

Turning Indexable Inserts Identification System

B



Insert (Turning)

Symbol	Shape
H	120°Hexagon
O	135°Octagon
P	108°Pentagon
S	90°Square
T	60°Triangle
C	80°Rhombic
D	55°Rhombic
E	75°Rhombic
F	50°Rhombic
M	86°Parallelogram
V	35°Rhombic
W	80°Trigon
L	90°Rectangle
A	85°Parallelogram
B	82°Parallelogram
K	55°Parallelogram
R	Round

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

① Shape Symbol

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

② Relief Angle Symbol

Symbol (class)	Tolerance (mm)		
	Corner Height	Thickness	I.C. Size
A	±0.005	±0.025	±0.025
F			±0.013
C			±0.025
H	±0.013		
E	±0.025		
G	±0.13		
J	±0.005	±0.05~±0.15	
K*	±0.013		
L*	±0.025		
M*	±0.08~±0.18		
N*	±0.025		
U*	±0.13~±0.38		

*Insert's periphery is as fired.
Tolerance difference is depending on insert size.

③ Tolerance Symbol

Symbol	Hole	Hole Shape	Inserts Chipbreaker	Shape
N	No	-	No	
R			One Side	
F			Two Sides	
A	With Hole	With Hole	No	
M			One Side	
G		Two Sides		
W		With Hole and One Countersink 40°-60°	No	
T			One Side	
Q		With Hole and Two Countersink 40°-60°	No	
U			Two Sides	
B		With Hole and One Countersink 70°-90°	No	
H			One Side	
C		With Hole and Two Countersink 70°-90°	No	
J	Two Sides			
X	-	-	-	-

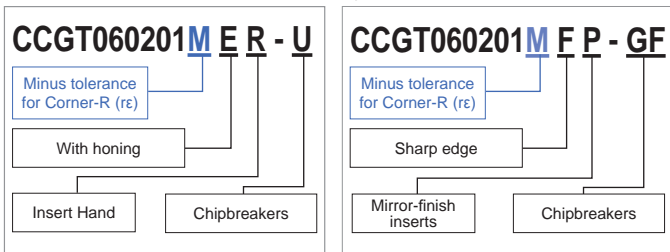
④ Hole / Chipbreaker Symbol



⑤ Edge Length Symbol (ISO)							I.C. Size (mm)	⑤ I.C. Size (ANSI)		⑥ Thickness Symbol				⑦ Corner-R (rε) Symbol				⑧ Manufacturer's Option Hand Symbol, Chipbreaker Symbol, etc.
C	D	R	S	T	V	W		IC Size (inch)	Symbol	ISO		ANSI		ISO		ANSI		
03	04		03	06			3.97	5/32	1.2	Thickness (mm)	Symbol	Thickness (inch)	Symbol	Corner-R (rε: mm)	Symbol	Corner-R (rε: inch)	Symbol	
04	05		04	08	08		4.76	3/16	1.5	1.59	01	1/16	1(2)	Sharp Corner	00	.000	00	
		05					5			2.38	02	3/32	1.5(3)	0.03	003	.001	0.1	
05	06		05	09			5.56	7/32	1.8	2.78	T2	-	-	0.1	01	.004	0.2	
		06					6			3.18	03	1/8	2	0.2	02	.008	0.5	
06	07		06	11	11	04	6.35	1/4	2	3.97	T3	5/32	2.5	0.4	04	1/64	1	
08	09		07	13		05	7.94	5/16	2.5	4.76	04	3/16	3	0.8	08	1/32	2	
		08					8			5.56	05	7/32	3.5	1.2	12	3/64	3	
09	11	09	09	16	16	06	9.525	3/8	3	6.35	06	1/4	4	1.6	16	1/16	4	
		10					10			7.94	07	5/16	5	2.0	20	5/64	5	
		12					12			9.525	09	3/8	6	2.4	24	3/32	6	
12	15	12	12	22	22	08	12.7	1/2	4					2.8	28	7/64	7	
16	19	15	15	27	27	10	15.875	5/8	5					3.2	32	1/8	8	
		16					16							Round Insert	00 (inch) or M0 (metric)	Round Insert	0	
19	23	19	19	33	33	13	19.05	3/4	6									
		20					20											
22	27	22	22	38			22.225	7/8	7									
		25					25											
25	31	25	25	44	44	17	25.4	1	8									
32	38	31	31	54	54	21	31.75	1-1/4	10									
		32					32											

- Expressed as edge length for ISO.
- ANSI expresses the inscribed circle diameter in inches.

● Positive Insert Identification System



● When a minus tolerance is specified for the corner-R (rε)

If a minus tolerance is specified for the corner-R (rε) as shown in Fig.1, using an insert with corner-R (rε) = 0.2 mm may result in larger radius than specified. Use an insert the corner of which R (rε) has a minor tolerance.

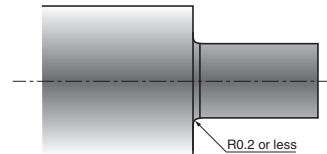


Fig.1 Example of a specified corner-R in the drawing