

Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS



4 FLUTE - STUB LENGTH - SQUARE END - 30° HELIX



SERIES 106
UNCOATED

DIA	SHANK	LOC	OAL	ITEM#	LIST PRICE
1/64	1/8	0.023	1-1/2	TC10601	25.32
1/32	1/8	1/16	1-1/2	TC10602	15.59
3/64	1/8	3/32	1-1/2	TC10603	15.59
1/16	1/8	1/8	1-1/2	TC10604	11.67
5/64	1/8	1/8	1-1/2	TC10605	19.73
3/32	1/8	3/16	1-1/2	TC10606	11.67
1/8	1/8	1/4	1-1/2	TC10608	11.14
5/32	3/16	5/16	2	TC10610	18.55
3/16	3/16	3/8	2	TC10612	17.42
7/32	1/4	7/16	2	TC10614	23.41
1/4	1/4	1/2	2	TC10616	20.54
5/16	5/16	1/2	2	TC10620	27.75
3/8	3/8	5/8	2	TC10624	35.81
7/16	7/16	5/8	2-1/2	TC10628	44.68
1/2	1/2	5/8	2-1/2	TC10632	56.42
5/8	5/8	3/4	3	TC10640	119.45
3/4	3/4	1	3	TC10648	167.20
1	1	1-1/4	3-1/2	TC10664	275.54



SERIES 109
ALTiN COATED

DIA	SHANK	LOC	OAL	ITEM#	LIST PRICE
1/64	1/8	0.023	1-1/2	TC10901	31.63
1/32	1/8	1/16	1-1/2	TC10902	20.21
3/64	1/8	3/32	1-1/2	TC10903	20.21
1/16	1/8	1/8	1-1/2	TC10904	15.23
5/64	1/8	1/8	1-1/2	TC10905	24.67
3/32	1/8	3/16	1-1/2	TC10906	15.23
1/8	1/8	1/4	1-1/2	TC10908	14.54
5/32	3/16	5/16	2	TC10910	22.93
3/16	3/16	3/8	2	TC10912	21.59
7/32	1/4	7/16	2	TC10914	29.04
1/4	1/4	1/2	2	TC10916	25.52
5/16	5/16	1/2	2	TC10920	36.09
3/8	3/8	5/8	2	TC10924	44.35
7/16	7/16	5/8	2-1/2	TC10928	55.45
1/2	1/2	5/8	2-1/2	TC10932	70.28
5/8	5/8	3/4	3	TC10940	141.16
3/4	3/4	1	3	TC10948	206.90
1	1	1-1/4	3-1/2	TC10964	343.62

4 FLUTE - STUB LENGTH - BALL NOSE - 30° HELIX



SERIES 107
UNCOATED

DIA	SHANK	LOC	OAL	ITEM#	LIST PRICE
1/64	1/8	0.023	1-1/2	TC10701	31.59
1/32	1/8	1/16	1-1/2	TC10702	20.29
3/64	1/8	3/32	1-1/2	TC10703	20.29
1/16	1/8	1/8	1-1/2	TC10704	15.27
5/64	1/8	1/8	1-1/2	TC10705	24.71
3/32	1/8	3/16	1-1/2	TC10706	15.27
1/8	1/8	1/4	1-1/2	TC10708	14.46
5/32	3/16	5/16	2	TC10710	24.10
3/16	3/16	3/8	2	TC10712	22.60
7/32	1/4	7/16	2	TC10714	30.38
1/4	1/4	1/2	2	TC10716	28.88
5/16	5/16	1/2	2	TC10720	36.01
3/8	3/8	5/8	2	TC10724	46.50
7/16	7/16	5/8	2-1/2	TC10728	58.17
1/2	1/2	5/8	2-1/2	TC10732	73.27
5/8	5/8	3/4	3	TC10740	139.94
3/4	3/4	1	3	TC10748	212.77
1	1	1-1/4	3-1/2	TC10764	329.57



SERIES 117
ALTiN COATED

DIA	SHANK	LOC	OAL	ITEM#	LIST PRICE
1/64	1/8	0.023	1-1/2	TC11701	39.49
1/32	1/8	1/16	1-1/2	TC11702	25.96
3/64	1/8	3/32	1-1/2	TC11703	25.96
1/16	1/8	1/8	1-1/2	TC11704	19.52
5/64	1/8	1/8	1-1/2	TC11705	30.86
3/32	1/8	3/16	1-1/2	TC11706	19.52
1/8	1/8	1/4	1-1/2	TC11708	18.55
5/32	3/16	5/16	2	TC11710	30.86
3/16	3/16	3/8	2	TC11712	28.92
7/32	1/4	7/16	2	TC11714	38.88
1/4	1/4	1/2	2	TC11716	37.47
5/16	5/16	1/2	2	TC11720	46.09
3/8	3/8	5/8	2	TC11724	56.71
7/16	7/16	5/8	2-1/2	TC11728	70.92
1/2	1/2	5/8	2-1/2	TC11732	93.77
5/8	5/8	3/4	3	TC11740	171.34
3/4	3/4	1	3	TC11748	272.36
1	1	1-1/4	3-1/2	TC11764	405.21

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
1/64" - 1/2"	+ .000, - .002	-.0001, -.0004 ISO H6
5/8" - 1"	+ .000, - .003	-.0001, -.0004 ISO H6

END MILLS

DRILL MILLS

CHAMFER MILLS

DRILLS

REAMERS

BURS



Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS

2 FLUTE - REGULAR LENGTH - SQUARE END - 30° HELIX

SERIES 100
UNCOATED



SERIES 101
ALTiN COATED



SERIES 900
TiCN COATED



DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTiN	LIST PRICE	TiCN	LIST PRICE
1/64	1/8	1/32	1-1/2	TC10001	27.15	TC10101	36.38	TC90001	36.38
1/32	1/8	1/8	1-1/2	TC10002	18.19	TC10102	24.59	TC90002	24.59
3/64	1/8	1/8	1-1/2	TC10003	15.55	TC10103	20.95	TC90003	20.95
1/16	1/8	1/4	1-1/2	TC10004	15.51	TC10104	17.81	TC90004	17.81
5/64	1/8	1/4	1-1/2	TC10005	16.01	TC10105	21.60	TC90005	21.60
3/32	1/8	3/8	1-1/2	TC10006	14.09	TC10106	17.81	TC90006	17.81
7/64	1/8	3/8	1-1/2	TC10007	14.71	TC10107	19.84	TC90007	19.84
1/8	1/8	1/2	1-1/2	TC10008	13.52	TC10108	16.54	TC90008	16.54
9/64	3/16	9/16	2	TC10009	19.80	TC10109	26.73	TC90009	26.73
5/32	3/16	9/16	2	TC10010	19.91	TC10110	23.09	TC90010	23.09
11/64	3/16	5/8	2	TC10011	18.92	TC10111	25.58	TC90011	25.58
3/16	3/16	5/8	2	TC10012	18.42	TC10112	23.09	TC90012	23.09
13/64	1/4	5/8	2-1/2	TC10013	26.88	TC10113	35.23	TC90013	35.23
7/32	1/4	5/8	2-1/2	TC10014	27.46	TC10114	31.90	TC90014	31.90
15/64	1/4	3/4	2-1/2	TC10015	31.02	TC10115	39.98	TC90015	39.98
1/4	1/4	3/4	2-1/2	TC10016	22.75	TC10116	31.90	TC90016	31.90
17/64	5/16	3/4	2-1/2	TC10017	41.01	TC10117	52.69	TC90017	52.69
9/32	5/16	3/4	2-1/2	TC10018	41.01	TC10118	52.69	TC90018	52.69
19/64	5/16	13/16	2-1/2	TC10019	41.01	TC10119	52.69	TC90019	52.69
5/16	5/16	13/16	2-1/2	TC10020	29.60	TC10120	38.18	TC90020	38.18
21/64	3/8	1	2-1/2	TC10021	45.99	TC10121	59.13	TC90021	59.13
11/32	3/8	1	2-1/2	TC10022	45.99	TC10122	59.13	TC90022	59.13
23/64	3/8	1	2-1/2	TC10023	45.99	TC10123	59.13	TC90023	59.13
3/8	3/8	1	2-1/2	TC10024	35.31	TC10124	43.66	TC90024	43.66
25/64	7/16	1	2-3/4	TC10025	60.20	TC10125	77.70	TC90025	77.70
13/32	7/16	1	2-3/4	TC10026	60.20	TC10126	77.70	TC90026	77.70
27/64	7/16	1	2-3/4	TC10027	62.15	TC10127	80.27	TC90027	80.27
7/16	7/16	1	2-3/4	TC10028	54.19	TC10128	66.71	TC90028	66.71
29/64	1/2	1	3	TC10029	89.46	TC10129	114.50	TC90029	114.50
15/32	1/2	1	3	TC10030	89.46	TC10130	114.50	TC90030	114.50
31/64	1/2	1	3	TC10031	89.46	TC10131	114.50	TC90031	114.50
1/2	1/2	1	3	TC10032	65.06	TC10132	81.19	TC90032	81.19
9/16	9/16	1-1/4	3-1/2	TC10036	122.97	TC10136	162.37	TC90036	162.37
5/8	5/8	1-1/4	3-1/2	TC10040	124.38	TC10140	158.58	TC90040	158.58
3/4	3/4	1-1/2	4	TC10048	174.70	TC10148	225.02	TC90048	225.02
7/8	7/8	1-1/2	4	TC10056	319.54	TC10156	404.44	TC90056	404.44
1	1	1-1/2	4	TC10064	285.80	TC10164	365.57	TC90064	365.57

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
1/64" - 7/64"	+0.000, -0.001	-0.0001, -.0004 ISO H6
1/8" - 1/2"	+0.000, -0.002	-0.0001, -.0004 ISO H6
9/16" - 1"	+0.000, -0.003	-0.0001, -.0004 ISO H6

END MILLS

DRILL MILLS

CHAMFER MILLS

DRILLS

REAMERS

BURS

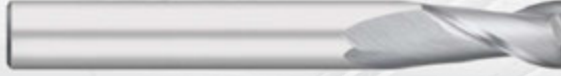
Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS

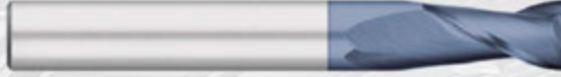


2 FLUTE - LONG LENGTH - SQUARE END - 30° HELIX

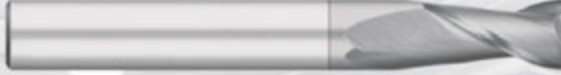
SERIES 150
UNCOATED



SERIES 151
ALTIM COATED



SERIES 950
TICN COATED



**TAKE 55% OFF
OF LIST PRICE!**

DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTIM	LIST PRICE	TICN	LIST PRICE
1/8	1/8	3/4	2-1/4	TC15008	21.83	TC15108	28.07	TC95008	28.07
3/16	3/16	3/4	2-1/2	TC15012	25.62	TC15112	32.93	TC95012	32.93
1/4	1/4	1-1/8	3	TC15016	36.69	TC15116	47.30	TC95016	47.30
1/4	1/4	1	4	TC15017	38.64	TC15117	49.82	TC95017	49.82
5/16	5/16	1-1/8	3	TC15020	41.40	TC15120	55.87	TC95020	55.87
3/8	3/8	1-1/8	3	TC15024	47.49	TC15124	64.11	TC95024	64.11
3/8	3/8	1	4	TC15025	55.45	TC15125	71.34	TC95025	71.34
7/16	7/16	2	4	TC15028	74.83	TC15128	97.31	TC95028	97.31
1/2	1/2	1	4	TC15032	81.03	TC15132	104.36	TC95032	104.36
1/2	1/2	2	4	TC15033	85.82	TC15133	110.14	TC95033	110.14
5/8	5/8	2-1/4	5	TC15040	191.82	TC15140	237.39	TC95040	237.39
3/4	3/4	2-1/4	5	TC15048	264.93	TC15148	341.83	TC95048	341.83
7/8	7/8	2-1/4	5	TC15056	502.13	TC15156	593.43	TC95056	593.43
1	1	2-1/4	5	TC15064	362.70	TC15164	468.13	TC95064	468.13

2 FLUTE - EXTRA LONG LENGTH - SQUARE END - 30° HELIX

SERIES 170
UNCOATED



SERIES 171
ALTIM COATED



SERIES 970
TICN COATED



DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTIM	LIST PRICE	TICN	LIST PRICE
1/8	1/8	1	3	TC17008	24.39	TC17108	32.93	TC97008	32.93
3/16	3/16	1-1/8	3	TC17012	26.54	TC17112	34.08	TC97012	34.08
1/4	1/4	1-1/2	4	TC17016	39.74	TC17116	51.19	TC97016	51.19
1/4	1/4	1-1/2	6	TC17017	50.70	TC17117	65.22	TC97017	65.22
5/16	5/16	1-5/8	4	TC17020	51.16	TC17120	66.02	TC97020	66.02
3/8	3/8	1-3/4	4	TC17024	58.09	TC17124	74.41	TC97024	74.41
3/8	3/8	1-1/2	6	TC17025	87.97	TC17125	113.39	TC97025	113.39
7/16	7/16	3	6	TC17028	118.49	TC17128	151.92	TC97028	151.92
1/2	1/2	1-1/2	6	TC17032	133.88	TC17132	166.16	TC97032	166.16
1/2	1/2	3	6	TC17033	140.54	TC17133	172.83	TC97033	172.83
5/8	5/8	3	6	TC17040	206.99	TC17140	254.47	TC97040	254.47
3/4	3/4	3	6	TC17048	307.63	TC17148	377.90	TC97048	377.90
7/8	7/8	3	6	TC17056	547.78	TC17156	684.76	TC97056	684.76
1	1	3	6	TC17064	522.24	TC17164	641.76	TC97064	641.76

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
1/8" - 1/2"	+0.000, -0.002	-0.0001, -0.0004 ISO H6
5/8" - 1"	+0.000, -0.003	-0.0001, -0.0004 ISO H6



Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS

2 FLUTE - REGULAR LENGTH - BALL NOSE - 30° HELIX

SERIES 110
UNCOATED



SERIES 111
ALTiN COATED



SERIES 910
TiCN COATED



DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTiN	LIST PRICE	TiCN	LIST PRICE
1/64	1/8	1/32	1-1/2	TC11001	30.41	TC11101	40.75	TC91001	40.75
1/32	1/8	1/8	1-1/2	TC11002	19.45	TC11102	25.28	TC91002	25.28
3/64	1/8	1/8	1-1/2	TC11003	19.45	TC11103	25.28	TC91003	25.28
1/16	1/8	1/4	1-1/2	TC11004	18.04	TC11104	24.36	TC91004	24.36
5/64	1/8	1/4	1-1/2	TC11005	18.04	TC11105	24.36	TC91005	24.36
3/32	1/8	3/8	1-1/2	TC11006	18.92	TC11106	25.58	TC91006	25.58
7/64	1/8	3/8	1-1/2	TC11007	18.92	TC11107	25.58	TC91007	25.58
1/8	1/8	1/2	1-1/2	TC11008	17.35	TC11108	23.44	TC91008	23.44
9/64	3/16	9/16	2	TC11009	25.43	TC11109	34.35	TC91009	34.35
5/32	3/16	9/16	2	TC11010	25.43	TC11110	34.35	TC91010	34.35
11/64	3/16	5/8	2	TC11011	25.43	TC11111	34.35	TC91011	34.35
3/16	3/16	5/8	2	TC11012	22.86	TC11112	30.87	TC91012	30.87
13/64	1/4	5/8	2-1/2	TC11013	33.28	TC11113	42.01	TC91013	42.01
7/32	1/4	5/8	2-1/2	TC11014	33.28	TC11114	42.01	TC91014	42.01
15/64	1/4	3/4	2-1/2	TC11015	33.28	TC11115	42.01	TC91015	42.01
1/4	1/4	3/4	2-1/2	TC11016	32.16	TC11116	40.02	TC91016	40.02
17/64	5/16	3/4	2-1/2	TC11017	42.01	TC11117	54.04	TC91017	54.04
9/32	5/16	3/4	2-1/2	TC11018	42.09	TC11118	54.11	TC91018	54.11
19/64	5/16	13/16	2-1/2	TC11019	45.72	TC11119	60.01	TC91019	60.01
5/16	5/16	13/16	2-1/2	TC11020	38.72	TC11120	49.78	TC91020	49.78
21/64	3/8	1	2-1/2	TC11021	53.19	TC11121	71.80	TC91021	71.80
11/32	3/8	1	2-1/2	TC11022	55.83	TC11122	71.80	TC91022	71.80
23/64	3/8	1	2-1/2	TC11023	53.19	TC11123	71.80	TC91023	71.80
3/8	3/8	1	2-1/2	TC11024	41.44	TC11124	58.55	TC91024	58.55
25/64	7/16	1	2-3/4	TC11025	72.03	TC11125	92.83	TC91025	92.83
13/32	7/16	1	2-3/4	TC11026	72.03	TC11126	92.83	TC91026	92.83
27/64	7/16	1	2-3/4	TC11027	72.03	TC11127	92.83	TC91027	92.83
7/16	7/16	1	2-3/4	TC11028	61.31	TC11128	79.04	TC91028	79.04
29/64	1/2	1	3	TC11029	94.97	TC11129	122.47	TC91029	122.47
15/32	1/2	1	3	TC11030	94.97	TC11130	122.47	TC91030	122.47
31/64	1/2	1	3	TC11031	94.97	TC11131	122.47	TC91031	122.47
1/2	1/2	1	3	TC11032	84.10	TC11132	108.38	TC91032	108.38
9/16	9/16	1-1/4	3-1/2	TC11036	128.18	TC11136	157.74	TC91036	157.74
5/8	5/8	1-1/4	3-1/2	TC11040	135.99	TC11140	175.28	TC91040	175.28
3/4	3/4	1-1/2	4	TC11048	200.36	TC11148	261.10	TC91048	261.10
7/8	7/8	1-1/2	4	TC11056	388.01	TC11156	493.02	TC91056	493.02
1	1	1-1/2	4	TC11064	357.87	TC11164	461.16	TC91064	461.16

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK	RAD
1/64" - 7/64"	+0.00, -0.01	-0.0001, -.0004 ISO H6	
1/8" - 1/2"	+0.00, -0.02	-0.0001, -.0004 ISO H6	
9/16" - 1"	+0.00, -0.03	-0.0001, -.0004 ISO H6	

END MILLS

DRILL MILLS

CHAMFER MILLS

DRILLS

REAMERS

BURS

Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS



2 FLUTE - LONG LENGTH - BALL NOSE - 30° HELIX

SERIES 160
UNCOATED



SERIES 161
ALTIM COATED



SERIES 960
TICN COATED



**TAKE 55% OFF
OF LIST PRICE!**

DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTIM	LIST PRICE	TICN	LIST PRICE
1/8	1/8	3/4	2-1/4	TC16008	25.96	TC16108	33.39	TC96008	33.39
3/16	3/16	3/4	2-1/2	TC16012	29.87	TC16112	38.37	TC96012	38.37
1/4	1/4	1-1/8	3	TC16016	42.01	TC16116	54.07	TC96016	54.07
1/4	1/4	1	4	TC16017	46.38	TC16117	59.78	TC96017	59.78
5/16	5/16	1-1/8	3	TC16020	49.40	TC16120	66.67	TC96020	66.67
3/8	3/8	1-1/8	3	TC16024	57.02	TC16124	77.01	TC96024	77.01
3/8	3/8	1	4	TC16025	69.85	TC16125	90.76	TC96025	90.76
7/16	7/16	2	4	TC16028	95.51	TC16128	124.19	TC96028	124.19
1/2	1/2	1	4	TC16032	97.81	TC16132	124.38	TC96032	124.38
1/2	1/2	2	4	TC16033	98.76	TC16133	125.34	TC96033	125.34
5/8	5/8	2-1/4	5	TC16040	225.02	TC16140	285.80	TC96040	285.80
3/4	3/4	2-1/4	5	TC16048	313.33	TC16148	396.90	TC96048	396.90
7/8	7/8	2-1/4	5	TC16056	538.67	TC16156	661.94	TC96056	661.94
1	1	2-1/4	5	TC16064	620.01	TC16164	762.46	TC96064	762.46

2 FLUTE - EXTRA LONG LENGTH - BALL NOSE - 30° HELIX

SERIES 180
UNCOATED



SERIES 181
ALTIM COATED



SERIES 980
TICN COATED



DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTIM	LIST PRICE	TICN	LIST PRICE
1/8	1/8	1	3	TC18008	29.07	TC18108	39.21	TC98008	39.21
3/16	3/16	1-1/8	3	TC18012	34.84	TC18112	40.94	TC98012	40.94
1/4	1/4	1-1/2	4	TC18016	51.08	TC18116	56.83	TC98016	56.83
1/4	1/4	1-1/2	6	TC18017	58.70	TC18117	66.75	TC98017	66.75
5/16	5/16	1-5/8	4	TC18020	61.73	TC18120	79.69	TC98020	79.69
3/8	3/8	1-3/4	4	TC18024	66.44	TC18124	84.94	TC98024	84.94
3/8	3/8	1-1/2	6	TC18025	93.63	TC18125	114.93	TC98025	114.93
7/16	7/16	3	6	TC18028	140.54	TC18128	180.41	TC98028	180.41
1/2	1/2	1-1/2	6	TC18032	149.08	TC18132	190.87	TC98032	190.87
1/2	1/2	3	6	TC18033	150.00	TC18133	191.82	TC98033	191.82
5/8	5/8	3	6	TC18040	236.44	TC18140	290.55	TC98040	290.55
3/4	3/4	3	6	TC18048	335.28	TC18148	452.62	TC98048	452.62
7/8	7/8	3	6	TC18056	593.43	TC18156	739.53	TC98056	739.53
1	1	3	6	TC18064	598.18	TC18164	770.12	TC98064	770.12

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
1/8" - 1/2"	+0.00, -0.002	-0.001, -.0004 ISO H6
5/8" - 1"	+0.00, -0.003	-0.001, -.0004 ISO H6

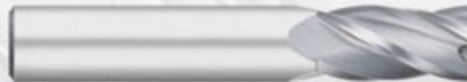


Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS

4 FLUTE - REGULAR LENGTH - SQUARE END - 30° HELIX

SERIES 105
UNCOATED



SERIES 995
ALTiN COATED



SERIES 905
TiCN COATED



DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTiN	LIST PRICE	TiCN	LIST PRICE
1/64	1/8	1/32	1-1/2	TC10501	27.15	TC99501	36.38	TC90501	36.38
1/32	1/8	1/8	1-1/2	TC10502	18.19	TC99502	24.59	TC90502	24.59
3/64	1/8	1/8	1-1/2	TC10503	15.55	TC99503	20.95	TC90503	20.95
1/16	1/8	1/4	1-1/2	TC10504	15.51	TC99504	17.81	TC90504	17.81
5/64	1/8	1/4	1-1/2	TC10505	16.01	TC99505	21.60	TC90505	21.60
3/32	1/8	3/8	1-1/2	TC10506	14.09	TC99506	17.81	TC90506	17.81
7/64	1/8	3/8	1-1/2	TC10507	14.71	TC99507	19.84	TC90507	19.84
1/8	1/8	1/2	1-1/2	TC10508	13.52	TC99508	16.54	TC90508	16.54
9/64	3/16	9/16	2	TC10509	19.80	TC99509	26.73	TC90509	26.73
5/32	3/16	9/16	2	TC10510	19.91	TC99510	23.09	TC90510	23.09
11/64	3/16	5/8	2	TC10511	18.92	TC99511	25.58	TC90511	25.58
3/16	3/16	5/8	2	TC10512	18.42	TC99512	23.09	TC90512	23.09
13/64	1/4	5/8	2-1/2	TC10513	26.88	TC99513	35.23	TC90513	35.23
7/32	1/4	5/8	2-1/2	TC10514	27.46	TC99514	31.90	TC90514	31.90
15/64	1/4	3/4	2-1/2	TC10515	31.02	TC99515	39.98	TC90515	39.98
1/4	1/4	3/4	2-1/2	TC10516	22.75	TC99516	31.90	TC90516	31.90
17/64	5/16	3/4	2-1/2	TC10517	41.01	TC99517	52.69	TC90517	52.69
9/32	5/16	3/4	2-1/2	TC10518	41.01	TC99518	52.69	TC90518	52.69
19/64	5/16	13/16	2-1/2	TC10519	41.01	TC99519	52.69	TC90519	52.69
5/16	5/16	13/16	2-1/2	TC10520	29.60	TC99520	38.18	TC90520	38.18
21/64	3/8	1	2-1/2	TC10521	45.99	TC99521	59.13	TC90521	59.13
11/32	3/8	1	2-1/2	TC10522	45.99	TC99522	59.13	TC90522	59.13
23/64	3/8	1	2-1/2	TC10523	45.99	TC99523	59.13	TC90523	59.13
3/8	3/8	1	2-1/2	TC10524	35.31	TC99524	43.66	TC90524	43.66
25/64	7/16	1	2-3/4	TC10525	60.20	TC99525	77.70	TC90525	77.70
13/32	7/16	1	2-3/4	TC10526	60.20	TC99526	77.70	TC90526	77.70
27/64	7/16	1	2-3/4	TC10527	62.15	TC99527	80.27	TC90527	80.27
7/16	7/16	1	2-3/4	TC10528	54.19	TC99528	66.71	TC90528	66.71
29/64	1/2	1	3	TC10529	89.46	TC99529	114.50	TC90529	114.50
15/32	1/2	1	3	TC10530	89.46	TC99530	114.50	TC90530	114.50
31/64	1/2	1	3	TC10531	89.46	TC99531	114.50	TC90531	114.50
1/2	1/2	1	3	TC10532	65.06	TC99532	81.19	TC90532	81.19
1/2	1/2	1-1/4	3	TC10533	65.06	TC99533	81.19	TC90533	81.19
9/16	9/16	1-1/4	3-1/2	TC10536	122.97	TC99536	162.37	TC90536	162.37
5/8	5/8	1-1/4	3-1/2	TC10540	124.38	TC99540	158.58	TC90540	158.58
3/4	3/4	1-1/2	4	TC10548	174.70	TC99548	225.02	TC90548	225.02
7/8	7/8	1-1/2	4	TC10556	319.54	TC99556	404.44	TC90556	404.44
1	1	1-1/2	4	TC10564	294.12	TC99564	376.22	TC90564	376.22
1-1/4	1-1/4	2	4-1/2	TC10580	1004.30	TC99580	1141.25	TC90580	1141.25

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
1/64" - 7/64"	+0.00, -0.01	-.0001, -.0004 ISO H6
1/8" - 1/2"	+0.00, -0.02	-.0001, -.0004 ISO H6
9/16" - 1-1/4"	+0.00, -0.03	-.0001, -.0004 ISO H6

END MILLS

DRILL MILLS

CHAMFER MILLS

DRILLS

REAMERS

BURS

Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS



4 FLUTE - LONG LENGTH - SQUARE END - 30° HELIX

SERIES 155
UNCOATED



SERIES 156
ALTiN COATED



SERIES 955
TiCN COATED

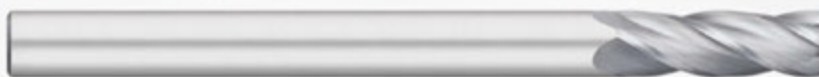


**TAKE 55% OFF
OF LIST PRICE!**

DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTiN	LIST PRICE	TiCN	LIST PRICE
1/8	1/8	3/4	2-1/4	TC15508	21.83	TC15608	28.07	TC95508	28.07
3/16	3/16	3/4	2-1/2	TC15512	27.39	TC15612	32.93	TC95512	32.93
1/4	1/4	1-1/8	3	TC15516	36.69	TC15616	47.30	TC95516	47.30
1/4	1/4	1	4	TC15517	38.64	TC15617	49.82	TC95517	49.82
5/16	5/16	1-1/8	3	TC15520	41.40	TC15620	55.87	TC95520	55.87
3/8	3/8	1-1/8	3	TC15524	47.49	TC15624	64.11	TC95524	64.11
3/8	3/8	1	4	TC15525	55.45	TC15625	71.34	TC95525	71.34
7/16	7/16	2	4	TC15528	74.83	TC15628	97.31	TC95528	97.31
1/2	1/2	1	4	TC15532	83.39	TC15632	107.39	TC95532	107.39
1/2	1/2	2	4	TC15533	88.32	TC15633	113.35	TC95533	113.35
5/8	5/8	2-1/4	5	TC15540	191.82	TC15640	237.39	TC95540	237.39
3/4	3/4	2-1/4	5	TC15548	264.93	TC15648	320.71	TC95548	320.71
7/8	7/8	2-1/4	5	TC15556	502.13	TC15656	593.43	TC95556	593.43
1	1	2-1/4	5	TC15564	362.70	TC15664	468.13	TC95564	468.13

4 FLUTE - EXTRA LONG LENGTH - SQUARE END - 30° HELIX

SERIES 175
UNCOATED



SERIES 176
ALTiN COATED



SERIES 975
TiCN COATED



DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTiN	LIST PRICE	TiCN	LIST PRICE
1/8	1/8	1	3	TC17508	24.39	TC17608	32.93	TC97508	32.93
3/16	3/16	1-1/8	3	TC17512	26.54	TC17612	34.08	TC97512	34.08
1/4	1/4	1-1/2	4	TC17516	37.49	TC17616	48.29	TC97516	48.29
1/4	1/4	1-1/2	6	TC17517	50.70	TC17617	65.22	TC97517	65.22
5/16	5/16	1-5/8	4	TC17520	51.16	TC17620	66.02	TC97520	66.02
3/8	3/8	1-3/4	4	TC17524	58.09	TC17624	74.41	TC97524	74.41
3/8	3/8	1-1/2	6	TC17525	87.97	TC17625	113.39	TC97525	113.39
7/16	7/16	3	6	TC17528	118.49	TC17628	151.92	TC97528	151.92
1/2	1/2	1-1/2	6	TC17532	133.88	TC17632	166.16	TC97532	166.16
1/2	1/2	3	6	TC17533	140.54	TC17633	172.83	TC97533	172.83
5/8	5/8	3	6	TC17540	206.99	TC17640	254.47	TC97540	254.47
3/4	3/4	3	6	TC17548	307.63	TC17648	361.24	TC97548	361.24
3/4	3/4	4	7	TC17549	527.94	TC17649	598.49	TC97549	598.49
7/8	7/8	3	6	TC17556	547.78	TC17656	684.76	TC97556	684.76
1	1	3	6	TC17564	522.24	TC17664	583.00	TC97564	583.00
1	1	4	7	TC17565	684.61	TC17665	840.32	TC97565	840.32

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
1/8" - 1/2"	+0.00, -0.02	-0.001, -.0004 ISO H6
5/8" - 1"	+0.00, -0.03	-0.001, -.0004 ISO H6

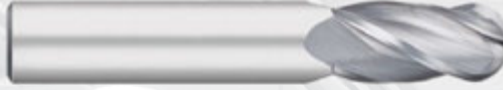
END MILLS
DRILL MILLS
CHAMFER MILLS
DRILLS
REAMERS
BURS

Carbide End Mills

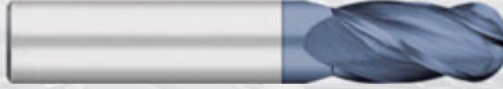
YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS

4 FLUTE - REGULAR LENGTH - BALL NOSE - 30° HELIX

SERIES 115
UNCOATED



SERIES 116
ALTiN COATED



SERIES 915
TiCN COATED



**TAKE 55% OFF
OF LIST PRICE!**

DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTiN	LIST PRICE	TiCN	LIST PRICE
1/64	1/8	1/32	1-1/2	TC11501	30.41	TC11601	40.75	TC91501	40.75
1/32	1/8	1/8	1-1/2	TC11502	19.45	TC11602	25.28	TC91502	25.28
3/64	1/8	1/8	1-1/2	TC11503	19.45	TC11603	25.28	TC91503	25.28
1/16	1/8	1/4	1-1/2	TC11504	18.04	TC11604	24.36	TC91504	24.36
5/64	1/8	1/4	1-1/2	TC11505	18.04	TC11605	24.36	TC91505	24.36
3/32	1/8	3/8	1-1/2	TC11506	18.92	TC11606	25.58	TC91506	25.58
7/64	1/8	3/8	1-1/2	TC11507	18.92	TC11607	25.58	TC91507	25.58
1/8	1/8	1/2	1-1/2	TC11508	17.35	TC11608	23.44	TC91508	23.44
9/64	3/16	9/16	2	TC11509	25.43	TC11609	34.35	TC91509	34.35
5/32	3/16	9/16	2	TC11510	25.43	TC11610	34.35	TC91510	34.35
11/64	3/16	5/8	2	TC11511	25.43	TC11611	34.35	TC91511	34.35
3/16	3/16	5/8	2	TC11512	22.86	TC11612	30.87	TC91512	30.87
13/64	1/4	5/8	2-1/2	TC11513	32.98	TC11613	42.01	TC91513	42.01
7/32	1/4	5/8	2-1/2	TC11514	32.98	TC11614	42.01	TC91514	42.01
15/64	1/4	3/4	2-1/2	TC11515	32.98	TC11615	42.01	TC91515	42.01
1/4	1/4	3/4	2-1/2	TC11516	31.06	TC11616	40.02	TC91516	40.02
17/64	5/16	3/4	2-1/2	TC11517	42.01	TC11617	54.04	TC91517	54.04
9/32	5/16	3/4	2-1/2	TC11518	42.09	TC11618	54.11	TC91518	54.11
19/64	5/16	13/16	2-1/2	TC11519	45.72	TC11619	60.01	TC91519	60.01
5/16	5/16	13/16	2-1/2	TC11520	38.72	TC11620	49.78	TC91520	49.78
21/64	3/8	1	2-1/2	TC11521	53.19	TC11621	71.80	TC91521	71.80
11/32	3/8	1	2-1/2	TC11522	55.83	TC11622	71.80	TC91522	71.80
23/64	3/8	1	2-1/2	TC11523	53.19	TC11623	71.80	TC91523	71.80
3/8	3/8	1	2-1/2	TC11524	41.44	TC11624	58.55	TC91524	58.55
25/64	7/16	1	2-3/4	TC11525	72.03	TC11625	92.83	TC91525	92.83
13/32	7/16	1	2-3/4	TC11526	72.03	TC11626	92.83	TC91526	92.83
27/64	7/16	1	2-3/4	TC11527	72.03	TC11627	92.83	TC91527	92.83
7/16	7/16	1	2-3/4	TC11528	61.31	TC11628	79.04	TC91528	79.04
29/64	1/2	1	3	TC11529	94.97	TC11629	122.47	TC91529	122.47
15/32	1/2	1	3	TC11530	94.97	TC11630	122.47	TC91530	122.47
31/64	1/2	1	3	TC11531	94.97	TC11631	122.47	TC91531	122.47
1/2	1/2	1	3	TC11532	84.10	TC11632	108.38	TC91532	108.38
9/16	9/16	1-1/4	3-1/2	TC11536	128.18	TC11636	157.74	TC91536	157.74
5/8	5/8	1-1/4	3-1/2	TC11540	135.99	TC11640	175.28	TC91540	175.28
3/4	3/4	1-1/2	4	TC11548	200.36	TC11648	261.10	TC91548	261.10
7/8	7/8	1-1/2	4	TC11556	388.01	TC11656	493.02	TC91556	493.02
1	1	1-1/2	4	TC11564	357.87	TC11664	461.16	TC91564	461.16

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
1/64" - 7/64"	+0.00, -0.01	-.0001, -.0004 ISO H6
1/8" - 1/2"	+0.00, -0.02	-.0001, -.0004 ISO H6
9/16" - 1"	+0.00, -0.03	-.0001, -.0004 ISO H6

END MILLS

DRILL MILLS

CHAMFER MILLS

DRILLS

REAMERS

BURS

Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS



MADE IN THE U.S.A.

4 FLUTE - LONG LENGTH - BALL NOSE - 30° HELIX



SERIES 165
UNCOATED



SERIES 166
ALTiN COATED



SERIES 965
TiCN COATED



DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTiN	LIST PRICE	TiCN	LIST PRICE
1/8	1/8	3/4	2-1/4	TC16508	25.96	TC16608	33.39	TC96508	33.39
3/16	3/16	3/4	2-1/2	TC16512	29.87	TC16612	38.37	TC96512	38.37
1/4	1/4	1-1/8	3	TC16516	42.01	TC16616	54.07	TC96516	54.07
1/4	1/4	1	4	TC16517	46.38	TC16617	59.78	TC96517	59.78
5/16	5/16	1-1/8	3	TC16520	49.40	TC16620	66.67	TC96520	66.67
3/8	3/8	1-1/8	3	TC16524	57.02	TC16624	77.01	TC96524	77.01
3/8	3/8	1	4	TC16525	69.85	TC16625	90.76	TC96525	90.76
7/16	7/16	2	4	TC16528	95.51	TC16628	124.19	TC96528	124.19
1/2	1/2	1	4	TC16532	97.81	TC16632	124.38	TC96532	124.38
1/2	1/2	2	4	TC16533	98.76	TC16633	125.34	TC96533	125.34
5/8	5/8	2-1/4	5	TC16540	225.02	TC16640	285.80	TC96540	285.80
3/4	3/4	2-1/4	5	TC16548	313.33	TC16648	396.90	TC96548	396.90
7/8	7/8	2-1/4	5	TC16556	538.67	TC16656	661.94	TC96556	661.94
1	1	2-1/4	5	TC16564	620.01	TC16664	762.46	TC96564	762.46

4 FLUTE - EXTRA LONG LENGTH - BALL NOSE - 30° HELIX

SERIES 185
UNCOATED



SERIES 186
ALTiN COATED



SERIES 985
TiCN COATED



DIA	SHANK	LOC	OAL	UNCOATED	LIST PRICE	ALTiN	LIST PRICE	TiCN	LIST PRICE
1/8	1/8	1	3	TC18508	29.07	TC18608	39.21	TC98508	39.21
3/16	3/16	1-1/8	3	TC18512	35.01	TC18612	40.94	TC98512	40.94
1/4	1/4	1-1/2	4	TC18516	51.06	TC18616	56.83	TC98516	56.83
1/4	1/4	1-1/2	6	TC18517	60.04	TC18617	70.67	TC98517	70.67
5/16	5/16	1-5/8	4	TC18520	61.73	TC18620	79.69	TC98520	79.69
3/8	3/8	1-3/4	4	TC18524	66.44	TC18624	84.94	TC98524	84.94
3/8	3/8	1-1/2	6	TC18525	93.63	TC18625	116.80	TC98525	116.80
7/16	7/16	3	6	TC18528	140.54	TC18628	180.41	TC98528	180.41
1/2	1/2	1-1/2	6	TC18532	149.08	TC18632	190.87	TC98532	190.87
1/2	1/2	3	6	TC18533	150.00	TC18633	193.70	TC98533	193.70
5/8	5/8	3	6	TC18540	236.44	TC18640	290.55	TC98540	290.55
3/4	3/4	3	6	TC18548	335.28	TC18648	452.62	TC98548	452.62
3/4	3/4	4	7	TC18549	552.07	TC18649	698.20	TC98549	698.20
7/8	7/8	3	6	TC18556	593.43	TC18656	739.53	TC98556	739.53
1	1	3	6	TC18564	598.18	TC18664	770.12	TC98564	770.12
1	1	4	7	TC18565	723.52	TC18665	861.69	TC98565	861.69

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
1/8" - 1/2"	+0.00, -0.002	-0.0001, -0.0004 ISO H6
5/8" - 1"	+0.00, -0.003	-0.0001, -0.0004 ISO H6

Carbide End Mills

YOUR #1 SOURCE FOR AMERICAN-MADE PREMIUM CUTTING TOOLS

4 FLUTE - REGULAR LENGTH - SQUARE END - 30° HELIX - METRIC



SERIES 118
UNCOATED



DIA	SHANK	LOC	OAL	ITEM #	LIST PRICE
1.0	3	3	38	TC11859	22.84
1.5	3	4.5	38	TC11860	22.84
2.0	3	6.3	38	TC11861	22.84
2.5	3	9.5	38	TC11862	22.84
3.0	3	12	38	TC11863	22.84
3.5	4	12	50	TC11864	28.14
4.0	4	14	50	TC11865	28.14
4.5	6	16	50	TC11866	34.41
5.0	6	16	50	TC11867	34.41
5.5	6	16	50	TC11881	34.41
6.0	6	19	50	TC11868	35.96
6.5	8	19	63	TC11882	39.12

DIA	SHANK	LOC	OAL	ITEM #	LIST PRICE
7.0	8	19	63	TC11869	39.12
7.5	8	19	63	TC11883	40.67
8.0	8	20	63	TC11870	40.67
9.0	10	22	75	TC11871	59.43
10.0	10	22	75	TC11872	75.08
11.0	12	25	75	TC11873	82.91
12.0	12	25	75	TC11874	86.02
14.0	14	32	89	TC11875	145.50
16.0	16	32	89	TC11876	165.81
18.0	18	38	100	TC11877	226.84
20.0	20	38	100	TC11878	359.81
25.0	25	38	100	TC11879	469.29

4 FLUTE - REGULAR LENGTH - SQUARE END - 30° HELIX - METRIC



SERIES 119
ALUMIN COATED

DIA	SHANK	LOC	OAL	ITEM #	LIST PRICE
1.0	3	3	38	TC11959	28.52
1.5	3	4.5	38	TC11960	28.52
2.0	3	6.3	38	TC11961	28.52
2.5	3	9.5	38	TC11962	28.52
3.0	3	12	38	TC11963	28.52
3.5	4	12	50	TC11964	35.21
4.0	4	14	50	TC11965	35.21
4.5	6	16	50	TC11966	43.03
5.0	6	16	50	TC11967	43.03
5.5	6	16	50	TC11981	43.03
6.0	6	19	50	TC11968	44.97
6.5	8	19	63	TC11982	48.88

DIA	SHANK	LOC	OAL	ITEM #	LIST PRICE
7.0	8	19	63	TC11969	48.88
7.5	8	19	63	TC11983	50.85
8.0	8	20	63	TC11970	50.85
9.0	10	22	75	TC11971	74.28
10.0	10	22	75	TC11972	93.84
11.0	12	25	75	TC11973	103.64
12.0	12	25	75	TC11974	107.55
14.0	14	32	89	TC11975	181.88
16.0	16	32	89	TC11976	207.29
18.0	18	38	100	TC11977	283.55
20.0	20	38	100	TC11978	449.74
25.0	25	38	100	TC11979	586.65

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
ALL SIZES	+0.00, -.05	-.0025, -.01

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4 FLUTE - REGULAR LENGTH - BALL NOSE - 30° HELIX - METRIC

**TAKE 55% OFF
OF LIST PRICE!**



SERIES 127
UNCOATED

DIA	SHANK	LOC	OAL	ITEM#	LIST PRICE
1.0	3	3.0	38	TC12701	25.94
1.5	3	4.5	38	TC12703	25.94
2.0	3	6.3	38	TC12705	25.94
2.5	3	9.5	38	TC12707	25.94
3.0	3	12	38	TC12709	25.94
3.5	4	12	50	TC12711	31.96
4.0	4	14	50	TC12713	31.96
4.5	6	16	50	TC12715	39.08
5.0	6	16	50	TC12717	39.08
5.5	6	16	50	TC12719	39.08
6.0	6	19	50	TC12721	40.84
6.5	8	19	63	TC12723	46.43

DIA	SHANK	LOC	OAL	ITEM#	LIST PRICE
7.0	8	19	63	TC12725	46.43
7.5	8	19	63	TC12727	48.19
8.0	8	20	63	TC12729	48.19
9.0	10	22	75	TC12731	67.50
10.0	10	22	75	TC12733	88.27
11.0	12	25	75	TC12735	94.16
12.0	12	25	75	TC12737	97.69
14.0	14	32	89	TC12739	165.24
16.0	16	32	89	TC12741	188.31
18.0	18	38	100	TC12743	257.63
20.0	20	38	100	TC12745	408.63
25.0	25	38	100	TC12747	532.98

4 FLUTE - REGULAR LENGTH - BALL NOSE - 30° HELIX - METRIC



SERIES 128
ALUMIN COATED

DIA	SHANK	LOC	OAL	ITEM#	LIST PRICE
1.0	3	3	38	TC12802	33.02
1.5	3	4.5	38	TC12804	33.02
2.0	3	6.3	38	TC12806	33.02
2.5	3	9.5	38	TC12808	33.02
3.0	3	12	38	TC12810	33.02
3.5	4	12	50	TC12812	40.76
4.0	4	14	50	TC12814	40.76
4.5	6	16	50	TC12816	49.82
5.0	6	16	50	TC12818	49.82
5.5	6	16	50	TC12820	49.82
6.0	6	19	50	TC12822	52.06
6.5	8	19	63	TC12824	56.59

DIA	SHANK	LOC	OAL	ITEM#	LIST PRICE
7.0	8	19	63	TC12826	56.59
7.5	8	19	63	TC12828	58.87
8.0	8	20	63	TC12830	58.88
9.0	10	22	75	TC12832	86.00
10.0	10	22	75	TC12834	108.64
11.0	12	25	75	TC12836	119.99
12.0	12	25	75	TC12838	124.52
14.0	14	32	89	TC12840	210.57
16.0	16	32	89	TC12842	239.98
18.0	18	38	100	TC12844	328.27
20.0	20	38	100	TC12846	520.68
25.0	25	38	100	TC12848	679.19

For coating information see page 6. For technical information, please see pages 238, 242, 243.

TOLERANCES	DIAMETER	SHANK
ALL SIZES	+0.00, -.05	-.0025, -.01