	21 16 UN	30 16 UN	40 16 UN
14	Ext.		14 E 14 UN	21 E 14 UN	30 E 14 UN	40 E 14 UN
14	Int.		14 14 UN	21 14 UN	30 14 UN	40 14 UN
12	Ext.		14 E 12 UN	21 E 12 UN	30 E 12 UN	40 E 12 UN
12	Int.		14 12 UN	21 12 UN	30 12 UN	40 12 UN
11	Ext.		14 E 11 UN	21 E 11 UN		
11	Int.		14 11 UN			
10	Ext.		14 E 10 UN	21 E 10 UN	30 E 10 UN	40 E 10 UN
10	Int.		14 10 UN	21 10 UN	30 10 UN	40 10 UN
9	Ext.					
9	Int.		** 14 9 UN			
8	Ext.				30 E 8 UN	40 E 8 UN
8	Int.			21 8 UN	30 8 UN	40 8 UN
7	Ext.					
7	Int.			21 7 UN		
6	Ext.				30 E 6 UN	40 E 6 UN
6	Int.				30 6 UN	40 6 UN
5	Ext.					
5	Int.				30 5 UN	
4.5	Ext.					
4.5	Int.					40 4.5UN
4	Ext.					
4	Int.					40 4 UN
H		6.3	7.5	12	16	20
T		2.9	3.1	4.7	5.5	6.3

* One cutting edge

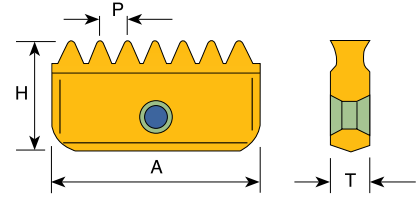
** Cannot be used with carbide shank Toolholders.

Order example: 21 | 18 UN MT7

WHIT BSW, BSF, BSP



Same Insert for External and Internal thread.

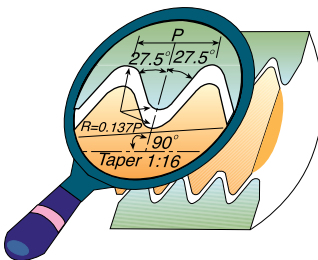


Pitch TPI	Insert Size = A				
	12	14	21	30	40
24		14-24 W			
20		14-20 W	21-20 W		
19	* 12 - 19 W	14-19 W	21-19 W		
16		14-16 W	21-16 W	30-16 W	
14		14-14 W	21-14 W	30-14 W	
11		14-11 W	21-11 W	30-11 W	40-11 W
8					40- 8 W
H	6.3	7.5	12	16	20
T	2.9	3.1	4.7	5.5	6.3

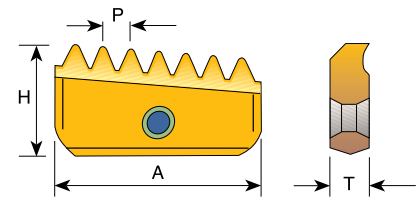
* One cutting edge

Order example: 21-11 W MT7

BSPT



Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.

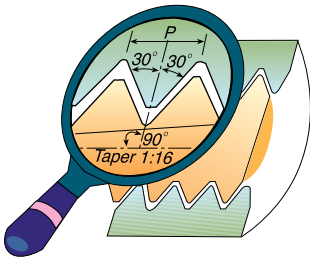


Pitch TPI	Insert Size = A				
	12	14	21	30	40
19	12-19 BSPT	14-19 BSPT			
14		14-14 BSPT	21-14 BSPT		
11			21-11 BSPT	30-11 BSPT	40-11 BSPT
H	6.3	7.5	12	16	20
T	2.9	3.1	4.7	5.5	6.3

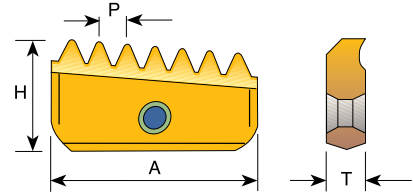
Order example: 14-19 BSPT MT7

For conical preparation end mills see page 219

NPT



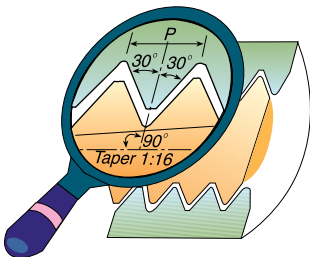
Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.



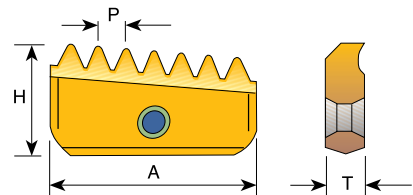
Pitch TPI	Insert Size = A				
	12	14	21	30	40
18	12-18 NPT	14-18 NPT			
14		14-14 NPT	21-14 NPT		
11.5			21-11.5 NPT	30-11.5 NPT	40-11.5 NPT
8				30- 8 NPT	40- 8 NPT
H	6.3	7.5	12	16	20
T	2.9	3.1	4.7	5.5	6.3

Order example: 30-11.5 NPT MT7

NPTF



Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.

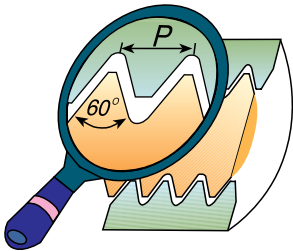


Pitch TPI	Insert Size = A				
	12	14	21	30	40
18	12-18 NPTF	14-18 NPTF			
14		14-14 NPTF	21-14 NPTF		
11.5			21-11.5 NPTF	30-11.5 NPTF	40-11.5 NPTF
8				30- 8 NPTF	40- 8 NPTF
H	6.3	7.5	12	16	20
T	2.9	3.1	4.7	5.5	6.3

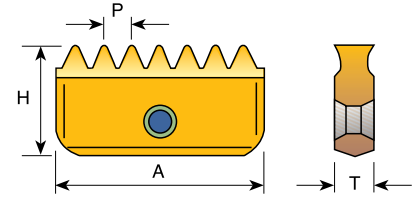
Order example: 21-14 NPTF MT7

For conical preparation end mills see page 219

NPS



Same Insert for External and Internal thread

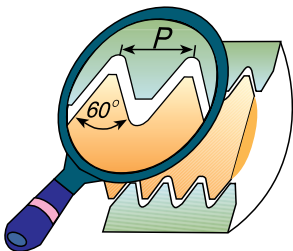


Pitch TPI	Insert Size = A				
	12	14	21	30	40
18	* 12-18 NPS	14-18 NPS			
14		14-14 NPS	21-14 NPS		
11.5			21-11.5 NPS	30-11.5 NPS	40-11.5 NPS
8				30- 8 NPS	40- 8 NPS
H	6.3	7.5	12	16	20
T	2.9	3.1	4.7	5.5	6.3

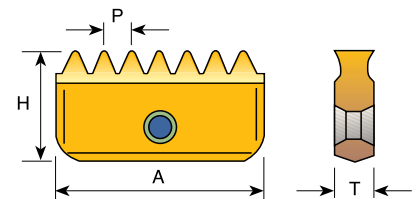
Order example: 30-11.5 NPS MT7

* One cutting edge

NPSF



Same Insert for External and Internal thread

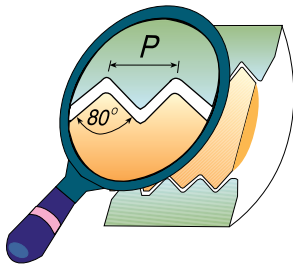


Pitch TPI	Insert Size = A				
	12	14	21	30	40
18	* 12-18 NPSF	14-18 NPSF			
14		14-14 NPSF	21-14 NPSF		
11.5			21-11.5 NPSF	30-11.5 NPSF	40-11.5 NPSF
8				30- 8 NPSF	40- 8 NPSF
H	6.3	7.5	12	16	20
T	2.9	3.1	4.7	5.5	6.3

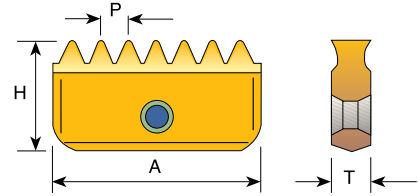
Order example: 21-14 NPSF MT7

* One cutting edge

PG - DIN 40430



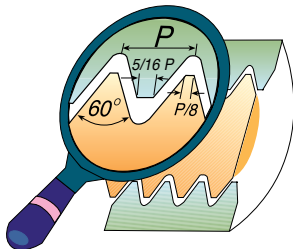
Same Insert for External and Internal thread



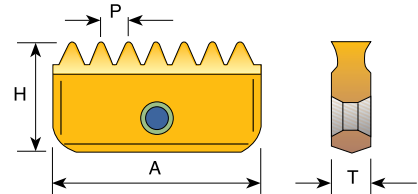
Pitch TPI	Insert Size = A		
	14	21	30
18	14-18 PG (PG 9, 11, 13.5, 16)	21-18 PG (PG 16)	
16		21-16 PG (PG 21, 29, 36, 42, 48)	30-16 PG (PG 36, 42, 48)
H	7.5	12	16
T	3.1	4.7	5.6

Order example: 21-18 PG MT7

UNJ



Inserts for External thread

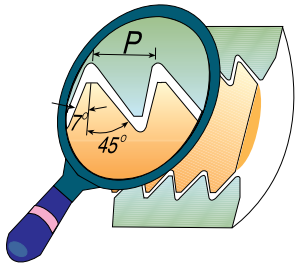


Pitch TPI		Insert Size = A	
		14	21
24	Ext.	14 E 24 UNJ	21 E 24 UNJ
20	Ext.	14 E 20 UNJ	21 E 20 UNJ
18	Ext.	14 E 18 UNJ	21 E 18 UNJ
16	Ext.	14 E 16 UNJ	21 E 16 UNJ
14	Ext.	14 E 14 UNJ	21 E 14 UNJ
12	Ext.	14 E 12 UNJ	21 E 12 UNJ
H		7.5	12
T		3.1	4.7

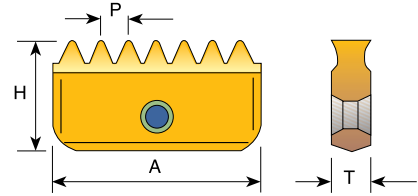
Order example: 21E 16 UNJ MT7

For internal UNJ threads it is common to use UN inserts as partial profile.

American Buttress



ABUT thread inserts are one-sided and may be used for both External and Internal threading

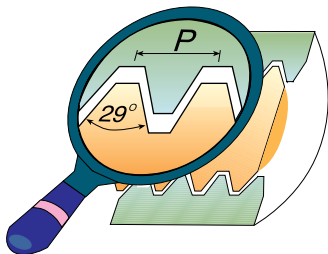


Pitch TPI	Insert Size = A		
	21	30	40
16	21 - 16 ABUT	30 - 16 ABUT	
12	21 - 12 ABUT	30 - 12 ABUT	
10	21 - 10 ABUT	30 - 10 ABUT	
8	21 - 8 ABUT	30 - 8 ABUT	
6		30 - 6 ABUT	
4		* 30 - 4 ABUT	40 - 4 ABUT
H	12	16	20
T	4.7	5.6	6.3

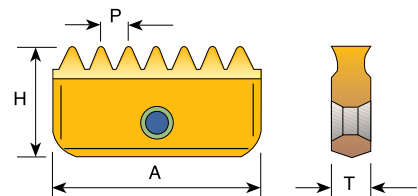
Order example: 30 - 6 ABUT MT7

* Inserts to be used only on Multi-Insert toolholders see page 155

ACME



Inserts for Internal threads



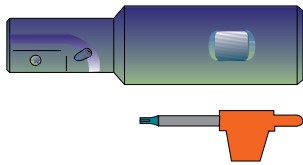
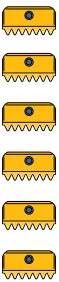
Pitch TPI		Insert Size = A		
		21	30	40
12	Int.	21 12 ACME	30 12 ACME	
10	Int.	21 10 ACME	30 10 ACME	
8	Int.	21 8 ACME	30 8 ACME	
6	Int.		30 6 ACME	
5	Int.		30 5 ACME	
4	Int.		* 30 4 ACME	40 4 ACME
3.5	Int.			40 3.5 ACME
3	Int.			** 40 3 ACME
H		12	16	20
T		4.7	5.6	6.3

Order example: 21 | 8 ACME MT7

* Inserts to be used only on Multi-Insert toolholders see page 155

** One cutting edge

Internal ISO Kits



MTK 12 ISO	MTK 14 ISO
<u>INSERTS</u>	<u>INSERTS</u>
12 0.75 ISO	14 1.0 ISO 2 Psc
12 1.0 ISO 2 Psc	14 1.5 ISO 2 Psc
12 1.25 ISO	14 2.0 ISO 2 Psc
12 1.5 ISO 2 Psc	
<u>TOOLHOLDER</u>	<u>TOOLHOLDER</u>
SR 0009 H12	SR 0017 H14
<u>KEY</u>	<u>KEY</u>
K12	K14
<u>SCREW</u>	<u>SCREW</u>
S12	S14

Order example : MTK 14 | ISO

Special Tools



In addition to standard products, Carmex manufactures special tools and inserts according to customers' requests. Special tools are supplied in short delivery times.

