

V4R

.2362" - .3937"
(6.000mm - 10.000mm)



TOLERANCES

d_1	+0.001" -0.002" (+.000mm -0.050mm)
d_2	h6
r	+0.001" -0.001" (+.025 -0.025mm)

Recommended for Titanium, Inconel, and Steels (< 40Rc)

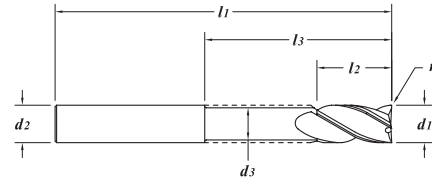
Variable Helix End Mill - 4 Flute - Corner Radius

AlCrN Coated

- Solid submicron grain carbide end mill - center cutting
- PCT (Polish Carbide Treatment) enhances tool life by 20%
- Minimizes burr on part
- Helix geometry varies over length of flutes
- Variable flute design helps with chip evacuation in slots and pockets
- Variable rake aids in chip formation
- 12mm and larger tools offered with weldon flat

Smaller diameters can be modified with a flat within 48 hours

The combination of an extended flute length with a weldon flat may cause the flute washout to reach inside end mill holders



MATERIAL HARDNESS (Rc) 70
0

EDP#	d_1 † Diameter	d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	r Corner Radius	l_3 Reach Length	d_3 Neck Diameter				
								1-11	12-24	25-49	50-100
50199	.2362"	6.000	65	12	0.3	-	-	25.74	24.62	23.50	22.38
50200	.2362"	6.000	65	12	0.5	-	-	25.74	24.62	23.50	22.38
50201	.2362"	6.000	65	12	0.75	-	-	25.74	24.62	23.50	22.38
50202	.2362"	6.000	65	12	1.0	-	-	25.74	24.62	23.50	22.38
50203	.2362"	6.000	65	12	1.5	-	-	25.74	24.62	23.50	22.38
50204	.2362"	6.000	65	19	0.3	-	-	25.74	24.62	23.50	22.38
50205	.2362"	6.000	65	19	0.5	-	-	25.74	24.62	23.50	22.38
50206	.2362"	6.000	65	19	1.0	-	-	25.74	24.62	23.50	22.38
NEW 50490	.2500" 1/4"	6.350 1/4"	2"	3/8"	.015"	-	-	22.34	21.37	20.40	19.43
50207	.2500" 1/4"	6.350 1/4"	2-1/2"	3/4"	.010"	-	-	24.75	23.67	22.60	21.52
50208	.2500" 1/4"	6.350 1/4"	2-1/2"	3/4"	.015"	-	-	24.75	23.67	22.60	21.52
50209	.2500" 1/4"	6.350 1/4"	2-1/2"	3/4"	.030"	-	-	24.75	23.67	22.60	21.52
50210	.2500" 1/4"	6.350 1/4"	2-1/2"	3/4"	.060"	-	-	24.75	23.67	22.60	21.52
50211	.2500" 1/4"	6.350 1/4"	4"	3/8"	.015"	1-1/4"	.230"	47.96	45.87	43.79	41.70
NEW 50492	.3125" 5/16"	7.938 5/16"	2"	7/16"	.020"	-	-	30.51	29.18	27.86	26.53
50212	.3125" 5/16"	7.938 5/16"	2-1/2"	13/16"	.020"	-	-	33.52	32.07	30.61	29.15
50213	.3125" 5/16"	7.938 5/16"	2-1/2"	13/16"	.030"	-	-	33.52	32.07	30.61	29.15
50214	.3150"	8.000	65	22	0.5	-	-	34.79	33.28	31.76	30.25
50356	.3150"	8.000	65	22	0.75	-	-	34.79	33.28	31.76	30.25
50215	.3150"	8.000	65	22	1.0	-	-	34.79	33.28	31.76	30.25
50357	.3150"	8.000	65	22	1.5	-	-	34.79	33.28	31.76	30.25
50358	.3150"	8.000	65	22	2.0	-	-	34.79	33.28	31.76	30.25
NEW 50494	.3750" 3/8"	9.525 3/8"	2"	1/2"	.020"	-	-	36.02	34.45	32.89	31.32
50216	.3750" 3/8"	9.525 3/8"	2-1/2"	1"	.010"	-	-	39.16	37.46	35.75	34.05
50217	.3750" 3/8"	9.525 3/8"	2-1/2"	1"	.020"	-	-	39.16	37.46	35.75	34.05
50218	.3750" 3/8"	9.525 3/8"	2-1/2"	1"	.030"	-	-	39.16	37.46	35.75	34.05
50219	.3750" 3/8"	9.525 3/8"	2-1/2"	1"	.060"	-	-	39.16	37.46	35.75	34.05
50220	.3750" 3/8"	9.525 3/8"	4"	1/2"	.020"	1-7/8"	.350"	69.21	66.20	63.19	60.18
50221	.3937"	10.000	70	22	0.5	-	-	47.28	45.22	43.17	41.11
50359	.3937"	10.000	70	22	0.75	-	-	47.28	45.22	43.17	41.11
50360	.3937"	10.000	70	22	1.0	-	-	47.28	45.22	43.17	41.11
50361	.3937"	10.000	70	22	1.5	-	-	47.28	45.22	43.17	41.11
50362	.3937"	10.000	70	22	2.0	-	-	47.28	45.22	43.17	41.11

EDP#		$d1^{\dagger}$		$d2$	$l1$	$l2$	r	$l3$	$d3$	1-11	12-24	25-49	50-100		
(plain)	(weldon)	Decimal	Diameter	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length	Neck Diameter						
		Metric													
50363	50369	.4724"		12.000	12.0	75	26	0.3	-	69.64	66.62	63.59	60.56		
50364	50370	.4724"		12.000	12.0	75	26	0.5	-	69.64	66.62	63.59	60.56		
50365	50366	.4724"		12.000	12.0	75	26	0.75	-	69.64	66.62	63.59	60.56		
50367	50371	.4724"		12.000	12.0	75	26	1.0	-	69.64	66.62	63.59	60.56		
50372	50373	.4724"		12.000	12.0	75	26	1.5	-	69.64	66.62	63.59	60.56		
50374	50375	.4724"		12.000	12.0	75	26	2.0	-	69.64	66.62	63.59	60.56		
50222	50270	.4724"		12.000	12.0	75	32	0.5	-	69.64	66.62	63.59	60.56		
50223	50271	.4724"		12.000	12.0	75	32	1.0	-	69.64	66.62	63.59	60.56		
NEW	50496	50497	.5000"	1/2"	12.700	1/2"	2-1/2"	5/8"	.020"	-	59.85	57.25	54.65	52.04	
	50379	50380	.5000"	1/2"	12.700	1/2"	3"	1"	.010"	-	66.80	63.90	60.99	58.09	
	50381	50382	.5000"	1/2"	12.700	1/2"	3"	1"	.020"	-	66.80	63.90	60.99	58.09	
	50383	50384	.5000"	1/2"	12.700	1/2"	3"	1"	.030"	-	66.80	63.90	60.99	58.09	
	50385	50386	.5000"	1/2"	12.700	1/2"	3"	1"	.060"	-	66.80	63.90	60.99	58.09	
	50224	50272	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.010"	-	66.80	63.90	60.99	58.09	
	50225	50273	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.020"	-	66.80	63.90	60.99	58.09	
	50226	50274	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.030"	-	66.80	63.90	60.99	58.09	
	50227	50275	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.060"	-	66.80	63.90	60.99	58.09	
	50228	50276	.5000"	1/2"	12.700	1/2"	4"	5/8"	.020"	2-1/4"	.470"	90.13	86.21	82.29	78.37
NEW	50498	50499	.6250"	5/8"	15.875	5/8"	3"	3/4"	.020"	-	103.48	98.98	94.48	89.98	
NEW	50500	50501	.6250"	5/8"	15.875	5/8"	3"	3/4"	.030"	-	103.48	98.98	94.48	89.98	
NEW	50502	50503	.6250"	5/8"	15.875	5/8"	3"	3/4"	.060"	-	103.48	98.98	94.48	89.98	
	50229	50277	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.020"	-	106.35	101.73	97.10	92.48	
NEW	50534	50535	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.030"	-	106.35	101.73	97.10	92.48	
NEW	50536	50537	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.040"	-	106.35	101.73	97.10	92.48	
NEW	50538	50539	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.060"	-	106.35	101.73	97.10	92.48	
	50230	50278	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.120"	-	106.35	101.73	97.10	92.48	
NEW	50504	-	.6299"		16.000	16.0	75	19	0.5	-	108.02	103.32	98.63	93.93	
NEW	50506	-	.6299"		16.000	16.0	75	19	1.0	-	108.02	103.32	98.63	93.93	
NEW	50508	-	.6299"		16.000	16.0	75	19	3.0	-	108.02	103.32	98.63	93.93	
	50231	50279	.6299"		16.000	16.0	88	32	0.5	-	110.99	106.16	101.34	96.51	
	50409	50410	.6299"		16.000	16.0	88	32	0.75	-	110.99	106.16	101.34	96.51	
	50411	50412	.6299"		16.000	16.0	88	32	1.0	-	110.99	106.16	101.34	96.51	
	50413	50414	.6299"		16.000	16.0	88	32	1.5	-	110.99	106.16	101.34	96.51	
	50415	50416	.6299"		16.000	16.0	88	32	2.0	-	110.99	106.16	101.34	96.51	
	50417	50418	.6299"		16.000	16.0	88	32	3.0	-	110.99	106.16	101.34	96.51	
NEW	50510	50511	.7500"	3/4"	19.050	3/4"	4"	1"	.020"	-	152.51	145.88	139.25	132.62	
NEW	50512	50513	.7500"	3/4"	19.050	3/4"	4"	1"	.030"	-	152.51	145.88	139.25	132.62	
NEW	50514	50515	.7500"	3/4"	19.050	3/4"	4"	1"	.060"	-	152.51	145.88	139.25	132.62	
NEW	50516	50517	.7500"	3/4"	19.050	3/4"	4"	1-1/2"	.020"	-	152.51	145.88	139.25	132.62	
	50232	50280	.7500"	3/4"	19.050	3/4"	4"	1-1/2"	.030"	-	152.51	145.88	139.25	132.62	
NEW	50518	50519	.7500"	3/4"	19.050	3/4"	4"	1-1/2"	.060"	-	152.51	145.88	139.25	132.62	
NEW	50520	50521	.7500"	3/4"	19.050	3/4"	4"	1-1/2"	.120"	-	152.51	145.88	139.25	132.62	
NEW	50522	50523	.7500"	3/4"	19.050	3/4"	4"	1-3/4"	.020"	-	152.51	145.88	139.25	132.62	
NEW	50524	50525	.7500"	3/4"	19.050	3/4"	4"	1-3/4"	.030"	-	152.51	145.88	139.25	132.62	
NEW	50526	50527	.7500"	3/4"	19.050	3/4"	4"	1-3/4"	.060"	-	152.51	145.88	139.25	132.62	
NEW	50528	-	.7874"		20.000	20.0	100	38	1.0	-	215.86	206.47	197.09	187.70	
NEW	50530	-	.7874"		20.000	20.0	100	38	2.0	-	215.86	206.47	197.09	187.70	
NEW	50532	-	.7874"		20.000	20.0	100	38	3.0	-	215.86	206.47	197.09	187.70	
	50233	50281	1.000"	1"	25.400	1"	4"	1-1/2"	.030"	-	260.38	249.06	237.74	226.42	
	50234	50282	1.000"	1"	25.400	1"	5"	2-1/8"	.030"	-	320.38	306.45	292.52	278.59	

70

MATERIAL HARDNESS (Rc)

0