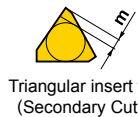
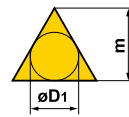
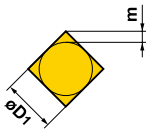


IDENTIFICATION

Symbol	Insert Shape	
H	Hexagonal	
O	Octagonal	
P	Pentagonal	
S	Square	
T	Triangular	
C	Rhombic 80°	
D	Rhombic 55°	
E	Rhombic 75°	
F	Rhombic 50°	
M	Rhombic 86°	
V	Rhombic 35°	
W	Trigon	
L	Rectangular	
A	Parallelogram 85°	
B	Parallelogram 82°	
K	Parallelogram 55°	
R	Round	
X	Special	



Triangular insert with a facet (Secondary Cutting Edge)

③ Symbol for Tolerance Class

Symbol	Tolerance of Nose Height m (inch)	Tolerance of Inscribed Circle øD1 (inch)	Tolerance of Thickness S1 (inch)
A	±.0002	±.001	±.001
F	±.0002	±.0005	±.001
C	±.0005	±.001	±.001
H	±.0005	±.0005	±.001
E	±.001	±.001	±.001
G	±.001	±.001	±.005
J	±.002	±.002	±.005
K*	±.0005	±.002 – ±.006	±.001
L*	±.001	±.002 – ±.006	±.001
M*	±.003 – ±.007	±.002 – ±.006	±.005
N*	±.003 – ±.007	±.002 – ±.006	±.001
U*	±.005 – ±.015	±.003 – ±.01	±.005

Detail of M Class Insert Tolerance

● Tolerance of Nose Height **m** (inch)

	I.C.	Triangular	Square	Rhombic 80°	Rhombic 55°	Rhombic 35°	Round
.250	±.003	±.003	±.003	±.003	±.004	±.0063	–
.375	±.003	±.003	±.003	±.003	±.004	±.0063	–
.500	±.005	±.005	±.005	±.005	±.006	–	–
.625	±.006	±.006	±.006	±.006	±.007	–	–
.750	±.006	±.006	±.006	±.006	±.007	–	–
1.000	–	±.007	–	–	–	–	–
1.250	–	±.008	–	–	–	–	–

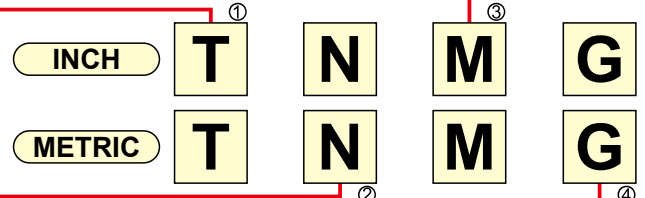
● Tolerance of Inscribed Circle **øD1** (inch)

	I.C.	Triangular	Square	Rhombic 80°	Rhombic 55°	Rhombic 35°	Round
.250	±.002	±.002	±.002	±.002	±.002	±.002	–
.375	±.002	±.002	±.002	±.002	±.002	±.002	±.002
.500	±.003	±.003	±.003	±.003	±.003	–	±.003
.625	±.004	±.004	±.004	±.004	±.004	–	±.004
.750	±.004	±.004	±.004	±.004	±.004	–	±.004
1.000	–	±.005	–	–	–	–	±.005
1.250	–	±.006	–	–	–	–	±.006

*As a rule, the sides of these inserts are as sintered. Tolerance differs with insert size. For the accuracy of class M, refer to the table on the right.

① Symbol for Insert Shape

③ Symbol for Tolerance Class



② Symbol for Relief Angle

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

Major Relief Angle

④ Symbol for Chipbreaker and Clamping System

Inch							Metric						
Figure	I.C. .250" and over	I.C. under .250"	Symbol	Hole	Hole Configuration	Chip Breaker	Figure	Symbol	Hole	Hole Configuration	Chip Breaker	Figure	
	A	D	W	With Hole	Cylindrical Hole + One Countersink (40–60°)	No		A	With Hole	Cylindrical Hole	No		
	M	P	T	With Hole	Cylindrical Hole + One Countersink (40–60°)	One Sided		M	With Hole	Cylindrical Hole	One Sided		
	G	K	Q	With Hole	Cylindrical Hole + Double Countersink (40–60°)	No		G	With Hole	Cylindrical Hole	Double Sided		
	N	E	U	With Hole	Cylindrical Hole + Double Countersink (40–60°)	Double Sided		N	Without Hole	–	No		
	R	S	B	With Hole	Cylindrical Hole + One Countersink (70–90°)	No		R	Without Hole	–	One Sided		
	F	L	H	With Hole	Cylindrical Hole + One Countersink (70–90°)	One Sided		F	Without Hole	–	Double Sided		
Special Design	X	X	C	With Hole	Cylindrical Hole + Double Countersink (70–90°)	No		X	–	–	–	Special Design	
			J	With Hole	Cylindrical Hole + Double Countersink (70–90°)	Double Sided							

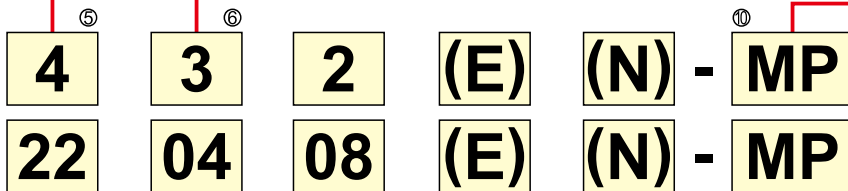
Inch		Diameter of Inscribed Circle (inch)	Metric						
I.C. .250" and over	I.C. under .250"								
	1.2 (5)	.156		02		04	03	03	06
	1.5 (6)	.187		L3	08	05	04	04	08
	1.8 (7)	.219		03	09	06	05	05	09
2		.250		04	11	07	06	06	11
2.5		.313		05	13	09	08	07	13
3		.375	09	06	16	11	09	09	16
4		.500	12	08	22	15	12	12	22
5		.625		10		19	16	15	27
6		.750	19	13		23	19	19	33
7		.875				27	22	22	38
8		1.000	25			31	25	25	44
10		1.250	31			38	32	31	54
		6.00mm	06						
		8.00mm	08						
		10.00mm	10						
		12.00mm	12						
		16.00mm	16						
		20.00mm	20						
		25.00mm	25						
		32.00mm	32						

⑤ Symbol for Insert Size

Thickness is from the bottom of the insert to the top of the cutting edge.

Inch		Thickness (inch)	Metric
I.C. .250" and over	I.C. under .250"		
-	0.9	.055	S1
-	1	.063	01
-	1.1	.070	T0
-	1.2	.078	T1
-	1.5 (3)	.094	02
-	1.8	.109	T2
2	-	.125	03
2.5	-	.156	T3
3	-	.187	04
3.5	-	.219	05
4	-	.25	06
5	-	.313	07
6	-	.375	09

⑥ Symbol for Insert Thickness



⑩ Symbol for Chip Breaker

LP	MP	RP
LM	MM	RM
MA	Standard	GH
FJ	MJ	GJ
FV	SV	MV
FH	SH	MH
HZ	HX	HV

⑦ Symbol for Insert Corner Configuration

Inch	Corner Radius (inch)	Metric
V0	Sharp Nose	00
V3	.0012	V3
V5	.002	V5
0.2	.004	01
0.5	.008	02
1	.016	04
2	.031	08
3	.047	12
4	.063	16
5	.079	20
6	.094	24
7	.110	28
8	.126	32
00	Round Insert	M0

⑧ Symbol for Cutting Edge Condition

Figure	Cutting Edge	Symbol
	Sharp Cutting Edges	F
	Round Cutting Edges	E
	Chamfered Cutting Edges	T
	Chamfered and Rounded Cutting Edges	S

Mitsubishi Materials omit the honing symbol.

⑨ Symbol for Cutting Direction

Figure	Hand	Symbol
	Right	R
	Left	L
	Neutral	N