

MILLING INSERT IDENTIFICATION SYSTEM

Symbol	Shape
H	Hexagon
O	Octagon
P	Pentagon
S	Square
T	Triangle
C	80° Diamond
D	55° Diamond
E	75° Diamond
F	50° Diamond
M	86° Diamond
V	35° Diamond
W	Trigon
L	Rectangle
A	85° Parallelogram
B	82° Parallelogram
K	55° Parallelogram
R	Round

Shown angle stands for acute angle for rhombic and parallelogram inserts.

Symbol	Relief Angle
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
O	Other Angles

Symbol (Class)	Corner Height		Thickness		I.C. Size	
	ANSI (±inch)	ISO (±mm)	ANSI (±inch)	ISO (±mm)	ANSI (±inch)	ISO (±mm)
A	0.0002	0.005			0.0010	0.025
F					0.0005	0.013
C	0.0005	0.013			0.0010	0.025
H					0.0005	0.013
E	0.0010	0.025	0.0010	0.025		
G			0.0050	0.130	0.0010	0.025
J	0.0002	0.005				
K*	0.0005	0.013	0.0010	0.025		
L*	0.0010	0.025			0.002-0.006	0.05-0.15
M*	0.003-0.007	0.080-0.180	0.0050	0.130		
N*			0.0010	0.025		
U*	0.005-0.015	0.130-0.380	0.0050	0.130	0.003-0.009	0.08-0.25
R	Blank with grind stock on all surfaces					
S	Blank with grind stock on top and bottom surface only					

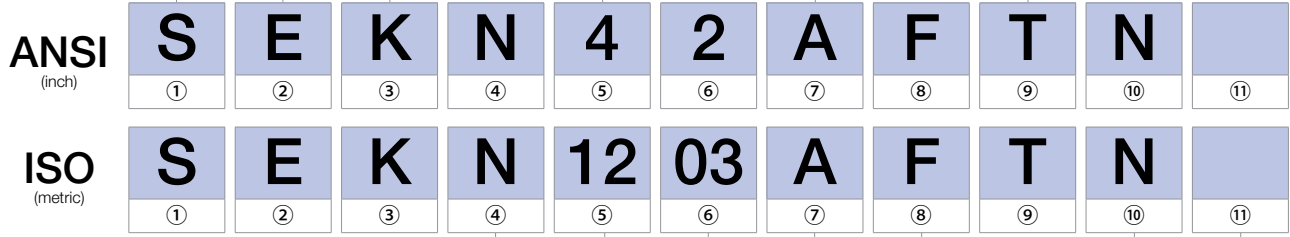
Insert's periphery is as fired.
* Tolerance difference depends on size and shape of insert

I.C. Size (inch)	Symbol
5/32	1.2
3/16	1.5
7/32	1.8
1/4	2
5/16	2.5
3/8	3
7/16	3.5
1/2	4
9/16	4.5
5/8	5
11/16	5.5
3/4	6
7/8	7
1	8
1-1/4	10

Inserts with Radius			
0	Sharp Corner	4	1/16" Radius
1	1/64" Radius	6	3/32" Radius
2	1/32" Radius	8	1/8" Radius
3	3/64" Radius		

Insert with Wiper Flats	
A	Square Insert 45° Chamfer
D	Square Insert 30° Chamfer
E	Square Insert 15° Chamfer
F	Square Insert 3° Chamfer
K	Square Insert 30° Double Chamfer
L	Square Insert 15° Double Chamfer
M	Square Insert 3° Double Chamfer
N	Truncated Triangle Insert
P	Flatted Corner Triangle
X	Triangle Insert 15° Double Chamfer

Symbol	Insert
F	Sharp Edge
E	R-honed
T	Chamfered
S	Chamfered + R-honed



④ Hole / Chipbreaker		⑤ Edge Length Symbol (ISO)		⑥ Thickness				⑦ Cutting Edge Angle		⑧ Relief Angle		⑩ Tool Hand		⑪ Manufacturer's Option
Symbol	Insert	Symbol	Diagram	ISO		ANSI		Symbol	Cutting Edge Angle	Symbol	Relief Angle	R	Right-hand	Chipbreaker, etc.
				Thickness (mm)	Symbol	Thickness (inch)	Symbol					L	Left-hand	
W	No Chipbreaker with Hole	S		1.59	01	1/16	1	A	45°	A	3°	N	Neutral	
T	Single-sided Chipbreaker with Hole	T		1.98	T1	5/64	1.2	D	60°	B	5°			
F	Double-sided Chipbreaker without Hole	F		2.38	02	3/32	1.5	E	75°	C	7°			
N	No Chipbreaker without Hole	R		2.78	T2	-	-	F	85°	D	15°			
R	Single-sided Chipbreaker without Hole	A, N		3.18	03	1/8	2	H	87°	E	20°			
M	Single-sided Chipbreaker with Hole	O		3.97	T3	5/32	2.5	P	90°	F	25°			
A	No Chipbreaker with Hole	P		4.76	04	3/16	3	X	65°	G	30°			
		W		5.56	05	7/32	3.5			N	0°			
				6.35	06	1/4	4			P	11°			
				7.94	07	5/16	5			R	10°			
				9.525	09	3/8	6			S	14°			
										T	22°			
										U	23°			

Thickness displayed as the distance between bottom surface and highest point on cutting edge.

⑦⑧ Corner-R(re)			
ISO		ANSI	
Symbol	Corner-R(re) (mm)	Symbol	Corner-R(re) (inch)
04	0.40	1	1/64
08	0.80	2	1/32
12	1.20	3	3/64
16	1.60	4	1/16
20	2.00	5	5/64

- GRADES **A**
- LINEUP / INSERTS **B**
- 45° / 70° LEAD **C**
- 75° LEAD **D**
- 90° LEAD **E**
- HIGH FEED **F**
- MULTI-FUNCTION **G**
- SLOT MILLS **H**
- RADIUS / BALL-NOSE **J**
- OTHER APPLICATIONS **K**
- TOOL HOLDING **O**
- SPARE PARTS **P**
- TECHNICAL **R**
- INDEX **T**