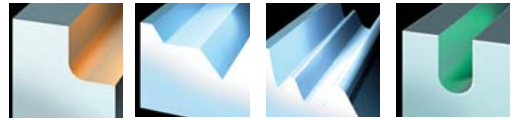
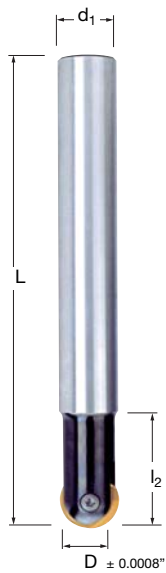


# 5500 V .500 Contour Milling Cutter



## 5500 V .500 Cylindrical Shank

EDP#	Part Number	Dimensions (inch)						No. of Inserts	Spares		
		D	L	l <sub>2</sub>	d <sub>1</sub>	a	EDP#		EDP#	EDP#	
014293	C5500V.500CR	0.5	7	1.92	0.5	0.25	1	015251	55.674	013215	T10



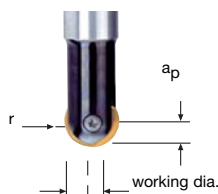
Cylindrical Shank



Depth of cut (a)

## 5500 V .500 Technical Advice

Milling Cutter Order Example: **C5500V .500CR**  
 Milling Insert Order Example: **RG .500 SP1032**  
 For complete cutting conditions refer to page: **208**

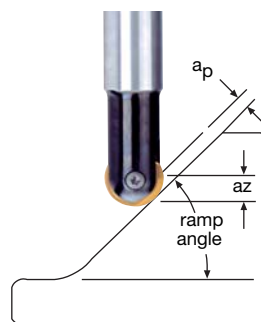


### Working Diameter:

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

where: **DW** = Working Diameter  
**r** = Cutter radius  
**ap** = Axial Depth of Cut

## Ramp Milling Method



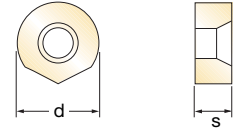
### Ramp-up Data

Cutter Diameter 0.500 in.		Ramp Angle
ap (in.)	az (in.)	
0.185	0.250	15°
0.125	0.216	30°
0.073	0.177	45°
0.034	0.125	60°
0.010	0.065	75°
0.004	0.022	85°

Torque Limits 16 in. lbs.



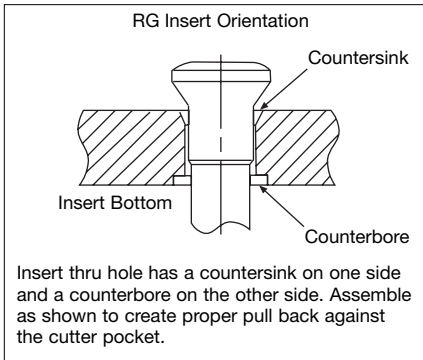
# Inserts for 5500 V .500



EDP#	Part Number	Grade	Application & Material			Dimensions (inch)				
			Roughing	Semi-Finishing	Finishing	d	l	s	r	h <sub>m</sub> min
014402	RG.500	SP1032			◆◆◆◆◆	0.500	-	0.984	0.250	0.0008



027796	RG12S	SP1064			◆◆◆◆◆	0.472	-	0.984	0.236	0.0008
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### Insert Interchangeability\*

Metric		Inch	
Diameter	Insert Number	Diameter	Insert Number
12 mm	RG 12	.500 in.	RG .500

\*Insert interchangeability allows metric inserts to be used in inch cutters and vice-versa.

### 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:

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

## RG\_.500 Recommended Cutting Conditions

Material	Speed	▼ Roughing	D.O.C.	Speed	▼ Semi-Finishing	D.O.C.	Speed	▼ Finishing	D.O.C.
	V <sub>C</sub> (feet/min)	Feed h <sub>m</sub> (inch)	a <sub>p</sub> (inch)	V <sub>C</sub> (feet/min)	Feed h <sub>m</sub> (inch)	a <sub>p</sub> (inch)	V <sub>C</sub> (feet/min)	Feed h <sub>m</sub> (inch)	a <sub>p</sub> (inch)
◆ Unalloyed Steels	-	-	-	-	-	-	600 - 1180	0.004 - 0.006	<0.040
◆ Alloyed Steels	-	-	-	-	-	-	370 - 780	0.004 - 0.006	<0.040
◆ Stainless Steels	-	-	-	-	-	-	460 - 780	0.004 - 0.006	<0.040
◆ PH Stainless	-	-	-	-	-	-	400 - 620	0.003 - 0.005	<0.040
◆ Cast Irons	-	-	-	-	-	-	330 - 520	0.003 - 0.005	<0.040
◆ Aluminum & Alloys	-	-	-	-	-	-	1320 - 3280	0.004 - 0.006	<0.040
◆ High Temp. Alloys	-	-	-	-	-	-	150 - 190	0.003 - 0.005	<0.040
◆ Hard Steels (52-56 HRC)	-	-	-	-	-	-	170 - 320	0.001 - 0.002	<0.020

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

### Star Guide Key to Recommended Tools

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