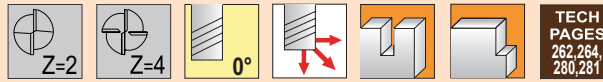


TOLERANCES

d_1	+0.000" - .002" (+0.000 - .050mm)
d_2	h6
ball radius	+0.000" - .001" (+0.000 - .025mm)

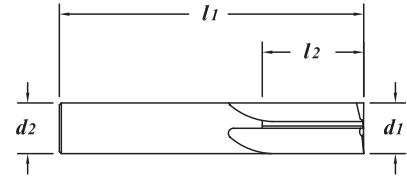
Series 222M, 234M, 322M, 334M, 334MA



END MILLS

Standard Length - Straight Flute - Square End

Solid submicron grain carbide end mill - center cutting
 For cutting high Rc materials
 Helps to hold perpendicularity

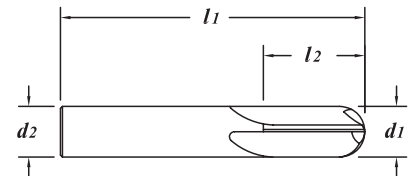


(222M) 2 Flute EDP#	(234M) 4 Flute EDP#	d_1 †		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100	
		Decimal	Diameter Metric								
81070	82070	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	9.22	8.82	8.42	8.02
81110	82110	.1875	3/16"	4.763	3/16"	2"	5/8"	12.94	12.38	11.81	11.25
81150	82150	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	15.59	14.92	14.24	13.56
81190	82190	.3125	5/16"	7.938	5/16"	2-1/2"	7/8"	21.86	20.91	19.96	19.01
81230	82230	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	27.24	26.06	24.87	23.69
81270	82270	.4375	7/16"	11.113	7/16"	2-3/4"	1"	33.24	31.79	30.35	28.90
81310	82310	.5000	1/2"	12.700	1/2"	3"	1"	43.59	41.69	39.80	37.90
81330	82330	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	84.13	80.48	76.82	73.16
81350	82350	.7500	3/4"	19.050	3/4"	4"	1-1/2"	123.35	117.99	112.62	107.26
81370	82370	1.000	1"	25.400	1"	4"	1-1/2"	202.95	194.13	185.30	176.48

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Standard Length - Straight Flute - Ball End

Solid submicron grain carbide end mill - center cutting
 For cutting high Rc materials
 Helps to hold perpendicularity



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No Coating

(322M) 2 Flute EDP#	(334M) 4 Flute EDP#	d_1 †		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100	
		Decimal	Diameter Metric								
83070	84070	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	11.81	11.30	10.78	10.27
83110	84110	.1875	3/16"	4.763	3/16"	2"	5/8"	15.59	14.92	14.24	13.56
83150	84150	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	19.33	18.49	17.65	16.81
-	84230	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	31.06	29.71	28.36	27.01

TiAlN Coating

(334MA) 4 Flute EDP#	d_1 †		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100	
	Decimal	Diameter Metric								
84077	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	13.64	13.05	12.45	11.86
84115	.1875	3/16"	4.763	3/16"	2"	5/8"	17.41	16.65	15.90	15.14
84157	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	23.07	22.07	21.06	20.06
84237	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	36.64	35.05	33.45	31.86

MATERIAL HARDNESS (Rc)

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