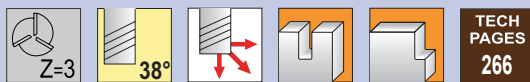


# Series 143R

.1181" - .2362"  
(3.000mm - 6.000mm)



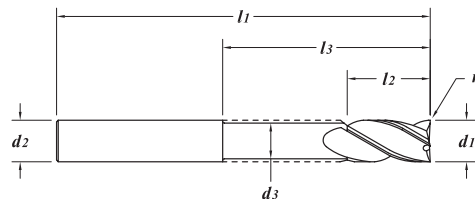
TOLERANCES	
d1	+0.000" -0.001" (+0.000 -0.025mm)
d2	h6
r	+0.0005" -0.0005" (+0.0127 -0.0127mm)

Recommended for Aluminum

## HSAL End Mill - Corner Radius

### ALUMASTAR Coating

- Solid submicron grain carbide end mill - center cutting
- Specific coating engineered to repel aluminum
- Engineered to run at 750-2500 SFM (225-750 M/Min.)
- For high speed machining of aluminum
- High velocity - high metal removal rate (for 5,000-20,000 RPM spindles)
- Need to use properly balanced holders
- Holds perpendicularity
- Flats can be added within 48 hours



MATERIAL HARDNESS (Rc) 70  
35  
0

EDP#	d1 † Diameter		d2 Shank Diameter	l1 Overall Length	l2 Flute Length	r Corner Radius	l3 Reach Length	d3 Neck Diameter	1-11	12-24	25-49	50-100	
	Decimal	Metric											
39113	.1181	3.000	3.0	38	6	0.20	-	-	21.41	20.48	19.55	18.62	
39123	.1181	3.000	3.0	38	6	0.50	-	-	21.41	20.48	19.55	18.62	
39133	.1181	3.000	3.0	38	12	0.20	-	-	21.41	20.48	19.55	18.62	
39143	.1181	3.000	3.0	38	12	0.50	-	-	21.41	20.48	19.55	18.62	
39153	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	.010"	-	-	20.78	19.88	18.97	18.07
39163	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	.020"	-	-	20.78	19.88	18.97	18.07
39173	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	.010"	-	-	20.78	19.88	18.97	18.07
39183	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	.020"	-	-	20.78	19.88	18.97	18.07
39193	.1575	4.000	6.0	50	8	0.20	-	-	28.90	27.64	26.39	25.13	
39203	.1575	4.000	6.0	50	8	0.50	-	-	28.90	27.64	26.39	25.13	
39213	.1575	4.000	6.0	50	12	0.20	-	-	28.90	27.64	26.39	25.13	
39223	.1575	4.000	6.0	50	12	0.30	-	-	28.90	27.64	26.39	25.13	
39225	.1575	4.000	6.0	50	12	0.50	-	-	28.90	27.64	26.39	25.13	
39243	.1575	4.000	6.0	65	6	0.30	20	3.7	35.34	33.80	32.27	30.73	
39253	.1575	4.000	6.0	65	6	0.50	20	3.7	35.34	33.80	32.27	30.73	
39263	.1575	4.000	6.0	65	6	1.00	20	3.7	35.34	33.80	32.27	30.73	
39265	.1875	3/16"	4.763	3/16"	2"	5/16"	.010"	-	-	21.44	20.50	19.57	18.64
39275	.1875	3/16"	4.763	3/16"	2"	5/16"	.020"	-	-	21.44	20.50	19.57	18.64
39280	.1875	3/16"	4.763	3/16"	2"	5/16"	.030"	-	-	21.44	20.50	19.57	18.64
39283	.1875	3/16"	4.763	3/16"	2"	9/16"	.010"	-	-	21.44	20.50	19.57	18.64
39285	.1875	3/16"	4.763	3/16"	2"	9/16"	.020"	-	-	21.44	20.50	19.57	18.64
39293	.1875	3/16"	4.763	3/16"	2"	9/16"	.030"	-	-	21.44	20.50	19.57	18.64
39303	.1875	3/16"	4.763	3/16"	3"	7/32"	.010"	3/4"	.170"	39.24	37.53	35.83	34.12
39313	.1875	3/16"	4.763	3/16"	3"	7/32"	.030"	3/4"	.170"	39.24	37.53	35.83	34.12
39343	.1969	5.000	6.0	65	16	0.30	-	-	29.82	28.52	27.23	25.93	
39363	.1969	5.000	6.0	75	8	0.30	20	4.7	48.73	46.61	44.49	42.37	
39373	.1969	5.000	6.0	75	8	0.50	20	4.7	48.73	46.61	44.49	42.37	
39383	.1969	5.000	6.0	75	8	1.00	20	4.7	48.73	46.61	44.49	42.37	
39403	.2362	6.000	6.0	65	19	0.30	-	-	28.87	27.61	26.36	25.10	
39423	.2362	6.000	6.0	75	10	0.30	25	5.7	47.16	45.11	43.06	41.01	
39433	.2362	6.000	6.0	75	10	0.50	25	5.7	47.16	45.11	43.06	41.01	
39436	.2362	6.000	6.0	75	10	1.00	25	5.7	47.16	45.11	43.06	41.01	
39439	.2362	6.000	6.0	75	10	1.50	25	5.7	47.16	45.11	43.06	41.01	
39443	.2362	6.000	6.0	75	10	2.00	25	5.7	47.16	45.11	43.06	41.01	

EDP#	$d1$ † Diameter			$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	$r$ Corner Radius	$l3$ Reach Length	$d3$ Neck Diameter	1-11	12-24	25-49	50-100
	Decimal		Metric										
39453	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.010"	-	-	27.43	26.24	25.04	23.85
39463	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.015"	-	-	27.43	26.24	25.04	23.85
39473	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.030"	-	-	27.43	26.24	25.04	23.85
39493	.2500	1/4"	6.350	1/4"	4"	3/8"	.015"	1-1/8"	.235"	47.51	45.44	43.38	41.31
40403	.2500	1/4"	6.350	1/4"	4"	3/8"	.030"	1-1/8"	.235"	47.51	45.44	43.38	41.31
39503	.2500	1/4"	6.350	1/4"	4"	3/8"	.015"	2-1/8"	.235"	52.41	50.13	47.85	45.57
39543	.2756		7.000	8.0	65	19	0.30	-	-	41.98	40.15	38.33	36.50
39563	.2756		7.000	8.0	75	12	0.30	25	6.4	63.95	61.17	58.39	55.61
39593	.3125	5/16"	7.938	5/16"	2-1/2"	3/4"	.010"	-	-	36.29	34.72	33.14	31.56
39603	.3125	5/16"	7.938	5/16"	2-1/2"	3/4"	.015"	-	-	36.29	34.72	33.14	31.56
39613	.3125	5/16"	7.938	5/16"	2-1/2"	3/4"	.030"	-	-	36.29	34.72	33.14	31.56
39623	.3125	5/16"	7.938	5/16"	4"	7/16"	.015"	1-1/8"	.297"	62.46	59.74	57.03	54.31
39633	.3125	5/16"	7.938	5/16"	4"	7/16"	.030"	1-1/8"	.297"	62.46	59.74	57.03	54.31
39663	.3150		8.000	8.0	65	19	0.50	-	-	38.19	36.53	34.87	33.21
39683	.3150		8.000	8.0	75	12	0.50	25	7.4	58.19	55.66	53.13	50.60
39688	.3150		8.000	8.0	75	12	1.00	25	7.4	58.19	55.66	53.13	50.60
39693	.3150		8.000	8.0	75	12	2.00	25	7.4	58.19	55.66	53.13	50.60
39698	.3150		8.000	8.0	75	12	3.00	25	7.4	58.19	55.66	53.13	50.60
39703	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.010"	-	-	42.30	40.46	38.62	36.78
39713	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.015"	-	-	42.30	40.46	38.62	36.78
39723	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.030"	-	-	42.30	40.46	38.62	36.78
39733	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.060"	-	-	42.30	40.46	38.62	36.78
39763	.3750	3/8"	9.525	3/8"	4"	1/2"	.030"	2-1/8"	.355"	72.23	69.09	65.95	62.81
39773	.3750	3/8"	9.525	3/8"	4"	1/2"	.060"	2-1/8"	.355"	72.23	69.09	65.95	62.81
39783	.3750	3/8"	9.525	3/8"	6"	1/2"	.030"	4"	.355"	105.47	100.88	96.30	91.71
39803	.3937		10.000	10.0	70	24	0.50	-	-	64.87	62.05	59.23	56.41
39843	.3937		10.000	10.0	100	12	0.50	35	9.4	87.20	83.41	79.62	75.83
39848	.3937		10.000	10.0	100	12	1.00	35	9.4	87.20	83.41	79.62	75.83
39853	.3937		10.000	10.0	100	12	1.50	35	9.4	87.20	83.41	79.62	75.83
39863	.3937		10.000	10.0	100	12	2.00	35	9.4	87.20	83.41	79.62	75.83
39873	.3937		10.000	10.0	100	12	3.00	35	9.4	87.20	83.41	79.62	75.83
39883	.4724		12.000	12.0	75	32	0.50	-	-	80.24	76.75	73.26	69.77
39903	.4724		12.000	12.0	100	16	0.50	40	11.4	103.13	98.65	94.16	89.68
39907	.4724		12.000	12.0	100	16	1.00	40	11.4	103.13	98.65	94.16	89.68
39911	.4724		12.000	12.0	100	16	1.50	40	11.4	103.13	98.65	94.16	89.68
39915	.4724		12.000	12.0	100	16	2.00	40	11.4	103.13	98.65	94.16	89.68
39919	.4724		12.000	12.0	100	16	3.00	40	11.4	103.13	98.65	94.16	89.68
39923	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.010"	-	-	76.23	72.92	69.60	66.29
39933	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.015"	-	-	76.23	72.92	69.60	66.29
39943	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.030"	-	-	76.23	72.92	69.60	66.29
39953	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.060"	-	-	76.23	72.92	69.60	66.29
39963	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.120"	-	-	76.23	72.92	69.60	66.29
39973	.5000	1/2"	12.700	1/2"	4"	2"	.010"	-	-	88.15	84.32	80.48	76.65
40413	.5000	1/2"	12.700	1/2"	4"	2"	.030"	-	-	88.15	84.32	80.48	76.65
40423	.5000	1/2"	12.700	1/2"	4"	2"	.060"	-	-	88.15	84.32	80.48	76.65
40433	.5000	1/2"	12.700	1/2"	4"	5/8"	.010"	2-1/8"	.475"	97.97	93.71	89.45	85.19
39983	.5000	1/2"	12.700	1/2"	4"	5/8"	.030"	2-1/8"	.475"	97.97	93.71	89.45	85.19
40443	.5000	1/2"	12.700	1/2"	4"	5/8"	.060"	2-1/8"	.475"	97.97	93.71	89.45	85.19
40453	.5000	1/2"	12.700	1/2"	4"	5/8"	.120"	2-1/8"	.475"	97.97	93.71	89.45	85.19
39993	.5000	1/2"	12.700	1/2"	6"	5/8"	.030"	4-1/8"	.475"	147.03	140.64	134.24	127.85

70

MATERIAL HARDNESS (RC)

35

0

continued →

## Series 143R (continued)

.6250" - 1.000"  
(15.875mm - 25.400mm)

EDP#	$d1$ † Diameter		Metric	$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	$r$ Corner Radius	$l3$ Reach Length	$d3$ Neck Diameter	1-11	12-24	25-49	50-100
	Decimal												
40463	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.015"	-	-	131.86	126.13	120.39	114.66
40023	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.030"	-	-	131.86	126.13	120.39	114.66
40473	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.060"	-	-	131.86	126.13	120.39	114.66
40483	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.120"	-	-	131.86	126.13	120.39	114.66
40033	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	2-3/8"	.590"	188.53	180.33	172.14	163.94
40043	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	4-3/8"	.590"	198.38	189.75	181.13	172.50
40083	.6299		16.000	16.0	100	40	1.00	-	-	138.81	132.77	126.74	120.70
40103	.6299		16.000	16.0	100	20	1.00	40	15.4	143.72	137.47	131.22	124.97
40113	.6299		16.000	16.0	125	20	2.00	60	15.4	188.62	180.42	172.22	164.02
40118	.6299		16.000	16.0	125	20	3.00	60	15.4	188.62	180.42	172.22	164.02
40123	.6299		16.000	16.0	125	20	4.00	60	15.4	188.62	180.42	172.22	164.02
40133	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.015"	-	-	171.13	163.69	156.25	148.81
40143	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.030"	-	-	171.13	163.69	156.25	148.81
40153	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.060"	-	-	171.13	163.69	156.25	148.81
40493	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.120"	-	-	171.13	163.69	156.25	148.81
40503	.7500	3/4"	19.050	3/4"	6"	1"	.015"	2-1/2"	.715"	255.04	243.95	232.86	221.77
40163	.7500	3/4"	19.050	3/4"	6"	1"	.030"	2-1/2"	.715"	255.04	243.95	232.86	221.77
40513	.7500	3/4"	19.050	3/4"	6"	1"	.060"	2-1/2"	.715"	255.04	243.95	232.86	221.77
40523	.7500	3/4"	19.050	3/4"	6"	1"	.120"	2-1/2"	.715"	255.04	243.95	232.86	221.77
40173	.7500	3/4"	19.050	3/4"	6"	1"	.030"	4-3/8"	.715"	261.96	250.57	239.18	227.79
40183	.7874		20.000	20.0	100	32	1.00	-	-	240.22	229.78	219.33	208.89
40223	.7874		20.000	20.0	100	20	1.00	40	19.0	245.12	234.47	223.81	213.15
40225	.7874		20.000	20.0	150	20	1.00	65	19.0	328.96	314.66	300.35	286.05
40226	.7874		20.000	20.0	150	20	2.00	65	19.0	328.96	314.66	300.35	286.05
40229	.7874		20.000	20.0	150	20	3.00	65	19.0	328.96	314.66	300.35	286.05
40231	.7874		20.000	20.0	150	20	4.00	65	19.0	328.96	314.66	300.35	286.05
40243	.9843		25.000	25.0	100	38	1.00	-	-	277.96	265.87	253.79	241.70
40283	.9843		25.000	25.0	100	25	1.00	50	24.0	282.87	270.57	258.27	245.97
40293	1.000	1"	25.400	1"	4"	1-5/8"	.030"	-	-	291.85	279.16	266.47	253.78
40303	1.000	1"	25.400	1"	4"	1-5/8"	.060"	-	-	291.85	279.16	266.47	253.78
40313	1.000	1"	25.400	1"	4"	1-5/8"	.120"	-	-	291.85	279.16	266.47	253.78
40343	1.000	1"	25.400	1"	6"	1-1/4"	.030"	3-3/8"	.960"	427.70	409.10	390.51	371.91
40353	1.000	1"	25.400	1"	6"	1-1/4"	.060"	3-3/8"	.960"	427.70	409.10	390.51	371.91
40363	1.000	1"	25.400	1"	6"	1-1/4"	.120"	3-3/8"	.960"	427.70	409.10	390.51	371.91

