

INSERTS FOR GENERAL TURNING

Inserts, metric

C	N	M	G	12	04	08	-			-	PF
1	2	3	4	5	6	7		8	9		12

Inserts, inch

C	N	M	G	4	3	2	-			-	PF
1	2	3	4	5	6	7		8	9		12

Inserts, advanced cutting materials, metric

C	N	M	G	12	04	08	-	T	010	20
1	2	3	4	5	6	7		8	10	11

Inserts, advanced cutting materials, inch

C	N	G	A	4	3	2	-	T	03	20
1	2	3	4	5	6	7		8	10	11

4 Insert type

A		Q	
G		R	
M		T	
N		W	
P		X	 Special design

5 Insert size

Inscribed circle, inch	Cutting edge length, metric	Cutting edge length, metric							
		C	D	R	S	T	V	W	K
	<i>iC</i> mm								
	<i>iC</i> inch								
3.18	1/8"					05			
3.97	5/32"					06			
5.0				05					
9.525	3/8"					09			
6.0		06							
6.35	1/4"	07				11	11		
8.0				08					
9.525	3/8"	09	11	09	09	16	16	06	16 ¹⁾
10.0				10					
12.0				12					
12.7	1/2"	12	15	12	12	22	22	08	
15.875	5/8"	16		15	15	27			
16.0				16					
19.05	3/4"	19		19	19	33			
20.0				20					
25.0				25 ¹⁾					
25.4	1"	25		25 ²⁾	25				
31.75	1 1/4"			31					
32				32					

¹⁾ For insert shape K (KNMX, KNUX) only the theoretical cutting edge length is indicated.

¹⁾ Metric base design
²⁾ Inch base design

1 Insert shape

C	D
K	R
S	T
V	W

3 Tolerances, metric

Class	s	<i>iC</i> / <i>iW</i>
G	±0.13	±0.025
M	±0.13	±0.05 - ±0.15 ¹⁾
U	±0.13	±0.08 - ±0.25 ¹⁾
E	±0.025	±0.025

¹⁾Varies depending on the size of *iC*. See below.

Inscribed circle <i>iC</i> mm	Tolerance class	
	M	U
3.97		
5.0		
5.56		
6.0	±0.05	±0.08
6.35		
8.0		
9.525		
10.0		
12.0	±0.08	±0.13
12.7		
15.875		
16.0	±0.10	±0.18
19.05		
20.0		
25.0	±0.13	±0.25
25.4		
31.75	±0.15	±0.25
32.0		

3 Tolerances, inch

Class	B:	A:	T:
A	±.0002	±.001	±.001
B	.0002	.001	.005
C	.0005	.001	.001
D	.0005	.001	.005
E	.001	.001	.001
F	.0002	.0005	.001
G	.001	.001	.005
H	.0005	.0005	.001
J	.0002	.002-.005	.001
K	.0005	.002-.005	.001
L	.001	.002-.005	.001
M	.002-.005	.002-.005	.005
U	.005-.012	.005-.010	.005
N	.002-.010	.002-.004	.001

Tolerances in inch

A: Theoretical diameter of the insert
T: Thickness of the insert.
B: See figures.

2 Insert clearance angle

B	C
E	N
P	O Specific description

6 Insert thickness, s mm, inch

Metric	Inch
01 s = 1.59	1. s = .0625
T1 s = 1.98	(1.2) s = .075
02 s = 2.38	(1.5) s = 3/32
03 s = 3.18	2 s = 1/8
T3 s = 3.97	(2.5) s = 5/32
04 s = 4.76	3 s = 3/16
05 s = 5.56	4 s = 1/4
06 s = 6.35	5 s = 5/16
07 s = 7.94	6 s = 3/8
09 s = 9.52	6.3 s = .394
10 s = 10.00	7.6 s = .475
12 s = 12.00	

7 Nose radius, r_c mm, inch

Metric:	Inch:	Actual
00 = 0	00	Round
01 = 0.1	03	.004
02 = 0.2	0	.008
04 = 0.4	1 = 1/64	.0156
05 = 0.5		
08 = 0.8	2 = 1/32	.0312
10 = 1.0		
12 = 1.2	3 = 3/64	.047
15 = 1.5		
16 = 1.6	4 = 1/16	.0625
24 = 2.4	6 = 3/32	.094
32 = 3.2	8 = 1/8	.125

Note: See example for approximation of metric nose radius. 16=1.6mm=.063≈.0625

8 Cutting edge condition

F	Sharp cutting edge
A	ER treated cutting edge
E	ER treated cutting edge
T	Negative land
K	Double negative lands
S	Negative land and ER treated

9 Hand of tool

R
L
N

10 Chamfer width metric, inch

Metric:
010 byn = 0.10
025 byn = 0.25
070 byn = 0.70
150 byn = 1.50
200 byn = 2.00

Inch:
03 byn = .003
08 byn = .008
30 byn = .030
60 byn = .060
80 byn = .080

For more information, see code key on page A66

11 Chamfer angle

	15 γ _n = 15° 20 γ _n = 20°
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12 Manufacturer's option

The ISO code consists of nine symbols including 8 and 9 which are used only when required. In addition the manufacturer may add further three symbols e. g.	<ul style="list-style-type: none"> - WF = Wiper – finishing - WMX = Wiper, medium machining - PF = ISO P – finishing - PR = ISO P – roughing
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