



Shape-Master
TOOL COMPANY
Your Polycrystalline Machining Solutions Partner.



CUSTOM PERFORMANCE

PCBN TURNING INSERTS

Shape-Master
Cutting Tools



ANSI INSERT DESIGNATION



C	
D	
O	
R	
S	
T	
V	
W	
SHAPE	

Class	Insert I.C.	Thickness
A	+/-0.001"	+/-0.001"
C	+/-0.001"	+/-0.001"
D	+/-0.005"	+/-0.005"
E	+/-0.001"	+/-0.001"
G	+/-0.001"	+/-0.005"
M	+/-0.002"	+/-0.005"
TOLERANCE		

[5]	0.156"
[6]	0.187"
1.5	0.187"
[7]	0.219"
1.8	0.219"
2	0.250"
2.5	0.312"
3	0.375"
4	0.500"
5	0.625"
6	0.750"
I.C. SIZE	

0	0"
0.5	0.008"
1	0.016"
2	0.031"
3	0.047"
4	0.063"
5	0.078"
6	0.094"
RADIUS	

BLANK	Single tip, or as otherwise specified on print
MT-L	Multi-Tipped <u>Light</u> Depth of Cut
MT-M	Multi-Tipped <u>Medium</u> Depth of Cut
MT-H	Multi-Tipped <u>Heavy</u> Depth of Cut
TIP SPECIFICATION	

C	N	G	A	4	3	2	TH	MTL
SHAPE	CLEARANCE	TOLERANCE	GEOMETRY	I.C. SIZE	THICKNESS	RADIUS	EDGE	TIP SPEC.

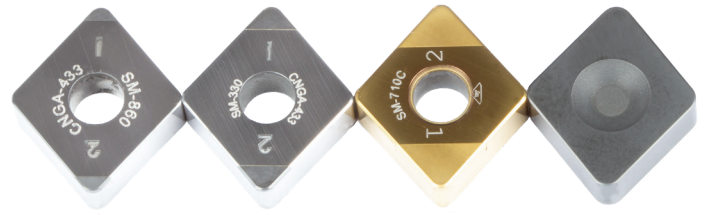
CLEARANCE			
N		D	
A		P	
B		F	
C		G	

GEOMETRY	
A	
B	
C	
N	
Q	
T	
W	
X	Special Design

THICKNESS	
0.6	0.040"
1	0.063"
[2]	0.063"
1.2	0.075"
[3]	0.094"
1.5	0.094"
2	0.125"
2.5	0.156"
3	0.187"
4	0.250"

EDGE PREP/WIPERS	
BLANK	Up-sharp
H	Hone only
HW	Hone with wiper
T	T-land only
TH	T-land & hone
THW	T-land, hone & wiper
W	Wiper - upsharp

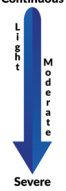
DETAIL-DRIVEN EXCELLENCE

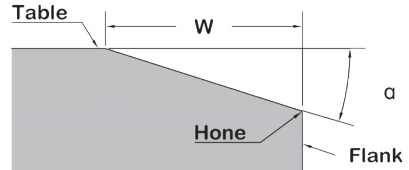


CUTTING TOOL OPTIMIZATION

Shape-Master Tool Company creates custom cutting tools matched specifically for the application at hand. Below are a few of the options available to maximize efficiencies and minimize cost per part.:

- Inserts available in all ANSI and ISO geometries.
- Extensive PCBN grade portfolio to handle the needs for specific workpiece materials.
- Edge preparation and geometry customization designed to meet the required surface finish and dimensional tolerances.
- CBN tip sizes/shapes as well as fulltop and solids available to cover D.O.C. requirements ranging from light finishing to heavy roughing passes.

Cutting Edge Options					
Chamfer Angle (α)	Chamfer Size (W)	Hone Size	Application Requirements		
			Interruption Severity	Burr Reduction	Tool Pressure
0°	(Up Sharp)	N/A	Continuous		
15°	0.002" - .020"	0" - 0.002"			
20°					
25°					
30°					
35°					



Primary Grade Offerings				Recommended Parameters		
Product Category	SM Grade	Grade Designation	Application Guidelines	Speed (sfm)	Feed (ipr)	Depth of Cut (in)
Hardened Steel	SM-5420	H05	Continuous Hard Turn Finishing	350 - 900	0.002 - 0.008	0.002 - 0.008
	SM-2220	H10	Continuous - Light Interruption	350 - 800	0.002 - 0.008	0.002 - 0.012
	SM-2125	H20	General Purpose Hard Turn	250 - 600	0.002 - 0.008	0.002 - 0.012
	SM-2130	H30	Severely Interrupted Hard Turn	150 - 400	0.002 - 0.006	0.002 - 0.010
Tool Steel	SM-027	H10 - H20	Continuous - Light Interruption	200 - 400	0.002 - 0.006	0.002 - 0.008
High Content PCBN	SM-300	S10 - S20	1st Choice - High Temp Alloys	500 - 1000	0.004 - 0.012	< 0.040
	SM-330	Soft PM	1st Choice - As-sintered PM alloys	300 - 800	0.002 - 0.020	0.002 - 0.040
	SM-710	Hard PM	Hardened Ferrous PM Alloys	300 - 1000	0.002 - 0.012	0.002 - 0.040
	SM-875	K10	Ductile Iron Finishing	400 - 1000	0.005 - 0.015	< 0.040
	SM-1250	PM	General Purpose - Ferrous PM Alloys	300 - 1000	0.002 - 0.012	0.002 - 0.040
	SM-860	K20, S10, H35	General Purpose - Abrasive Workpieces	Application specific guidelines		
Solid PCBN	SM-6500	K01 - K30	General Purpose - Grey Cast Irons	1200 - 6000	0.005 - 0.020	0.005 - 0.100
	SM-365	K01 - K30	1st Choice for White / High Cr Irons	300 - 1000	0.005 - 0.020	0.005 - 0.100
	SM-4001	H10 - H20	Solid PCBN for Hardened Steel	350 - 800	0.002 - 0.010	0.002 - 0.020

*Extensive list of grades available beyond those listed in this table. Shape-Master Tool Co. will use their expansive application knowledge and expertise to find the grade for your specific application.



NEGATIVE INSERTS

			80° Diamond						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
CNGA-430.5	0.500"	0.187"	0.008"	0°	0.200"	0.108"	0.159"		
CNGA-431			0.016"			0.107"	0.158"		
CNGA-432			0.031"			0.103"	0.155"		
CNGA-433			0.047"			0.101"	0.152"		
CNGA-43X			custom size			X	X		

			55° Diamond						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
DNGA-430.5	0.500"	0.187"	0.008"	0°	0.200"	0.111"	0.150"		
DNGA-431			0.016"			0.104"	0.143"		
DNGA-432			0.031"			0.090"	0.129"		
DNGA-433			0.047"			0.075"	0.114"		
DNGA-43X			custom size			X	X		

			90° Square						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
SNGA-430.5	0.500"	0.187"	0.008"	0°	0.200"	0.122"	0.161"		
SNGA-431			0.016"			0.122"	0.161"		
SNGA-432			0.031"			0.122"	0.161"		
SNGA-433			0.047"			0.122"	0.161"		
SNGA-43X			custom size			X	X		



To better serve our customers with more urgent delivery requirements, we offer a number of insert geometries with shorter lead-times. These inserts are available in PCBN grades that cover a wide range of applications, workpiece alloys, depths of cut, and interruption ranges.

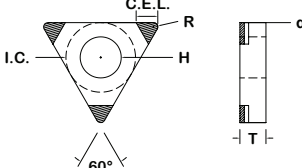
BOLT
Boldy Optimized Lead Times

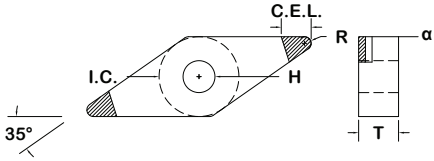


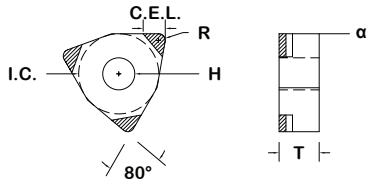
BOLT availability designation symbol

NEGATIVE INSERTS



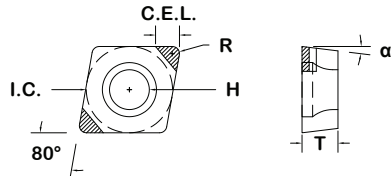
			60° Triangle						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
TNGA-330.5	0.375"	0.187"	0.008"	0°	0.147"	0.094"	0.153"		
TNGA-331			0.016"			0.088"	0.147"		
TNGA-332			0.031"			0.077"	0.136"		
TNGA-333			0.047"			0.065"	0.124"		
TNGA-33X			custom size			X	X		
TNGA-430.5	0.500"	0.187"	0.008"	0°	.0200"	0.110"	0.169"		
TNGA-431			0.016"			0.108"	0.167"		
TNGA-432			0.031"			0.096"	0.155"		
TNGA-433			0.047"			0.085"	0.144"		
TNGA-43X			custom size			X	X		

			35° Diamond						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
VNGA-330.5	0.375"	0.187"	0.008"	0°	0.147"	0.152"	0.211"		
VNGA-331			0.016"			0.134"	0.193"		
VNGA-332			0.031"			0.101"	0.160"		
VNGA-333			0.047"			0.067"	0.126"		
VNGA-33X			custom size			X	X		

			60° Trigon						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
WNGA-330.5	0.375"	0.187"	0.008"	0°	0.147"	0.109"	0.161"		
WNGA-331			0.016"			0.106"	0.158"		
WNGA-332			0.031"			0.103"	0.155"		
WNGA-333			0.047"			0.100"	0.152"		
WNGA-33X			custom size			X	X		
WNGA-430.5	0.500"	0.187"	0.008"	0°	.0200"	0.110"	0.169"		
WNGA-431			0.016"			0.108"	0.167"		
WNGA-432			0.031"			0.096"	0.155"		
WNGA-433			0.047"			0.085"	0.144"		
WNGA-43X			custom size			X	X		



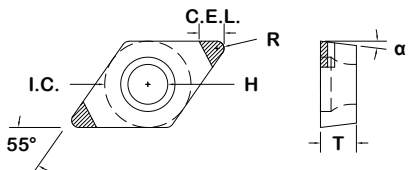
POSITIVE INSERTS

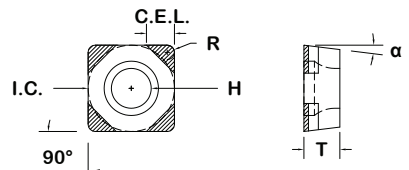


80° Diamond



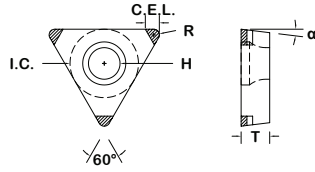
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
CCMW-2(1.5)0.5	0.250"	0.094"	0.008"	7°	0.110"	0.100"	0.140"	⊕	
CCMW-2(1.5)1			0.016"			0.099"	0.138"	⊕	
CCMW-2(1.5)2			0.031"			0.096"	0.135"	⊕	
CCMW-2(1.5)3			0.047"			0.093"	0.132"	⊕	
CCMW-2(1.5)X			custom size			X	X	⊕	
CCMW-3(2.5)0.5	0.375"	0.156"	0.008"		0.173"	0.108"	0.140"	⊕	⊕
CCMW-3(2.5)1			0.016"			0.107"	0.138"	⊕	⊕
CCMW-3(2.5)2			0.031"			0.104"	0.135"	⊕	⊕
CCMW-3(2.5)3			0.047"			0.101"	0.132"	⊕	⊕
CCMW-3(2.5)X			custom size			X	X	⊕	⊕
CCMW-430.5	0.500"	0.187"	0.008"		0.216"	0.108"	0.140"		
CCMW-431			0.016"			0.107"	0.138"		
CCMW-432			0.031"			0.104"	0.135"		
CCMW-433			0.047"			0.101"	0.132"		
CCMW-43(X)			custom size			X	X		
CPMW-1.8(1.5)0.5	0.219"	0.094"	0.008"	11°	0.098"	0.100"	N/A		
CPMW-1.8(1.5)1			0.016"			0.099"	N/A		
CPMW-1.8(1.5)2			0.031"			0.096"	N/A		
CPMW-1.8(1.5)3			0.047"			0.093"	N/A		
CPMW-1.8(1.5)X			custom size			X	N/A		
CPMW-2(1.5)0.5	0.250"	0.094"	0.008"		0.110"	0.100"	N/A	⊕	
CPMW-2(1.5)1			0.016"			0.099"	N/A	⊕	
CPMW-2(1.5)2			0.031"			0.096"	N/A	⊕	
CPMW-2(1.5)3			0.047"			0.093"	N/A	⊕	
CPMW-2(1.5)X			custom size			X	N/A	⊕	
CPMW-3(2.5)0.5	0.375"	0.156"	0.008"		0.173"	0.109"	0.140"	⊕	⊕
CPMW-3(2.5)1			0.016"			0.107"	0.138"	⊕	⊕
CPMW-3(2.5)2			0.031"			0.104"	0.135"	⊕	⊕
CPMW-3(2.5)3			0.047"			0.101"	0.132"	⊕	⊕
CPMW-3(2.5)X			custom size			X	X	⊕	⊕
CDHB-1.2(0.6)0.5	0.156"	0.040"	0.008"	15°	.083"	0.077"	N/A		
CDHB-1.2(0.6)1			0.016"			0.075"	N/A		
CDHB-1.2(0.6)2			0.031"			0.072"	N/A		
CDHB-1.2(0.6)3			0.047"			0.069"	N/A		
CDHB-1.2(0.6)X			custom size			X	N/A		
CDGW-1.5(1)0.5	0.187"	0.063"	0.008"		.083"	0.108"	N/A		
CDGW-1.5(1)1			0.016"			0.107"	N/A		
CDGW-1.5(1)2			0.031"			0.104"	N/A		
CDGW-1.5(1)3			0.047"			0.101"	N/A		
CDGW-1.5(1)X			custom size			X	N/A		

			55° Diamond						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
DCMW-2(1.5)0.5	0.250"	0.094"	0.008"	7°	0.110"	0.117"	0.176"		
DCMW-2(1.5)1			0.016"			0.104"	0.163"		
DCMW-2(1.5)2			0.031"			0.090"	0.149"		
DCMW-2(1.5)3			0.047"			0.075"	0.134"		
DCMW-2(1.5)(X)			custom size			X	X		
DCMW-3(2.5)0.5	0.375"	0.156"	0.008"		0.173"	0.117"	0.176"		
DCMW-3(2.5)1			0.016"			0.104"	0.163"		
DCMW-3(2.5)2			0.031"			0.090"	0.149"		
DCMW-3(2.5)3			0.047"			0.075"	0.134"		
DCMW-3(2.5)(X)			custom size			X	X		
DPMW-2(1.5)0.5	0.250"	0.094"	0.008"	11°	0.110"	0.117"	0.176"		
DPMW-2(1.5)1			0.016"			0.104"	0.163"		
DPMW-2(1.5)2			0.031"			0.090"	0.149"		
DPMW-2(1.5)3			0.047"			0.075"	0.134"		
DPMW-2(1.5)(X)			custom size			X	X		
DPMW-3(2.5)0.5	0.375"	0.156"	0.008"		0.173"	0.136"	0.195"		
DPMW-3(2.5)1			0.016"			0.123"	0.182"		
DPMW-3(2.5)2			0.031"			0.109"	0.168"		
DPMW-3(2.5)3			0.047"			0.095"	0.154"		
DPMW-3(2.5)(X)			custom size			X	X		

			90° Square						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
SCMW-3(2.5)0.5	0.375"	0.156"	0.008"	7°	0.173"	0.122"	0.161"		
SCMW-3(2.5)1			0.016"			0.122"	0.161"		
SCMW-3(2.5)2			0.031"			0.122"	0.161"		
SCMW-3(2.5)3			0.047"			0.122"	0.161"		
SCMW-3(2.5)(X)			custom size			X	X		



POSITIVE INSERTS



60° Triangle



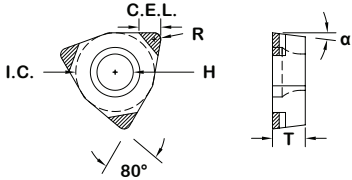
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
TBGE-52(0.5)	0.156"	0.063"	0.008"	5°	N/A (this is a Fulltop Insert)	N/A	N/A		
TBGE-521			0.016"			N/A	N/A		
TBGE-522			0.031"			N/A	N/A		
TBGE-523			0.047"			N/A	N/A		
TBGE-52X			custom size			N/A	N/A		
TCMW-1.5(1.5)0.5	0.187"	0.094"	0.008"	7°	0.085"	0.094"	N/A		
TCMW-1.5(1.5)1			0.016"			0.088"	N/A		
TCMW-1.5(1.5)2			0.031"			0.077"	N/A		
TCMW-1.5(1.5)3			0.047"			0.065"	N/A		
TCMW-1.5(1.5)X			custom size			X	X		
TCMW-1.8(1.2)0.5	0.219"	0.075"	0.008"		0.098"	0.094"	N/A		
TCMW-1.8(1.2)1			0.016"			0.088"	N/A		
TCMW-1.8(1.2)2			0.031"			0.077"	N/A		
TCMW-1.8(1.2)3			0.047"			0.065"	N/A		
TCMW-1.8(1.2)X			custom size			X	X		
TCMW-1.8(1.5)0.5	0.219"	0.094"	0.008"		0.098"	0.094"	N/A		
TCMW-1.8(1.5)1			0.016"			0.088"	N/A		
TCMW-1.8(1.5)2			0.031"			0.077"	N/A		
TCMW-1.8(1.5)3			0.047"			0.065"	N/A		
TCMW-1.8(1.5)X			custom size			X	X		
TCMW-2(1.5)0.5	0.250"	0.094"	0.008"		0.110"	0.094"	0.133"	⊗	
TCMW-2(1.5)1			0.016"			0.088"	0.128"	⊗	
TCMW-2(1.5)2			0.031"			0.077"	0.116"	⊗	
TCMW-2(1.5)3			0.047"			0.065"	0.105"	⊗	
TCMW-2(1.5)X			custom size			X	X	⊗	
TCMW-3(2.5)0.5	0.375"	0.156"	0.008"		0.173"	0.094"	0.133"	⊗	
TCMW-3(2.5)1			0.016"			0.088"	0.128"	⊗	
TCMW-3(2.5)2			0.031"			0.077"	0.116"	⊗	
TCMW-3(2.5)3			0.047"			0.065"	0.105"	⊗	
TCMW-3(2.5)X			custom size			X	X	⊗	
TPMW-2(1.5)0.5	0.250"	0.094"	0.008"	11°	0.110"	0.094"	0.133"	⊗	
TPMW-2(1.5)1			0.016"			0.088"	0.128"	⊗	
TPMW-2(1.5)2			0.031"			0.077"	0.116"	⊗	
TPMW-2(1.5)3			0.047"			0.065"	0.105"	⊗	
TPMW-2(1.5)X			custom size			X	X	⊗	
TPMW-3(2.5)0.5	0.375"	0.156"	0.008"		0.173"	0.094"	0.133"	⊗	
TPMW-3(2.5)1			0.016"			0.088"	0.128"	⊗	
TPMW-3(2.5)2			0.031"			0.077"	0.116"	⊗	
TPMW-3(2.5)3			0.047"			0.065"	0.105"	⊗	
TPMW-3(2.5)X			custom size			X	X	⊗	



ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		B O L T	
						MT-L	MT-M	MT-L	MT-M
VBMW-2(1.5)0.5	0.250"	0.094"	0.008"	5°	0.110"	0.152"	0.211"		
VBMW-2(1.5)1			0.016"			0.134"	0.193"		
VBMW-2(1.5)2			0.031"			0.102"	0.161"		
VBMW-2(1.5)3			0.047"			0.067"	0.126"		
VBMW-2(1.5)X			custom size			X	X		
VBMW-220.5	0.250"	0.125"	0.008"		0.110"	0.152"	0.211"		
VBMW-221			0.016"			0.134"	0.193"		
VBMW-222			0.031"			0.102"	0.161"		
VBMW-223			0.047"			0.067"	0.126"		
VBMW-22X			custom size			X	X		
VBMW-33.05	0.375"	0.1875"	0.008"		0.173"	0.152"	0.211"	🔩	
VBMW-331			0.016"			0.134"	0.193"	🔩	
VBMW-332			0.031"			0.102"	0.161"	🔩	
VBMW-333			0.047"			0.067"	0.126"	🔩	
VBMW-33X			custom size			X	X	🔩	
VCMW-1.5(1.5)0.5	0.187"	0.094"	0.008"	7°	0.085"	0.152"	N/A		
VCMW-1.5(1.5)1			0.016"			0.135"	N/A		
VCMW-1.5(1.5)2			0.031"			0.101"	N/A		
VCMW-1.5(1.5)3			0.047"			0.067"	N/A		
VCMW-1.5(1.5)(X)			custom size			X	X		
VCMW-2(1.5)0.5	0.250"	0.094"	0.008"		0.110"	0.152"	0.211"		
VCMW-2(1.5)1			0.016"			0.134"	0.193"		
VCMW-2(1.5)2			0.031"			0.102"	0.161"		
VCMW-2(1.5)3			0.047"			0.067"	0.126"		
VCMW-2(1.5)(X)			custom size			X	X		
VCMW-220.5	0.250"	0.125"	0.008"		0.233"	0.152"	0.211"		
VCMW-221			0.016"			0.134"	0.193"		
VCMW-222			0.031"			0.102"	0.161"		
VCMW-223			0.047"			0.067"	0.126"		
VCMW-22(X)			custom size			X	X		
VCMW-330.5	0.375"	0.187"	0.008"	0.173"	0.094"	0.133"	🔩		
VCMW-331			0.016"		0.088"	0.128"	🔩		
VCMW-332			0.031"		0.077"	0.116"	🔩		
VCMW-333			0.047"		0.067"	0.105"	🔩		
VCMW-33(X)			custom size		X	X	🔩		
VPMW-2(1.5)0.5	0.250"	0.094"	0.008"	11°	0.110"	0.152"	0.211"		
VPMW-2(1.5)1			0.016"			0.134"	0.193"		
VPMW-2(1.5)2			0.031"			0.102"	0.161"		
VPMW-2(1.5)3			0.047"			0.067"	0.126"		
VPMW-2(1.5)(X)			custom size			X	X		



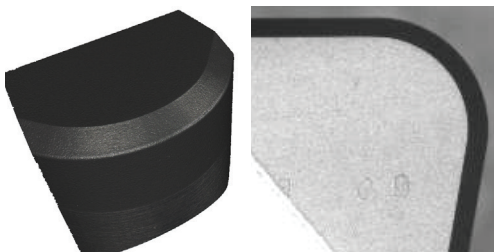
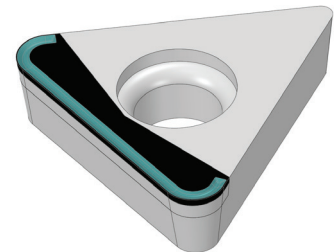
POSITIVE INSERTS

			80° Trigon						
ANSI DESIGNATION	I.C.	THICKNESS (T)	RADIUS SIZE AVAILABLE (R)	CLEARANCE (α)	HOLE DIA. (H)	C.E.L.		BOLT	
						MT-L	MT-M	MT-L	MT-M
WCMW-1.5(1.5)0.5	0.187"	0.094"	0.008"	7°	0.085"	0.100"	N/A		
WCMW-1.5(1.5)1			0.016"			0.099"	N/A		
WCMW-1.5(1.5)2			0.031"			0.096"	N/A		
WCMW-1.5(1.5)3			0.047"			0.093"	N/A		
WCMW-1.5(1.5)X			custom size			X	X		
WCMW-2(1.5)0.5	0.250"	0.094"	0.008"		0.110"	0.100"	N/A		
WCMW-2(1.5)1			0.016"			0.099"	N/A		
WCMW-2(1.5)2			0.031"			0.096"	N/A		
WCMW-2(1.5)3			0.047"			0.093"	N/A		
WCMW-2(1.5)X			custom size			X	X		
WCMW-3(2.5)0.5	0.375"	0.156"	0.008"		0.173"	0.109"	0.162"		
WCMW-3(2.5)1			0.016"			0.106"	0.158"		
WCMW-3(2.5)2			0.031"			0.103"	0.155"		
WCMW-3(2.5)3			0.047"			0.100	0.1525"		
WCMW-3(2.5)X			custom size			X	X		

The Shape-Master Advantage

Design and Engineering

- A collaborative effort with our engineers to design a tool specific to your application.
- Decades of experience, well documented case histories, and extensive material grade options allow us to optimize tool performance.
- We continually analyze existing applications for improvements with new designs and materials to assist in our customers' ongoing cost saving efforts.



Quality

- Utilizing the global market we have established a network of high-quality material suppliers. Understanding and applying these specialized materials is critical in achieving maximum machining performance.
- We understand that optimal tool performance can only be achieved with the highest edge quality, therefore we continue building a reputation in providing a superior cutting edge.
- Our trained personnel utilize advanced automated vision-based inspection equipment to insure cutting tools of the highest quality.

Equipment

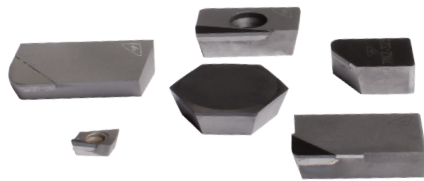
- With the highest quality equipment in the world, we produce the highest quality cutting tools in the world.
- Innovators - On multiple occasions we have been the first company to bring in the latest and newest technology within our market. We continually look to improve our manufacturing processes to produce the highest quality cutting tool.
- Automation- Fully automated equipment allows for efficient 24/7 operation to meet your delivery needs.
- Cutting tool quality is NEVER sacrificed to improve manufacturing cycle times or reduce production costs.
- Our equipment strategy allows for fast and efficient changeover to maintain a versatile manufacturing atmosphere.
- In partnership with equipment builders we have assisted in the development of equipment and tooling to improve our efficiencies.
- In-house 3D printer allows for quick component production required for the production of polycrystalline tools.



Endless Tooling Capabilities

Grooving Tools

- Designed and manufactured with your specific width, depth capability, radii, and other application requirements.
- We possess the ability to manufacture special groover shapes and custom form tools.
- Tolerances of 2 micron are consistently held on grooving insert geometries and edge preparation.

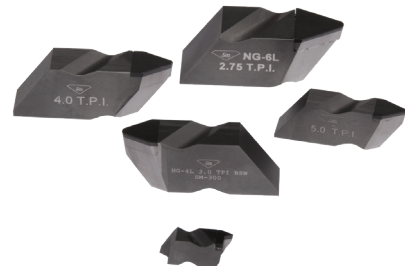


Milling Tools

- Exceptional tolerances minimize axial and radial run-out.
- Insert and CBN grade options available for a wide range of materials including cast iron and other ferrous milling applications (PCD options available for non-ferrous materials).
- To minimize cost per component, reworking programs are available upon evaluation.

Threading Tools

- Capable of handling the industries demands of challenging materials, high feed rates, and specific thread designs.
- Wide range of thread types available: Unified, Metric, Acme, Buttress, Square-Internal and External
- Our team of experienced engineers can design tooling for your specific threading applications.



Boring Tools

- Shape-Master designs and manufactures PCBN boring bars that are specific to your I.D. application.
- To improve cost per component we offer indexable insert options with minimum bore capabilities as low as 4.5mm.
- CBN tipped boring bar options available with minimum bore capabilities down to 2.2mm.

Specials Tools

- A custom tool manufacturer since 1976. You can count on Shape-Master Tool company's experience and reliability to deliver machining solutions.
- Competitive lead times, and an in-house design and engineering department turns ideas into reality quickly.
- As a custom tool manufacturer; "Specials aren't special to us, they are our standards".



Typical PCBN Cutting Tool Applications

Hardened Steel

- Alloy steels
- Tool steel
- Bearing steels
- 400 series SS

Powdered Metal

- Sinter hardened
- As-sintered
- Steam treated
- Powder forged

Cast Iron

- Grey Iron
- White Iron
- High Chrome
- Ductile Iron/CGI

Other

- Superalloys
- WC> 20% binder
- Thermal Sprays
- Hard facing alloys



SHAPE-MASTER CUTTING TOOLS

AUTOMOTIVE | AEROSPACE | MEDICAL | INDUSTRIAL | MACHINING SOLUTIONS

About Us

Shape-Master Tool was founded in 1976 as a niche natural diamond tool fabricating company, industry standards required a chip free finish at 1000x magnification. As the company has grown and evolved into a leading PCD & PCBN cutting tool manufacturer, we continue to pride ourselves on providing the best edge quality in the industry.



Green Tool Manufacturing Facility

Built for today's demands, and expandable for tomorrow's innovations, the environmentally controlled and powered facility was specifically designed for the fabrication of cutting tools. State of the art technology, high precision equipment, and skilled technicians maximize our efficiency in the process of building our customers' tools, providing them the peace of mind that their tools will arrive on time, to specification and deliver custom performance.

Shape-Master Tool Company

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