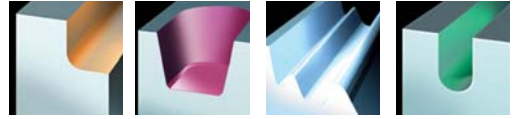




# 5510 VS 09

## Contour Milling Cutter



### 5510 VS 09 Weldon Shank

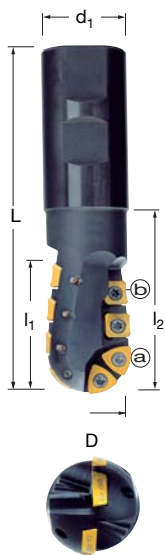
EDP#	Part Number	Dimensions (inch)					No. of Inserts	Spares				
		D	L	l <sub>1</sub>	l <sub>2</sub>	d <sub>1</sub>		EDP#		EDP#		
014863	C5510VS09WA1.25R1.90	1.25	5.00	1.90	2.70	1.25	a.	3	015269	F3508T	015240	T15
							b.	5	015269	F3508T	015240	T15



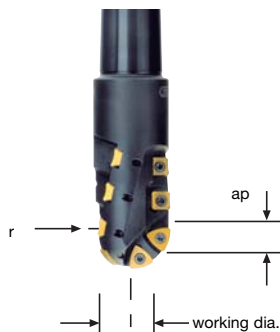
### 5510 VS 09 Technical Advice

Milling Cutter Order Example: **C5510VS09WA1.25R1.90**  
 Milling Insert Order Example: **SDMW09T308TN X500**  
**XDEW11/32T308SN-B X500**  
 For complete cutting conditions refer to page: **208**

When using these tools for slotting operations, maximum cutting depth is half the diameter cutter.



Weldon Shank

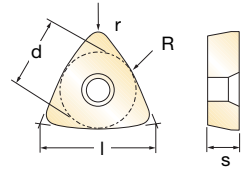


#### Working Diameter:

$$DW = 2 \times \sqrt{r^2 - (r - a_p)^2}$$

where: **DW** = Working Diameter  
**r** = Cutter radius  
**a<sub>p</sub>** = Axial Depth of Cut

# Inserts for 5510 VS 09



EDP#	Part Number	Grade	Application & Material			Dimensions (inch)						
			Roughing	Semi-Finishing	Finishing	d	l	s	r	R	h <sub>m</sub> min	
017717	SDCW09T3AETN	X44	b.			0.375	0.375	0.156	Facet	-	0.0059	<b>SDCW 09_</b>
015231	SDHW09T3AETN	X500	b.			0.375	0.375	0.156	Facet	-	0.0039	<b>SDHW 09_</b>
015232	SDMW09T308TN	X500	b.	◆◆◆		0.375	0.375	0.156	0.031	-	0.0047	<b>SDMW 09_</b>
015194	XDEW11/32T308SN-B	X44	a.			0.354	0.433	0.156	0.031	0.630	0.0047	<b>XDEW 11_</b> <b>-B</b>
015195	XDEW11/32T308SN-B	X500	a.	◆◆◆		0.354	0.433	0.156	0.031	0.630	0.0047	



### To find programmed feedrate:

$$f_z = h_m \times \sqrt{\frac{D}{a_p}} \times \sqrt{\frac{D_w}{a_e}}$$

where:

- f<sub>z</sub> = Feed per tooth
- h<sub>m</sub> = Average chip thickness
- D = Cutter diameter (outside)
- a<sub>e</sub> = Radial Depth of Cut
- D<sub>w</sub> = Working Diameter
- a<sub>p</sub> = Axial Depth of Cut

### Average chip thickness:

$$h_m = \frac{f_z}{\sqrt{\frac{D}{a_p}} \times \sqrt{\frac{D_w}{a_e}}}$$

## Recommended Cutting Conditions

Material	▼ Roughing			▼▼ Semi-Finishing			▼▼▼ Finishing		
	Speed V <sub>C</sub> (feet/min)	Feed/Rev h <sub>m</sub> (inch)	D.O.C. a <sub>p</sub> (inch)	Speed V <sub>C</sub> (feet/min)	Feed h <sub>m</sub> (inch)	D.O.C. a <sub>p</sub> (inch)	Speed V <sub>C</sub> (feet/min)	Feed h <sub>m</sub> (inch)	D.O.C. a <sub>p</sub> (inch)
◆ Unalloyed Steels	600 - 720	0.005 - 0.014	0.12 - 1.89	-	-	-	-	-	-
◆ Alloyed Steels	230 - 360	0.005 - 0.012	0.12 - 1.89	-	-	-	-	-	-
◆ Stainless Steels	-	-	-	-	-	-	-	-	-
◆ PH Stainless	-	-	-	-	-	-	-	-	-
◆ Cast Irons	460 - 910	0.005 - 0.012	0.12 - 1.89	-	-	-	-	-	-
◆ Aluminum & Alloys	-	-	-	-	-	-	-	-	-
◆ High Temp. Alloys	-	-	-	-	-	-	-	-	-
◆ Hard Steels (52-56 HRC)	-	-	-	-	-	-	-	-	-

h<sub>m</sub> = average chip thickness

## Star Guide Key to Recommended Tools

Material Designations			
<b>P</b> ◆	Unalloyed Steels	<b>M</b> ◆	Stainless Steels
<b>P</b> ◆	Alloyed Steels	<b>M</b> ◆	PH Stainless
<b>K</b> ◆	Cast Irons	<b>N</b> ◆	Aluminum & Alloys
<b>S</b> ◆	High Temp. Alloys	<b>H</b> ◆	Hard Materials