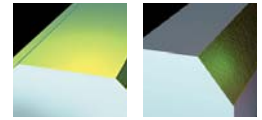




7745 VOD 04 Milling Cutter

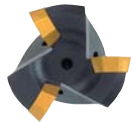


7745 VOD 04 Weldon Shank

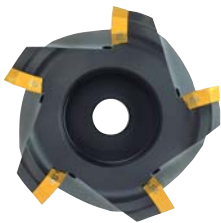
EDP #	Part Number	Dimensions (inch)							No. of Inserts	Spares		
		D	L	l_2	d_1	$a_{1 \max}$	a	EDP#			EDP#	
014897	C7745VOD04WA1.00R	1.000	3.540	1.570	0.750	0.300	0.155	2	015270	F4011T	015241	T20
014898	C7745VOD04WA1.25R	1.250	3.770	1.570	1.000	0.300	0.155	3	015270	F4011T	015241	T20
014899	C7745VOD04WA1.50R	1.500	4.330	2.000	1.250	0.300	0.155	4	015270	F4011T	015241	T20

7745 VOD 04 Shell Mill Fixation

015421	C7745VOD04-A1.50R	1.500	1.370	-	0.500	0.300	0.155	4	015270	F4011T	015241	T20
014893	C7745VOD04-A2.00R	2.000	1.570	-	0.750	0.300	0.155	4	015270	F4011T	015241	T20
026571	C7745VOD04-A2.00Z06R	2.000	1.570	-	0.750	0.300	0.155	6	015270	F4011T	015241	T20
014894	C7745VOD04-A2.50R	2.500	1.570	-	0.750	0.300	0.155	5	015270	F4011T	015241	T20
026572	C7745VOD04-A2.50Z07R	2.500	1.570	-	0.750	0.300	0.155	7	015270	F4011T	015241	T20
014895	C7745VOD04-A3.00R	3.000	1.960	-	1.000	0.300	0.155	6	015270	F4011T	015241	T20
026573	C7745VOD04-A3.00Z09R	3.000	1.960	-	1.000	0.300	0.155	9	015270	F4011T	015241	T20
014896	C7745VOD04-A4.00R	4.000	2.160	-	1.250	0.300	0.155	7	015270	F4011T	015241	T20
026574	C7745VOD04-A4.00Z11R	4.000	2.160	-	1.250	0.300	0.155	11	015270	F4011T	015241	T20
026578	C7745VOD04-A5.00R	5.000	2.480	-	1.500	0.300	0.155	8	015270	F4011T	015241	T20
026575	C7745VOD04-A5.00Z12R	5.000	2.480	-	1.500	0.300	0.155	12	015270	F4011T	015241	T20
026576	C7745VOD04-A6.00R	6.000	2.480	-	1.500	0.300	0.155	10	015270	F4011T	015241	T20
026577	C7745VOD04-A6.00Z15R	6.000	2.480	-	1.500	0.300	0.155	15	015270	F4011T	015241	T20



Weldon Shank



Shell Mill Fixation



Depth of Cut (a)

7745 VOD 04 Technical Advice

Milling Cutter Order Example: **C7745VOD04WA1.25R**
 Milling Insert Order Example: **ODMT0404APEN-41 MP91M**
 For complete cutting conditions refer to page: **208**

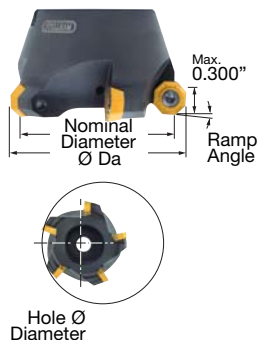
Feedrate compensation: For 45° cutting, divide the h_m value by the sine of the approach angle (the sine of 45° = 0.707)

ie: $\frac{h_m}{0.707}$ or $\frac{0.004''}{0.707} = 0.0056$ in. programmed feed rate



Circular Ramp Milling Method

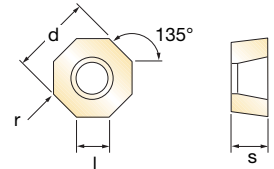
Maximum Depth of Cut per Revolution = 0.165 in.



Milling with Circular Interpolation

Milling Cutter Nominal Diameter	Diameter Ø Da	Hole Ø Diameter		Ramp Angle
		D min.	D max.	
Ø 1.00	Ø 1.31	Ø 1.96	Ø 2.59	17.0°
Ø 1.25	Ø 1.56	Ø 2.46	Ø 3.09	12.1°
Ø 1.50	Ø 1.81	Ø 2.96	Ø 3.59	8.5°
Ø 2.00	Ø 2.31	Ø 3.96	Ø 4.59	6.1°
Ø 2.50	Ø 2.81	Ø 4.96	Ø 5.59	4.3°
Ø 3.00	Ø 3.31	Ø 5.96	Ø 6.59	3.0°
Ø 4.00	Ø 4.31	Ø 7.96	Ø 8.59	2.4°
Ø 5.00	Ø 5.31	Ø 9.96	Ø 10.59	2.0°
Ø 6.00	Ø 6.31	Ø 11.96	Ø 12.59	1.5°

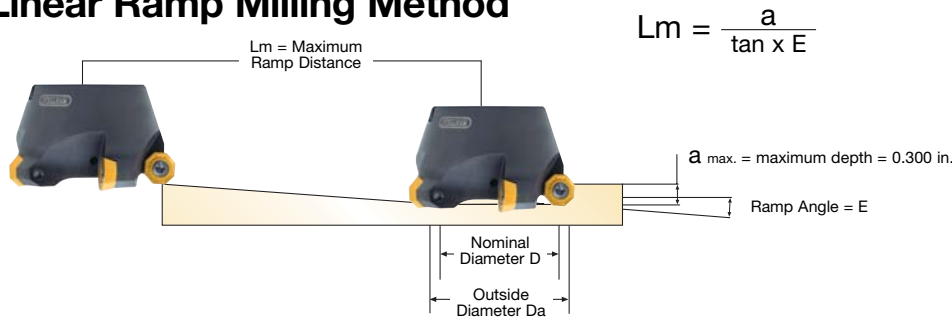
Inserts for 7745 VOD 04



EDP#	Part Number	Grade	Application & Material			Dimensions (inch)				
			Roughing ▽	Semi-Finishing ▽▽	Finishing ▽▽▽	d	l	s	r	h _m min
022199	ODET0404APEN-44	MP91M			◆◆	0.500	0.157	0.187	Facet	0.0016
022198	ODET0404APEN-44	X500			◆◆	0.500	0.157	0.187	Facet	0.0016
027722	ODET0404APEN-44	SP6564			◆◆	0.500	0.157	0.187	Facet	0.0016
024911	ODET0404APFN-441	GH1	◆	◆	◆	0.500	0.157	0.187	Facet	0.0008
017775	ODMT0404APEN-41	MP91M		◆◆		0.500	0.157	0.187	Facet	0.0016
022061	ODMT0404APEN-41	X500		◆◆		0.500	0.157	0.187	Facet	0.0016
027724	ODMT0404APEN-41	SP6564		◆◆		0.500	0.157	0.187	Facet	0.0016
017303	ODMT040408EN-41	MP91M				0.500	0.157	0.187	0.031	0.0016
015143	ODMT040408EN-41	X500	◆◆			0.500	0.157	0.187	0.031	0.0016
027723	ODMT040408EN-41	SP6564	◆◆			0.500	0.157	0.187	0.031	0.0016
017304	ODMW040408SN	MP91M	◆◆			0.500	0.157	0.187	0.031	0.0106
015130	ODMW040408SN	PFZ				0.500	0.157	0.187	0.031	0.0106
017671	ODMW040408SN	SF30				0.500	0.157	0.187	0.031	0.0106
024115	ODMW040408SN	X44				0.500	0.157	0.187	0.031	0.0106
017672	ODMW040408SN	X500				0.500	0.157	0.187	0.031	0.0106
027197	ODMW040408SN	SP6564	◆			0.500	0.157	0.187	0.031	0.0106



Linear Ramp Milling Method



OD_04 Recommended Cutting Conditions

Material	▽ Roughing			▽▽ Semi-Finishing			▽▽▽ Finishing		
	Speed V _C (feet/min)	Feed h _m (inch)	D.O.C. a _p (inch)	Speed V _C (feet/min)	Feed h _m (inch)	D.O.C. a _p (inch)	Speed V _C (feet/min)	Feed h _m (inch)	D.O.C. a _p (inch)
◆ Unalloyed Steels	600 - 720	0.012 - 0.020	0.08 - 0.14	730 - 850	0.008 - 0.014	0.04 - 0.08	730 - 980	0.003 - 0.006	0.01 - 0.04
◆ Alloyed Steels	230 - 360	0.011 - 0.016	0.08 - 0.14	330 - 490	0.008 - 0.012	0.04 - 0.08	330 - 630	0.003 - 0.006	0.01 - 0.04
◆ Stainless Steels	400 - 450	0.008 - 0.014	0.08 - 0.14	460 - 590	0.006 - 0.010	0.04 - 0.08	600 - 750	0.002 - 0.006	0.01 - 0.04
◆ PH Stainless	190 - 220	0.006 - 0.010	0.08 - 0.14	230 - 270	0.004 - 0.008	0.04 - 0.08	270 - 320	0.002 - 0.004	0.01 - 0.04
◆ Cast Irons	460 - 910	0.012 - 0.014	0.08 - 0.14	600 - 980	0.006 - 0.010	0.04 - 0.08	660 - 1140	0.002 - 0.006	0.01 - 0.04
◆ Aluminum & Alloys	910 - 1470	0.008 - 0.012	0.08 - 0.14	1320 - 2460	0.004 - 0.010	0.04 - 0.08	2300 - 3280	0.002 - 0.006	0.01 - 0.04
◆ High Temp. Alloys	90 - 130	0.006 - 0.010	0.08 - 0.14	120 - 160	0.004 - 0.008	0.04 - 0.08	150 - 190	0.002 - 0.004	0.01 - 0.04
◆ Hard Steels (52-56 HRC)	-	-	-	-	-	-	-	-	-

h_m = 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