

C **N** **M** **G** **12**

1 **2** **3** **4** **5**

Insert Shape Relief Angle Tolerance Cross Section Type Cutting Edge Length Diameter of Inscribed Circle

1 Insert Shape

C **N** **M** **G** **12** **04** **08** - MP

C D E K L
R S T V W

2 Relief Angle

C **N** **M** **G** **12** **04** **08** - MP

B C D E
F N P O

3 Tolerance

C **N** **M** **G** **12** **04** **08** - MP

d : Inscribed circle
t : Thickness
m : Refer to figure

Class	d	m	t
A	± 0.025	± 0.005	± 0.025
C	± 0.025	± 0.013	± 0.025
H	± 0.013	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
G	± 0.025	± 0.025	± 0.13
J *	± 0.05 ~ ± 0.15	± 0.005	± 0.025
K *	± 0.05 ~ ± 0.15	± 0.013	± 0.025
L *	± 0.05 ~ ± 0.15	± 0.025	± 0.025
M *	± 0.05 ~ ± 0.15	± 0.08 ~ ± 0.20	± 0.13
N *	± 0.05 ~ ± 0.15	± 0.08 ~ ± 0.18	± 0.025
U *	± 0.08 ~ ± 0.25	± 0.13 ~ ± 0.38	± 0.13

4 Cross Section Type

C **N** **M** **G** **12** **04** **08** - MP

A B C
F G H
J M N
Q R T
U W X

* Sides are based on unground insert

Tolerance on C, E, H, M, O, P, R, S, T, W Insert Shape (Exceptional case)

d	Tolerance on d			Tolerance on m		
	J, K, L, M, N	U		M, N	U	
6.35	± 0.05	± 0.08		± 0.08	± 0.13	
9.525	± 0.05	± 0.08		± 0.08	± 0.13	
12.7	± 0.08	± 0.13		± 0.13	± 0.20	
15.875	± 0.10	± 0.18		± 0.15	± 0.27	
19.05	± 0.10	± 0.18		± 0.15	± 0.27	
25.4	± 0.13	± 0.25		± 0.18	± 0.38	

Tolerance on D Insert Shape (Exceptional case)

d	Tolerance on d		Tolerance on m	
6.35	± 0.05		± 0.11	
9.525	± 0.05		± 0.11	
12.7	± 0.08		± 0.15	
15.875	± 0.10		± 0.18	
19.05	± 0.10		± 0.18	



04 **08** **MP**

⑥ ⑦ ⑧

Thickness of Cutting Edge

Nose Radius (Nose R)

Chipbreaker for Turning

5 Cutting Edge Length, Diameter of Incribed Circle

C N M G 12 04 08 - MP

Symbol							Inch	IC d (mm)
C	d	S	T	R	V	W		
03	04	03	06	03	-	02	1.2(5)	3.97
04	05	04	08	04	08	S3	1.5(6)	4.76
05	06	05	09	05	09	03	1.8(7)	5.56
-	-	-	-	06	-	-	-	6.00
06	07	06	11	06	11	04	2	6.35
08	09	07	13	07	13	05	2.5	7.94
-	-	-	-	08	-	-	-	8.00
09	11	09	16	09	16	06	3	9.525
-	-	-	-	10	-	-	-	10.00
11	13	11	19	11	19	07	3.5	11.11
-	-	-	-	12	-	-	-	12.00
12	15	12	22	12	22	08	4	12.70
14	17	14	24	14	24	09	4.5	14.29
16	19	15	27	15	27	10	5	15.875
-	-	-	-	16	-	-	-	16.00
17	21	17	30	17	30	11	5.5	17.46
19	23	19	33	19	33	13	6	19.05
-	-	-	-	20	-	-	-	20.00
22	27	22	38	22	38	15	7	22.225
-	-	-	-	25	-	-	-	25.00
25	31	25	44	25	44	17	8	25.40
32	38	31	54	31	54	21	10	31.75
-	-	-	-	32	-	-	-	32.00

() Symbol for small size insert

7 Nose Radius (Nose R)

C N M G 12 04 08 - MP

Symbol		Corner Radius	
Metric	Inch	Metric	Inch
01	0	0.1	0.004
02	0.5	0.2	0.008
04	1	0.4	1/64
08	2	0.8	1/32
12	3	1.2	3/64
16	4	1.6	1/16
20	5	2.0	5/64
24	6	2.4	3/32
28	7	2.8	7/64
32	8	3.2	1/8
00	-	Round insert (Inch)	
M0	-	Round insert (Metric)	

6 Thickness of Cutting Edge

C N M G 12 04 08 - MP

Symbol		Thickness of Cutting Edge (t)	
Metric	Inch	mm	Inch
01	1(2)	1.59	1/16
T0	1.125	1.79	9/128
T1	1.2	1.98	5/64
02	1.5(3)	2.38	3/32
T2	1.75	2.78	7/64
03	2	3.18	1/8
T3	2.5	3.97	5/32
04	3	4.76	3/16
05	3.5	5.56	7/32
06	4	6.35	1/4
07	5	7.94	5/16
09	6	9.52	3/8
11	7	11.11	7/16
12	8	12.70	1/2

() Symbol for small size insert

8 Chipbreaker for Turning

C N M G 12 04 08 - MP

PF PM GM MP MK No Chipbreaker

FM SF US UG PU TQ

LR 25UL 15D 15M 24UL PS

MM KS UA UT 13U 15V

15U 12U 16X 15K 14VI AL