

# 7700 VR 08 Contour Milling Cutter



## 7700 VR 08 Weldon Shank

EDP #	Part Number	Dimensions (inch)						No. of Inserts	Spares			
		D <sub>1</sub>	D <sub>2</sub>	L/H	l <sub>2</sub>	d <sub>1</sub>	a		EDP#	7EDP#	7EDP#	
014886	C7700VR08WA1.00R2.70-M3	1	0.69	5.12	2.7	1	0.16	3	015062	F3006T	013214	T9



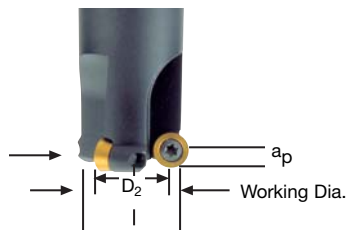
Weldon Shank



Depth of Cut (a)

## 7700 VR 08 Technical Advice

Milling Cutter Order Example: **C7700VR 08 WA1.00R2.70-M3**  
 Milling Insert Order Example: **RPEX0803M3F-701 SFZ**  
 For complete cutting conditions refer to page: **208**



### Working Diameter:

$$DW = D_2 + 2 \times \sqrt{r^2 - (r - a_p)^2}$$

where: **DW** = Working Diameter  
**D<sub>2</sub>** = Diameter of cutter insert center to center  
**r** = Insert radius  
**a<sub>p</sub>** = Axial Depth of Cut

### To find programmed feedrate:

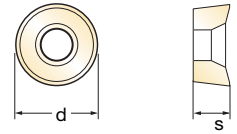
$$f_z = h_m \times \sqrt{\frac{D}{a_p}} \times \sqrt{\frac{D_w}{a_e}}$$

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:

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

# Inserts for 7700 VR 08



EDP#	Part Number	Grade	Application & Material			Dimensions (inch)				
			Roughing ▼	Semi-Finishing ▼▼	Finishing ▼▼▼	d	l	s	r	h <sub>m</sub> min
024756	RPEW0602M0T	X44		◆◆		0.236	-	0.094	0.118	0.0039
024757	RPEX0803M3E	X44				0.315	-	0.125	0.157	0.0008
015214	RPEX0803M3E-701	PfZ		◆◆	◆◆◆◆	0.315	-	0.125	0.157	0.0008
024105	RPEX0803M3F-701	X44		◆	◆	0.315	-	0.125	0.157	0.0008
023315	RPEX0803M3F-701	GH1	◆	◆	◆	0.315	-	0.125	0.157	0.0008
015213	RPEX0803M3F-701	SfZ		◆	◆◆	0.315	-	0.125	0.157	0.0008
017308	RPMT0803M3E-41	MP91M	◆◆			0.315	-	0.125	0.157	0.0016
024937	RPMT0803M3E-41	PfZ				0.315	-	0.125	0.157	0.0016
015220	RPMT0803M3E-41	X500				0.315	-	0.125	0.157	0.0016
027728	RPMT0803M3E-41	SP6564	◆◆			0.315	-	0.125	0.157	0.0016



## RP\_08 Recommended Cutting Conditions

Material	▼ Roughing			▼▼ Semi-Finishing			▼▼▼ Finishing		
	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)	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	0.006 - 0.009	0.08 - 0.16	730 - 850	0.005 - 0.007	0.03 - 0.08	730 - 980	0.004 - 0.006	0.00 - 0.03
◆ Alloyed Steels	230 - 360	0.005 - 0.009	0.08 - 0.16	330 - 490	0.004 - 0.006	0.03 - 0.08	330 - 630	0.003 - 0.006	0.00 - 0.03
◆ Stainless Steels	400 - 450	0.004 - 0.006	0.08 - 0.16	460 - 590	0.003 - 0.005	0.03 - 0.08	600 - 750	0.003 - 0.004	0.00 - 0.03
◆ PH Stainless	-	-	-	230 - 270	0.003 - 0.004	0.03 - 0.08	270 - 320	0.003 - 0.004	0.00 - 0.03
◆ Cast Irons	460 - 910	0.005 - 0.009	0.08 - 0.16	600 - 980	0.004 - 0.006	0.03 - 0.08	660 - 1140	0.003 - 0.006	0.00 - 0.03
◆ Aluminum & Alloys	910 - 1470	0.002 - 0.004	0.08 - 0.16	1320 - 2460	0.002 - 0.003	0.03 - 0.08	2300 - 3280	0.002 - 0.003	0.00 - 0.03
◆ High Temp. Alloys	-	-	-	120 - 160	0.003 - 0.004	0.03 - 0.08	150 - 190	0.003 - 0.004	0.00 - 0.03
◆ Hard Steels (52-56 HRC)	-	-	-	-	-	-	170 - 320	0.003 - 0.001	0.00 - 0.02

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

### Star Guide Key to Recommended Tools

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