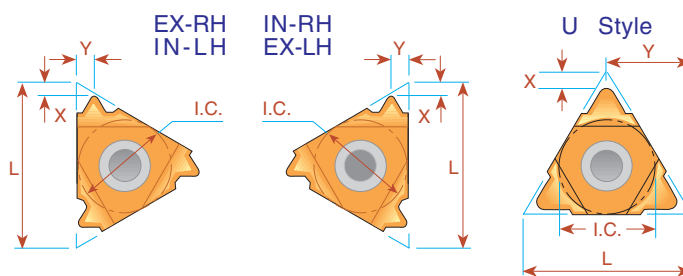
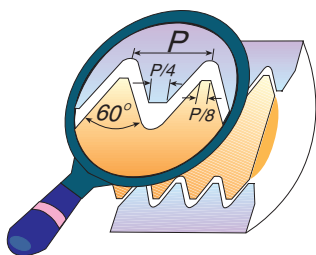
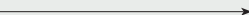
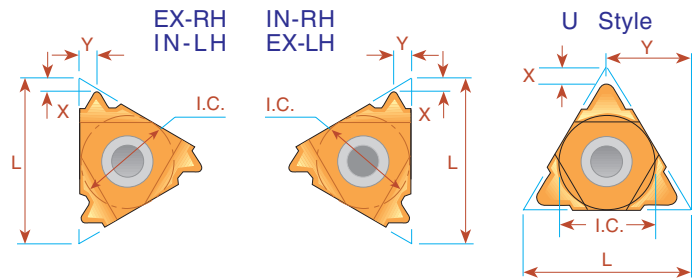
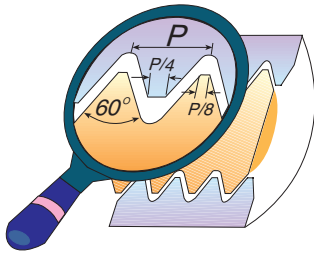


UN - Unified UNC, UNF, UNEF, UNS



Pitch TPI	L	I.C. in	EXTERNAL			INTERNAL			
			Ordering Code		X	Y	Ordering Code		X
			Right Hand	Left Hand		Right Hand	Left Hand		
32	6	5/32	ULTRA MINIATURE 			*06 IR 32 UN	*06 IL 32 UN	0.8	0.5
28	6	5/32				*06 IR 28 UN	*06 IL 28 UN	0.8	0.6
24	6	5/32				*06 IR 24 UN	*06 IL 24 UN	0.7	0.6
20	6	5/32				*06 IR 20 UN	*06 IL 20 UN	0.6	0.6
18	6	5/32				*06 IR 18 UN	*06 IL 18 UN	0.6	0.7
32	8	3/16	MINIATURE 			*08 IR 32 UN	*08 IL 32 UN	0.6	0.5
28	8	3/16				*08 IR 28 UN	*08 IL 28 UN	0.6	0.6
24	8	3/16				*08 IR 24 UN	*08 IL 24 UN	0.6	0.6
20	8	3/16				*08 IR 20 UN	*08 IL 20 UN	0.6	0.7
18	8	3/16				*08 IR 18 UN	*08 IL 18 UN	0.6	0.7
16	8	3/16				*08 IR 16 UN	*08 IL 16 UN	0.6	0.7
14	8	3/16				*08 IR 14 UN	*08 IL 14 UN	0.6	0.8
13	8U	3/16U	"U" MINIATURE 			*08U IR/L 13 UN		1.0	4.0
12	8U	3/16U				*08U IR/L 12 UN		0.9	4.0
11	8U	3/16U				*08U IR/L 11 UN		0.9	4.0
72	11	1/4	11 ER 72 UN	11 EL 72 UN	0.8 0.4	11 IR 72 UN	11 IL 72 UN	0.8	0.3
64	11	1/4	11 ER 64 UN	11 EL 64 UN	0.8 0.4	11 IR 64 UN	11 IL 64 UN	0.8	0.4
56	11	1/4	11 ER 56 UN	11 EL 56 UN	0.7 0.4	11 IR 56 UN	11 IL 56 UN	0.7	0.4
48	11	1/4	11 ER 48 UN	11 EL 48 UN	0.6 0.6	11 IR 48 UN	11 IL 48 UN	0.6	0.6
44	11	1/4	11 ER 44 UN	11 EL 44 UN	0.6 0.6	11 IR 44 UN	11 IL 44 UN	0.6	0.6
40	11	1/4	11 ER 40 UN	11 EL 40 UN	0.6 0.6	11 IR 40 UN	11 IL 40 UN	0.6	0.6
36	11	1/4	11 ER 36 UN	11 EL 36 UN	0.6 0.6	11 IR 36 UN	11 IL 36 UN	0.6	0.6
32	11	1/4	11 ER 32 UN	11 EL 32 UN	0.6 0.6	11 IR 32 UN	11 IL 32 UN	0.6	0.6
28	11	1/4	11 ER 28 UN	11 EL 28 UN	0.6 0.7	11 IR 28 UN	11 IL 28 UN	0.6	0.7
27	11	1/4	11 ER 27 UN	11 EL 27 UN	0.7 0.8	11 IR 27 UN	11 IL 27 UN	0.7	0.8
24	11	1/4	11 ER 24 UN	11 EL 24 UN	0.7 0.8	11 IR 24 UN	11 IL 24 UN	0.7	0.8
20	11	1/4	11 ER 20 UN	11 EL 20 UN	0.8 0.9	11 IR 20 UN	11 IL 20 UN	0.8	0.9
18	11	1/4	11 ER 18 UN	11 EL 18 UN	0.8 1.0	11 IR 18 UN	11 IL 18 UN	0.8	1.0
16	11	1/4	11 ER 16 UN	11 EL 16 UN	0.9 1.1	11 IR 16 UN	11 IL 16 UN	0.9	1.1
14	11	1/4	11 ER 14 UN	11 EL 14 UN	0.9 1.1	11 IR 14 UN	11 IL 14 UN	0.9	1.1
13	11	1/4				11 IR 13 UN	11 IL 13 UN	0.8	1.0
12	11	1/4				11 IR 12 UN	11 IL 12 UN	0.9	1.1
11	11	1/4				11 IR 11 UN	11 IL 11 UN	0.8	1.1
72	16	3/8	16 ER 72 UN	16 EL 72 UN	0.8 0.4	16 IR 72 UN	16 IL 72 UN	0.8	0.3
64	16	3/8	16 ER 64 UN	16 EL 64 UN	0.8 0.4	16 IR 64 UN	16 IL 64 UN	0.8	0.4
56	16	3/8	16 ER 56 UN	16 EL 56 UN	0.7 0.4	16 IR 56 UN	16 IL 56 UN	0.7	0.4
48	16	3/8	16 ER 48 UN	16 EL 48 UN	0.6 0.6	16 IR 48 UN	16 IL 48 UN	0.6	0.6
44	16	3/8	16 ER 44 UN	16 EL 44 UN	0.6 0.6	16 IR 44 UN	16 IL 44 UN	0.6	0.6
40	16	3/8	16 ER 40 UN	16 EL 40 UN	0.6 0.6	16 IR 40 UN	16 IL 40 UN	0.6	0.6
36	16	3/8	16 ER 36 UN	16 EL 36 UN	0.6 0.6	16 IR 36 UN	16 IL 36 UN	0.6	0.6

UN - Unified UNC, UNF, UNEF, UNS

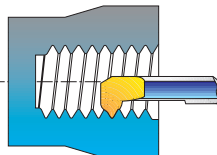


Pitch TPI	L	I.C. in	EXTERNAL		X	Y	INTERNAL		X	Y
			Ordering Code Right Hand	Ordering Code Left Hand			Ordering Code Right Hand	Ordering Code Left Hand		
32	16	3/8	16 ER 32 UN	16 EL 32 UN	0.6	0.6	16 IR 32 UN	16 IL 32 UN	0.6	0.6
28	16	3/8	16 ER 28 UN	16 EL 28 UN	0.6	0.7	16 IR 28 UN	16 IL 28 UN	0.6	0.7
27	16	3/8	16 ER 27 UN	16 EL 27 UN	0.7	0.8	16 IR 27 UN	16 IL 27 UN	0.7	0.8
24	16	3/8	16 ER 24 UN	16 EL 24 UN	0.7	0.8	16 IR 24 UN	16 IL 24 UN	0.7	0.8
20	16	3/8	16 ER 20 UN	16 EL 20 UN	0.8	0.9	16 IR 20 UN	16 IL 20 UN	0.8	0.9
18	16	3/8	16 ER 18 UN	16 EL 18 UN	0.8	1.0	16 IR 18 UN	16 IL 18 UN	0.8	1.0
16	16	3/8	16 ER 16 UN	16 EL 16 UN	0.9	1.1	16 IR 16 UN	16 IL 16 UN	0.9	1.1
14	16	3/8	16 ER 14 UN	16 EL 14 UN	1.0	1.2	16 IR 14 UN	16 IL 14 UN	0.9	1.2
13	16	3/8	16 ER 13 UN	16 EL 13 UN	1.0	1.3	16 IR 13 UN	16 IL 13 UN	1.0	1.3
12	16	3/8	16 ER 12 UN	16 EL 12 UN	1.1	1.4	16 IR 12 UN	16 IL 12 UN	1.1	1.4
11.5	16	3/8	16 ER 11.5 UN	16 EL 11.5 UN	1.1	1.5	16 IR 11.5 UN	16 IL 11.5 UN	1.1	1.5
11	16	3/8	16 ER 11 UN	16 EL 11 UN	1.1	1.5	16 IR 11 UN	16 IL 11 UN	1.1	1.5
10	16	3/8	16 ER 10 UN	16 EL 10 UN	1.1	1.5	16 IR 10 UN	16 IL 10 UN	1.1	1.5
9	16	3/8	16 ER 9 UN	16 EL 9 UN	1.2	1.7	16 IR 9 UN	16 IL 9 UN	1.2	1.7
8	16	3/8	16 ER 8 UN	16 EL 8 UN	1.2	1.6	16 IR 8 UN	16 IL 8 UN	1.1	1.5
7	22	1/2	22 ER 7 UN	22 EL 7 UN	1.6	2.3	22 IR 7 UN	22 IL 7 UN	1.6	2.3
6	22	1/2	22 ER 6 UN	22 EL 6 UN	1.6	2.3	22 IR 6 UN	22 IL 6 UN	1.6	2.3
5	22	1/2	22 ER 5 UN	22 EL 5 UN	1.7	2.5	22 IR 5 UN	22 IL 5 UN	1.6	2.3
4.5	22U	1/2U	22U ER/L 4.5 UN		2.0	11.0	22U IR/L 4.5 UN		2.4	11.0
4	22U	1/2U	22U ER/L 4 UN		2.0	11.0	22U IR/L 4 UN		2.4	11.0
4.5	27	5/8	27 ER 4.5 UN	27 EL 4.5 UN	1.9	2.7	27 IR 4.5 UN	27 IL 4.5 UN	1.7	2.4
4	27	5/8	27 ER 4 UN	27 EL 4 UN	2.1	3.0	27 IR 4 UN	27 IL 4 UN	1.8	2.7
3	27U	5/8U	27U ER/L 3 UN		2.5	13.7	27U IR/L 3 UN		2.7	13.7
2	33U	3/4U	33U ER/L 2 UN		2.8	16.5	33U IR/L 2 UN		3.6	16.9

Order example: 16 ER 12 UN BMA

For small bore threading see page 147

* Available only in BXC grade



Carbide Grade Selection

Choose the C.P.T. grade specifically formulated for your application from the following list:

Uncoated Grades

P30* (P20-P30)	Carbide grade for carbon and cast steels, works well at medium to low cutting speeds.
K20* (K10-K30)	Carbide grade for non ferrous metals, aluminum and cast iron.

Coated Grades

P25C (P15-P35)	PVD TiN coated grade for treated and hard alloy steels (25 HRC & up) at medium to low cutting speeds.
MXC (K10-K20) (P10-P25)	PVD TiN coated micrograin for free cutting untreated alloy steels (below 30 HRC), for stainless steels and cast iron.
BMA (P20-P40) (K20-K30)	PVD TiAlN coated sub-micrograin grade for stainless steels and exotic materials at medium to high cutting speeds.
BXC** (P30-P50) (K25-K40)	PVD TiN coated grade for low cutting speed. Works well with wide range of stainless steels.

Note: Due to our unique and specialized production techniques, C.P.T. coated inserts provide superior cutting performance and exceptionally long tool life.

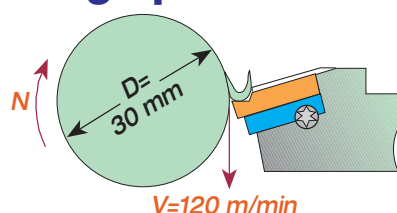
Recommended cutting speed (m/min) for thread turning inserts

ISO Standard	Materials	Coated				Uncoated	
		P25C*	MXC	BMA	BXC**	P30*	K20*
P	Steel: Low & Medium Carbon Steels	80-160	90-160	100-180	20-100	70-120	
	High Carbon Steels	80-120	80-150	90-160	30-80	60-100	
	Alloy Steels, Treated Steels	50-100	80-120	90-120	40-90	50-80	
	Cast Steel	80-140	100-140	120-160	30-80	50-100	
M	Stainless steel: Cast steels Stainless austenitic and austenitic ferritic steel and cast steel		70-120	90-130	30-90	70-100	80-100
K	Cast iron: Grey cast iron, cast iron with spherical graphite, malleable cast iron		80-130	80-150	30-90		60-100
N	Nonferrous Metal: Aluminium and other nonferrous metals, copper alloys non metallic		300-600		20-200		120-200
S	Super-alloys and Titanium: Heat resistant special alloys based on iron, nickel and cobalt, titanium and titanium alloys		40-80	50-100	15-30		
H	Hard Materials: Hardened steel, hardened cast iron materials, chilled cast iron		20-40	30-50	15-30		

- Upon request
- For miniature and ultra miniature insert

Conversion of Cutting Speed to Rotational Speed

Conversion of a selected cutting speed to rotational speed is calculated by the following formula:

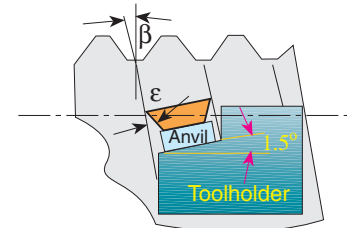
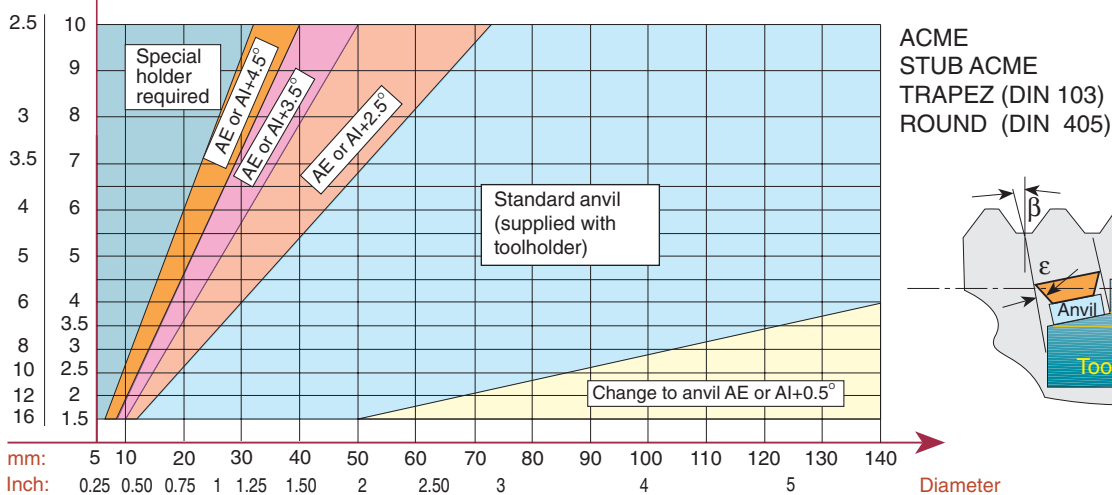


Example

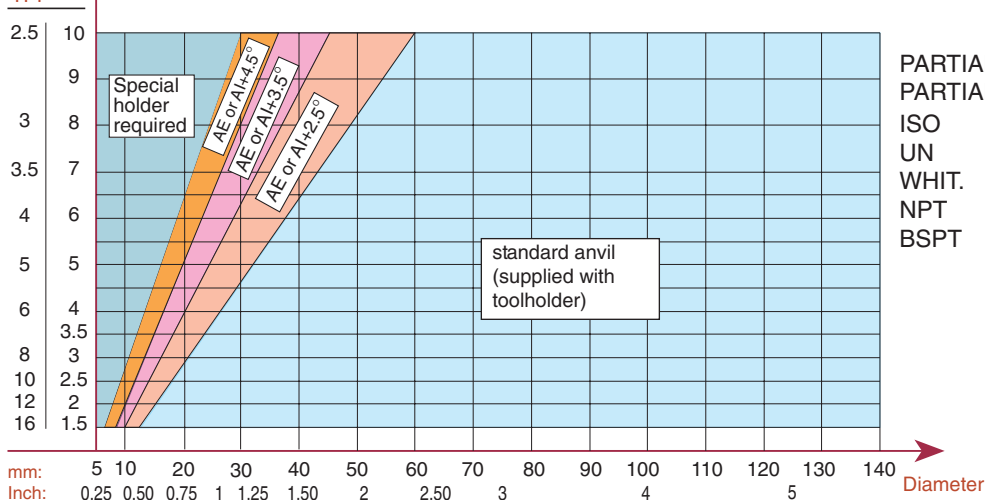
$$N = \frac{V \times 1000}{\pi \times D} = \frac{120 \times 1000}{3.14 \times 30} = 1274 \text{ RPM}$$

Anvil Change Recommendation

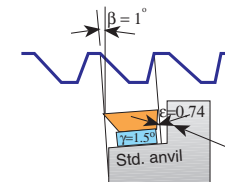
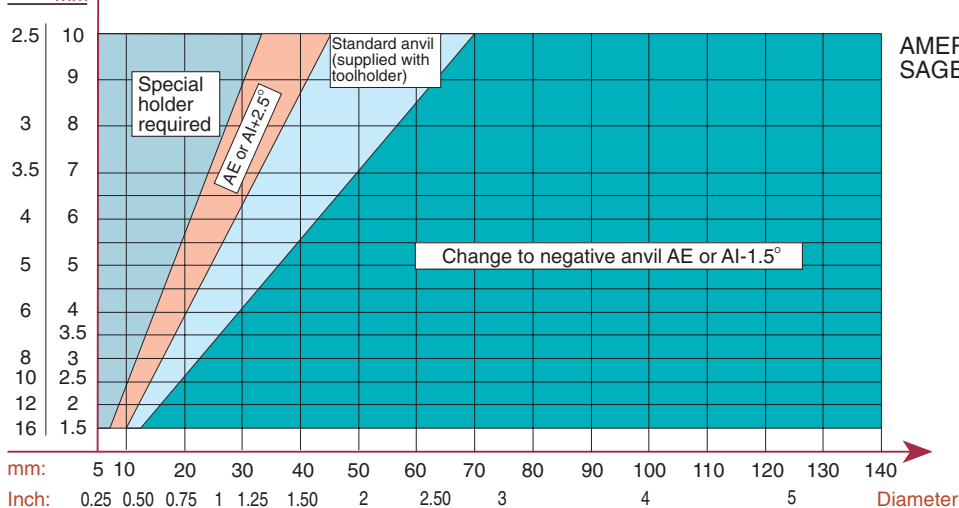
As can be seen from the chart, some Pitch to Diameter combinations require an anvil change. If change is required, use AE anvils for EX-RH and IN-LH toolholders and AI anvils for IN-RH and EX-LH toolholders.



As can be seen from the chart, most applications do not require an anvil change. If change is required, use AE anvils for EX-RH and IN-LH toolholders and AI anvils for IN-RH and EX-LH toolholders

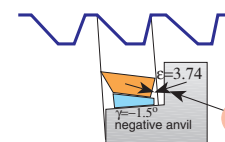


As can be seen from the chart, most applications require an anvil change. In most cases a negative anvil is required. use AE anvils for EX-RH



Before Anvil change

Replacing the standard anvil with an anvil with negative angle, will eliminate side rubbing



After Anvil Change