

Series 143M

**NEW  
ITEMS**

.1181" - .3150"  
(3.000mm - 8.000mm)



TECH  
PAGES  
272

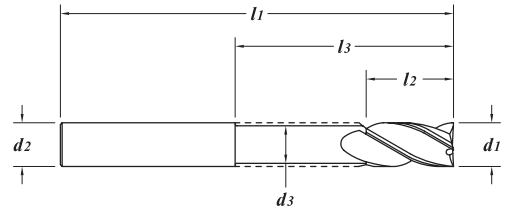
TOLERANCES

d1	+0.000" - .001" (+0.000 - .025mm)
d2	h6

Recommended for aluminum

**HSAL End Mill - Square End**  
**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	l3 Reach Length	d3 Neck Diameter	1-11	12-24	25-49	50-100	
	Decimal	Metric										
41173	.1181	3.000	3.0	38	6	-	-	19.50	18.66	17.81	16.96	
41183	.1181	3.000	3.0	38	12	-	-	19.50	18.66	17.81	16.96	
41193	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	-	19.00	18.17	17.35	16.52	
41203	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	-	19.00	18.17	17.35	16.52	
41213	.1575	4.000	6.0	50	8	-	-	25.93	24.81	23.68	22.55	
41223	.1575	4.000	6.0	50	12	-	-	25.93	24.81	23.68	22.55	
41243	.1575	4.000	6.0	65	6	20	3.7	32.46	31.05	29.64	28.23	
41273	.1875	3/16"	4.763	3/16"	2"	5/16"	-	19.55	18.70	17.85	17.00	
41283	.1875	3/16"	4.763	3/16"	2"	9/16"	-	19.55	18.70	17.85	17.00	
41303	.1875	3/16"	4.763	3/16"	3"	7/32"	3/4"	.170"	36.70	35.10	33.51	31.91
41313	.1875	3/16"	4.763	3/16"	3"	1"	-	31.54	30.17	28.80	27.43	
41343	.1969	5.000	6.0	65	16	-	-	26.76	25.60	24.43	23.27	
41363	.1969	5.000	6.0	75	8	20	4.7	45.51	43.53	41.55	39.57	
41403	.2362	6.000	6.0	65	19	-	-	25.91	24.78	23.66	22.53	
41423	.2362	6.000	6.0	75	10	25	5.7	44.05	42.13	40.22	38.30	
39735	.2500	1/4"	6.350	1/4"	2"	3/8"	-	23.36	22.34	21.33	20.31	
39737	.2500	1/4"	6.350	1/4"	2"	1/2"	-	23.36	22.34	21.33	20.31	
41453	.2500	1/4"	6.350	1/4"	2-1/2"	3/8"	-	24.61	23.54	22.47	21.40	
41463	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	-	24.61	23.54	22.47	21.40	
41473	.2500	1/4"	6.350	1/4"	3"	1"	-	37.32	35.70	34.07	32.45	
<b>NEW</b> 41475	.2500	1/4"	6.350	1/4"	3"	1-1/4"	-	37.32	35.70	34.07	32.45	
41493	.2500	1/4"	6.350	1/4"	4"	3/8"	1-1/8"	.235"	44.49	42.56	40.62	38.69
41503	.2500	1/4"	6.350	1/4"	4"	3/8"	2-1/8"	.235"	49.66	47.50	45.34	43.18
<b>NEW</b> 41511	.2500	1/4"	6.350	1/4"	4"	1-1/2"	-	39.34	37.63	35.92	34.21	
41513	.2500	1/4"	6.350	1/4"	4"	1-5/8"	-	39.34	37.63	35.92	34.21	
41543	.2756	7.000	8.0	65	19	-	-	39.73	38.01	36.28	34.55	
41563	.2756	7.000	8.0	75	12	25	6.4	59.69	57.09	54.50	51.90	
41593	.3125	5/16"	7.938	5/16"	2-1/2"	7/16"	-	34.19	32.70	31.22	29.73	
41603	.3125	5/16"	7.938	5/16"	2-1/2"	3/4"	-	34.19	32.70	31.22	29.73	
41623	.3125	5/16"	7.938	5/16"	4"	7/16"	1-1/8"	.297"	58.39	55.85	53.31	50.77
39739	.3150	8.000	8.0	50	12	-	-	32.32	30.91	29.51	28.10	
41663	.3150	8.000	8.0	65	19	-	-	36.00	34.43	32.87	31.30	
41683	.3150	8.000	8.0	75	12	25	7.4	54.31	51.95	49.59	47.23	
<b>NEW</b> 41685	.3150	8.000	8.0	75	26	-	-	48.99	46.86	44.73	42.60	
<b>NEW</b> 41687	.3150	8.000	8.0	75	30	-	-	48.99	46.86	44.73	42.60	
41693	.3150	8.000	8.0	100	12	55	7.4	66.60	63.70	60.81	57.91	

# Series 143M (continued)

.3750" - .6299"  
(9.525mm - 16.000mm)

HIGH PERFORMANCE  
END MILLS

70

MATERIAL HARDNESS (Rc)

35

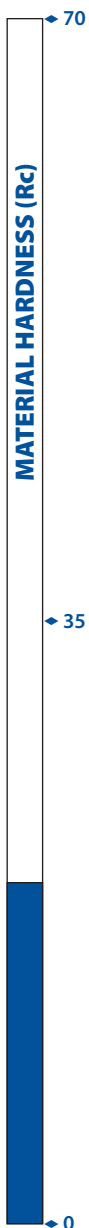
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EDP#	$d_1$ † Diameter		$d_2$ Shank Diameter	$l_1$ Overall Length	$l_2$ Flute Length	$l_3$ Reach Length	$d_3$ Neck Diameter	1-11	12-24	25-49	50-100	
	Decimal	Metric										
39741	.3750	3/8"	9.525	3/8"	2"	1/2"	-	-	35.97	34.41	32.84	31.28
41713	.3750	3/8"	9.525	3/8"	2-1/2"	1/2"	-	-	40.16	38.41	36.67	34.92
39743	.3750	3/8"	9.525	3/8"	2-1/2"	3/4"	-	-	40.16	38.41	36.67	34.92
41723	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	-	-	40.16	38.41	36.67	34.92
41733	.3750	3/8"	9.525	3/8"	3"	1"	-	-	51.77	49.52	47.27	45.02
<b>NEW</b> 41735	.3750	3/8"	9.525	3/8"	3"	1-1/4"	-	-	51.77	49.52	47.27	45.02
<b>NEW</b> 41737	.3750	3/8"	9.525	3/8"	3-1/2"	1-1/2"	-	-	55.56	53.14	50.73	48.31
41763	.3750	3/8"	9.525	3/8"	4"	1/2"	2-1/8"	.355"	67.87	64.92	61.97	59.02
41773	.3750	3/8"	9.525	3/8"	4"	1-5/8"	-	-	57.56	55.06	52.55	50.05
42363	.3750	3/8"	9.525	3/8"	4"	2"	-	-	57.56	55.06	52.55	50.05
41783	.3750	3/8"	9.525	3/8"	6"	1/2"	4"	.355"	102.83	98.36	93.89	89.42
39745	.3937		10.000	10.0	50	14	-	-	55.53	53.12	50.70	48.29
41803	.3937		10.000	10.0	70	24	-	-	60.43	57.81	55.18	52.55
<b>NEW</b> 41805	.3937		10.000	10.0	75	30	-	-	63.64	60.87	58.11	55.34
41843	.3937		10.000	10.0	100	12	35	9.4	80.57	77.07	73.56	70.06
41853	.3937		10.000	10.0	100	12	55	9.4	85.72	81.99	78.27	74.54
41863	.3937		10.000	10.0	150	12	110	9.4	120.12	114.90	109.67	104.45
39747	.4724		12.000	12.0	65	16	-	-	63.40	60.64	57.89	55.13
39749	.4724		12.000	12.0	75	26	-	-	67.60	64.66	61.72	58.78
41883	.4724		12.000	12.0	75	32	-	-	67.60	64.66	61.72	58.78
41893	.4724		12.000	12.0	100	50	-	-	88.39	84.55	80.70	76.86
41903	.4724		12.000	12.0	100	16	40	11.4	99.27	94.95	90.64	86.32
41913	.4724		12.000	12.0	100	16	55	11.4	99.27	94.95	90.64	86.32
41923	.4724		12.000	12.0	150	16	110	11.4	151.74	145.15	138.55	131.95
39751	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	-	-	60.16	57.54	54.93	52.31
39753	.5000	1/2"	12.700	1/2"	2-1/2"	3/4"	-	-	60.16	57.54	54.93	52.31
41933	.5000	1/2"	12.700	1/2"	3"	5/8"	-	-	64.23	61.44	58.64	55.85
39755	.5000	1/2"	12.700	1/2"	3"	1"	-	-	64.23	61.44	58.64	55.85
41943	.5000	1/2"	12.700	1/2"	3"	1-1/4"	-	-	64.23	61.44	58.64	55.85
<b>NEW</b> 41945	.5000	1/2"	12.700	1/2"	3-1/2"	1-1/2"	-	-	81.98	78.42	74.85	71.29
41963	.5000	1/2"	12.700	1/2"	4"	1-5/8"	-	-	83.97	80.32	76.67	73.02
<b>NEW</b> 41965	.5000	1/2"	12.700	1/2"	4"	1-3/4"	-	-	83.97	80.32	76.67	73.02
41973	.5000	1/2"	12.700	1/2"	4"	2"	-	-	83.97	80.32	76.67	73.02
41983	.5000	1/2"	12.700	1/2"	4"	5/8"	2-1/8"	.475"	94.29	90.19	86.09	81.99
41993	.5000	1/2"	12.700	1/2"	6"	5/8"	4-1/8"	.475"	144.16	137.90	131.63	125.36
42003	.5000	1/2"	12.700	1/2"	6"	3-1/8"	-	-	123.53	118.16	112.79	107.42
39757	.6250	5/8"	15.875	5/8"	3"	3/4"	-	-	119.00	113.83	108.65	103.48
42013	.6250	5/8"	15.875	5/8"	3-1/2"	3/4"	-	-	122.43	117.11	111.78	106.46
39759	.6250	5/8"	15.875	5/8"	3-1/2"	1"	-	-	122.43	117.11	111.78	106.46
42016	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	-	-	122.43	117.11	111.78	106.46
42021	.6250	5/8"	15.875	5/8"	4"	1-1/2"	-	-	128.01	122.44	116.88	111.31
42023	.6250	5/8"	15.875	5/8"	4"	1-5/8"	-	-	128.01	122.44	116.88	111.31
<b>NEW</b> 42025	.6250	5/8"	15.875	5/8"	4"	1-3/4"	-	-	128.01	122.44	116.88	111.31
42373	.6250	5/8"	15.875	5/8"	4"	2-1/8"	-	-	128.01	122.44	116.88	111.31
42033	.6250	5/8"	15.875	5/8"	6"	3/4"	2-3/8"	.590"	178.66	170.90	163.13	155.36
42043	.6250	5/8"	15.875	5/8"	6"	3/4"	4-3/8"	.590"	188.98	180.76	172.55	164.33
42053	.6250	5/8"	15.875	5/8"	6"	3-1/4"	-	-	168.34	161.02	153.70	146.38
42083	.6299		16.000	16.0	100	40	-	-	134.72	128.87	123.01	117.15
42103	.6299		16.000	16.0	100	20	40	15.4	139.87	133.79	127.71	121.63
42113	.6299		16.000	16.0	125	20	60	15.4	178.74	170.97	163.20	155.43
42123	.6299		16.000	16.0	150	20	110	15.4	198.94	190.29	181.64	172.99

continued →

Series 143M (continued)

.7500" - 1.000"  
(19.050mm - 25.400mm)



EDP#	$d1$ † Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	$l3$ Reach Length	$d3$ Neck Diameter	1-11	12-24	25-49	50-100	
	Decimal	Metric										
42133	.7500	3/4"	19.050	3/4"	4"	1"	-	-	163.78	156.66	149.54	142.42
42136	.7500	3/4"	19.050	3/4"	4"	1-1/4"	-	-	163.78	156.66	149.54	142.42
42141	.7500	3/4"	19.050	3/4"	4"	1-1/2"	-	-	163.78	156.66	149.54	142.42
42143	.7500	3/4"	19.050	3/4"	4"	1-5/8"	-	-	163.78	156.66	149.54	142.42
<b>NEW</b> 42145	.7500	3/4"	19.050	3/4"	4"	1-3/4"	-	-	163.78	156.66	149.54	142.42
42153	.7500	3/4"	19.050	3/4"	5"	2-1/4"	-	-	216.27	206.87	197.46	188.06
<b>NEW</b> 42155	.7500	3/4"	19.050	3/4"	5"	2-1/2"	-	-	216.27	206.87	197.46	188.06
42163	.7500	3/4"	19.050	3/4"	6"	1"	2-1/2"	.715"	235.27	225.04	214.81	204.58
42173	.7500	3/4"	19.050	3/4"	6"	1"	4-3/8"	.715"	242.55	232.00	221.46	210.91
42193	.7500	3/4"	19.050	3/4"	6"	3-1/4"	-	-	228.05	218.13	208.22	198.30
42203	.7874	3/4"	20.000	20.0	100	25	-	-	219.89	210.33	200.77	191.21
42213	.7874	3/4"	20.000	20.0	100	32	-	-	219.89	210.33	200.77	191.21
42223	.7874	3/4"	20.000	20.0	100	20	40	19.0	225.04	215.26	205.47	195.69
42226	.7874	3/4"	20.000	20.0	125	20	60	19.0	260.60	249.27	237.94	226.61
42233	.7874	3/4"	20.000	20.0	150	20	85	19.0	301.98	288.85	275.72	262.59
42236	.7874	3/4"	20.000	20.0	150	20	110	19.0	307.15	293.80	280.44	267.09
42243	.9843	3/4"	25.000	25.0	100	38	-	-	253.72	242.69	231.66	220.63
42283	.9843	3/4"	25.000	25.0	100	25	50	24.0	258.87	247.61	236.36	225.10
42286	.9843	3/4"	25.000	25.0	125	25	65	24.0	323.56	309.50	295.43	281.36
42291	.9843	3/4"	25.000	25.0	150	25	90	24.0	405.88	388.23	370.59	352.94
42293	1.000	1"	25.400	1"	4"	1"	-	-	246.16	235.46	224.75	214.05
42303	1.000	1"	25.400	1"	4"	1-5/8"	-	-	246.16	235.46	224.75	214.05
42313	1.000	1"	25.400	1"	5"	2"	-	-	303.86	290.65	277.44	264.23
42343	1.000	1"	25.400	1"	6"	1-1/4"	3-3/8"	.960"	393.70	376.59	359.47	342.35
42353	1.000	1"	25.400	1"	6"	3-1/4"	-	-	378.25	361.80	345.36	328.91