



symbol shape	insert	shape	nose angle (degree)	symbol	hole	shape of hole	chipbreaker	shape of insert's section	alternate symbols	
									ordinary system	"D" less than 1/4**
S		square	90	N	without		without		N	E
T		triangular	60	R			single sided		R	
C			80	F			double sided		F	
D		rhombic (diamond)	55	A	with	cylindrical hole	without		A	D
E			75	M,P,S			single sided		M	
F			50	G,P,Z			double sided		G	
M			86	W			without		A	
V			35	T			single sided		M	
W		trigon	80	Q	partly cylindrical hole, 40-60°	without		A		
H		hexagonal	120	U	double countersink	double sided		G		
O		octagonal	135	B	partly cylindrical hole, 70-90°	without		A		
P		pentagonal	108	H	countersink	single sided		M		
L		rectangular	90	C	partly cylindrical hole, 70-90°	without		A		
A		parallelogram-shaped	85	J	double countersink	double sided		G		
B			82							
N/K			55							
R		round	-	X			special		X	

1. Shape

4. Insert Type

Example:

INCH

METRIC

C

N

M

G

4

C

N

M

G

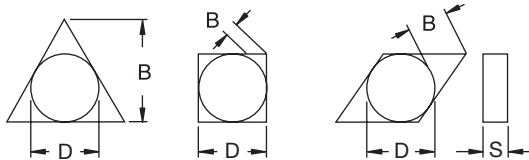
12

2. Relief Angle

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

3. Tolerance

tolerances: apply prior to edge prep and coating
 D: theoretical diameter of the insert inscribed circle
 S: thickness
 B: See figures below.



tolerance class	tolerance on "D"		tolerance on "B"		tolerance on "S"	
	inch	mm	inch	mm	inch	mm
C	±.0010	±0,025	±.0005	±0,013	±.001	±0,025
H	±.0005	±0,013	±.0005	±0,013	±.001	±0,025
E	±.0010	±0,025	±.0010	±0,025	±.001	±0,025
G	±.0010	±0,025	±.0010	±0,025	±.005	±0,13
M	See tables at right.				±.005	±0,13
U	See tables at right.				±.005	±0,13

5. Size

inch	"D"		Code for metric cutting edge length "L10"							
	inch	mm	C	D	R	S	T	V	W	
1.2 (5)	5/32	3,97	S4	04	03	03	06	-	-	
1.5 (6)	3/16	4,76	04	05	04	04	08	08	S3	
1.8 (7)	7/32	5,56	05	06	05	05	09	09	03	
-	.236	6,00	-	-	06	-	-	-	-	
2	1/4	6,35	06	07	06	06	11	11	04	
2.5	5/16	7,94	08	09	07	07	13	13	05	
-	.315	8,00	-	-	08	-	-	-	-	
3	3/8	9,52	09	11	09	09	16	16	06	
-	.394	10,00	-	-	10	-	-	-	-	
3.5	7/16	11,11	11	13	11	11	19	19	07	
-	.472	12,00	-	-	12	-	-	-	-	
4	1/2	12,70	12	15	12	12	22	22	08	
4.5	9/16	14,29	14	17	14	14	24	24	09	
5	5/8	15,88	16	19	15	15	27	27	10	
-	.630	16,00	-	-	16	-	-	-	-	
5.5	11/16	17,46	17	21	17	17	30	30	11	
6	3/4	19,05	19	23	19	19	33	33	13	
-	.787	20,00	-	-	20	-	-	-	-	
7	7/8	22,22	22	27	22	22	38	38	15	
-	.984	25,00	-	-	25	-	-	-	-	
8	1	25,40	25	31	25	25	44	44	17	
10	1 1/4	31,75	32	38	31	31	54	54	21	
-	1.260	32,00	-	-	32	-	-	-	-	

NOTE: Inch sizes in parenthesis for "alternate symbols" D or E (under 1/4 inch "D").



symbol		thickness	
inch	mm	inch	mm
.5 (1)	-	1/32	0,79
.6	T0	.040	1,00
1 (2)	O1	1/16	1,59
1.2	T1	5.64	1,98
1.5 (3)	O2	3/32	2,38
2	O3	1/8	3,18
2.5	T3	5/32	3,97
3	O4	3/16	4,76
3.5	O5	7/32	5,56
4	O6	1/4	6,35
5	O7	5/16	7,94
6	O9	3/8	9,52
7	11	7/16	11,11
8	12	1/2	12,70

NOTE:
Inch sizes in parentheses
for "alternate symbols"
D or E (under 1/4 inch "D").

3. Tolerance Explanation

± Tolerance on "D"											± Tolerance on "D"												
"D"		Class M-tolerance				Class U-tolerance					"D"		Class M-tolerance				Class U-tolerance						
		Shapes S, T, C, R & W		Shape D		Shape V		Shapes S, T & C					Shapes S, T, C, R & W		Shape D		Shape V		Shapes S, T & C				
inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		
5/32	3,97			-	-	-	-	-	-			5/32	3,97			-	-	-	-	-	-		
3/16	4,76			-	-	-	-	-	-			3/16	4,76			-	-	-	-	-	-		
7/32	5,56											7/32	5,56	.003	0,06								
1/4	6,35	.002	0,05	.002	0,05	.002	0,05	.003	0,06			1/4	6,35								.005	0,13	
5/16	7,94											5/16	7,94	.004	0,11								
3/8	9,52											3/8	9,52			.007	0,18						
7/16	11,11											7/16	11,11										
1/2	12,70	.003	0,06	.003	0,06	.003	0,06	.005	0,13			1/2	12,70	.005	0,13	.006	0,15	.010	0,25	.008	0,20		
9/16	14,29											9/16	14,29										
5/8	15,88											5/8	15,88										
11/16	17,46	.004	0,10	.004	0,10	.004	0,10	.007	0,18			11/16	17,46	.006	0,15	.007	0,18				.011	0,27	
3/4	19,05											3/4	19,05										
7/8	22,22	.005	0,13	-	-	-	-					7/8	22,22			-	-	-	-				
1	25,40			-	-	-	-	.010	0,25			1	25,40	.007	0,18	-	-	-	-			.015	0,38
1 1/4	31,75	.006	0,15	-	-	-	-					1 1/4	31,75	.008	0,20	-	-	-	-				

6. Thickness "S"

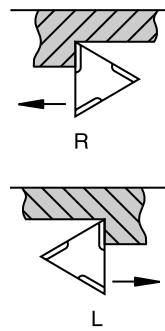
**3
04**

**2
08**

7. Corner Radius "RE"

symbol		corner radius	
inch	mm	inch	mm
X0	X0	.0015	.04
0	01	.004	0,1
.5	02	.008	0,2
1	04	1/64	0,4
2	08	1/32	0,8
3	12	3/64	1,2
4	16	1/16	1,6
5	20	5/64	2,0
6	24	3/32	2,4
7	28	7/64	2,8
8	32	1/8	3,2
-	00	round insert (inch)	
-	M0	round insert (mm)	

8. Hand of Insert (optional)



9./10. Cutting Edge Condition or Chip Control Features (optional)

F	sharp
FF	fine finishing
FN	finishing
MN	medium negative
RN	roughing negative
UN	universal negative
FP	finishing positive
MP	medium positive
RP	roughing positive
RM	roughing medium
RH	roughing heavy
FW	finishing wiper
MW	medium wiper
FS	finishing sharp
MS	medium sharp
RW	roughing wiper
HP	high positive
-11	fine finishing
K	light feed chip control
UF	ultra-fine finishing
LF	light finishing
MF	medium finishing
E	hone only
T	negative land
S	negative land plus hone
MP-K	medium positive
MG-P	medium positive

14./15. T-land Angle (optional)

symbol	size
10	10°
15	15°
20	20°
25	25°
30	30°

16. Tip Style (optional)

symbol	usage
D	two-sided
M	mini tip
MT	multi tip

11./12./13. T-land width (optional)

symbol		size	
ANSI	ISO	inch	mm
04	010	.004	0,01
08	020	.008	0,02