

Kennametal Milling Insert Identification System

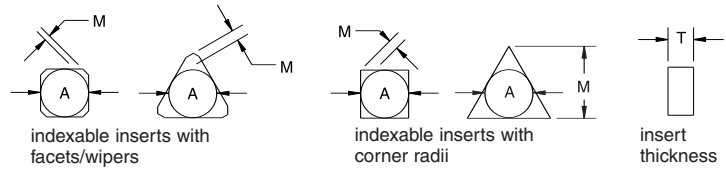


ANSI Inserts (inch)

NOTE:

Kennametal's milling insert identification system is provided as a general reference. The dimensional tables associated with each insert should be used for specific values. This system is based on the latest ANSI and ISO insert identification guidelines.

Dimensions shown in this catalog are prior to supplemental coating and edge modifications.



A	tolerances on "A" classes J, K, L, M, N	class U	tolerances on "M" classes M & N	class U
.1875 through .3937	.002	.003	.003	.005
.4375 through .5625	.003	.005	.005	.008
.5906 through .8125	.004	.007	.006	.011
.8661 through 1.188	.005	.010	.007	.015
1.250 through 1.378	.006	.010	.008	.015

symbol shape	insert	shape	nose angle (degree)
A		parallelogram	85
C		rhomboid	80
E		rhomboid	75
H		hexagon	120
L		rectangle	90
O		octagon	135
R		round	—
S		square	90
T		triangle	60
X		standard Kennametal form	—

	A	M	T		A	M	T
A	.001	.0002	.001	J	*.002-.005	.0002	.001
B	.001	.0002	.005	K	*.002-.005	.0005	.001
C	.001	.0005	.001	L	*.002-.005	.001	.001
D	.001	.0005	.005	M	*.002-.004	*.002-.010	.005
E	.001	.001	.001	N	*.002-.004	*.002-.010	.001
F	.0005	.0002	.001	P**	.0015	.0015	.0015
G	.001	.001	.005	U	*.003-.010	*.005-.012	.005
H	.0005	.0005	.001				

*See table above for tolerances according to insert size and class.
**Kennametal standard only.

Insert Shape



Clearance Angle

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

Tolerance Class (+/-)



Geometry and Clamping Type

symbol	hole	shape of hole	chipbreaker	shape of insert's section
N	without		without	
R			single sided	
F			double sided	
A	cylindrical hole		without	
M			single sided	
G			double sided	
W	partly cylindrical hole, 40-60° countersink		without	
T			single sided	
Q	partly cylindrical hole, 40-60° double countersink		without	
U			double sided	
B	partly cylindrical hole, 70-90° countersink		without	
H			single sided	
C	partly cylindrical hole, 70-90° double countersink		without	
J			double sided	
X			special design	

Kennametal Milling Insert Identification System



Inserts

Face Mills

End Mills

Die and Mold

Slotting

Thread Milling

Widia Cutters

Vintage Cutters

Accessories

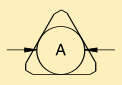
Technical Data

Mat'l Database

Index

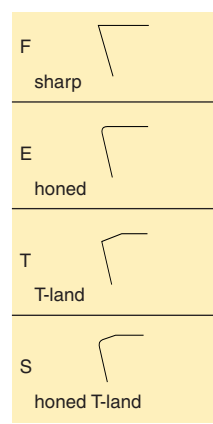
(a) For shapes A, L and X, see position #1; use length of leading cutting edge in increments of 1/4".

A	symbol
1.000	8
.750	6
.625	5
.500	4
.375	3
.250	2

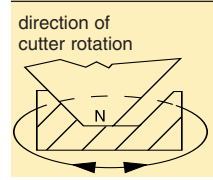
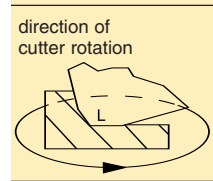
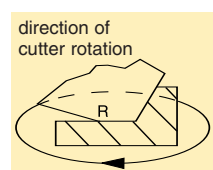


inscribed circle "A" (a)

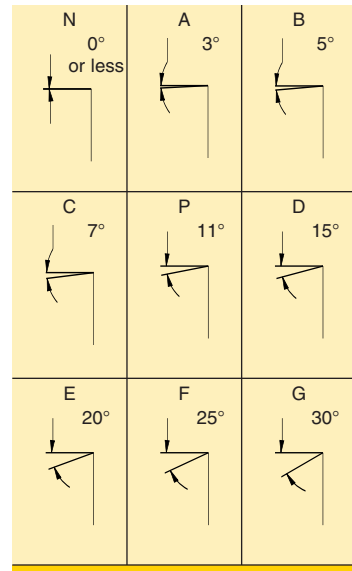
Size (a)



Cutting Edge Form



Insert Hand



nominal or average angle of rake on insert face at leading cutting edge before edge prep and before installation

Rake Face Angle

J	"polished" rake face
P	partial t-land
W	wiper/radiused facet

Added Info

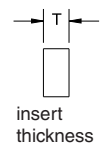


Thickness

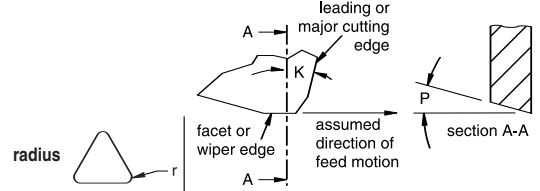
Corner Configuration (b)

Facet Width

Edge Prep Size



T in 1/16"



.0938	1.5
.125	2
.1562	2.5
.1875	3
.2188	3.5
.2500	4
.3125	5

0	.004	(b) If letter is replaced by number(s), refer to table for radius "r".	wiper edge clearance P		
0.5	.008		A	3°	
1	1/64	lead angle K	B	5°	
2	1/32		C	7°	
3	3/64	A	45°	D	15°
4	1/16	D	handed 30°	E	20°
5	5/64	K	neutral 30°	F	25°
6	3/32	E	handed 15°	G	30°
7	7/64	L	neutral 15°	N	0°
8	1/8	P	0°	P	11°

.0312	2
.0469	3
.0625	4
.0938	6

Facet width is number of 1/64 inch increments (1/32 for old styles).

L	Light – sharp or lightly honed and/or T-land
G	General – medium hone and/or T-land
H	Heavy – large hone and/or T-land

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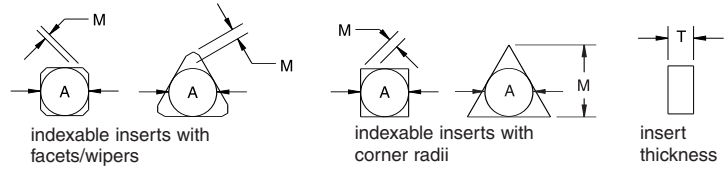


ANSI Inserts (metric)

NOTE:

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Dimensions shown in this catalog are prior to supplemental coating and edge modifications.



A	tolerances on "A" classes J, K, L, M, N	class U	tolerances on "M" classes M & N	class U
4,76 through 10,00	0,051	0,076	0,076	0,127
11,11 through 14,29	0,076	0,127	0,127	0,203
15,00 through 20,64	0,102	0,178	0,152	0,279
22,00 through 31,16	0,127	0,254	0,178	0,381
31,75 through 35,00	0,152	0,254	0,203	0,381

	A	M	T		A	M	T
A	0,025	0,005	0,025	J	*0,05-0,13	0,005	0,025
B	0,025	0,005	0,13	K	*0,05-0,13	0,013	0,025
C	0,025	0,013	0,025	L	*0,05-0,13	0,025	0,025
D	0,025	0,013	0,13	M	*0,05-0,10	*0,05-0,25	0,13
E	0,025	0,025	0,025	N	*0,05-0,10	*0,05-0,25	0,025
F	0,013	0,005	0,025	**P	0,038	0,038	0,038
G	0,025	0,025	0,13	U	*0,08-0,25	*0,13-0,30	0,13
H	0,013	0,013	0,025				

*See table above for tolerances according to insert size and class.
**Kennametal standard only.

symbol shape	insert	shape	nose angle (degree)
A		parallelogram	85
C		rhomboid	80
E		rhomboid	75
H		hexagon	120
L		rectangle	90
O		octagon	135
R		round	—
S		square	90
T		triangle	60
X		standard Kennametal form	—

Insert Shape



Clearance Angle

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Tolerance Class (+/-)



Geometry and Clamping Type

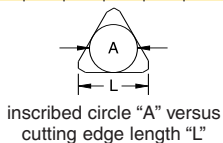
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R			single sided	
F			double sided	
A	cylindrical hole		without	
M			single sided	
G			double sided	
W	partly cylindrical hole, 40-60° countersink		without	
T			single sided	
Q	partly cylindrical hole, 40-60° double countersink		without	
U			double sided	
B	partly cylindrical hole, 70-90° countersink		without	
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X			special design	

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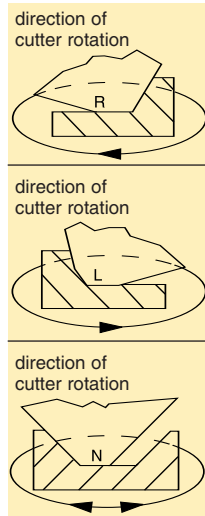


(a) For shapes A, L, and X...see position #1; use length of leading cutting edge.

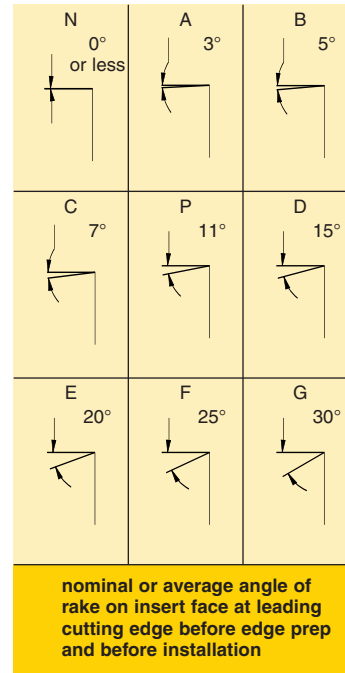
A	"L" for shapes						
	S	T	R	O	C	H	E
6,00	—	—	06	—	—	—	—
6,35	06	11	06	02	06	03	06
8,00	—	—	08	—	—	—	—
9,52	09	16	09	04	09	05	09
10,00	—	—	10	—	—	—	—
12,00	—	—	12	—	—	—	—
12,70	12	22	12	05	12	07	13
15,88	15	27	15	06	16	09	16
16,00	—	—	16	—	—	—	—
19,05	19	33	19	07	19	11	19
20,00	—	—	20	—	—	—	—
25,00	—	—	25	—	—	—	—
25,40	25	44	25	10	25	14	26



Size (a)



Insert Hand



Rake Face Angle

P	discontinuous T-land
J	"polished" rake face
W	wiper/radiused facet

Added Info



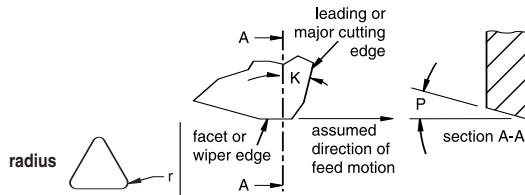
Thickness

Corner Configuration (b)

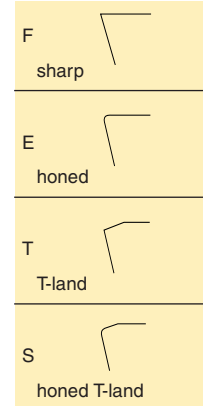
Cutting Edge Form

Edge Prep Size

T	
2,38	02
3,18	03
3,97	T3
4,76	04
5,56	05
6,35	06
7,94	07



M0	round insert	(b) If letter is replaced by number(s), refer to table for radius "r".	wiper edge clearance P
01	0,1 mm		A 3°
02	0,2 mm		B 5°
04	0,4 mm		C 7°
05	0,5 mm		D 15°
08	0,8 mm		E 20°
10	1,0 mm		F 25°
12	1,2 mm		G 30°
15	1,5 mm	A 45°	N 0°
16	1,6 mm	D 60°	P 11°
24	2,4 mm	E 75°	
32	3,2 mm	P 90°	



L	Light – sharp or lightly honed and/or T-land
G	General – medium hone and/or T-land
H	Heavy – large hone and/or T-land

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