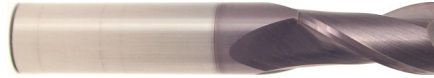




End Mills – Two Flute

Two Flute - Square End

Center Cutting



End Mills

412 = STUB	402 = REGULAR	462 = LONG	482 = EXTRA LONG
------------	---------------	------------	------------------

DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIN PART NUMBER	ALTIN LIST PRICE
1/64	1/8	1/16	1-1/2	402-0156	18.48	402-0156-11	-
1/32	1/8	1/16	1-1/2	412-0312	9.41	412-0312-11	12.21
1/32	1/8	3/32	1-1/2	402-0312	9.90	402-0312-11	12.84
3/64	1/8	3/32	1-1/2	412-0469	9.41	412-0469-11	12.21
3/64	1/8	1/8	1-1/2	402-0469	9.93	402-0469-11	12.84
1/16	1/8	1/8	1-1/2	412-0625	7.52	412-0625-11	10.33
1/16	1/8	3/16	1-1/2	402-0625	7.23	402-0625-11	10.86
5/64	1/8	1/4	1-1/2	402-0781	7.43	402-0781-11	10.56
3/32	1/8	3/16	1-1/2	412-0938	6.60	412-0938-11	9.37
3/32	1/8	3/8	1-1/2	402-0938	6.93	402-0938-11	9.87
7/64	1/8	3/8	1-1/2	402-1094	6.93	402-1094-11	9.90
1/8	1/8	1/4	1-1/2	412-1250	6.27	412-1250-11	9.08
1/8	1/8	1/2	1-1/2	402-1250	6.60	402-1250-11	9.54
1/8	1/8	3/4	2-1/2	462-1250	13.70	462-1250-11	17.69
1/8	1/8	1	3	482-1250	20.50	482-1250-11	24.50
9/64	3/16	9/16	2	402-1406	15.35	402-1406-11	20.43
5/32	3/16	5/16	2	412-1562	13.96	412-1562-11	18.05
5/32	3/16	9/16	2	402-1562	14.69	402-1562-11	18.98
11/64	3/16	9/16	2	402-1719	15.35	402-1719-11	19.73
3/16	3/16	3/8	2	412-1875	13.58	412-1875-11	17.55
3/16	3/16	5/8	2	402-1875	14.19	402-1875-11	18.48
3/16	3/16	3/4	2-1/2	462-1875	20.00	462-1875-11	25.28
3/16	3/16	1-1/8	3	482-1875	21.45	482-1875-11	26.73
13/64	1/4	5/8	2-1/2	402-2031	19.43	402-2031-11	27.30
7/32	1/4	7/16	2	412-2188	15.11	412-2188-11	20.49
7/32	1/4	5/8	2-1/2	402-2188	17.16	402-2188-11	24.85
15/64	1/4	3/4	2-1/2	402-2344	19.44	402-2344-11	26.93
1/4	1/4	1/2	2	412-2500	13.33	412-2500-11	20.63
1/4	1/4	3/4	2-1/2	402-2500	14.03	402-2500-11	21.77
1/4	1/4	1-1/8	3	462-2500	23.93	462-2500-11	31.61
1/4	1/4	1-1/2	4	482-2500	28.05	482-2500-11	46.83
1/4	1/4	1-1/2	6	482-2501 X6	40.45	482-2501 X6 11	57.91
1/4	1/4	3	6	482-2503 X6	56.93	482-2503 X6 11	74.50
17/64	5/16	7/8	2-1/2	402-2656	23.27	402-2656-11	32.90
9/32	5/16	7/8	2-1/2	402-2812	21.29	402-2812-11	30.62
19/64	5/16	7/8	2-1/2	402-2969	23.27	402-2969-11	31.91



End Mills – Two Flute

Two Flute - Square End

Center Cutting



412 = STUB

402 = REGULAR

462 = LONG

482 = EXTRA LONG

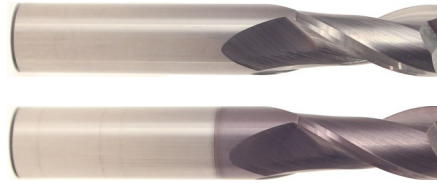
DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIN PART NUMBER	ALTIN LIST PRICE
5/16	5/16	1/2	2	412-3125	18.02	412-3125-11	28.31
5/16	5/16	7/8	2-1/2	402-3125	18.98	402-3125-11	29.80
5/16	5/16	1-1/8	3	462-3125	29.70	462-3125-11	40.36
5/16	5/16	1-5/8	4	482-3125	34.65	482-3125-11	46.70
5/16	5/16	1-1/2	6	482-3121 X6	56.49	482-3121 X6-11	81.54
5/16	5/16	3	6	482-3123 X6	69.60	482-3123 X6 11	95.60
21/64	3/8	7/8	2-1/2	402-3281	26.90	402-3281-11	39.34
11/32	3/8	7/8	2-1/2	402-3438	24.75	402-3438-11	35.57
23/64	3/8	7/8	2-1/2	402-3594	26.90	402-3594-11	35.87
3/8	3/8	5/8	2	412-3750	22.90	412-3750-11	33.17
3/8	3/8	7/8	2-1/2	402-3750	24.09	402-3750-11	34.91
3/8	3/8	1-1/8	3	462-3750	41.25	462-3750-11	52.07
3/8	3/8	1-3/4	4	482-3750	45.38	482-3750-11	57.42
3/8	3/8	1-1/2	6	482-3751 X6	61.05	482-3751 X6 11	88.47
3/8	3/8	3	6	482-3753 X6	69.30	482-3753 X6 11	113.74
3/8	3/8	4	7	482-3754 X7	87.25	482-3754 X7 11	131.37
25/64	7/16	7/8	2-1/2	402-3906	42.08	402-3906-11	52.80
13/32	7/16	7/8	2-1/2	402-4062	41.25	402-4062-11	51.98
27/64	7/16	7/8	2-1/2	402-4219	39.60	402-4219-11	49.83
7/16	7/16	5/8	2-1/2	412-4375	31.35	412-4375-11	46.06
7/16	7/16	1	2-1/2	402-4375	34.65	402-4375-11	50.12
7/16	7/16	2	4	462-4375	65.40	462-4375-11	81.25
7/16	7/16	3	6	482-4375	106.12	482-4375-11	122.00
29/64	1/2	1	3	402-4531	46.53	402-4531-11	62.54
15/32	1/2	1	3	402-4688	46.53	402-4688-11	61.88
31/64	1/2	1	3	402-4844	43.73	402-4844-11	61.05
1/2	1/2	5/8	2-1/2	412-5000	39.20	412-5000-11	53.89
1/2	1/2	1	3	402-5000	41.25	402-5000-11	56.73
1/2	1/2	1-1/2	4	462-5001 X4	66.50	462-5001 X4 11	87.45
1/2	1/2	2	4	462-5000	70.69	462-5000-11	90.02
1/2	1/2	3	6	482-5000	110.55	482-5000-11	137.54
1/2	1/2	1-1/2	6	482-5001 X6	98.70	482-5001 X6 11	125.99
1/2	1/2	4	7	482-5004 X7	128.54	482-5004 X7 11	147.13
1/2	1/2	5	8	482-5005 X8	150.55	482-5005 X8 11	188.56
33/64	9/16	1-1/4	3-1/2	402-5156	92.90	402-5156-11	134.21
17/32	9/16	1-1/4	3-1/2	402-5312	92.24	402-5312-11	131.34
35/64	9/16	1-1/4	3-1/2	402-5469	87.45	402-5469-11	124.00
9/16	9/16	1-1/4	3-1/2	402-5625	80.85	402-5625-11	105.00
37/64	5/8	1-1/4	3-1/2	402-5781	96.03	402-5781-11	126.25
19/32	5/8	1-1/4	3-1/2	402-5938	92.40	402-5938-11	124.00
39/64	5/8	1-1/4	3-1/2	402-6094	89.10	402-6094-11	121.67



End Mills – Two Flute

Two Flute - Square End

Center Cutting



412 = STUB	402 = REGULAR	462 = LONG	482 = EXTRA LONG
------------	---------------	------------	------------------

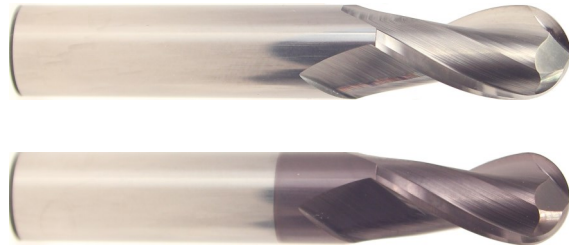
DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIN PART NUMBER	ALTIN LIST PRICE
5/8	5/8	3/4	3	412-6250	79.95	412-6250-11	98.65
5/8	5/8	1-1/4	3-1/2	402-6250	84.15	402-6250-11	108.30
5/8	5/8	2-1/4	5	462-6250	128.70	462-6250-11	157.74
5/8	5/8	3	6	482-6250	145.20	482-6250-11	179.05
5/8	5/8	4	7	482-6254 X7	171.50	482-6254 X7 11	194.91
5/8	5/8	5	8	482-6255 X8	210.34	482-6255 X8 11	237.12
5/8	5/8	6	9	482-6256 X9	262.65	482-6256 X9 11	290.53
41/64	3/4	1-1/2	4	402-6406	141.44	402-6406-11	166.72
21/32	3/4	1-1/2	4	402-6562	147.25	402-6562-11	164.01
43/64	3/4	1-1/2	4	402-6719	138.60	402-6719-11	163.68
11/16	3/4	1-1/2	4	402-6875	122.10	402-6875-11	159.72
45/64	3/4	1-1/2	4	402-7031	130.35	402-7031-11	161.87
23/32	3/4	1-1/2	4	402-7188	130.35	402-7188-11	160.71
47/64	3/4	1-1/2	4	402-7344	130.35	402-7344-11	160.28
3/4	3/4	1	3	412-7500	111.31	412-7500-11	137.51
3/4	3/4	1-1/2	4	402-7500	117.15	402-7500-11	144.74
3/4	3/4	2-1/4	5	462-7500	181.50	462-7500-11	214.56
3/4	3/4	3	6	482-7500	201.30	482-7500-11	241.43
3/4	3/4	4	7	482-7504 X7	251.74	482-7504 X7 11	294.95
3/4	3/4	5	8	482-7505 X8	290.40	482-7505 X8 11	321.32
3/4	3/4	6	9	482-7506 X9	317.33	482-7506 X9 11	342.09
3/4	3/4	8	12	482-7508 X12	369.60	482-7508 X12 11	397.33
49/64	7/8	1-1/2	4	402-7656	235.95	402-7656-11	297.66
25/32	7/8	1-1/2	4	402-7812	235.95	402-7812-11	296.40
51/64	7/8	1-1/2	4	402-7969	235.95	402-7969-11	295.12
13/16	7/8	1-1/2	4	402-8125	235.95	402-8125-11	290.40
53/64	7/8	1-1/2	4	402-8281	228.69	402-8281-11	292.22
27/32	7/8	1-1/2	4	402-8438	238.69	402-8438-11	291.32
55/64	7/8	1-1/2	4	402-8594	238.69	402-8594-11	290.40
7/8	7/8	1-1/2	4	402-8750	207.90	402-8750-11	256.18
57/64	1	1-1/2	4	402-8906	243.88	402-8906-11	300.23
29/32	1	1-1/2	4	402-9062	242.88	402-9062-11	298.50
59/64	1	1-1/2	4	402-9219	242.88	402-9219-11	296.77
15/16	1	1-1/2	4	402-9375	232.32	402-9375-11	290.40
61/64	1	1-1/2	4	402-9531	232.32	402-9531-11	288.59
31/32	1	1-1/2	4	402-9688	232.32	402-9688-11	286.74
63/64	1	1-1/2	4	402-9844	232.32	402-9844-11	286.44
1	1	1	3	412-1000	197.34	412-1000-11	246.51
1	1	1-1/2	4	402-1000	212.00	402-1000-11	259.48
1	1	2-1/4	5	462-1000	280.50	462-1000-11	338.45
1	1	3	6	482-1000	379.50	482-1000-11	447.05
1	1	4	7	482-1004 X7	478.50	482-1004 X7 11	555.69
1	1	5	8	482-1005 X8	636.90	482-1005 X8 11	665.10
1	1	6	9	482-1006 X9	739.20	482-1006 X9 11	768.25
1	1	7	10	482-1007 X10	795.30	482-1007 X10 11	831.55
1	1	8	12	482-1008 X12	886.05	482-1008 X12 11	911.11



End Mills – Two Flute

Two Flute—Ball Nose

Center Cutting



412 = STUB	402 = REGULAR	462 = LONG	482 = EXTRA LONG
------------	---------------	------------	------------------

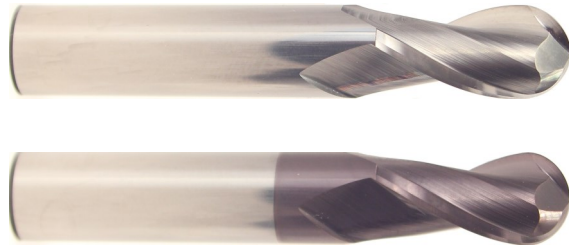
DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER BALL NOSE	UNCOATED LIST PRICE	ALTiN PART NUMBER BALL NOSE	ALTiN LIST PRICE
1/64	1/8	1/16	1-1/2	402-0156-BN	20.15	402-0156-BN11	-
1/32	1/8	1/16	1-1/2	412-0312-BN	14.12	412-0312-BN11	16.90
1/32	1/8	3/32	1-1/2	402-0312-BN	14.85	402-0312-BN11	17.79
3/64	1/8	3/32	1-1/2	412-0469-BN	14.12	412-0469-BN11	16.90
3/64	1/8	1/8	1-1/2	402-0469-BN	14.85	402-0469-BN11	17.79
1/16	1/8	1/8	1-1/2	412-0625-BN	12.54	412-0625-BN11	15.35
1/16	1/8	3/16	1-1/2	402-0625-BN	13.20	402-0625-BN11	16.14
5/64	1/8	1/4	1-1/2	402-0781-BN	13.20	402-0781-BN11	15.05
3/32	1/8	3/16	1-1/2	412-0938-BN	12.54	412-0938-BN11	15.35
3/32	1/8	3/8	1-1/2	402-0938-BN	13.20	402-0938-BN11	16.14
7/64	1/8	3/8	1-1/2	402-1094-BN	13.20	402-1094-BN11	13.86
1/8	1/8	1/4	1-1/2	412-1250-BN	10.03	412-1250-BN11	12.84
1/8	1/8	1/2	1-1/2	402-1250-BN	15.55	402-1250-BN11	13.50
1/8	1/8	3/4	2-1/2	462-1250-BN	22.44	462-1250-BN11	26.43
1/8	1/8	1	3	482-1250-BN	26.60	482-1250-BN11	30.59
9/64	3/16	9/16	2	402-1406-BN	18.15	402-1406-BN11	23.89
5/32	3/16	5/16	2	412-1562-BN	16.65	412-1562-BN11	20.69
5/32	3/16	9/16	2	402-1562-BN	17.49	402-1562-BN11	21.78
11/64	3/16	9/16	2	402-1719-BN	18.15	402-1719-BN11	23.40
3/16	3/16	3/8	2	412-1875-BN	16.63	412-1875-BN11	20.69
3/16	3/16	5/8	2	402-1875-BN	17.49	402-1875-BN11	21.78
3/16	3/16	3/4	2-1/2	462-1875-BN	26.85	462-1875-BN11	32.08
3/16	3/16	1-1/8	3	482-1875-BN	29.50	482-1875-BN11	34.78
13/64	1/4	5/8	2-1/2	402-2031-BN	22.95	402-2031-BN11	31.22
7/32	1/4	5/8	2-1/2	402-2188-BN	21.45	402-2188-BN11	29.14
15/64	1/4	3/4	2-1/2	402-2344-BN	22.95	402-2344-BN11	30.29
1/4	1/4	1/2	2	412-2500-BN	19.14	412-2500-BN11	26.43
1/4	1/4	3/4	2-1/2	402-2500-BN	20.13	402-2500-BN11	27.82
1/4	1/4	1-1/8	3	462-2500-BN	34.75	462-2500-BN11	41.84
1/4	1/4	1-1/2	4	482-2500-BN	38.78	482-2500-BN11	48.41
1/4	1/4	1-1/2	6	482-2501 X6-BN	47.85	482-2501 X6 BN11	64.68
1/4	1/4	3	6	482-2503 X6-BN	63.53	482-2503 X6 BN11	81.10
17/64	5/16	7/8	2-1/2	402-2656-BN	30.03	402-2656-BN11	39.37
9/32	5/16	7/8	2-1/2	402-2812-BN	28.05	402-2812-BN11	37.22
19/64	5/16	7/8	2-1/2	402-2969-BN	30.06	402-2969-BN11	37.98



End Mills – Two Flute

Two Flute - Ball Nose

Center Cutting



End Mills

412 = STUB	402 = REGULAR	462 = LONG	482 = EXTRA LONG
------------	---------------	------------	------------------

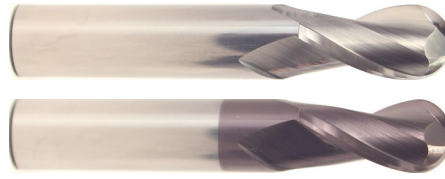
DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTiN PART NUMBER	ALTiN LIST PRICE
5/16	5/16	1/2	2	412-3125-BN	24.45	412-3125-BN11	34.75
5/16	5/16	7/8	2-1/2	402-3125-BN	25.74	402-3125-BN11	36.56
5/16	5/16	1-1/8	3	462-3125-BN	58.58	462-3125-BN11	52.73
5/16	5/16	1-5/8	4	482-3125-BN	47.36	482-3125-BN11	59.90
5/16	5/16	1-1/2	6	482-3121 X6-BN	62.70	482-3121 X6-BN11	92.02
5/16	5/16	3	6	482-3123 X6-BN	77.40	482-3123 X6 BN11	95.60
21/64	3/8	7/8	2-1/2	402-3281-BN	33.83	402-3281-BN11	46.13
11/32	3/8	7/8	2-1/2	402-3438-BN	31.35	402-3438-BN11	42.17
23/64	3/8	7/8	2-1/2	402-3594-BN	35.83	402-3594-BN11	44.22
3/8	3/8	5/8	2	412-3750-BN	29.80	412-3750-BN11	40.46
3/8	3/8	7/8	2-1/2	402-3750-BN	31.35	402-3750-BN11	42.17
3/8	3/8	1-1/8	3	462-3750-BN	54.45	462-3750-BN11	65.27
3/8	3/8	1-3/4	4	482-3750-BN	62.70	482-3750-BN11	91.75
3/8	3/8	1-1/2	6	482-3751 X6-BN	81.68	482-3751 X6 BN11	93.62
3/8	3/8	3	6	482-3753 X6-BN	89.92	482-3753 X6 BN11	98.57
3/8	3/8	4	7	482-3754 X7-BN	94.05	482-3754 X7 BN11	113.73
25/64	7/16	7/8	2-1/2	402-3906-BN	52.14	402-3906-BN11	68.41
13/32	7/16	7/8	2-1/2	402-4062-BN	51.15	402-4062-BN11	65.47
27/64	7/16	7/8	2-1/2	402-4219-BN	50.82	402-4219-BN11	63.95
7/16	7/16	5/8	2-1/2	412-4375-BN	45.47	412-4375-BN11	60.16
7/16	7/16	1	2-1/2	402-4375-BN	49.50	402-4375-BN11	64.88
7/16	7/16	2	4	462-4375-BN	79.48	462-4375-BN11	92.96
7/16	7/16	3	6	482-4375-BN	115.50	482-4375-BN11	131.37
29/64	1/2	1	3	402-4531-BN	56.43	402-4531-BN11	75.90
15/32	1/2	1	3	402-4688-BN	55.94	402-4688-BN11	72.60
31/64	1/2	1	3	402-4844-BN	55.94	402-4844-BN11	70.95
1/2	1/2	5/8	2-1/2	412-5000-BN	50.16	412-5000-BN11	64.64
1/2	1/2	1	3	402-5000-BN	52.80	402-5000-BN11	68.27
1/2	1/2	1-1/2	4	462-5001 X4-BN	83.09	462-5001 X4 BN11	99.89
1/2	1/2	2	4	462-5000-BN	87.02	462-5000-BN11	106.36
1/2	1/2	3	6	482-5000-BN	136.95	482-5000-BN11	157.34
1/2	1/2	1-1/2	6	482-5001 X6-BN	122.10	482-5001 X6 BN11	152.39
1/2	1/2	4	7	482-5004 X7-BN	136.95	482-5004 X7 BN11	155.55
1/2	1/2	5	8	482-5005 X8-BN	160.05	482-5005 X8 BN11	198.07
33/64	9/16	1-1/4	3-1/2	402-5156-BN	122.10	402-5156-BN11	152.44
17/32	9/16	1-1/4	3-1/2	402-5312-BN	115.15	402-5312-BN11	158.38
35/64	9/16	1-1/4	3-1/2	402-5469-BN	112.20	402-5469-BN11	144.57
9/16	9/16	1-1/4	3-1/2	402-5625-BN	100.65	402-5625-BN11	124.80
37/64	5/8	1-1/4	3-1/2	402-5781-BN	123.75	402-5781-BN11	143.32
19/32	5/8	1-1/4	3-1/2	402-5938-BN	117.15	402-5938-BN11	142.16
39/64	5/8	1-1/4	3-1/2	402-6094-BN	113.85	402-6094-BN11	141.34



End Mills – Two Flute

Two Flute - Ball End

Center Cutting



412 = STUB	402 = REGULAR	462 = LONG	482 = EXTRA LONG
------------	---------------	------------	------------------

DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIM PART NUMBER	ALTIM LIST PRICE
5/8	5/8	3/4	3	412-6250-BN	95.63	412-6250-BN11	118.57
5/8	5/8	1-1/4	3-1/2	402-6250-BN	100.65	402-6250-BN11	124.81
5/8	5/8	2-1/4	5	462-6250-BN	163.12	462-6250-BN11	192.60
5/8	5/8	3	6	482-6250-BN	191.40	482-6250-BN11	223.58
5/8	5/8	4	7	482-6254 X7-BN	186.45	482-6254 X7 BN11	209.86
5/8	5/8	5	8	482-6255 X8-BN	222.75	482-6255 X8 BN11	249.53
5/8	5/8	6	9	482-6256 X9-BN	278.85	482-6256 X9 BN11	306.74
41/64	3/4	1-1/2	4	402-6406-BN	169.95	402-6406-BN11	251.79
21/32	3/4	1-1/2	4	402-6562-BN	169.95	402-6562-BN11	187.67
43/64	3/4	1-1/2	4	402-6719-BN	168.30	402-6719-BN11	185.13
11/16	3/4	1-1/2	4	402-6875-BN	158.40	402-6875-BN11	183.32
45/64	3/4	1-1/2	4	402-7031-BN	158.40	402-7031-BN11	185.92
23/32	3/4	1-1/2	4	402-7188-BN	158.40	402-7188-BN11	185.86
47/64	3/4	1-1/2	4	402-7344-BN	158.40	402-7344-BN11	193.38
3/4	3/4	1	3	412-7500-BN	131.67	412-7500-BN11	157.87
3/4	3/4	1-1/2	4	402-7500-BN	138.60	402-7500-BN11	166.19
3/4	3/4	2-1/4	5	462-7500-BN	229.35	462-7500-BN11	262.42
3/4	3/4	3	6	482-7500-BN	257.40	482-7500-BN11	296.04
3/4	3/4	4	7	482-7504 X7-BN	316.80	482-7504 X7 BN11	360.90
3/4	3/4	5	8	482-7505 X8-BN	318.45	482-7505 X8 BN11	349.70
3/4	3/4	6	9	482-7506 X9-BN	359.70	482-7506 X9 BN11	384.47
3/4	3/4	8	12	482-7508 X12-BN	400.95	482-7508 X12 BN11	430.27
49/64	7/8	1-1/2	4	402-7656-BN	306.74	402-7656-BN11	357.23
25/32	7/8	1-1/2	4	402-7812-BN	306.74	402-7812-BN11	356.47
51/64	7/8	1-1/2	4	402-7969-BN	306.74	402-7969-BN11	355.74
13/16	7/8	1-1/2	4	402-8125-BN	306.74	402-8125-BN11	356.44
53/64	7/8	1-1/2	4	402-8281-BN	298.00	402-8281-BN11	352.11
27/32	7/8	1-1/2	4	402-8438-BN	298.00	402-8438-BN11	365.30
55/64	7/8	1-1/2	4	402-8594-BN	298.00	402-8594-BN11	352.11
7/8	7/8	1-1/2	4	402-8750-BN	270.60	402-8750-BN11	318.88
57/64	1	1-1/2	4	402-8906-BN	313.00	402-8906-BN11	373.89
29/32	1	1-1/2	4	402-9062-BN	329.50	402-9062-BN11	369.44
59/64	1	1-1/2	4	402-9219-BN	329.50	402-9219-BN11	363.00
15/16	1	1-1/2	4	402-9375-BN	301.12	402-9375-BN11	355.74
61/64	1	1-1/2	4	402-9531-BN	301.12	402-9531-BN11	357.59
31/32	1	1-1/2	4	402-9688-BN	301.12	402-9688-BN11	356.57
63/64	1	1-1/2	4	402-9844-BN	30.12	402-9844-BN11	355.74
1	1	1	3	414-1000 BN	253.61	414-1000-BN11	306.08
1	1	1-1/2	4	402-1000-BN	273.90	402-1000-BN11	322.18
1	1	2-1/4	5	462-1000-BN	356.40	462-1000-BN11	414.35
1	1	3	6	482-1000-BN	445.50	482-1000-BN11	513.05
1	1	4	7	482-1004 X7-BN	554.40	482-1004 X7 BN11	631.55
1	1	5	8	482-1005 X8-BN	671.55	482-1005 X8 BN11	709.68
1	1	6	9	482-1006 X9-BN	790.35	482-1006 X9 BN11	819.41
1	1	7	10	482-1007 X10-BN	839.85	482-1007 X10 BN11	879.08
1	1	8	12	482-1008 X12-BN	925.65	482-1008 X12 BN11	950.71



End Mills – Two Flute - Metric

Two Flute - Square End

Center Cutting



412 = STUB	402 = REGULAR	462 = LONG	482 = EXTRA LONG
------------	---------------	------------	------------------

DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIN PART NUMBER	ALTIN LIST PRICE
1	3	38	402-0394	13.66	402-0394-11	16.81
1.5	5	38	402-0591	13.53	402-0591-11	16.81
2	6	38	402-0787	10.89	402-0787-11	13.68
2.5	7	38	402-0984	10.89	402-0984-11	13.68
3	12	38	402-1181	8.49	402-1181-11	11.41
3	25	75	462-1181	14.70	462-1181-11	18.00
3	25	100	482-1181	21.33	482-1181-11	24.70
3.5	12	50	402-1378	14.82	402-1378-11	17.74
4	14	50	402-1575	14.22	402-1575-11	17.41
4	19	57	462-1575	18.43	462-1575-11	22.29
4	25	75	482-1575	20.43	482-1575-11	23.22
4.5	14	50	402-1772	14.82	402-1772-11	18.22
5	16	50	402-1968	15.97	402-1968-11	19.21
5	25	75	462-1969	20.63	462-1969-11	24.04
5	30	100	482-1969	23.25	482-1969-11	26.57
6	19	63	402-2362	15.68	402-2362-11	19.32
6	25	75	462-2362	25.01	462-2362-11	28.30
6	30	100	482-2362	28.22	482-2362-11	31.40
7	19	63	402-2756	22.28	402-2756-11	25.91
8	19	63	402-3150	20.63	402-3150-11	25.21
8	30	100	462-3150	30.31	462-3150-11	33.23
8	50	150	482-3150	37.80	482-3150-11	43.00
9	22	70	402-3543	37.03	402-3543-11	43.46
10	22	70	402-3937	32.67	402-3937-11	39.45
10	38	100	462-3937	52.09	462-3937-11	57.75
10	75	150	482-3937	75.90	482-3937-11	82.30
11	25	70	402-4331	49.37	402-4331-11	58.83
12	25	75	402-4724	41.25	402-4724-11	50.33
12	50	100	462-4724	73.64	462-4724-11	79.22
12	75	150	482-4724	105.50	482-4724-11	112.20



End Mills – Two Flute - Metric

Two Flute - Square End

Center Cutting



412 = STUB

402 = REGULAR

462 = LONG

482 = EXTRA LONG

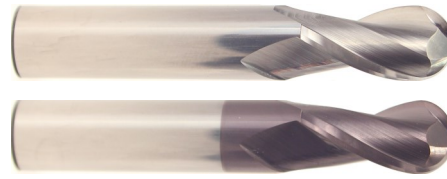
DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIN PART NUMBER	ALTIN LIST PRICE
13	30	88	402-5118	81.97	402-5118-11	89.18
14	30	88	402-5512	76.23	402-5512-11	87.40
14	50	125	462-5512	117.20	462-5512-11	125.40
14	75	150	482-5512	131.03	482-5512-11	139.44
15	32	88	402-5906	109.30	402-5906-11	117.98
16	32	88	402-6299	101.64	402-6299-11	116.26
16	75	150	482-6299	153.00	482-6299-11	161.88
17	36	100	402-6693	124.58	402-6693-11	136.03
18	36	100	402-7087	116.16	402-7087-11	134.48
18	75	150	482-7087	196.35	482-7087-11	207.90
19	38	100	402-7480	149.89	402-7480-11	161.70
20	38	100	402-7874	139.39	402-7874-11	160.03
20	75	150	482-7874	268.95	482-7874-11	313.53
21	38	100	402-8268	183.41	402-8268-11	197.84
22	38	100	402-8661	171.34	402-8661-11	196.00
23	38	100	402-9055	216.48	402-9055-11	231.00
24	38	100	402-9449	235.79	402-9449-11	231.41
25	38	100	402-9843	201.30	402-9843-11	229.37
25	75	150	482-9843	381.15	482-9843-11	394.35



End Mills – Two Flute - Metric

Two Flute - Ball Nose

Center Cutting



412 = STUB	402 = REGULAR	462 = LONG	482 = EXTRA LONG
------------	---------------	------------	------------------

DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIN PART NUMBER	ALTIN LIST PRICE
1	3	38	402-0394-BN	15.84	402-0394-BN11	17.42
1.5	5	38	402-0591-BN	15.84	402-0591-BN11	17.42
2	6	38	402-0787-BN	13.07	402-0787-BN11	14.39
2.5	7	38	402-0984-BN	13.67	402-0984-BN11	14.39
3	12	38	402-1181-BN	13.67	402-1181-BN11	14.39
3.5	12	50	402-1378-BN	18.02	402-1378-BN11	19.85
4	14	50	402-1575-BN	17.42	402-1575-BN11	19.21
4.5	14	50	402-1772-BN	18.02	402-1772-BN11	19.87
5	16	50	402-1968-BN	19.17	402-1968-BN11	21.10
6	19	63	402-2362-BN	22.37	402-2362-BN11	24.68
7	19	63	402-2756-BN	34.98	402-2756-BN11	38.48
8	19	63	402-3150-BN	27.50	402-3150-BN11	30.48
9	22	70	402-3543-BN	45.44	402-3543-BN11	49.98
10	22	70	402-3937-BN	41.09	402-3937-BN11	45.18
11	25	70	402-4331-BN	54.45	402-4331-BN11	59.90
12	25	75	402-4724-BN	52.80	402-4724-BN11	58.08
13	30	88	402-5118-BN	79.37	402-5118-BN11	87.29
14	30	88	402-5512-BN	77.55	402-5512-BN11	85.31
15	32	88	402-5906-BN	105.44	402-5906-BN11	114.59
16	32	88	402-6299-BN	103.72	402-6299-BN11	112.43
17	36	100	402-6693-BN	139.84	402-6693-BN11	149.99
18	36	100	402-7087-BN	137.81	402-7087-BN11	148.29
19	38	100	402-7480-BN	173.09	402-7480-BN11	182.24
20	38	100	402-7874-BN	171.34	402-7874-BN11	180.21
21	38	100	402-8268-BN	205.59	402-8268-BN11	219.29
22	38	100	402-8661-BN	203.28	402-8661-BN11	217.01
23	38	100	402-9055-BN	251.46	402-9055-BN11	266.48
24	38	100	402-9449-BN	252.04	402-9449-BN11	267.30
25	38	100	402-9843-BN	249.74	402-9843-BN11	264.81



End Mills – Corner Radius

Corner Radius

Two Flute Single End
Center Cutting



CUTTING DIA.	CORNER RADIUS	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIM PART NUMBER	ALTIM LIST PRICE
1/8	.015	1/2	1-1/2	495-1251	11.62	495-1251-11	14.55
3/16	.020	5/8	2	495-1872	19.31	495-1872-11	23.53
3/16	.030	5/8	2	495-1873	19.31	495-1873-11	23.53
1/4	.020	3/4	2-1/2	495-2502	18.71	495-2502-11	29.83
1/4	.030	3/4	2-1/2	495-2503	18.71	495-2503-11	29.83
1/4	.045	3/4	2-1/2	495-2504	18.71	495-2504-11	29.83
5/16	.020	7/8	2-1/2	495-3122	28.31	495-3122-11	39.14
5/16	.030	7/8	2-1/2	495-3123	28.31	495-3123-11	39.14
5/16	.045	7/8	2-1/2	495-3124	28.31	495-3124-11	39.14
3/8	.020	1	2-1/2	495-3752	34.49	495-3752-11	45.31
3/8	.030	1	2-1/2	495-3753	34.49	495-3753-11	45.31
3/8	.045	1	2-1/2	495-3754	34.49	495-3754-11	45.31
1/2	.020	1	3	495-5002	58.08	495-5002-11	73.56
1/2	.030	1	3	495-5003	58.08	495-5003-11	73.56
1/2	.045	1	3	495-5004	58.08	495-5004-11	73.56
1/2	.060	1	3	495-5006	58.08	495-5006-11	73.56
5/8	.020	1-1/4	3-1/2	495-6252	110.72	495-6252-11	134.87
5/8	.030	1-1/4	3-1/2	495-6253	110.72	495-6253-11	134.87
5/8	.045	1-1/4	3-1/2	495-6254	110.72	495-6254-11	134.87
5/8	.060	1-1/4	3-1/2	495-6256	110.72	495-6256-11	134.87
5/8	.090	1-1/4	3-1/2	495-6259	110.72	495-6259-11	134.87
3/4	.020	1-1/2	4	495-7502	152.49	495-7502-11	180.05
3/4	.030	1-1/2	4	495-7503	152.49	495-7503-11	180.05
3/4	.045	1-1/2	4	495-7504	152.49	495-7504-11	180.05
3/4	.060	1-1/2	4	495-7506	152.49	495-7506-11	180.05
3/4	.090	1-1/2	4	495-7509	152.49	495-7509-11	180.05
3/4	.125	1-1/2	4	495-7500	152.49	495-7500-11	180.05
1	.020	1-1/2	4	495-1002	273.90	495-1002-11	316.57
1	.030	1-1/2	4	495-1003	273.90	495-1003-11	316.57
1	.045	1-1/2	4	495-1004	273.90	495-1004-11	316.57
1	.060	1-1/2	4	495-1006	273.90	495-1006-11	316.57
1	.090	1-1/2	4	495-1009	273.90	495-1009-11	316.57
1	.125	1-1/2	4	495-1000	273.90	495-1000-11	316.57

Other Radius sizes available on request.



End Mills – Two Flute

Double End

Two Flute Double End - Square End

Center Cutting



422 – STUB	442 - REGULAR
------------	---------------

DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIN PART NUMBER	ALTIN LIST PRICE
1/32	1/16	1-1/2	422-0312	14.85	422-0312-11	16.50
3/64	3/32	1-1/2	422-0469	14.85	422-0469-11	16.50
1/16	1/8	1-1/2	422-0625	13.20	422-0625-11	14.85
3/32	3/16	1-1/2	422-0938	12.54	422-0938-11	14.19
1/8	1/4	1-1/2	422-1250	11.88	422-1250-11	13.53
1/8	3/8	3-1/16	442-1250	46.20	442-1250-11	52.80
5/32	5/16	2	422-1562	18.15	422-1562-11	22.44
5/32	7/16	3-1/8	442-1562	45.54	442-1562-11	52.80
3/16	5/16	2	422-1875	17.33	422-1875-11	21.45
3/16	1/2	3-1/4	442-1875	44.55	442-1875-11	51.98
7/32	3/8	2-1/2	422-2188	20.46	422-2188-11	28.05
7/32	9/16	3-1/2	442-2188	44.55	442-2188-11	51.98
1/4	1/2	2-1/2	422-2500	20.13	422-2500-11	27.06
1/4	5/8	3-1/2	442-2500	44.55	442-2500-11	51.98
5/16	1/2	2-1/2	422-3125	24.09	422-3125-11	33.66
5/16	3/4	3-1/2	442-3125	46.86	442-3125-11	54.62
11/32	3/4	3-1/2	442-3438	50.16	442-3438-11	57.92
3/8	9/16	2-1/2	422-3750	31.35	422-3750-11	41.25
3/8	3/4	3-1/2	442-3750	49.50	442-3750-11	57.26
7/16	9/16	2-3/4	422-4375	47.85	422-4375-11	61.05
7/16	7/8	4	442-4375	75.90	442-4375-11	84.48
1/2	5/8	3	422-5000	52.80	422-5000-11	62.70
1/2	1	4	442-5000	69.30	442-5000-11	80.85



End Mills – Two Flute

Double End

Two Flute Double End - Ball Nose

Center Cutting



422 – STUB

442 - REGULAR

DIA.	FLUTE LENGTH	OVERALL LENGTH	UNCOATED PART NUMBER	UNCOATED LIST PRICE	ALTIN PART NUMBER	ALTIN LIST PRICE
1/32	1/16	1-1/2	422-0312-BN	26.40	422-0312-BN11	28.05
3/64	3/32	1-1/2	422-0469-BN	26.40	422-0469-BN11	28.05
1/16	1/8	1-1/2	422-0625-BN	23.76	422-0625-BN11	26.40
3/32	3/16	1-1/2	422-0938-BN	23.10	422-0938-BN11	26.40
1/8	1/4	1-1/2	422-1250-BN	22.44	422-1250-BN11	25.74
1/8	3/8	3-1/16	442-1250-BN	56.10	442-1250-BN11	62.70
5/32	5/16	2	422-1562-BN	26.40	422-1562-BN11	30.69
5/32	7/16	3-1/8	442-1562-BN	56.10	442-1562-BN11	63.53
3/16	5/16	2	422-1875-BN	25.74	422-1875-BN11	29.70
3/16	1/2	3-1/4	442-1875-BN	54.45	442-1875-BN11	61.88
7/32	3/8	2-1/2	422-2188-BN	27.39	422-2188-BN11	34.65
7/32	9/16	3-1/2	442-2188-BN	54.45	442-2188-BN11	61.88
1/4	1/2	2-1/2	422-2500-BN	26.73	422-2500-BN11	33.00
1/4	5/8	3-1/2	442-2500-BN	54.45	442-2500-BN11	61.88
5/16	1/2	2-1/2	422-3125-BN	29.70	422-3125-BN11	39.60
5/16	3/4	3-1/2	442-3125-BN	62.70	442-3125-BN11	70.46
11/32	3/4	3-1/2	442-3438-BN	62.70	442-3438-BN11	71.12
3/8	9/16	2-1/2	422-3750-BN	46.20	422-3750-BN11	56.01
3/8	3/4	3-1/2	442-3750-BN	62.70	442-3750-BN11	70.46
7/16	9/16	2-3/4	422-4375-BN	59.40	422-4375-BN11	72.60
7/16	7/8	4	442-4375-BN	92.40	442-4375-BN11	100.98
1/2	5/8	3	422-5000-BN	69.30	422-5000-BN11	82.50
1/2	1	4	442-5000-BN	89.10	442-5000-BN11	100.65