INSERT IDENTIFICATION SYSTEM

Symbol	Insert
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
J	70° Diamond
V	35° Diamond
W	80° 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.

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					
	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	0.0010	0.025
F	0.0002	0.005	0.0010	0.025	0.0005	0.013
C	0.0005	0.013	0.0010	0.025	0.0010	0.025
H	0.0005	0.013	0.0010	0.025	0.0005	0.013
E	0.0010	0.025	0.0010	0.025	0.0010	0.025
G	0.0010	0.025	0.0050	0.130	0.0010	0.025
J	0.0002	0.005	0.0010	0.025	0.002~0.006	0.05~0.15
K※	0.0005	0.013	0.0010	0.025	0.002~0.006	0.05~0.15
L※	0.0010	0.025	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	0.002~0.006	0.05~0.15
N※	0.003~0.007	0.080~0.180	0.0010	0.025	0.002~0.006	0.05~0.15
U※	0.005~0.015	0.130~0.380	0.0050	0.130	0.003~0.009	0.08~0.25

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

③ Tolerance Symbol

Symbol	Hole	Hole Shape	Chipbreaker	Insert
N	No	-	No	
R			One Side	
F			Two Sides	
A	Yes	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	-	-	-	-

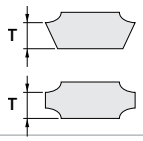
④ Hole / Chipbreaker Symbol

	①	②	③	④	⑤	⑥	⑦	⑧
ISO (metric)	C	N	M	G	12	04	08	PG
ANSI (inch)	C	N	M	G	4	3	2	PG

⑤ Edge Length Symbol (ISO)							I.C. Size (mm)	I.C. Size (ANSI)	
C	D	S	R	T	V	W		I.C. Size (inch)	Symbol
03	04		03	06			3.97	5/32	1.2
04	05		04	08	08		4.76	3/16	1.5
		05					5		
05	06		05	09		03	5.56	7/32	1.8
		06					6		
06	07		06	11	11	04	6.35	1/4	2
08	09		07	13		05	7.94	5/16	2.5
		08					8		
09	11	09	09	16	16	06	9.525	3/8	3
	12	10					10		
		12					12		
12	15	12	12	22	22	08	12.7	1/2	4
16	19	15	15	27	27	10	15.875	5/8	5
		16					16		
19	23	19	19	33	33	13	19.05	3/4	6
		20					20		
22	27		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.

⑥ Thickness Symbol			
ISO		ANSI	
Thickness (mm)	Symbol	Thickness (inch)	Symbol
1.59	01	1/16	1
1.98	T1	5/64	1.2
2.38	02	3/32	1.5
2.78	T2	-	-
3.18	03	1/8	2
3.97	T3	5/32	2.5
4.76	04	3/16	3
5.56	05	7/32	3.5
6.35	06	1/4	4
7.94	07	5/16	5
9.525	09	3/8	6



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

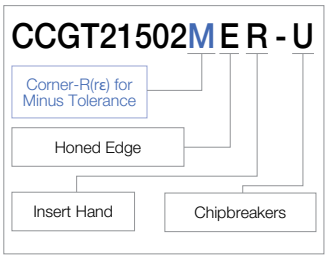
⑦ Corner-R(rε) Symbol			
ISO		ANSI	
Corner-R(rε) (mm)	Symbol	Corner-R(rε) (inch)	Symbol
Sharp Corner	00	0.000	00
0.03	003	0.001	0.1
0.05	005	0.002	0.13
0.10	01	0.004	0.2
0.20	02	0.008	0.5
0.40	04	1/64	1
0.80	08	1/32	2
1.20	12	3/64	3
1.60	16	1/16	4
2.00	20	5/64	5
2.40	24	3/32	6
2.80	28	7/64	7
3.20	32	1/8	8
Round insert	00 (inch) or MO (metric)	Round insert	

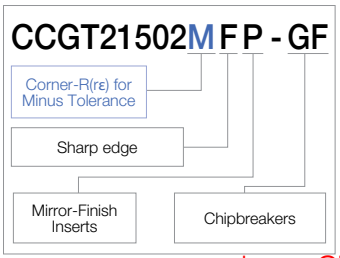
⑧ Manufacturer's Option

Hand Symbol, Chipbreaker, Symbol, Etc.

Positive Insert Identification System

(e.g. of (8) Manufacturer's Option)





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 the Fig.1, using an insert with corner-R(rε) = 0.008" may result in larger radius than specified.
- Use an insert the corner of which R(rε) has a minus tolerance.

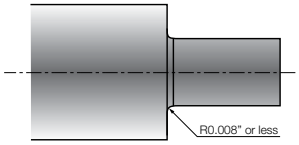


Fig.1 Example of a specified corner-R in the drawing