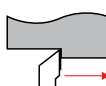
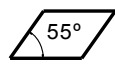
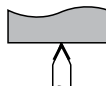
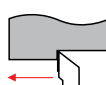
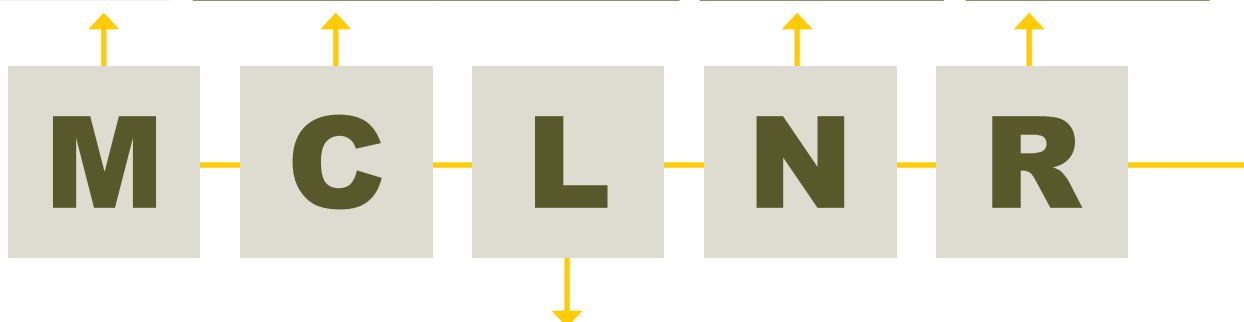
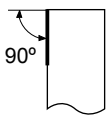
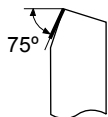
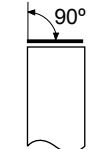
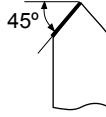
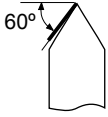
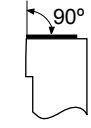
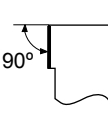
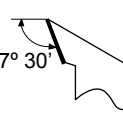
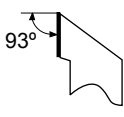
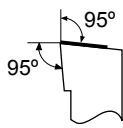
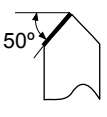
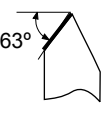
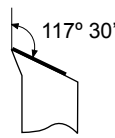
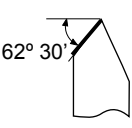
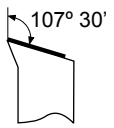
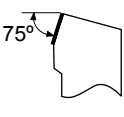
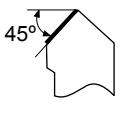
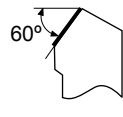
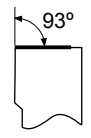
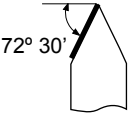
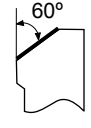


External Tool Holder Identification Guide

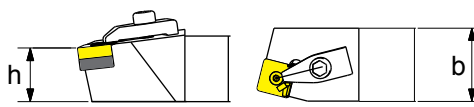
Insert Mounting Method	Insert Shape		Insert Clearance Angle	Hand of Tool
 C - Clamp Lock	 C	 D	 B	 L - Left Hand
 M - Multi Lock	 K	 R	 C	
 P - Lever Lock	 S	 T	 D	 N - Neutral
 S - Screw Lock	 V	 W	 E	
			 N	 R - Right Hand
			 P	



Tool Holder Style							
A	B	C	D	E	F	G	H
							
J	K	L	M	N	O	P	Q
							
R	S	T	U	V	W	X	
							

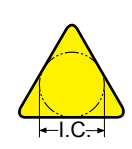
External Tool Holder Identification Guide

Tool Holder Size



ANSI					
No.	b	h	No.	b	h
	Width	Height		Width	Height
05	0.3125	0.3125	24	1.50	1.50
06	0.375	0.375	32	2.00	2.00
08	0.50	0.50	64	0.75	1.00
10	0.625	0.625	66	0.75	1.50
12	0.75	0.75	85	1.00	1.25
16	1.00	1.00	86	1.00	1.50
20	1.25	1.25	91	1.25	1.50

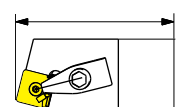
Insert I.C. Size



Number of 1/8" of inscribed circle

2 = 0.250"
3 = 0.375"
4 = 0.500"
5 = 0.625"
6 = 0.750"
7 = 0.875"
8 = 1.000"

Qualified Tool Length



ANSI (Inch)

J = 3-1/2
A = 4
B = 4-1/2
C = 5
D = 6
E = 7
F = 8

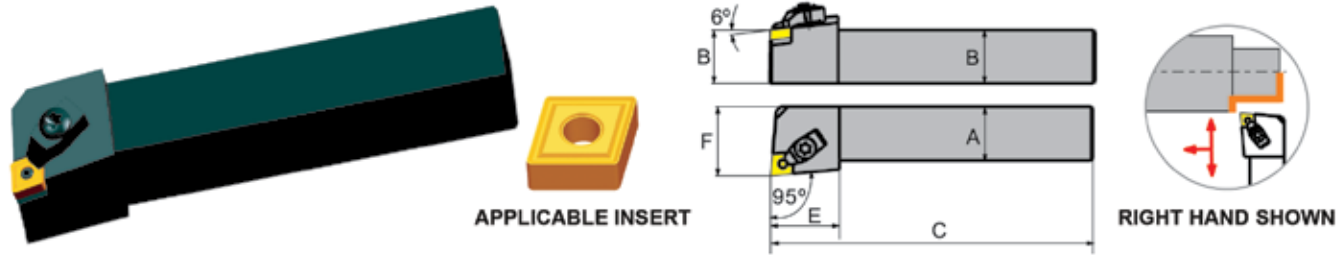
1 6 - 4 D

ANSI (American National Standards Institute)

Cutting Edge Length								
Number of 1/8" of I.C.	I.C. Inch	C	D	R	S	T	V	W
								
						09		
2	1/4	06	07			11	11	
3	3/8	09	11	09	09	16	16	06
4	1/2	12	15	12	12	22	22	08
5	5/8	16	19	15	15	27		
6	3/4	19		19	19	33		
8	1	25		25	25	44		

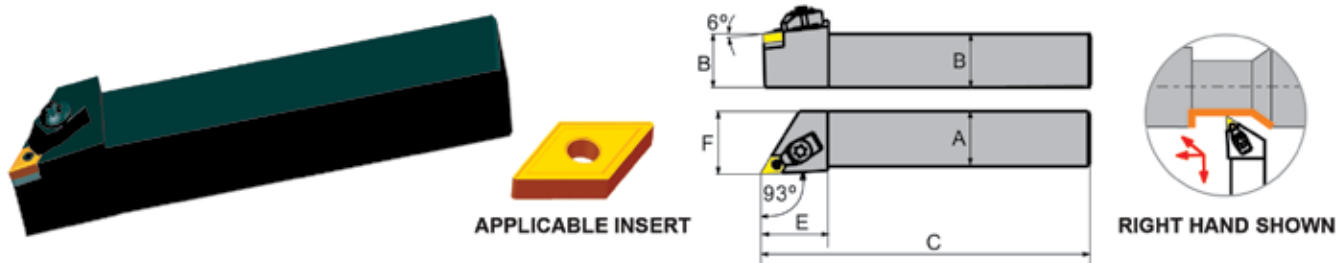
External Tool Holders

MCLNR/L for Negative 80° Rhombic CN__ Inserts



MCLNR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
								Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
12-4B	0.75	0.75	4.50	1.25	1.00	534101	534111	CN_43	534240	534250	534230	534260
16-4D	1.00	1.00	6.00	1.25	1.25	534102	534112	CN_43	534240	534250	534230	534260
20-4D	1.25	1.25	6.00	1.25	1.50	534103	534113	CN_43	534240	534251	534230	534260
16-5D	1.00	1.00	6.00	1.38	1.25	534104	534114	CN_54	534241	534251	534231	534261
20-5D	1.25	1.25	6.00	1.38	1.50	534105	534115	CN_54	534241	534251	534231	534261
20-6D	1.25	1.25	6.00	1.50	1.50	534106	534116	CN_64	534241	534251	534232	534262
24-6D	1.50	1.50	6.00	1.50	2.00	534107	534117	CN_64	534241	534251	534232	534262

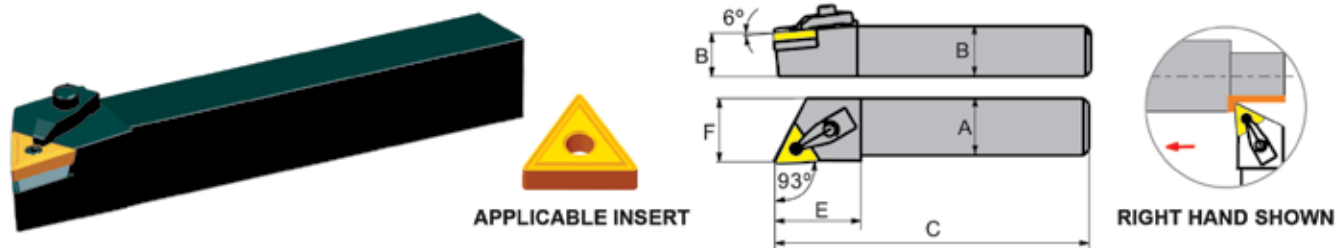
MDJNR/L for Negative 55° Rhombic DN__ Inserts



MDJNR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
								Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
12-4B	0.75	0.75	4.50	1.25	1.00	534121	534131	DN_43	534241	534251	534230	534267
16-4D	1.00	1.00	6.00	1.25	1.25	534122	534132	DN_43	534241	534251	534230	534267
20-4D	1.25	1.25	6.00	1.25	1.50	534123	534133	DN_43	534241	534251	534230	534267
20-5D	1.25	1.25	6.00	1.50	1.50	-	534134	DN_54	534241	534251	534231	534268
24-6D	1.50	1.50	6.00	1.50	2.00	534125	534135	DN_54	534241	534251	534231	534268

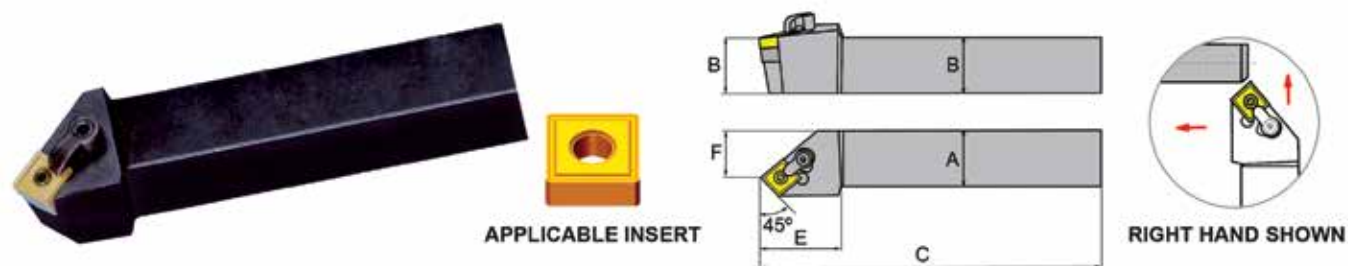
External Tool Holders

MTJNR/L for Negative Triangle TN__ Inserts



MTJNR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
								Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
10-3B	0.62	0.62	4.50	1.00	0.675	534145	534155	TN__33__	534244	534253	534233	534270
12-3B	0.75	0.75	4.50	1.00	1.000	534146	534156	TN__33__	534244	534253	534233	534270
16-3D	1.00	1.00	6.00	1.00	1.250	534140	534157	TN__33__	534244	534253	534233	534270
16-4D	1.00	1.00	6.00	1.25	1.250	534141	534151	TN__43__	534240	534250	534230	534271
20-4D	1.25	1.25	6.00	1.25	1.500	534142	534152	TN__43__	534240	534250	534230	534271
20-5D	1.25	1.25	6.00	1.50	1.500	534143	534153	TN__54__	534240	534250	534231	534272
24-5D	1.50	1.50	6.00	1.50	2.000	534144	534154	TN__54__	534240	534250	534231	534272

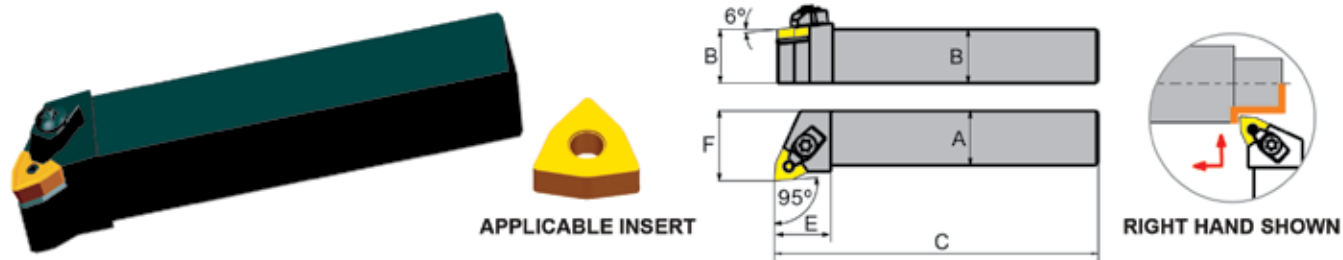
MSSNR/L for Negative Square SN__ Inserts



MSSNR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
								Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
12-4B	0.75	0.75	4.50	1.25	0.63	534161	534171	SN__43__	534240	534250	534230	534273
16-4D	1.00	1.00	6.00	1.25	0.93	534162	534172	SN__43__	534240	534250	534230	534273
20-5D	1.25	1.25	6.00	1.38	1.09	534163	-	SN__54__	534241	534251	534231	534274

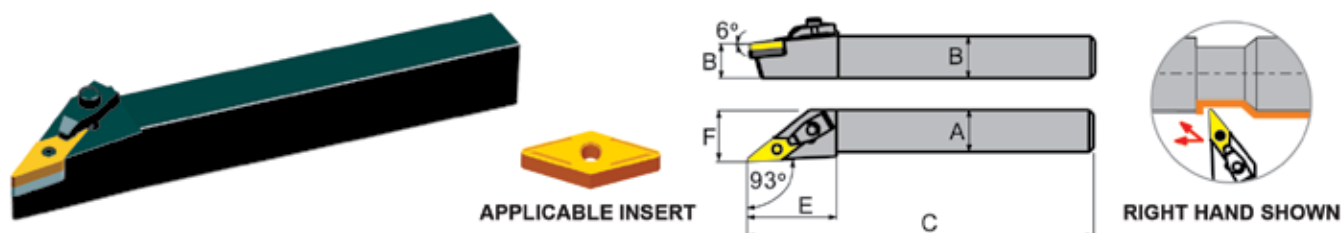
External Tool Holders

MWLNR/L for Negative Trigon WN__ Inserts



MWLNR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
								Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
12-3B	0.75	0.75	4.50	1.00	1.00	534180	—	WN__33__	534244	534253	534233	534277
12-4B	0.75	0.75	4.50	1.25	1.00	534181	534191	WN__43__	534240	534250	534230	534275
16-4D	1.00	1.00	6.00	1.25	1.25	534182	534192	WN__43__	534240	534250	534230	534275
20-4D	1.25	1.25	6.00	1.25	1.50	534183	534193	WN__43__	534240	534250	534230	534275

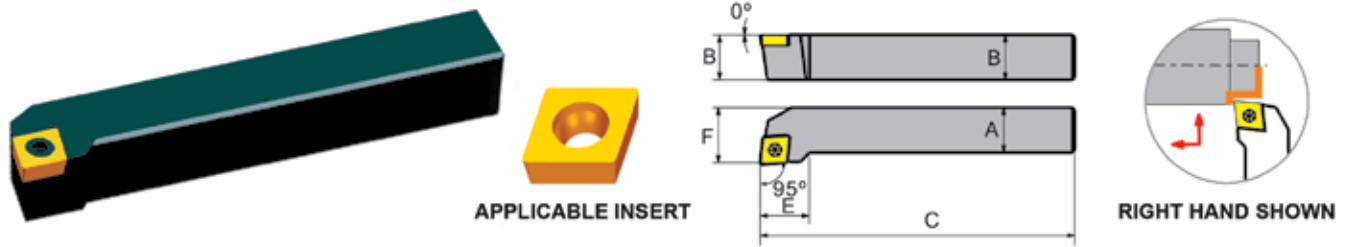
MVJNR/L for Negative 35° Rhombic VN__ Inserts



MVJNR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
								Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
12-3B	0.75	0.75	4.50	1.69	1.00	534201	534211	VN__33__	534243	534251	534233	534280
16-3D	1.00	1.00	6.00	1.69	1.25	534202	534212	VN__33__	534243	534251	534233	534280
20-3D	1.25	1.25	6.00	1.69	1.50	534203	534213	VN__33__	534243	534251	534233	534280

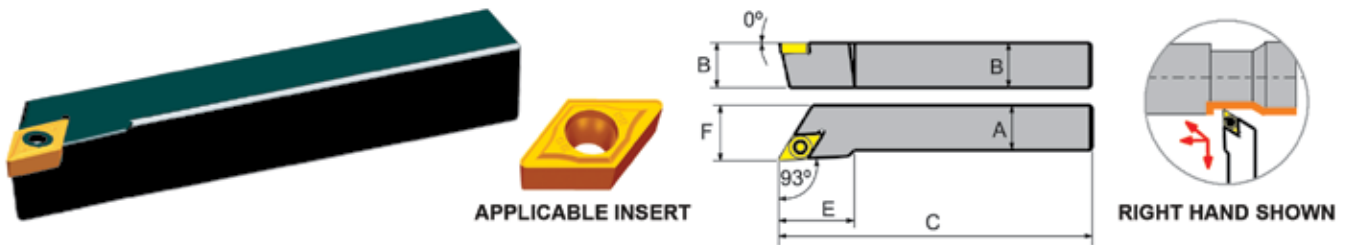
External Tool Holders

SCLCR/L for 7° Positive 80° Rhombic CC__ Inserts



SCLCR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories		
								Applicable Insert	Screw Code	Torx® Key Code
06-2J	0.375	0.375	3.50	0.49	0.500	534001	534011	CC__21.5_	210350	549505
08-3A	0.500	0.500	4.00	0.69	0.625	534002	534012	CC__32.5_	210351	302319
10-3B	0.625	0.625	4.50	0.69	0.750	534003	534013	CC__32.5_	210351	302319
12-3B	0.750	0.750	4.50	0.69	1.000	534004	534014	CC__32.5_	210351	302319
16-3D	1.000	1.000	6.00	0.69	1.250	534005	534015	CC__32.5_	210351	302319
12-4B	0.750	0.750	4.50	0.83	1.000	534006	534016	CC__43_	210352	718401
16-4D	1.000	1.000	6.00	0.83	1.250	534007	534017	CC__43_	210352	718401

SDJCR/L for 7° Positive 55° Rhombic DC__ Inserts



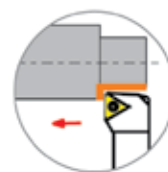
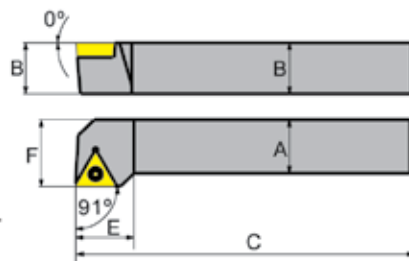
SDJCR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories		
								Applicable Insert	Screw Code	Torx® Key Code
06-2J	0.375	0.375	3.50	0.68	0.500	534031	534041	DC__21.5_	210350	549505
08-2A	0.500	0.500	4.00	0.68	0.625	534032	534042	DC__21.5_	210350	549505
08-3A	0.500	0.500	4.00	1.00	0.625	534033	534043	DC__32.5_	210351	302319
10-3B	0.625	0.625	4.50	1.00	0.750	534034	534044	DC__32.5_	210351	302319
12-3B	0.750	0.750	4.50	1.00	1.000	534035	534045	DC__32.5_	210351	302319
16-3D	1.000	1.000	6.00	1.00	1.250	534036	534046	DC__32.5_	210351	302319
12-4B	0.750	0.750	4.50	1.25	1.000	534037	534047	DC__43_	210352	718401
16-4D	1.000	1.000	6.00	1.25	1.250	534038	534048	DC__43_	210352	718401

External Tool Holders

STGCR for Positive Triangular TC__ Inserts



APPLICABLE INSERT



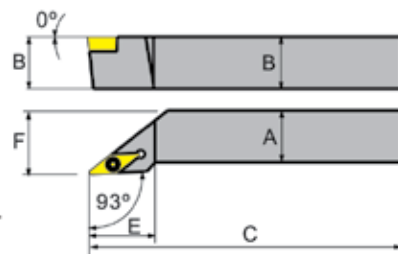
RIGHT HAND SHOWN

STGCR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Accessories		
							Applicable Insert	Screw Code	Torx® Key Code
06-2J	0.375	0.375	2.50	0.50	0.500	534051	TC_21.5_	210350	549505
08-2J	0.500	0.500	3.50	0.50	0.625	534052	TC_21.5_	210350	549505
10-2A	0.625	0.625	4.00	0.50	0.750	534053	TC_21.5_	210350	549505
10-3B	0.625	0.625	4.50	0.83	0.750	534054	TC_32.5_	210351	302319
12-3B	0.750	0.750	4.50	0.83	0.875	534055	TC_32.5_	210351	302319
16-3D	1.000	1.000	6.00	0.83	1.125	534056	TC_32.5_	210351	302319

SVJCR for 7° Positive 35° Rhombic VC__ Inserts



APPLICABLE INSERT



RIGHT HAND SHOWN

SVJCR/L	A (Inch)	B (Inch)	C (Inch)	E (Inch)	F (Inch)	Right Hand Code	Accessories		
							Applicable Insert	Screw Code	Torx® Key Code
06-2J	0.375	0.375	3.50	1.00	0.500	534081	VC_22_	210350	549505
08-2A	0.500	0.500	4.00	1.00	0.625	534082	VC_22_	210350	549505
10-2B	0.625	0.625	4.50	1.00	0.750	534083	VC_22_	210350	549505
12-3B	0.750	0.750	4.50	1.25	1.000	534084	VC_33_	210353	302319
16-3C	1.000	1.000	5.00	1.25	1.250	534085	VC_33_	210353	302319
16-3D	1.000	1.000	6.00	1.25	1.250	534086	VC_33_	210353	302319

NOW AVAILABLE



CNC Broaching System



- A patented solution for effective and efficient broaching and shaping operations
- For use with CNC lathes and machining centers, as well as conventional slotting and shaping machines
- Carbide inserts, tool holders and accessories designed for flexibility while delivery the rigidity and performance required

MOST POPULAR FOR KEYWAYS & SLOTTING

INSERTS

Metric Inserts		Inch Inserts	
Size	For Tool Holder Size...	Size	For Tool Holder Size...
2 mm	2 mm	3/32	2 mm
3 mm	3 mm	1/8	3 mm
4 mm	4 mm	5/32	4 mm
5 mm	5 mm	3/16	5 mm
6 mm	6 mm	1/4	6 mm
8 mm	8 mm	9/32	8 mm
10 mm	10 mm	5/16	8 mm
12 mm	12 mm	3/8	10 mm
14 mm	14/16"	7/16	12 mm
16 mm	14/16"	1/2	12 mm
18 mm	18/26"	9/16	14/16"
20 mm	18/26"	5/8	14/16"
22 mm	18/26"	3/4	18/26"
25 mm	18/26"		

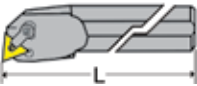
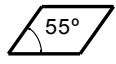
TOOL HOLDERS

25 mm Shank		32 mm Shank	
Size	For Insert Size...	Size	For Insert Size...
2-25-S	3/32", 2 mm	2-32-S	3/32", 2 mm
2-25-L	3/32", 2 mm	2-32-L	3/32", 2 mm
3-25-S	1/8", 3 mm	3-32-S	1/8", 3 mm
3-25-L	1/8", 3 mm	3-32-L	1/8", 3 mm
4-25-S	5/32", 4 mm	4-32-S	5/32", 4 mm
4-25-L	5/32", 4 mm	4-32-L	5/32", 4 mm
5-25-S	3/16", 5 mm	5-32-S	3/16", 5 mm
5-25-L	3/16", 5 mm	5-32-L	3/16", 5 mm
6-25-S	1/4", 6 mm	6-32-S	1/4", 6 mm
6-25-L	1/4", 6 mm	6-32-L	1/4", 6 mm
8-25-S	9/32", 5/16", 8 mm	8-32-S	9/32", 5/16", 8 mm
8-25-L	9/32", 5/16", 8 mm	8-32-L	9/32", 5/16", 8 mm
10-25-S	3/8", 10 mm	10-32-S	3/8", 10 mm
10-25-L	3/8", 10 mm	10-32-L	3/8", 10 mm
12-25-S	7/16", 1/2", 12 mm	12-32-S	7/16", 1/2", 12 mm
12-25-L	7/16", 1/2", 12 mm	12-32-L	7/16", 1/2", 12 mm
		14/16-32-S	9/16", 5/8", 14 mm, 16 mm
		14/16-32-L	9/16", 5/8", 14 mm, 16 mm
		18/26-32-S	3/4", 18-25 mm
		18/26-32-L	3/4", 18-25 mm

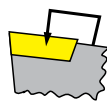
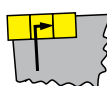
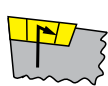
- Inch & Metric size Inserts & Tool Holders for Keyways & Slotting
- Eccentric Bushings
- Square Adapters
- Alignment Tools
- Sharpening Stems
- Insert Mounting Screws
- Torx Drivers
- Swivel Ball-Bearing Point Set Screws
- Square Tool Holders & Inserts
- Spline & External Spline Tool Holders
- Hexagon Tool Holders & Inserts
- Mini Tool Holders

ASK YOUR KAR DISTRIBUTOR FOR MORE DETAILS

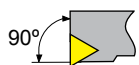
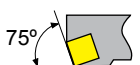
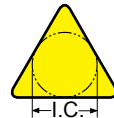
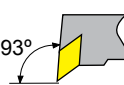
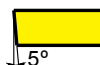
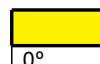
Boring Bar Identification Guide

Bar Type	Bar Diameter	Bar Length	Insert Shape	
Steel with Coolant-Thru A	Round Shanks: (D) shown in 1/16" increments 		 C	 D
Carbide C	ANSI 04 = 0.250" 05 = 0.3125" 06 = 0.375" 08 = 0.500" 10 = 0.625" 12 = 0.750" 16 = 1.000" 20 = 1.250" 24 = 1.500" 32 = 2.000" 40 = 2.500"	ANSI H = 4" J = 4-1/2" K = 5" M = 6" R = 8" S = 10" T = 12" U = 14" V = 16" Y = 18"	 K	 R
Carbide with Coolant-Thru E			 S	 T
Steel S			 V	 W

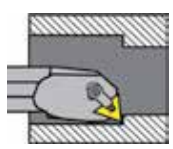
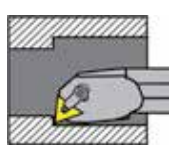


Insert Mounting Method	
 C - Clamp Lock	 M - Multi Lock
 P - Lever Lock	 S - Screw Lock

Boring Bar Identification Guide

Bar Style		Insert Clearance Angle		Insert I.C. Size
	F		K	 Number of 1/8" of inscribed circle 2=0.250" 3=0.375" 4=0.500" 5=0.625" 6=0.750" 7=0.875" 8=1.000"
	L		P	
	U		B	
			C	
			N	
			P	

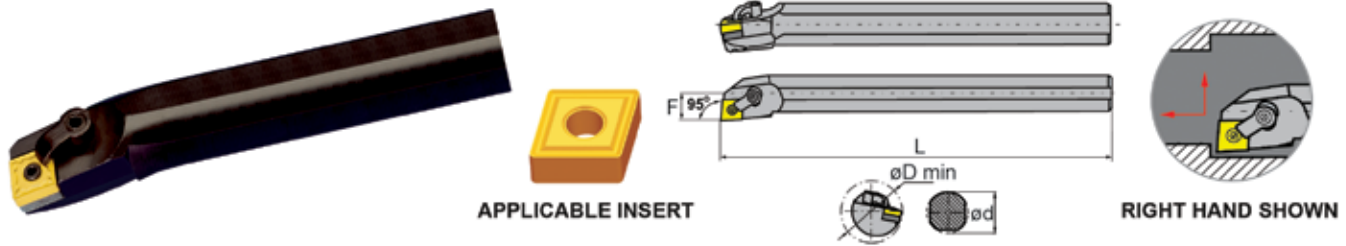
U
N
R
3
ANSI (American National Standards Institute)

Hand of Tool
 L - Left Hand
 R - Right Hand

		Cutting Edge Length						
No. of 1/8" of I.C.	I.C. Inch	C	D	R	S	T	V	W
								
						09		
2	1/4	06	07			11	11	
3	3/8	09	11	09	09	16	16	06
4	1/2	12	15	12	12	22	22	08
5	5/8	16	19	15	15	27		
6	3/4	19		19	19	33		
8	1	25		25	25	44		

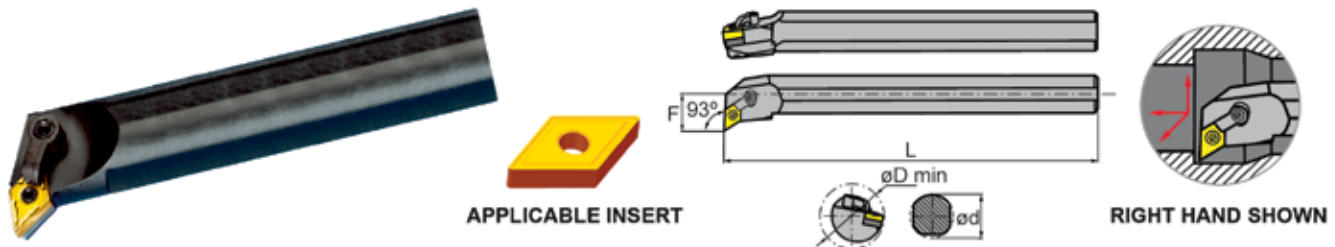
Boring Bars

S-MCLNR/L for Negative 80° Rhombic CN__ Inserts



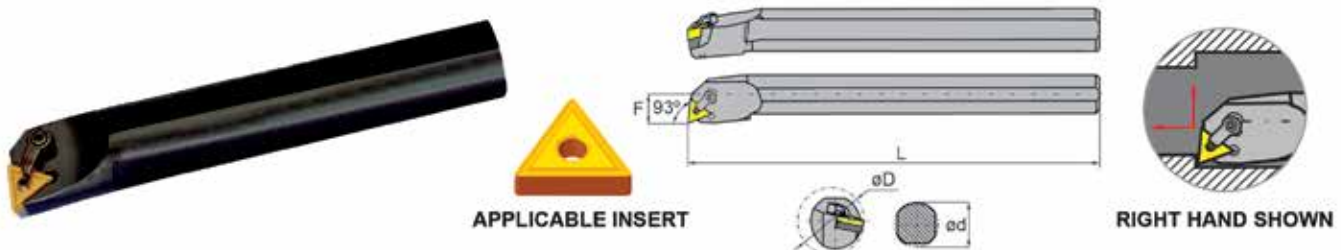
S-MCLNR/L	Ød (Inch)	L (Inch)	ØD (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
							Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
16-4	1.00	12	1.28	0.640	534401	534411	CN__43	534240	534250	534230	534260
20-4	1.25	14	1.53	0.765	534402	534412	CN__43	534240	534250	534230	534260
24-4	1.50	14	1.78	0.890	534403	534413	CN__43	534240	534250	534230	534260

S-MDUNR/L for Negative 55° Rhombic DN__ Inserts



S-MDUNR/L	Ød (Inch)	L (Inch)	ØD (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
							Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
20-4	1.25	14	2.00	1.00	534421	534431	DN__43	534241	534251	534230	534267
24-4	1.50	14	2.25	1.25	534422	534432	DN__43	534241	534251	534230	534267

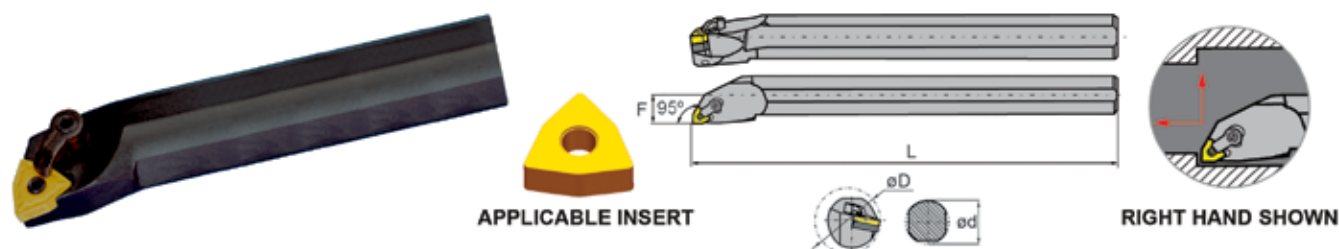
S-MTUNR/L for Negative Triangular TN__ Inserts



S-MTUNR/L	Ød (Inch)	L (Inch)	ØD (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
							Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
16-3	1.00	12	1.28	0.640	534442	534452	TN__33	534244	534253	534233	534270
20-4	1.25	14	1.53	0.765	534443	534453	TN__43	534240	534250	534230	534271
24-4	1.50	14	2.06	0.890	534444	534454	TN__43	534240	534250	534230	534271

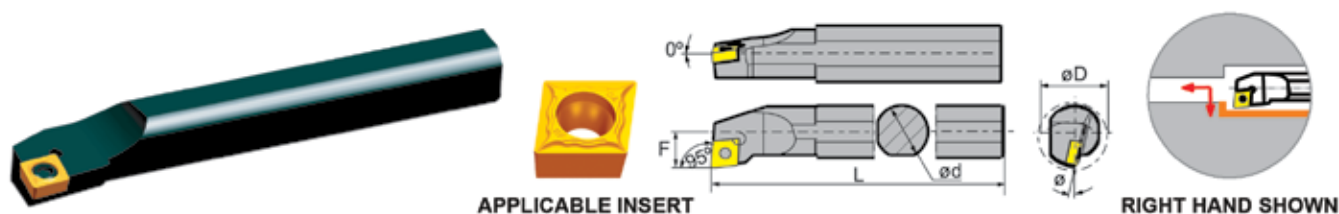
Boring Bars

S-MWLN/L for Negative Trigon WN__ Inserts



S-MWLN/L	Ød (Inch)	L (Inch)	ØD (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories				
							Applicable Insert	Clamp Code	Clamp Screw Code	Lock Pin Code	Shim Code
12-3	0.75	10	0.93	0.500	534459	534469	WN__33__	534234	—	534244	534252
12-4	0.75	10	0.93	0.500	534460	534470	WN__43__	534235	—	534240	534254
16-4	1.00	12	1.28	0.640	534461	534471	WN__43__	534235	—	534240	534254
20-4	1.25	14	1.53	0.785	534462	534472	WN__43__	534230	534250	534240	534275
24-4	1.50	14	1.78	0.890	534463	534473	WN__43__	534230	534250	534240	534275

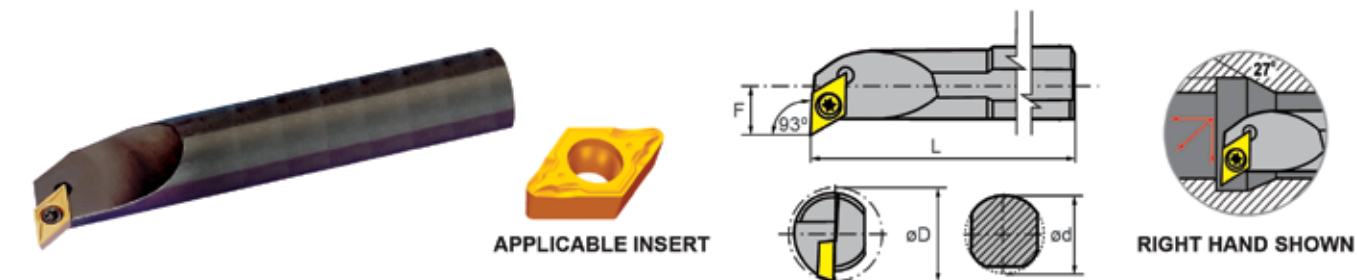
S-SCLCR/L for 7° Positive 80° Rhombic CC__ Inserts



S-SCLCR/L	Ød (Inch)	L (Inch)	ØD (Inch)	F (Inch)	Right Hand Code	Left Hand Code	Accessories		
							Applicable Insert	Screw Code	Torx® Key Code
4-2	0.315	4	0.354	0.188	534301	534311	CC__21.5__	210354	549505
6-2	0.375	6	0.468	0.250	534302	534312	CC__21.5__	210350	549505
8-2	0.500	7	0.560	0.290	534303	534313	CC__21.5__	210350	549505
8-3	0.500	7	0.600	0.312	534304	534314	CC__32.5__	210351	302319
10-3	0.625	8	0.866	0.406	534305	534315	CC__32.5__	210351	302319
12-3	0.750	10	0.920	0.500	534306	534316	CC__32.5__	210351	302319
16-3	1.000	12	1.120	0.609	534307	534317	CC__32.5__	210351	302319

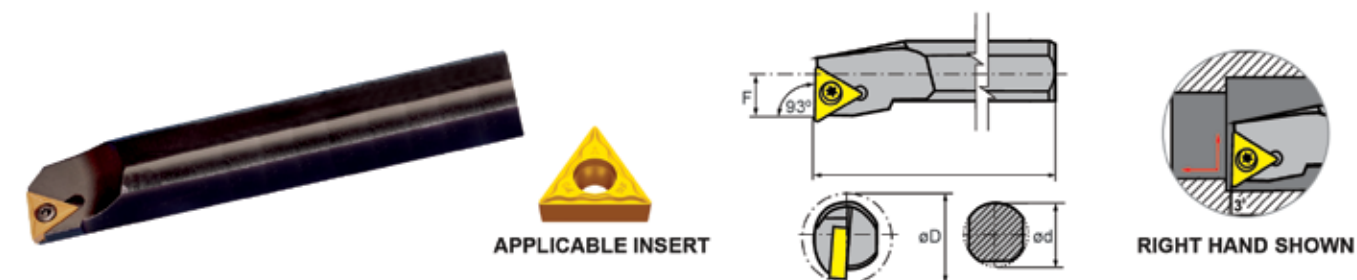
Boring Bars

S-SDUCR for 7° Positive 55° Rhombic DC__ Inserts



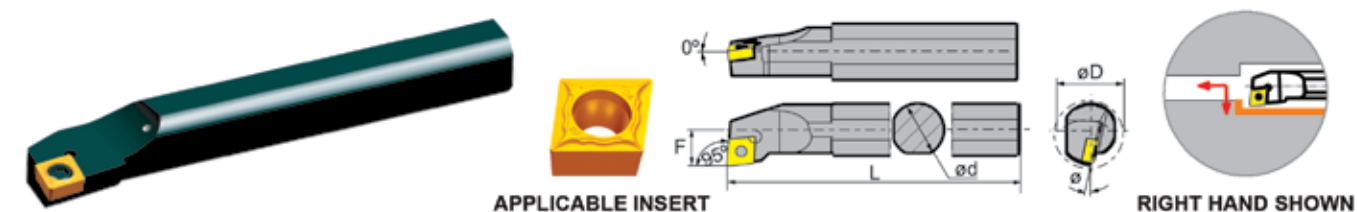
S-SDUCR/L	ϕd (Inch)	L (Inch)	ϕD (Inch)	F (Inch)	Right Hand Code	Accessories		
						Applicable Insert	Screw Code	Torx® Key Code
6-2	0.375	6	0.625	0.375	534331	DC_21.5_	210350	549505
8-2	0.500	6	0.780	0.437	534332	DC_21.5_	210350	549505
10-2	0.625	8	0.840	0.500	534333	DC_21.5_	210350	549505
12-3	0.750	10	1.125	0.562	534334	DC_32.5_	210351	302319
16-3	1.000	12	1.500	0.750	534335	DC_32.5_	210351	302319

S-STUCR for 7° Positive Triangular TC__ Inserts



S-STUCR/L	ϕd (Inch)	L (Inch)	ϕD (Inch)	F (Inch)	Right Hand Code	Accessories		
						Applicable Insert	Screw Code	Torx® Key Code
8-2	0.500	6	0.590	0.287	534351	TC_21.5_	210350	549505
10-2	0.625	8	0.750	0.350	534352	TC_21.5_	210350	549505
12-3	0.750	10	0.845	0.422	534353	TC_32.5_	210351	302319
16-3	1.000	12	1.115	0.555	534354	TC_32.5_	210351	302319

S-SCLCR for 80° Rhombic CC__ Inserts



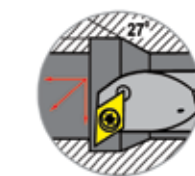
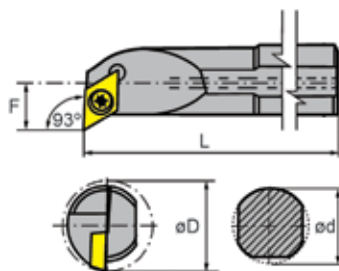
SCLCR/L	ϕd (Inch)	L (Inch)	ϕD (Inch)	F (Inch)	Right Hand Code	Accessories		
						Applicable Insert	Screw Code	Torx® Key Code
A04F-02	0.250	3.14	0.330	0.177	533001	CC_21.5_	—	210354
A06J-02	0.375	4.50	0.489	0.275	533002	CC_21.5_	—	210354
A08K-02	0.500	4.92	0.629	0.353	533003	CC_21.5_	—	210354
A10M-02	0.625	5.90	0.775	0.432	533004	CC_21.5_	—	210354
A08K-03	0.500	4.92	0.629	0.353	533006	CC_32.5_	302319	210351
A10M-03	0.625	5.90	0.775	0.432	533007	CC_32.5_	302319	210351

Boring Bars

S-SDUCR for 55° Rhombic DC__ Inserts



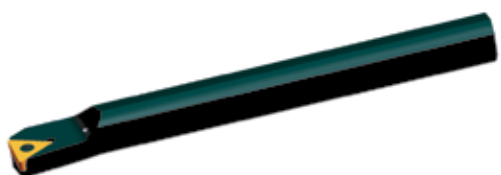
APPLICABLE INSERT



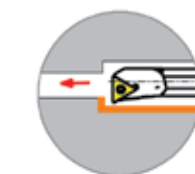
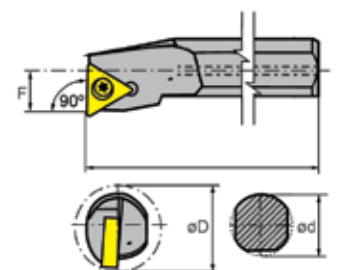
RIGHT HAND SHOWN

SDUCR/L	Ød (Inch)	L (Inch)	ØD (Inch)	F (Inch)	Right Hand Code	Accessories		
						Applicable Insert	Screw Code	Torx® Key Code
A12K-07	0.500	5	0.750	0.354	533021	DC_21.5_	210354	—
A16M-07	0.625	6	0.875	0.433	533022	DC_21.5_	210354	—

S-STFCR for Triangular TC__ Inserts



APPLICABLE INSERT



RIGHT HAND SHOWN

STFCR/L	Ød (Inch)	L (Inch)	ØD (Inch)	F (Inch)	Right Hand Code	Accessories		
						Applicable Insert	Screw Code	Torx® Key Code
A10J-11	0.375	4.30	0.625	0.275	533041	TC_21.5_	210354	—
A12K-11	0.500	5.00	0.750	0.354	533042	TC_21.5_	210354	—
A16M-11	0.625	6.00	0.875	0.433	533043	TC_21.5_	210354	—

Boring Bar Sets



534319



534320



534321



534322

Description	Boring Bars Included (Inch)	TiN Inserts Included	No. of Torx® Keys Included	No. of Spare Screws Included	Code
3pc. Right Hand	0.315, 3/8, 1/2	CCMT21.51 (6pcs)	1	1	534319
3pc. Right Hand	3/8, 1/2, 5/8	CCMT21.51 (2pcs) and CCMT32.52 (4pcs)	2	2	534320
3pc. Right Hand	1/2, 5/8, 3/4	CCMT32.52 (6pcs)	1	1	534321
5pc. Right Hand	0.315, 3/8, 1/2, 5/8, 3/4	CCMT21.51 (4pcs) and CCMT32.52 (6pcs)	2	2	534322

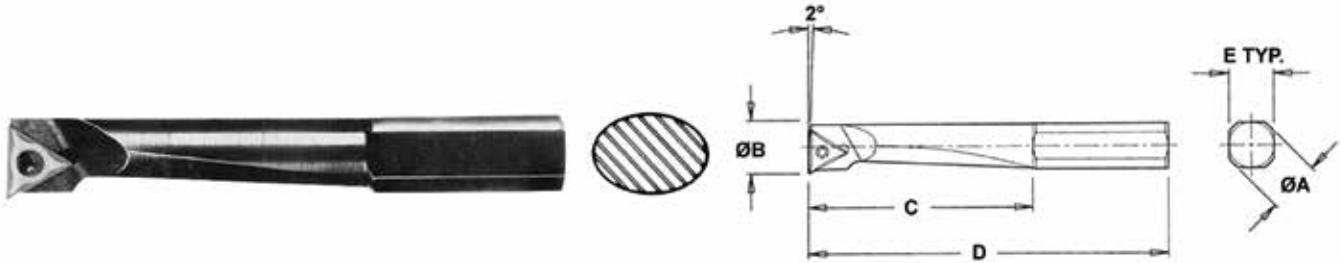
Boring Bars



Indexable Insert Boring Bars for Boring Heads

For added strength and rigidity, the quill portion of the shank is oval shaped. In addition to providing greater chip clearance, this design helps eliminate tool deflection, resulting in better cutting performance.

- Minimum bore ranges from 1/4" to 1-1/4"
- Standard length for greater bore depths
- 4 parallel flats designed to place the cutting edge on the centerline
- TA boring bars work equally well in machining centers and turning centers
- Use industry standard inserts



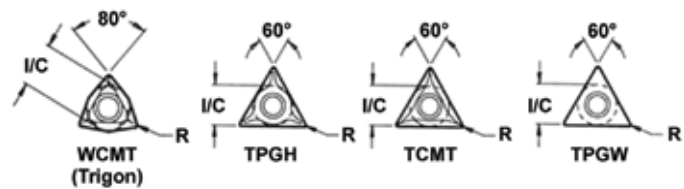
Insert I/C (Inch)	A Shank Diameter (Inch)	B Min. Bore Diameter (Inch)	C (Inch)	D (Inch)	E (Inch)	Code	Accessories	
							Insert Screw	Torx® Wrench
WCMT 1.2 (1) 0.5	1/2	1/4	1-1/16	2-7/16	7/16	250320	250340	718405
TCMT 1.2 (1.2) 1 UF	1/2	3/8	1-3/4	3-1/16	7/16	250322	250340	718405
TPGT/W 2 (1.5)	1/2	7/16	2-1/16	3-3/8	7/16	250323	—	549505
TPGT/W 2 (1.5)	1/2	1/2	2-3/16	3-1/2	7/16	250324	—	549505
TPGT/W 2 (1.5)	3/4	1/2	2-1/2	4-1/4	41/64	250325	—	549505
TPGT/W 321	3/4	3/4	3	4-11/16	41/64	250326	250342	718401
TPGT/W 321	3/4	1	3-1/2	5-1/8	41/64	250327	250342	718401
TPGT/W 321	3/4	1-1/4	4	5-9/16	41/64	250328	250342	718401
TPGT/W 2 (1.5)	1	1/2	2-3/8	4-1/4	55/64	250329	—	549505
TPGT/W 321	1	3/4	2-7/8	4-11/16	55/64	250330	250342	718401
TPGT/W 321	1	1	3-1/2	5-1/8	55/64	250331	250342	718401
TPGT/W 321	1	1-1/4	3-7/8	5-9/16	55/64	250332	250342	718401

Indexable Insert Boring Bar Sets



Size (Inch)	No. of Pieces	Code
1/2	5	250350
3/4	4	250351
1	4	250352

Applicable Inserts



Insert I/C (Inch)	Insert	Radius (Inch)	Grade C2 Code	Grade C6 Code
0.156	WCMT 1.2 (1) 0.5	0.008	250360	250370
0.156	TCMT 1.2 (1.2) 1 UF	0.015	250362	250372
0.250	TPMT 2 (1.5) 1.2 C	0.015	250363	250373
0.375	TPGH 321	0.015	577433	577435
0.375	TPGW 321	0.015	250366	250376

Boring Bars

Indexable Insert Boring Bars for Boring Heads

- Supplied with grade C5 inserts



Shank Size (Inch)	Minimum Bore (Inch)	Bore Depth (Inch)	Overall Length (Inch)	Tool Reference	Code
1/2	7/16	1-1/4	2-3/4	NB7S	210365
1/2	7/16	1-7/8	3-3/8	NB7M	210366
1/2	7/16	2-1/2	4	NB7L	210367
1/2	1/2	1-1/2	3	NB8S	210368
1/2	1/2	2-1/8	3-5/8	NB8M	210369
1/2	1/2	2-3/4	4-1/4	NB8L	210370
1/2	9/16	1-3/4	3-1/4	NB9S	210371
1/2	9/16	2-3/8	3-7/8	NB9M	210372
1/2	9/16	3	4-1/2	NB9L	210373
5/8	7/16	1-1/4	3	NC7S	210374
5/8	7/16	1-7/8	3-5/8	NC7M	210375
5/8	7/16	2-1/2	4-1/4	NC7L	210376
5/8	1/2	1-1/2	3-1/4	NC8S	210377
5/8	1/2	2-1/8	3-7/8	NC8M	210378
5/8	1/2	2-3/4	4-1/2	NC8L	210379
5/8	9/16	1-3/4	3-1/2	NC9S	210380
5/8	9/16	2-3/8	4-1/8	NC9M	210381
5/8	9/16	3	4-3/4	NC9L	210382
5/8	5/8	2	3-3/4	NC10S	210383
5/8	5/8	2-5/8	4-3/8	NC10M	210384
5/8	5/8	3-1/4	5	NC10L	210385
5/8	11/16	2-1/4	4	NC11S	210386
5/8	11/16	2-7/8	4-5/8	NC11M	210387
5/8	11/16	3-1/2	5-1/4	NC11L	210388
3/4	7/16	1-1/4	3-1/4	ND7S	210389
3/4	7/16	1-7/8	3-7/8	ND7M	210390
3/4	7/16	2-1/2	4-1/2	ND7L	210391
3/4	1/2	1-1/2	3-1/2	ND8S	210392
3/4	1/2	2-1/8	4-1/8	ND8M	210393
3/4	1/2	2-3/4	4-3/4	ND8L	210394
3/4	9/16	1-3/4	3-3/4	ND9S	210395
3/4	9/16	2-3/8	4-3/8	ND9M	210396
3/4	9/16	3	5	ND9L	210397
3/4	5/8	2	4	ND10S	210398
3/4	5/8	2-5/8	4-5/8	ND10M	210399
3/4	5/8	3-1/4	5-1/4	ND10L	210400
3/4	11/16	2-1/4	4-1/4	ND11S	210401
3/4	11/16	2-7/8	4-7/8	ND11M	210402
3/4	11/16	3-1/2	5-1/2	ND11L	210403
3/4	3/4	2-1/2	4-1/2	ND12S	210404
3/4	3/4	3-1/4	5-1/4	ND12M	210405
3/4	3/4	4	6	ND12L	210406
3/4	13/16	2-3/4	4-3/4	ND13S	210407
3/4	13/16	4	6	ND13M	210408
3/4	13/16	4-1/2	6-1/2	ND13L	210409
5/8 – 12pc Set					Included Sizes: 1/2 to 11/16 Inch
					210411



Applicable Carbide Inserts

- Triangle - Positive rake
- Ground all over with chip groove on one side
- 3/32" thick

Insert I/C (Inch)	Insert	Radius (Inch)	Grade C2 Code	TiN Coated Code
1/4	TPGH 21.50	0.008	—	210357
1/4	TPGH 21.51	1/64	—	577463
1/4	TPGH 21.52	1/32	210355	—

Replacement Parts

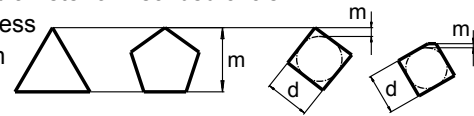
Description	Code
Torx® drive flat head screw for 1/4" I/C	577457

Turning Inserts Identification Guide – ANSI vs. ISO



Insert Shape			
 A	 B	 C	 D
 E	 K	 L	 M
 H	 O	 P	 R
 S	 T	 V	 W

- ▶ d: Theoretical diameter of inscribed circle
- ▶ t: Insert thickness
- ▶ m: See diagram

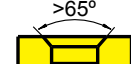


Tolerances in Inch			
Class	d	m	t
A	±0.0010	±0.0002	±0.0010
C	±0.0010	±0.0005	±0.0010
H	±0.0005	±0.0005	±0.0010
E	±0.0010	±0.0010	±0.0010
G	±0.0010	±0.0010	±0.005
J	±0.002 – ±0.006	±0.0002	±0.001
K	±0.002 – ±0.006	±0.0005	±0.001
L	±0.002 – ±0.006	±0.0010	±0.001
★ M	±0.002 – ±0.006	±0.003 – ±0.008	±0.005
★ U	±0.003 – ±0.01	±0.005 – ±0.015	±0.005

★ Exact tolerance is determined by the shape and size of the insert. For a complete listing of tolerances, please refer to ANSI (B212.4-1995)

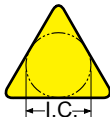
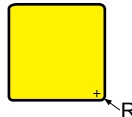
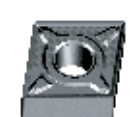


Insert Clearance Angle	
 A	 B
 C	 D
 E	 F
 G	 N
 P	SPECIAL O

Geometry and Clamping Type	
 A	 B
 C	 F
 G	 H
 J	 M
 N	 Q
 R	 T
 U	 W

Turning Inserts Identification Guide – ANSI vs. ISO



Insert I.C. Size	Insert Thickness	Insert Radius	Chipbreaker Style (Negative)	
 (I.C.) shown in 1/32" increments on inserts less than 1/4" I.C. (I.C.) shown in 1/8" increments on inserts 1/4" and over (5)=5/32 5 = 5/8 2 = 1/4 6 = 3/4 3 = 3/8 8 = 1 4 = 1/2	 (T) shown in 1/32" increments on inserts less than 1/4" I.C. (T) shown in 1/16" increments on inserts 1/4" and over 1 = 1/16 3 = 3/16 (1.2) = 5/64 4 = 1/4 (1.5) = 3/32 5 = 5/16 2 = 1/8 6 = 3/8 (2.5) = 5/32	 (R) shown in 1/64" increments 0 = 1/128 4 = 1/16 1 = 1/64 5 = 5/64 2 = 1/32 6 = 3/32 3 = 3/64 8 = 1/8	 -DF	 -DM
			 -DR	 -PM
			 -EF	 -EM



Insert Cutting Edge Length

Diagrams illustrating the cutting edge length (L) for various insert shapes:

- V, C, D**: V-shaped, Chamfered, and D-shaped inserts. The cutting edge length L is indicated for the V-shape.
- R**: Round insert. The cutting edge length L is indicated.
- S**: Square insert. The cutting edge length L is indicated.
- T**: Triangular insert. The cutting edge length L is indicated.
- W**: Wide triangular insert. The cutting edge length L is indicated.

I.C.		Cutting Edge Length by Shape (mm) Designated using insert shape symbol						
mm	Inch	C	D	R	S	T	V	W
3.97	5/32	-	-	-	-	06	-	-
6.35	1/4	06	07	-	-	11	11	04
9.53	3/8	09	11	09	09	16	16	06
12.70	1/2	12	15	12	12	22	22	08
15.88	5/8	16	19	15	15	27	-	-
19.05	3/4	-	-	19	19	33	-	-
25.40	1	-	-	-	25	-	-	-

Insert Thickness

(T) shown in 1 mm increments, single integers are to be preceded by a "0"

	mm	Ref. Inch
01 =	1.59	1/16
T1 =	1.98	5/64
02 =	2.38	3/32
03 =	3.18	1/8
T3 =	3.97	5/32
04 =	4.76	3/16
06 =	6.34	1/4
07 =	7.94	5/16
09 =	9.52	3/8

Insert Radius

(R) shown in 1/10 mm increments

	mm	Ref. Inch
00 = Sharp Point		
02 =	0.2	1/128
04 =	0.4	1/64
08 =	0.8	1/32
12 =	1.2	3/64
16 =	1.6	1/16
24 =	2.4	3/32
32 =	3.2	1/8
00 = Round insert inch		
M0 = Round insert metric		

Chipbreaker Style (Positive)
 -HF
 -HM
 -HR

Turning Inserts Main Grades & Applications


YBC151
CVD COATED

P05-P25

An optimal combination of MT-TiCN, thick layers of Al₂O₃, and a TiN coating on a very hard substrate provides excellent wear resistance. It is an ideal grade for finishing steel, cast steel and stainless steel under high speed and dry machining.

YBC251
CVD COATED

P10-P35

M05-M20

An optimal combination of MT-TiCN, thick layers of Al₂O₃, and a TiN coating on a hard substrate provides a cutting edge with superior strength and toughness. It is suitable for a wide range of applications such as finishing, semi-finishing and light roughing of steel, cast steel and stainless steel.

YBC351
CVD COATED

P20-P45

M15-M30

An optimal combination of MT-TiCN, thick layers of Al₂O₃, and a TiN coating on an extremely hard substrate provides superior strength. It is well suited for light to medium roughing of steel, cast steel and stainless steel.

YBM151
CVD COATED

P20-P30

M05-M25

A combination of TiCN, thin layers Al₂O₃, and a TiN coating on a tough substrate provides excellent resistance against flank wear and plastic deformation. It is well suited for finishing and semi-finishing (turning as well as boring) of stainless steel.

YBM251
CVD COATED

P25-P40

M15-M35

An optimal combination of TiCN, thin layers Al₂O₃, and a TiN coating on a very fine substrate provides superb strength and toughness. It is a premium grade for semi-finishing to light roughing (turning and boring) of stainless steel at continuous and intermittent machining conditions.

YBM351
CVD COATED

P15-P35

M25-M40

A combination of TiN and TiAlN coated carbide provides this grade with excellent strength and impact resistance. It is well suited for rough turning and milling of stainless steels at low to moderate cutting speeds with interrupted cuts. Also suitable for high cutting speeds and heavy cutting in P30 range.

YBD102
CVD COATED

K01-K20

A combination of thick Al₂O₃, thick TiCN coating on a very hard substrate provides an optimized balance in wear resistance and flaking resistance when machining nodular cast iron at high speeds.

YBD151
CVD COATED

K10-K20

An optimal combination of MT-TiCN, thick layers of Al₂O₃, TiN coating on a tough substrate provides superb wear resistance. It is a premiere choice for medium to rough machining of cast iron and nodular cast iron under high cutting speeds.

YBD152
CVD COATED

K10-K25

A combination of medium thick Al₂O₃ and medium thick TiCN coatings provide excellent flake resistance. This general grade is suitable for turning in cast iron from moderate to high cutting speeds, and capable of demanding interrupted cutting conditions at moderate cutting speeds. It can also be used for milling cast iron.

YD101
UNCOATED

K10-K20

N05-N25

Uncoated carbide grade with fine size grain. Good for fine and semi-finishing machining of cast iron and non-ferrous materials. Ideal for machining aluminum.

YD201
UNCOATED

K10-K30

N05-N25

Uncoated carbide grade with good wear resistance and toughness. Suitable for roughing and semi-finishing of cast iron and heat-resistant alloys, as well as plastic and wood. Ideal for the aviation industry. Medium cutting speeds and a large feed rate is recommended.

Turning Inserts Main Grades & Applications


YBG102
 PVD COATED
K01-K10**S10-S20**

A combination of 2-4 μ nc-TiAlN coating and fine carbide substrate is ideal for cast iron from light to medium load and turning of high-temperature alloys from finishing to semi-finishing.

YBG202
 PVD COATED
P01-P20**M10-M20****K10-K20****S20-S30**

A combination of 2-4 μ nc-TiAlN coating on an ultra-fine carbide substrate of high tensile strength and toughness is suitable for milling from light to medium load and bore machining of many materials, turning of stainless steel from finishing to semi-finishing and rough turning of high-temperature alloys.

YBG302
 PVD COATED
P10-P40**M10-M30****K20-K40****S20-S30**

A combination of 2-4 μ nc-TiAlN coating and a tough substrate. It is suitable for medium load milling, bore machining, parting and grooving in a wide range of materials. It is also suitable for turning of stainless steel from semi-finishing to roughing.

YNG151
 CERMET
P05-P15**M05-M15****K10-K30**

TiCN based cermet, with superb resistance to thermoplastic transmutation and resistant built-up-edge is suitable for semi-finishing and finishing steel, stainless steel and cast iron.

YCB011
 PCBN
K01-K10**H01-H10**

PCBN tipped inserts provide high wear resistance and high tensile strength. They are suitable for high speed and high precision machining of cast iron, heat resistant alloys, Fe-based P/M materials.

YCB012
 PCBN
K01-K10**H05-H15**

PCBN tipped inserts provide very high tensile hardness and heat stability. They are most suitable for the continuous and slightly intermittent finishing of hardened steel (HRC 45-65) and cast iron.

YCD011
 PCD
K01-K10**N01-N10**

PCD tipped inserts exhibit high tensile hardness, good wear resistance, low friction and heat conductivity. They are suitable for machining non-ferrous metals (e.g. Cu, Al, Mg, Ti, Al-alloys with high silicon), and non-metallic materials (e.g. fiberglass, ceramics, reinforced plastic).

Turning Inserts Application Guide



	ISO-P	ISO-M	ISO-K	ISO-N	ISO-S	ISO-H
Wear Resistance ↑ Toughness ↓	YNG151 Cermet		YNG151 Cermet			
	YBC151 CVD Coated		YBD151 CVD Coated			
	YBC251 CVD Coated	YBC251 CVD Coated	YBC151 CVD Coated			
	YBM151 CVD Coated	YBM151 CVD Coated	YD101 Uncoated	YCD011 PCD	YD201 Uncoated	YCB011 PCBN
	YBC351 CVD Coated	YBC351 CVD Coated	YD201 Uncoated	YD101 Uncoated	YBG202 PVD Coated	YCB012 PCBN
	YBM251 CVD Coated	YBM251 CVD Coated	YBD152 CVD Coated	YD201 Uncoated	YBG302 PVD Coated	YBC151 CVD Coated
	YBG202 PVD Coated	YBM351 CVD Coated	YBD102 CVD Coated			YD201 Uncoated
	YBG302 PVD Coated	YBG203 PVD Coated	YBG202 PVD Coated			
	YBG202 PVD Coated	YBG302 PVD Coated				
	YBG302 PVD Coated					



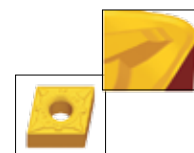
P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous Materials	High-Temperature Alloys & Titanium	Hard Materials

Negative Insert Chipbreaker Identification Guide


DF

Finishing

Unique super-finishing chipbreaker enables optimum chip flow in axial and radial cutting operations at very low feeds and cutting depths. Low cutting forces provide superb surface finish.


DM

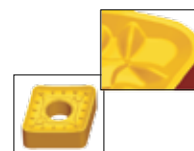
Medium Machining

A premiere choice for turning applications of steel and stainless steel. It is ideal for semi-finishing to light roughing applications. Delivers high productivity and trouble-free machining. Provides good surface finish.


DR

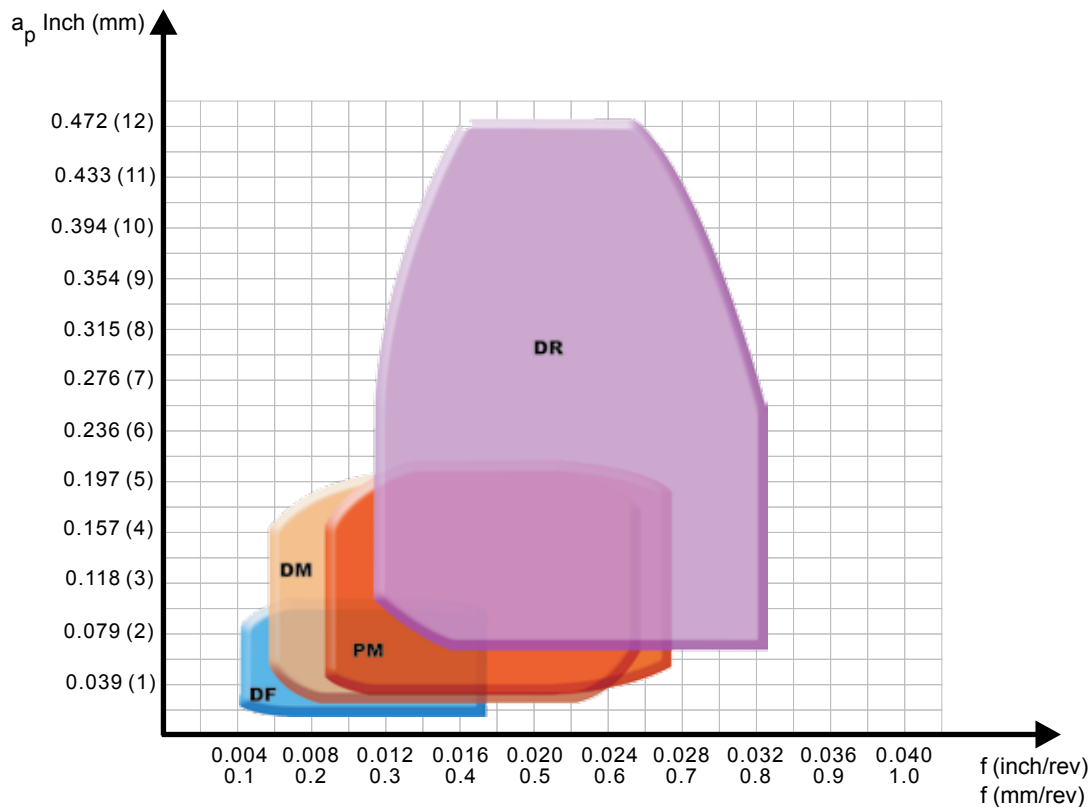
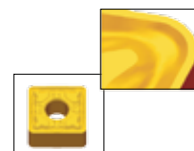
Roughing

All purpose chipbreaker for roughing applications. Provides excellent value and high productivity, great chip flow control and the best combination of edge strength and low cutting force.


PM

Intermittent Cutting

All purpose chipbreaker with the broadest working area for intermittent cuts. The stronger cutting edge enables intermittent cutting.



Application Guide for Various Negative Chipbreakers

FOR FINISHING: ► a_p = Depth of Cut ► f_n = Feed per Revolution

Recommended Data	Workpiece Material	Recommended Geometry Inserts with Negative Angle						
a p=0.1-2.0 mm ap=0.004-0.080 inch fn=0.05-0.35 mm/rev. fn=0.002-0.014 inch/rev.	P	-DF						
			CNMG	DNMG	SNMG	TNMG	VNMG	WNMG
a p=0.1-2.0 mm ap=0.004-0.080 inch fn=0.1-0.3 mm/rev. fn=0.004-0.012 inch/rev.	M	-DF						
			CNMG	DNMG	SNMG	TNMG	VNMG	WNMG
a p=0.5-2.0 mm ap=0.020-0.080 inch fn=0.075-0.4 mm/rev. fn=0.003-0.016 inch/rev.	K	-DF						
			CNMG	DNMG	SNMG	TNMG	VNMG	WNMG
		RCMX						
			RCMX	RNMG				
a p=0.1-2.0 mm ap=0.004-0.080 inch fn=0.05-0.35 mm/rev. fn=0.002-0.014 inch/rev.	N	RCMX						
			RCMX					
a p=0.1-2.0 mm ap=0.004-0.080 inch fn=0.1-0.3 mm/rev. fn=0.004-0.012 inch/rev.	S	-DF						
			CNMG	DNMG	SNMG	TNMG	VNMG	WNMG
		RCMX						
			RCMX					
a p=0.1-1.5 mm ap=0.004-0.060 inch fn=0.1-0.2 mm/rev. fn=0.004-0.008 inch/rev.	H	_NGA						
			CNGA	SNGA	DNGA	TNGA	RNGA	
		PCBN/PCD						
			CCGW	CNGA	DCGW	TCGW	DNGA	SNGA

Application Guide for Various Negative Chipbreakers



FOR FINISHING: ► a_p = Depth of Cut ► f_n = Feed per Revolution

Recommended Data	Workpiece Material	Recommended Geometry Inserts with Negative Angle						
ap=1.5-5.0 mm ap=0.060-0.200 inch fn=0.2-0.5 mm/rev. fn=0.008-0.020 inch/rev.	P	-DM						
			CNMG	DNMG	SNMG	TNMG	VNMG	WNMG
		-PM						
			CNMG	DNMG	SNMG	TNMG	VNMG	WNMG
		RCMX						
			RCMX	RNMG				
ap=1.5-4.0 mm ap=0.060-0.160 inch fn=0.2-0.4 mm/rev. fn=0.008-0.016 inch/rev.	M	-DM						
			CNMG	DNMG	SNMG	TNMG	VNMG	WNMG
ap=1.5-4.0 mm ap=0.060-0.160 inch fn=0.2-0.4 mm/rev. fn=0.008-0.016 inch/rev.	K	NGA						
			CNGA	SNGA	DNGA	TNGA	RNGA	
		-PM						
			DNMG	SNMG	TNMG	VNMG	WNMG	
		RCMX						
			RCMX					
ap=1.5-5.0 mm ap=0.060-0.200 inch fn=0.2-0.5 mm/rev. fn=0.008-0.020 inch/rev.	N	RCMX						
			RCMX					
ap=1.5-4.0 mm ap=0.060-0.160 inch fn=0.2-0.5 mm/rev. fn=0.008-0.020 inch/rev.	S	-DM						
			CNMG	DNMG	SNMG	TNMG	VNMG	WNMG
ap=1.5-4.0 mm ap=0.060-0.160 inch fn=0.2-0.5 mm/rev. fn=0.008-0.020 inch/rev.	S	-PM						
			DNMG	SNMG	TNMG	VNMG	WNMG	
ap=0.5-3.5 mm ap=0.020-0.140 inch fn=0.2-0.4 mm/rev. fn=0.008-0.020 inch/rev.	H	_NGA						
			CNGA	SNGA	DNGA	TNGA	RNGA	
ap=0.5-3.5 mm ap=0.020-0.140 inch fn=0.2-0.4 mm/rev. fn=0.008-0.020 inch/rev.	H	PCBN/ PCD						
			CCGW	CNGA	DCGW	TCGW	DNGA	SNGA

Application Guide for Various Negative Chipbreakers



FOR FINISHING: ► a_p = Depth of Cut ► f_n = Feed per Revolution

Recommended Data	Workpiece Material	Recommended Geometry Inserts with Negative Angle				
$a_p=3.0-12.0$ mm $a_p=0.125-0.500$ inch $f_n=0.3-0.8$ mm/rev. $f_n=0.012-0.032$ inch/rev.	P	-DR				
		RCMX				
$a_p=3.0-10.0$ mm $a_p=0.125-0.375$ inch $f_n=0.4-0.7$ mm/rev. $f_n=0.16-0.280$ inch/rev.	M	-DR				
$a_p=3.0-9.0$ mm $a_p=0.125-0.360$ inch $f_n=0.4-0.7$ mm/rev. $f_n=0.012-0.028$ inch/rev.	K	_NGA				 
$a_p=2.0-12.0$ mm $a_p=0.080-0.500$ inch $f_n=0.3-0.7$ mm/rev. $f_n=0.012-0.028$ inch/rev.	N	RCMX				
$a_p=2.0-7.0$ mm $a_p=0.080-0.28$ inch $f_n=0.3-0.7$ mm/rev. $f_n=0.012-0.028$ inch/rev.	S	RCMX				
$a_p=2.0-7.0$ mm $a_p=0.080-0.028$ inch $f_n=0.3-0.6$ mm/rev. $f_n=0.012-0.024$ inch/rev.	H	_NGA				 



Turning Inserts

Carbide – Negative Chipbreakers – CVD Coated

CNMG – Negative 80° Rhombic



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
CNMG432DF	YBC251	DF	0.500	0.187	0.031	573614
CNMG432DF	YBC351	DF	0.500	0.187	0.031	573616
CNMG432DF	YBM251	DF	0.500	0.187	0.031	573624
CNMG432DM	YBC151	DM	0.500	0.187	0.031	573632
CNMG432DM	YBC251	DM	0.500	0.187	0.031	573634
CNMG433DM	YBC251	DM	0.500	0.187	0.047	573674
CNMG643DM	YBC251	DM	0.750	0.250	0.047	573744
CNMG643PM	YBD102	PM	0.750	0.250	0.047	573758

DNMG – Negative 55° Rhombic



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
DNMG331DF	YBM251	DF	0.375	0.187	0.016	574040
DNMG432DF	YBC251	DF	0.500	0.187	0.031	574088
DNMG432DM	YBC251	DM	0.500	0.187	0.031	574096
DNMG431PM	YBC151	PM	0.500	0.187	0.016	574082
DNMG431PM	YBC251	PM	0.500	0.187	0.016	574084
DNMG432PM	YBC251	PM	0.500	0.187	0.031	574108

TNMG – Negative Triangular



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
TNMG433DM	YBC351	DM	0.500	0.187	0.047	575520
TNMG432PM	YBC251	PM	0.500	0.187	0.031	575490
TNMG432GP	YBC251	GP	0.500	0.187	0.031	575458

VNMG – Negative 35° Rhombic



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
VNMG331DF	YBC151	DF	0.375	0.187	0.016	575752
VNMG331DF	YBC251	DF	0.375	0.187	0.016	575754
VNMG332DF	YBC251	DF	0.375	0.187	0.031	575784
VNMG332DM	YBC251	DM	0.375	0.187	0.031	575794
VNMG-331PM	YBC251	PM	0.375	0.187	0.016	575764

WNMG – Negative 80° Trigon



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
WNMG432DF	YBC251	DF	0.500	0.187	0.031	575968
WNMG432DM	YBC251	DM	0.500	0.187	0.031	575980
WNMG432DM	YBC351	DM	0.500	0.187	0.031	575982
WNMG433DM	YBC251	DM	0.500	0.187	0.047	575703
WNMG432PM	YBC251	PM	0.500	0.187	0.031	575717
WNMG432PM	YBC351	PM	0.500	0.187	0.031	575719
WNMG433PM	YBC251	PM	0.500	0.187	0.047	575729

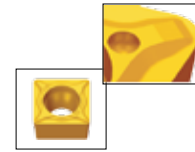
Positive Insert Chipbreaker Identification Guide



HF

Finishing

Optimized chipbreaker for precision finishing applications with sharp cutting edge. Provides excellent chip control and surface finish at small depths of cut and small feed rates.



HM

Medium Machining

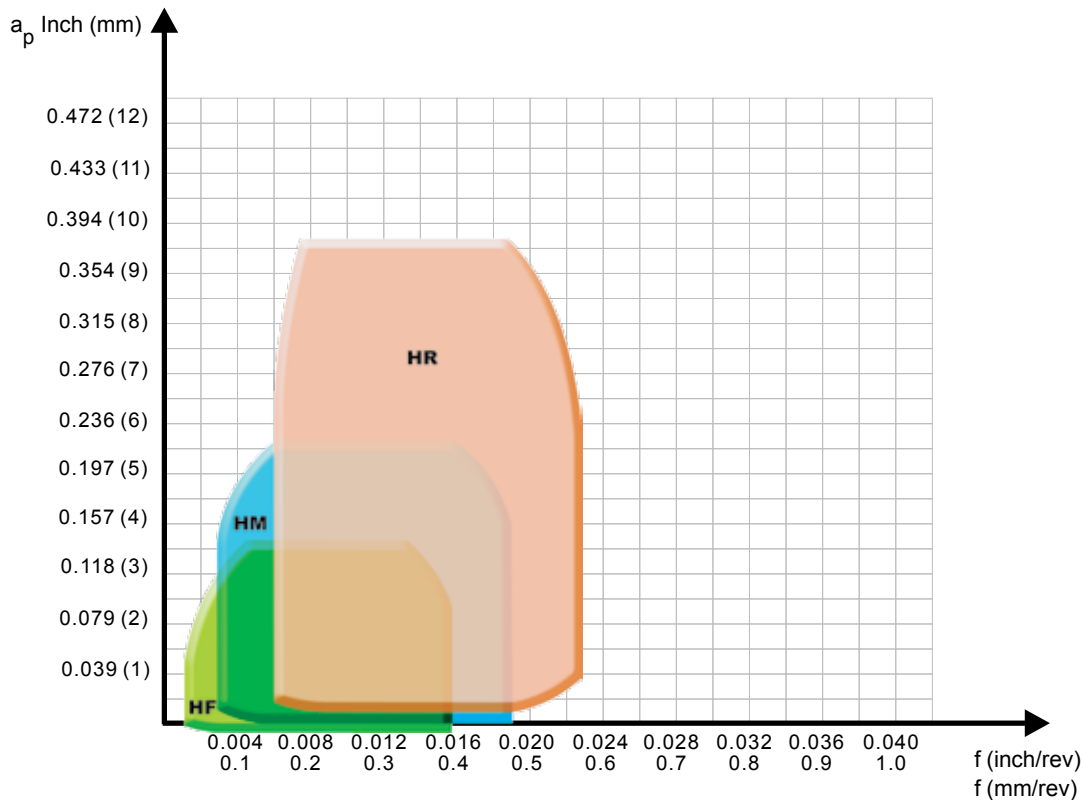
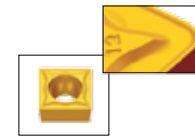
Premiere choice for semi-finishing bores. Unique chipbreaker enables the chips to flow smoothly.



HR

Roughing

Chipbreaker with a strong cutting edge, for tough operations like interrupted cuts and castings.



Application Guide for Various Positive Chipbreakers

FOR FINISHING: ► ap = Depth of Cut ► fn = Feed per Revolution

Recommended Data	Workpiece Material	Recommended Geometry Inserts with Positive Angle					
$ap=0.1-2.0$ mm $ap=0.004-0.080$ inch $fn=0.05-0.30$ mm/rev. $fn=0.002-0.012$ inch/rev.	P	-HF					
			CCMT	DCMT	SCMT	TCMT	VBMT
$ap=0.1-2.0$ mm $ap=0.004-0.080$ inch $fn=0.1-0.3$ mm/rev. $fn=0.004-0.012$ inch/rev.	M	-HF					
			CCMT	DCMT	SCMT	TCMT	VBMT
$ap=0.1-1.5$ mm $ap=0.004-0.060$ inch $fn=0.1-0.3$ mm/rev. $fn=0.004-0.012$ inch/rev.	K	-HF					
			CCMT	DCMT	SCMT	TCMT	VBMT
$ap=0.1-2.0$ mm $ap=0.004-0.080$ inch $fn=0.05-0.4$ mm/rev. $fn=0.002-0.016$ inch/rev.	N	-LH					
			CCGX	DCGX	TCGX	VCGX	
$ap=0.1-1.5$ mm $ap=0.004-0.060$ inch $fn=0.1-0.3$ mm/rev. $fn=0.004-0.012$ inch/rev.	S	-HF					
			CCMT	DCMT	SCMT	TCMT	VBMT
$ap=0.1-1.5$ mm $ap=0.004-0.060$ inch $fn=0.05-0.25$ mm/rev. $fn=0.002-0.010$ inch/rev.	H	-HF					
			CCMT	DCMT	SCMT	TCMT	VBMT
		PCBN/ PCD					
			CCGW	DCGW	TCGW	TPGN	SPGN
							VCGW

Application Guide for Various Positive Chipbreakers



FOR FINISHING: ► a_p = Depth of Cut ► f_n = Feed per Revolution

Recommended Data	Workpiece Material	Recommended Geometry Inserts with Positive Angle					
$a_p=1.0-4.0$ mm $a_p=0.040-0.160$ inch $f_n=0.2-0.5$ mm/rev. $f_n=0.008-0.020$ inch/rev.	P	-HM					
			CCMT	DCMT	SCMT	TCMT	VBMT
$a_p=1.0-3.5$ mm $a_p=0.040-0.140$ inch $f_n=0.2-0.4$ mm/rev. $f_n=0.008-0.016$ inch/rev.	M	-HM					
			CCMT	DCMT	SCMT	TCMT	VBMT
$a_p=1.0-3.0$ mm $a_p=0.040-0.120$ inch $f_n=0.2-0.4$ mm/rev. $f_n=0.008-0.016$ inch/rev.	K	-HM					
			CCMT	DCMT	SCMT	TCMT	VBMT
$a_p=1.0-4.0$ mm $a_p=0.040-0.160$ inch $f_n=0.2-0.4$ mm/rev. $f_n=0.008-0.016$ inch/rev.	N	-LH					
			CCGX	DCGX	TCGX	VCGX	
$a_p=1.0-3.5$ mm $a_p=0.040-0.140$ inch $f_n=0.2-0.4$ mm/rev. $f_n=0.008-0.016$ inch/rev.	S	-HM					
			CCMT	DCMT	SCMT	TCMT	VBMT
$a_p=1.0-3.0$ mm $a_p=0.040-0.120$ inch $f_n=0.2-0.4$ mm/rev. $f_n=0.008-0.016$ inch/rev.	H	-HM					
		PCBN/PCD					
			CCGW	DCGW	TCGW	TPGN	SPGN
							VCGW

Application Guide for Various Positive Chipbreakers

FOR FINISHING: ► a_p = Depth of Cut ► f_n = Feed per Revolution

Recommended Data	Workpiece Material	Recommended Geometry Inserts with Positive Angle					
ap=3.0-7.0 mm ap=0.120-0.280 inch fn=0.3-0.7 mm/rev. fn=0.012-0.028 inch/rev.	P	-HR					
			CCMT	DCMT	SCMT	TCMT	VBMT
ap=2.0-5.0 mm ap=0.080-0.200 inch fn=0.3-0.6 mm/rev. fn=0.012-0.024 inch/rev.	M	-HR					
			CCMT	DCMT	SCMT	TCMT	VBMT
ap=3.0-6.0 mm ap=0.120-0.240 inch fn=0.3-0.6 mm/rev. fn=0.012-0.024 inch/rev.	K	-HR					
			CCMT	DCMT	SCMT	TCMT	VBMT
ap=0.5-5.0 mm ap=0.020-0.200 inch fn=0.2-0.6 mm/rev. fn=0.008-0.024 inch/rev.	N	-LH					
			CCGX	DCGX	TCGX	VCGX	
ap=2.0-6.0 mm ap=0.080-0.240 inch fn=0.3-0.6 mm/rev. fn=0.012-0.024 inch/rev.	S	-HR					
			CCMT	DCMT	SCMT	TCMT	VBMT
ap=2.0-5.0 mm ap=0.080-0.200 inch fn=0.3-0.5 mm/rev. fn=0.012-0.020 inch/rev.	H	-HR					
			CCMT	DCMT	SCMT	TCMT	VBMT

Turning Inserts

Carbide – Positive Chipbreakers – CVD Coated



CCMT & CCMW – Positive 80° Rhombic



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
CCMT2(1.5)1HF	YBC151	HF	0.250	0.094	0.016	573166
CCMT2(1.5)1HM	YBC151	HM	0.250	0.094	0.016	573182
CCMT2(1.5)2HM	YBC151	HM	0.250	0.094	0.031	573212
CCMT3(2.5)2HM	YBC251	HM	0.375	0.156	0.031	573290
CCMT432HR	YBD152	HR	0.500	0.187	0.031	573384
CCMW2(1.5)1	YBD151	–	0.250	0.094	0.016	573394

DCMT – Positive 55° Rhombic



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
DCMT2(1.5)1HM	YBC251	HM	0.250	0.094	0.016	573840

SCMT – Positive Square



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
SCMT3(2.5)1HM	YBC251	HM	0.375	0.156	0.016	574560

TCMT – Positive Triangular



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
TCMT2(1.5)1HF	YBC251	HF	0.250	0.094	0.016	575150
TCMT2(1.5)1HM	YBC251	HM	0.250	0.094	0.016	575160

VBMT – Positive 35° Rhombic



ANSI	CVD Coated Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
VBMT331HM	YBC251	HM	0.375	0.187	0.016	575656
VBMT332HM	YBC251	HM	0.375	0.187	0.031	575678

Turning Inserts

For Machining Aluminum – Uncoated



CCGX – Positive 80° Rhombic



ANSI	Uncoated Grade	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
CCGX2(1.5)0	YD101	0.250	0.094	0.008	573144
CCGX2(1.5)1	YD101	0.250	0.094	0.016	573146
CCGX2(1.5)2	YD101	0.250	0.094	0.031	573148
CCGX3(2.5)0	YD101	0.375	0.156	0.008	573150
CCGX3(2.5)1	YD101	0.375	0.156	0.016	573152
CCGX3(2.5)2	YD101	0.375	0.156	0.031	573154
CCGX432	YD101	0.500	0.187	0.031	573156

DCGX – Positive 55° Rhombic



ANSI	Uncoated Grade	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
DCGX2(1.5)0	YD101	0.250	0.094	0.008	573802
DCGX2(1.5)1	YD101	0.250	0.094	0.016	573804
DCGX3(2.5)0	YD101	0.375	0.156	0.008	573806
DCGX3(2.5)1	YD101	0.375	0.156	0.016	573808
DCGX3(2.5)2	YD101	0.375	0.156	0.031	573810

TCGX – Positive Triangular



ANSI	Uncoated Grade	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
TCGX2(1.5)1	YD101	0.250	0.094	0.016	575096
TCGX3(2.5)1	YD101	0.375	0.156	0.016	575098
TCGX3(2.5)2	YD101	0.375	0.156	0.031	575100

VCGX – Positive 35° Rhombic



ANSI	Uncoated Grade	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
VCGX2(1.5)1	YD101	0.250	0.094	0.016	575732
VCGX331	YD101	0.375	0.187	0.016	575734
VCGX332	YD101	0.375	0.187	0.031	575751
VCGX333	YD101	0.375	0.187	0.047	575753

Turning Inserts Identification Guide



1



2



3



4

1

Insert
Shape

A	B	C	D	E	H	K	L
							Special
O	P	R	S	T	V	W	X

2

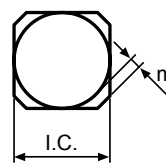
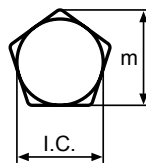
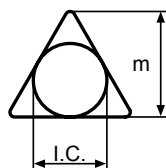
Clearance
Angle

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

3

Tolerance

	Tolerance			I.C. Size					
	m	t	I.C.	.250	.375	.500	.625	.750	1
A	± .0002	± .0001	± .0001	•	•	•	•	•	•
C	± .0005	± .0010	± .0010	•	•	•	•	•	•
E	± .0010	± .0010	± .0010	•	•	•	•	•	•
F	± .0020	± .0010	± .0010	•	•	•	•	•	•
G	± .0010	± .0005	± .0010	•	•	•	•	•	•
H	± .0005	± .0010	± .0010	•	•	•	•	•	•
K	± .0005	± .0010	± .0020	•	•				
			± .0030			•			
			± .0040				•	•	
			± .0050						•
M	± .0030	± .0050	± .0020	•	•				
	± .0050		± .0030			•			
	± .0060		± .0040				•	•	
	± .0070		± .0050						•



4

Cross
Section
Shape

								Special
A	F	G	M	N	R	T	W	X

Turning Inserts Identification Guide



5



6



7

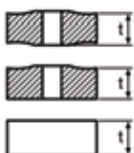


8

5
Cutting
Edge
Length

I.C. Size	Symbol	C	D	S	R	T	V	W	H
									
Inch		Metric							
5/32	1.2(5)	03	04	03	03	06		02	
3/16	1.5(6)	04	05	04	04	08	08		
7/32	1.8(7)	05	06	05	05	09	09	03	
1/4	2	06	07	06	06	11	11	04	
5/16	2.5	08	09	07	07	13	13	05	
3/8	3	09	11	09	09	16	16	06	
1/2	4	12	15	12	12	22	22	08	05
5/8	5	16	19	15	15	27	27	10	09
3/4	6	19	23	19	19	33	33	13	10
1	8	25	31	25	25	44	44	17	

*() symbol for small size insert

6
Thickness


Symbol(t)	Inch
1.5(3)	3/32
2	1/8
2.5	5/32
3	3/16
4	1/4
5	5/16
6	3/8

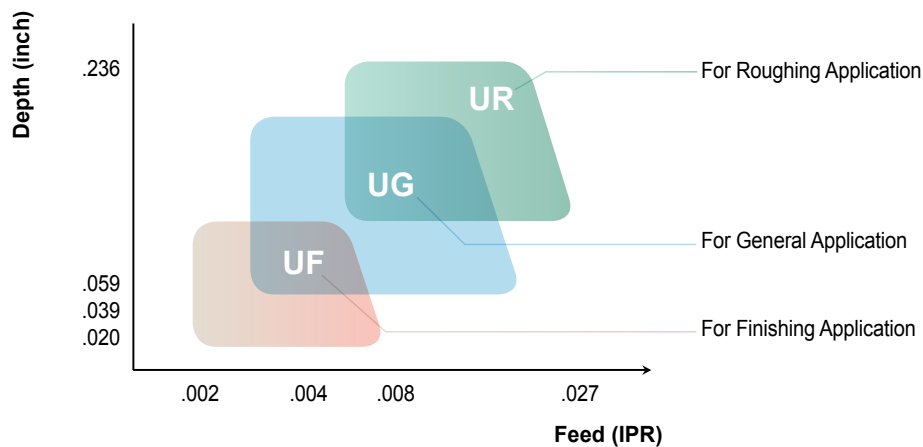
7
Nose Radius


Symbol(t)	Inch
0.5	.008
1	1/64
2	1/32
3	3/64
4	1/16
5	5/64
6	3/32
00	Round insert

8
Chip Breaker

For Application

YG Turn Chip Breakers Application area



Turning Inserts

Carbide



CCMT



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
CCMT2(1.5)1UF	YG801	UF	0.254	0.094	0.016	577510
CCMT2(1.5)2UG	YG801	UG	0.254	0.094	0.031	577511
CCMT3(2.5)1UR	YG801	UR	0.381	0.156	0.016	577512
CCMT3(2.5)2UG	YG801	UG	0.381	0.156	0.031	577513
CCMT432UG	YG801	UG	0.508	0.187	0.031	577514

DCMT



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
DCMT2(1.5)1UF	YG801	UF	0.305	0.094	0.016	577515
DCMT3(2.5)1UF	YG801	UF	0.458	0.156	0.016	577516
DCMT3(2.5)2UG	YG801	UG	0.458	0.156	0.031	577517

RCMT



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
RCMT0602M0	YG801	—	—	0.094	—	577518
RCMT0803M0	YG801	—	—	0.125	—	577519
RCMT10T3M0	YG801	—	—	3.970	—	577520
RCMT1204M0	YG801	—	—	0.187	—	577521

SCMT



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
SCMT3(2.5)1UF	YG801	UF	0.375	0.156	0.016	577522
SCMT3(2.5)2UG	YG801	UG	0.375	0.156	0.031	577523

TCMT



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
TCMT2(1.5)1UF	YG801	UF	0.433	0.094	0.016	577524
TCMT3(2.5)1UF	YG801	UF	0.650	0.156	0.016	577525
TCMT3(2.5)2UG	YG801	UG	0.650	0.156	0.031	577526

VBMT



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
VBMT331UF	YG801	UF	0.654	0.187	0.016	577527
VBMT332UG	YG801	UG	0.654	0.187	0.031	577528

Turning Inserts

Carbide



CNMA & CNMG



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
CNMA432UC	YG1001	UC	0.508	0.187	0.031	577529
CNMA433UC	YG1001	UC	0.508	0.187	0.047	577530
CNMA543UC	YG1001	UC	0.635	0.250	0.047	577531
CNMG431UF	YG801	UF	0.508	0.187	0.016	577532
CNMG432UG	YG801	UG	0.508	0.187	0.031	577533
CNMG433UR	YG801	UR	0.508	0.187	0.047	577534

DNMG



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
DNMG431UF	YG801	UF	0.610	0.187	0.016	577535
DNMG432UG	YG801	UG	0.610	0.187	0.031	577536
DNMG441UF	YG801	UF	0.610	0.250	0.016	577537
DNMG442UG	YG801	UG	0.610	0.250	0.031	577538
DNMG443UR	YG801	UR	0.610	0.250	0.047	577539

SNMA & SNMG



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
SNMA432UC	YG1001	UC	0.500	0.187	0.031	577540
SNMA433UC	YG1001	UC	0.500	0.187	0.047	577541
SNMG431UF	YG801	UF	0.500	0.187	0.016	577542
SNMG432UG	YG801	UG	0.500	0.187	0.031	577543
SNMG433UR	YG801	UR	0.500	0.187	0.047	577544

TNMA, TNMG & TNUX



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
TNMA332UC	YG1001	UC	0.650	0.187	0.031	577545
TNMA333UC	YG1001	UC	0.650	0.187	0.047	577546
TNMG331UF	YG801	UF	0.650	0.187	0.016	577547
TNMG332UG	YG801	UG	0.650	0.187	0.031	577548
TNMG333UR	YG801	UR	0.650	0.187	0.047	577549
TNMG431UF	YG801	UF	0.866	0.187	0.016	577550
TNMG432UG	YG801	UG	0.866	0.187	0.031	577551
TNMG433UR	YG801	UR	0.866	0.187	0.047	577552
TNUX331L	YG801	–	0.650	0.187	0.016	577553
TNUX332L	YG801	–	0.650	0.187	0.031	577554
TNUX331R	YG801	–	0.650	0.187	0.016	577555
TNUX332R	YG801	–	0.650	0.187	0.031	577556

VNMG



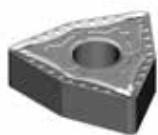
ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
VNMG331UF	YG801	UF	0.650	0.375	0.016	577557
VNMG332UG	YG801	UG	0.654	0.375	0.031	577558
VNMG333UR	YG801	UR	0.650	0.375	0.047	577559

Turning Inserts

Carbide



WNMA & WNMG



ANSI	Grade	Chipbreaker	ØI.C. (Inch)	Thickness (Inch)	Radius (Inch)	Code
WNMA431UC	YG1001	UC	0.342	0.187	0.016	577560
WNMA432UC	YG1001	UC	0.342	0.187	0.031	577561
WNMA433UC	YG1001	UC	0.342	0.187	0.047	577562
WNMG331UF	YG801	UF	0.254	0.187	0.016	577563
WNMG332UG	YG801	UG	0.254	0.187	0.031	577564
WNMG431UF	YG801	UF	0.342	0.187	0.016	577565
WNMG432UG	YG801	UG	0.342	0.187	0.031	577566
WNMG433UR	YG801	UR	0.320	0.187	0.047	577567

Turning Inserts

MULTI-MAT® Turning Inserts

Revolutionary Technology! Only one grade required to cut multiple materials!



Coated Grades – PVD – LT10

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	Code
KNUX 160405 R 11	KNUX 160405 R11	0.630	0.187	0.020	530046
RCMT 0602 MO	RCMT 0602 MO	0.236	0.094	0.118	530054
RCMT 0803 MO	RCMT 0803 MO	0.315	0.125	0.157	530055
RCMT 10T3 MO	RCMT 10T3 MO	0.394	0.156	0.197	530056
RCMT 1204 MO	RCMT 1204 MO	0.472	0.187	0.236	530057
TNUX 331 R	TNUX 160404 R	0.375	0.188	0.016	530096

NN: All Purpose Chipbreaker – Coated Grades – PVD – LT10

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	Code
CCMT 2(1.5)1 NN	CCMT 060204 NN	0.250	0.094	0.016	530010
CCMT 3(2.5)1 NN	CCMT 09T304 NN	0.375	0.156	0.016	530011
CCMT 3(2.5)2 NN	CCMT 09T308 NN	0.375	0.156	0.031	530012
CCMT 432 NN	CCMT 120408 NN	0.500	0.188	0.031	530140
CNMG 431 NN	CNMG 120404 NN	0.500	0.188	0.016	530015
CNMG 432 NN	CNMG 120408 NN	0.500	0.188	0.031	530017
CNMG 433 NN	CNMG 120412 NN	0.500	0.188	0.047	530020
CNMM 432 NR	CNMM 120408 NR	0.500	0.188	0.031	530025
CNMM 433 NR	CNMM 120412 NR	0.500	0.188	0.047	530027
CNMP 432 NN	CNMP 120408 NN	0.472	0.187	0.031	530030
CNMP 433 NN	CNMP 120412 NN	0.472	0.187	0.047	530031
DCMT 2(1.5)1 NN	DCMT 070204 NN	0.250	0.094	0.016	530032
DCMT 3(2.5)1 NN	DCMT 11T304 NN	0.375	0.156	0.016	530033
DCMT 3(2.5)2 NN	DCMT 11T308 NN	0.375	0.156	0.031	530034
DNMG 331 NN	DNMG 110404 NN	0.375	0.188	0.016	530037
DNMG 332 NN	DNMG 110408 NN	0.375	0.188	0.031	530038
DNMG 431 NN	DNMG 150404 NN	0.500	0.188	0.016	530039
DNMG 432 NN	DNMG 150408 NN	0.500	0.188	0.031	530040
DNMG 441 NN	DNMG 150604 NN	0.500	0.250	0.016	530041
DNMG 442 NN	DNMG 150608 NN	0.500	0.250	0.031	530042
DNMG 443 NN	DNMG 150612 NN	0.500	0.250	0.047	530044
SNMG 432 NN	SNMG 120408 NN	0.500	0.188	0.031	530071
SNMG 433 NN	SNMG 120412 NN	0.500	0.188	0.047	530072
TCMT 2(1.5)1 NN	TCMT 110204 NN	0.250	0.094	0.016	530085
TCMT 2(1.5)2 NN	TCMT 110208 NN	0.250	0.094	0.031	530086
TCMT 3(2.5)1 NN	TCMT 16T304 NN	0.375	0.156	0.016	530087
TCMT 3(2.5)2 NN	TCMT 16T308 NN	0.375	0.156	0.031	530088
TNMG 331 NN	TNMG 160404 NN	0.375	0.188	0.016	530090
TNMG 332 NN	TNMG 160408 NN	0.375	0.188	0.031	530091
TNMG 432 NN	TNMG 220408 NN	0.500	0.188	0.047	530093
TNMG 433 NN	TNMG 220412 NN	0.500	0.188	0.047	530144
TNMP 332 NN	TNMP 160408 NN	0.375	0.188	0.031	530095

Turning Inserts

MULTI-MAT® Turning Inserts (continued)



NN: All Purpose Chipbreaker – Coated Grades – PVD – LT10 (continued)

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	Code
TNUX 332 R	TNUX 160408 R	0.375	0.188	0.031	530097
VBMT 331 NN	VBMT 160404 NN	0.375	0.188	0.016	530103
VBMT 332 NN	VBMT 160408 NN	0.375	0.188	0.031	530104
VCMT 331 NN	VCMT 160404 NN	0.375	0.188	0.016	530105
VCMT 332 NN	VCMT 160408 NN	0.375	0.188	0.031	530106
VNMG 331 NN	VNMG 160404 NN	0.375	0.188	0.016	530109
VNMG 332 NN	VNMG 160408 NN	0.375	0.188	0.031	530110
WNMG 331 NN	WNMG 060404 NN	0.375	0.188	0.016	530115
WNMG 332 NN	WNMG 060408 NN	0.375	0.188	0.031	530117
WNMG 431 NN	WNMG 080404 NN	0.500	0.188	0.016	530118
WNMG 432 NN	WNMG 080408 NN	0.500	0.188	0.031	530119
WNMG 433 NN	WNMG 080412 NN	0.500	0.188	0.047	530122
WNMP 331 NN	WNMP 060404 NN	0.375	0.188	0.016	530124
WNMP 332 NN	WNMP 060408 NN	0.375	0.188	0.031	530125
WNMP 432 NN	WNMP 080408 NN	0.500	0.188	0.031	530126

WM: Wiper Medium Chipbreaker – Coated Grades – PVD – LT10

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	Code
CCMT 3(2.5)2 WM	CCMT 09T308 WM	0.375	0.156	0.031	530013
CNMG 432 WM	CNMG 120408 WM	0.500	0.188	0.031	530019
WNMG 432 WM	WNMG 080408 WM	0.500	0.188	0.031	530121

Large Size Turning Inserts – Coated Grades – PVD – LT35/45

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	Code
CNMG 543 NR	CNMG 160612 NR	0.634	0.250	0.047	530022
CNMG 643 NR	CNMG 190612 NR	0.760	0.250	0.047	530023
CNMG 644 NR	CNMG 190616 NR	0.760	0.250	0.063	530024
CNMM 644 NR	CNMM 190616 NR	0.760	0.250	0.063	530029
SNMG 643 NR	SNMG 190612 NR	0.750	0.250	0.047	530073
SNMG 644 NR	SNMG 190616 NR	0.750	0.250	0.047	530074
SNMM 856 NR	SNMM 250724 NR	1.000	0.313	0.094	530075

STAR - NN: All Purpose Chipbreaker – Coated Grades – PVD – LT10

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	Code
ST-CBMT 232L NN	ST-CBMT 060408L NN	0.375	0.188	0.031	530081
ST-DBMT 231L NN	ST-DBMT 060404L NN	0.375	0.188	0.016	530082
ST-TBMT 231L NN	ST-TBMT 060404L NN	0.375	0.188	0.016	530083
ST-VBMT 231L NN	ST-VBMT 060404L NN	0.375	0.188	0.016	530084

To be used with holders: ST-SXJBL/R

ALU: Aluminum Chipbreaker – Coated Grades – PVD – LT05

ANSI	ISO	L (Inch)	S (Inch)	R (Inch)	Code
CNGG 432 ALU	CNGG 120408 ALU	0.500	0.188	0.031	530014
DNGG 331 ALU	DNGG 110404 ALU	0.375	0.188	0.016	530035
DNGG 332 ALU	DNGG 110408 ALU	0.375	0.188	0.031	530036
TNGG 331 ALU	TNGG 160404 ALU	0.375	0.188	0.016	530089
VNGG 331 ALU	VNGG 160404 ALU	0.375	0.188	0.016	530107
VNGG 332 ALU	VNGG 160408 ALU	0.375	0.188	0.031	530108