

END MILLS



- **Single and Double End**
- **Standard and Long Length**
- **Miniature, Hi-Cob Roughing and Ball End Designs**

CHROMATE END MILLS PROVIDE PRECISION CUTTING AND DURABILITY FOR ALL MILLING OPERATIONS. Manufactured from the finest alloys and heat treated for strength and long life, Chromate End Mills will satisfy all your slotting, keying, pocketing and other milling operations.



CHROMATE INDUSTRIAL CORP.

EXCEPTIONAL PRODUCTS, SERVICE AND INNOVATIVE SOLUTIONS

CIC 200™ END MILLS

SINGLE END — STANDARD LENGTH

TYPE 520 - TWO FLUTE

- CENTER CUTTING.
- STANDARD LENGTH, TWO FLUTE, MEDIUM HELIX TOOLS.
- RECOMMENDED FOR SLOTTING OPERATIONS, POCKETS, KEYWAYS AND OTHER GENERAL PURPOSE WORK, INCLUDING PLUNGE MILLING.



TYPE 540 - MULTIPLE FLUTE

- STANDARD LENGTH, MULTIPLE FLUTE, MEDIUM HELIX TOOLS.
- RECOMMENDED FOR FINISHING OPERATIONS FOLLOWING HEAVY ROUGHING CUTS.





MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART	MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTES	PART
1/8	3/8	3/8	2-5/16	A 62001	1/8	3/8	3/8	2-5/16	4	A 62081
3/16	3/8	7/16	2-5/16	A 62002	3/16	3/8	1/2	2-3/8	4	A 62082
1/4	3/8	1/2	2-5/16	A 62003	1/4	3/8	5/8	2-7/16	4	A 62083
5/16	3/8	9/16	2-5/16	A 62004	5/16	3/8	3/4	2-1/2	4	A 62084
3/8	3/8	9/16	2-5/16	A 62005	3/8	3/8	3/4	2-1/2	4	A 62085
7/16	3/8	13/16	2-1/2	A 62006	7/16	3/8	1	2-11/16	4	A 62086
1/2	3/8	13/16	2-1/2	A 62007	1/2	3/8	1	2-11/16	4	A 62087
1/2	1/2	1	3	A 62008	1/2	1/2	1-1/4	3-1/4	4	A 62088
9/16	1/2	1-1/8	3-1/8	A 62009	9/16	1/2	1-3/8	3-3/8	4	A 62089
5/8	1/2	1-1/8	3-1/8	A 62010	5/8	1/2	1-3/8	3-3/8	4	A 62090
11/16	1/2	1-5/16	3-5/16	A 62011	11/16	1/2	1-5/8	3-5/8	4	A 62091
3/4	1/2	1-5/16	3-5/16	A 62012	3/4	1/2	1-5/8	3-5/8	4	A 62092
5/8	5/8	1-5/16	3-7/16	A 62013	5/8	5/8	1-5/8	3-3/4	4	A 62093
11/16	5/8	1-5/16	3-7/16	A 62014	11/16	5/8	1-5/8	3-3/4	4	A 62094
3/4	5/8	1-5/16	3-7/16	A 62015	3/4	5/8	1-5/8	3-3/4	4	A 62095
13/16	5/8	1-1/2	3-5/8	A 62016	13/16	5/8	1-7/8	4	6	A 62096
7/8	5/8	1-1/2	3-5/8	A 62017	7/8	5/8	1-7/8	4	6	A 62097
15/16	5/8	1-1/2	3-5/8	A 62018	15/16	5/8	1-7/8	4	6	A 62098
1	5/8	1-1/2	3-5/8	A 62019	1	5/8	1-7/8	4	6	A 62099
3/4	3/4	1-5/16	3-9/16	A 62020	3/4	3/4	1-5/8	3-7/8	4	A 62100
7/8	3/4	1-1/2	3-3/4	A 62021	7/8	3/4	1-7/8	4-1/8	4	A 62101
1	3/4	1-1/2	3-3/4	A 62022	1	3/4	1-7/8	4-1/8	4	A 62102
7/8	7/8	1-1/2	3-3/4	A 62023	7/8	7/8	1-7/8	4-1/8	4	A 62103
1	7/8	1-1/2	3-3/4	A 62024	1	7/8	1-7/8	4-1/8	4	A 62104
1-1/8	7/8	1-5/8	3-7/8	A 62025	1-1/8	7/8	2	4-1/4	6	A 62105
1-1/4	7/8	1-5/8	3-7/8	A 62026	1-1/4	7/8	2	4-1/4	6	A 62106
1	1	1-5/8	4-1/8	A 62027	1	1	2	4-1/2	4	A 62107
1-1/8	1	1-5/8	4-1/8	A 62028	1-1/8	1	2	4-1/2	6	A 62108
1-1/4	1	1-5/8	4-1/8	A 62029	1-1/4	1	2	4-1/2	6	A 62109
1-3/8	1	1-5/8	4-1/8	A 62030	1-3/8	1	2	4-1/2	6	A 62110
1-1/2	1	1-5/8	4-1/8	A 62031	1-1/2	1	2	4-1/2	6	A 62111
1-1/4	1-1/4	1-5/8	4-1/8	A 62032	1-1/4	1-1/4	2	4-1/2	6	A 62112
1-1/2	1-1/4	1-5/8	4-1/8	A 62033	1-1/2	1-1/4	2	4-1/2	6	A 62113
1-3/4	1-1/4	1-5/8	4-1/8	A 62034	1-3/4	1-1/4	2	4-1/2	6	A 62114
2	1-1/4	1-5/8	4-1/8	A 62035	2	1-1/4	2	4-1/2	8	A 62115



NOTE: Due to special processing allow 2-3 weeks for delivery

CIC 200™ END MILLS (Cont'd.)

SINGLE END — LONG LENGTH

TYPE 525 - TWO FLUTE					TYPE 546 - FOUR FLUTE					
<ul style="list-style-type: none"> LONG LENGTH, (NON-EXTENSION TYPE), TWO FLUTE, MEDIUM HELIX TOOLS. RECOMMENDED FOR SLOTTING OPERATIONS, POCKETS, KEYWAYS AND OTHER GENERAL PURPOSE WORK, INCLUDING PLUNGE MILLING. LONGER FLUTE LENGTH ALLOWS FOR DEEPER SLOTS AND POCKETS. CENTER CUTTING. 					<ul style="list-style-type: none"> LONG LENGTH, FOUR FLUTE, CENTER CUTTING. RECOMMENDED FOR GENERAL PURPOSE WORK. LONGER FLUTE PROVIDES FOR DEEPER CAVITY MILLING. 					
MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART	MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTES	PART
3/8	3/8	1-1/4	3-1/4	A 62041	1/4	3/8	1-1/4	3-1/16	4	A 62061
1/2	1/2	2	4	A 62042	5/16	3/8	1-3/8	3-1/8	4	A 62062
5/8	5/8	2	4-1/8	A 62043	3/8	3/8	1-1/2	3-1/4	4	A 62063
3/4	3/4	2-1/4	4-1/2	A 62044	1/2	1/2	2	4	4	A 62064
7/8	7/8	2-1/4	4-3/4	A 62045	5/8	5/8	2-1/2	4-5/8	4	A 62065
1	1	3	5-1/2	A 62046	3/4	3/4	3	5-1/4	4	A 62066
1-1/8	1	3	5-1/2	A 62047	7/8	7/8	3-1/2	5-3/4	4	A 62067
1-1/4	1	3	5-1/2	A 62048	1	1	4	6-1/2	4	A 62068
1-1/4	1-1/4	3	5-1/2	A 62049	1-1/4	1-1/4	4	6-1/2	4	A 62069
1-1/2	1-1/4	3	5-1/2	A 62050	-	-	-	-	-	-
1-3/4	1-1/4	3	5-1/2	A 62051	-	-	-	-	-	-
2	1-1/4	3	5-1/2	A 62052	-	-	-	-	-	-

SINGLE END

TYPE 541 - FOUR FLUTE STANDARD					TYPE 545 - MULTIPLE FLUTE LONG					
<ul style="list-style-type: none"> STANDARD LENGTH, FOUR FLUTE, CENTER CUTTING. RECOMMENDED FOR GENERAL PURPOSE OPERATIONS. 					<ul style="list-style-type: none"> LONG LENGTH, MULTIPLE FLUTE, MEDIUM HELIX TOOLS. RECOMMENDED FOR FINISH MILLING OPERATIONS. DESIGNED FOR WORK ON WIDE SURFACES AND DEEP SLOTS. 					
MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART	MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTES	PART
1/8	3/8	3/8	2-5/16	A 62121	1/4	3/8	1-1/4	3-1/16	4	A 62141
3/16	3/8	1/2	2-3/8	A 62122	5/16	3/8	1-3/8	3-1/8	4	A 62142
1/4	3/8	5/8	2-7/16	A 62123	3/8	3/8	1-1/2	3-1/4	4	A 62143
5/16	3/8	3/4	2-1/2	A 62124	7/16	1/2	1-3/4	3-3/4	4	A 62144
3/8	3/8	3/4	2-1/2	A 62125	1/2	1/2	2	4	4	A 62145
1/2	1/2	1-1/4	3-1/4	A 62126	5/8	5/8	2-1/2	4-5/8	4	A 62146
5/8	5/8	1-5/8	3-3/4	A 62127	3/4	3/4	3	5-1/4	4	A 62147
11/16	5/8	1-5/8	3-3/4	A 62128	7/8	7/8	3-1/2	5-3/4	4	A 62148
3/4	3/4	1-5/8	3-7/8	A 62129	1	1	4	6-1/2	4	A 62149
7/8	7/8	1-7/8	4-1/8	A 62130	1-1/8	1	4	6-1/2	6	A 62150
1	1	2	4-1/2	A 62131	1-1/4	1	4	6-1/2	6	A 62151
1-1/8	1	2	4-1/2	A 62132	1-1/2	1	4	6-1/2	6	A 62152
1-1/4	1-1/4	2	4-1/2	A 62133	1-1/4	1-1/4	4	6-1/2	6	A 62153
1-1/2	1-1/4	2	4-1/2	A 62134	1-1/2	1-1/4	4	6-1/2	6	A 62154
-	-	-	-	-	1-3/4	1-1/4	4	6-1/2	6	A 62155
-	-	-	-	-	2	1-1/4	4	6-1/2	8	A 62156

NOTE: Due to special processing allow 2-3 weeks for delivery.

CIC 200™ END MILLS (Cont'd.)

DOUBLE END REGULAR LENGTH

TYPE 522 - TWO FLUTE

- DOUBLE-ENDED VERSION OF SERIES 520 SINGLE-END TOOLS.
- RECOMMENDED FOR SLOTTING, KEYING AND GENERAL PURPOSE OPERATIONS.
- CENTER CUTTING.



TYPE 542 - FOUR FLUTE

- DOUBLE-ENDED VERSION OF SERIES 540 SINGLE-END TOOLS.
- RECOMMENDED FOR FINISHING OPERATIONS FOLLOWING ROUGH CUTS.



MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART	MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART
1/8	3/8	3/8	3-1/16	A 62200	1/8	3/8	3/8	3-1/16	A 62231
5-32	3/8	7/16	3-1/8	A 62201	5/32	3/8	7/16	3-1/8	A 62232
3/16	3/8	7/16	3-1/8	A 62202	3/16	3/8	1/2	3-1/4	A 62233
7/32	3/8	1/2	3-1/8	A 62203	7/32	3/8	9/16	3-1/4	A 62234
1/4	3/8	1/2	3-1/8	A 62204	1/4	3/8	5/8	3-3/8	A 62235
9/32	3/8	9/16	3-1/8	A 62205	9/32	3/8	11/16	3-3/8	A 62236
5/16	3/8	9/16	3-1/8	A 62206	5/16	3/8	3/4	3-1/2	A 62237
11/32	3/8	9/16	3-1/8	A 62207	11/32	3/8	3/4	3-1/2	A 62238
3/8	3/8	9/16	3-1/8	A 62208	3/8	3/8	3/4	3-1/2	A 62239
13/32	1/2	13/16	3-3/4	A 62209	13/32	1/2	1	4-1/8	A 62240
7/16	1/2	13/16	3-3/4	A 62210	7/16	1/2	1	4-1/8	A 62241
15/32	1/2	13/16	3-3/4	A 62211	15/32	1/2	1	4-1/8	A 62242
1/2	1/2	13/16	3-3/4	A 62212	1/2	1/2	1	4-1/8	A 62243
9/16	5/8	1-1/8	4-1/2	A 62213	9/16	5/8	1-3/8	5	A 62244
5/8	5/8	1-1/8	4-1/2	A 62214	5/8	5/8	1-3/8	5	A 62245
11/16	3/4	1-5/16	5	A 62215	11/16	3/4	1-5/8	5-5/8	A 62246
3/4	3/4	1-5/16	5	A 62216	3/4	3/4	1-5/8	5-5/8	A 62247
7/8	7/8	1-9/16	5-1/2	A 62217	13/16	7/8	1-7/8	6-1/8	A 62248
1	1	1-5/8	5-7/8	A 62218	7/8	7/8	1-7/8	6-1/8	A 62249
					1	1	1-7/8	6-3/8	A 62250

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TYPE 543 - FOUR FLUTE

- CENTER CUTTING.
- DOUBLE-ENDED VERSION OF SERIES 541 SINGLE-END TOOLS.
- RECOMMENDED FOR SLABBING, SHALLOW POCKETING, TRACER MILLING, DIE SINKING AS WELL AS GENERAL PURPOSE OPERATIONS.



MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART
1/8	3/8	3/8	3-1/16	A 62261
3/16	3/8	1/2	3-1/4	A 62262
1/4	3/8	5/8	3-3/8	A 62263
5/16	3/8	3/4	3-1/2	A 62264
3/8	3/8	3/4	3-1/2	A 62265
1/2	1/2	1	4-1/8	A 62266
5/8	5/8	1-3/8	5	A 62267
3/4	3/4	1-5/8	5-5/8	A 62268
7/8	7/8	1-7/8	6-1/8	A 62269
1	1	1-7/8	6-3/8	A 62270

NOTE: Due to special processing allow 2-3 weeks for delivery.

CIC 200™ END MILLS (Cont'd.)

HI-COB ROUGHING

TYPE 490



- GENERAL PURPOSE
- RECOMMENDED FOR USE WHERE HEAVY ROUGHING CUTS ARE TO BE FOLLOWING WITH A FINISHING OPERATION.
- PROVIDE MAXIMUM METAL REMOVAL IN MINIMUM TIME.

MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTES	PART
1/2	1/2	1-1/4	3-1/4	4	A 62161
1/2	1/2	2	4	4	A 62162
5/8	5/8	1-5/8	3-3/4	4	A 62163
5/8	5/8	2-1/2	4-5/8	4	A 62164
3/4	5/8	1-5/8	3-7/8	4	A 62165
3/4	5/8	3	5-1/4	4	A 62166
3/4	3/4	1-5/8	3-7/8	4	A 62167
3/4	3/4	3	5-1/4	4	A 62168
7/8	3/4	1-7/8	4-1/8	4	A 62169
7/8	3/4	3-1/2	5-3/4	4	A 62170
7/8	7/8	1-7/8	4-1/8	4	A 62171
7/8	7/8	3-1/2	5-3/4	4	A 62172
1	3/4	2	4-1/4	4	A 62173
1	1	2	4-1/2	4	A 62174
1	1	4	6-1/2	4	A 62175
1-1/8	1	2	4-1/2	4	A 62176
1-1/4	3/4	4	6-1/4	6	A 62177
1-1/4	1-1/4	2	4-1/2	6	A 62178
1-1/4	1-1/4	3	5-1/2	6	A 62179
1-1/4	1-1/4	4	6-1/2	6	A 62180
1-1/2	3/4	4	6-1/4	6	A 62181
1-1/2	1-1/4	2	4-1/2	6	A 62182
1-1/2	1-1/4	3	5-1/2	6	A 62183
1-1/2	1-1/4	4	6-1/2	6	A 62184
1-1/2	1-1/4	5	7-1/2	6	A 62185
1-3/4	1-1/4	4	6-1/2	6	A 62186
2	1-1/4	2	4-1/2	6 or 8	A 62187
2	1-1/4	4	6-1/2	6 or 8	A 62188
2	2	3	6-3/4	6 or 8	A 62189
2	2	4	7-3/4	6 or 8	A 62190
2	2	6	9-3/4	6 or 8	A 62191
2	2	8	11-3/4	6 or 8	A 62192

NOTE: Due to special processing allow 2-3 weeks for delivery.

CIC 200™ MINIATURE END MILLS

DOUBLE END – TWO FLUTE

TYPE 562 - STUB LENGTH

- TWO FLUTE WITH MEDIUM HIGH HELIX ANGLE.
- RECOMMENDED FOR USE AT HIGHER SPEEDS REQUIRED FOR SMALL DIAMETER END MILLS IN SLOTTING, ENGRAVING, POCKETING AND SIMILAR OPERATIONS.



TYPE 563 - STANDARD LENGTH

- TWO FLUTE WITH MEDIUM HIGH HELIX ANGLE.
- RECOMMENDED FOR USE AT HIGHER SPEEDS REQUIRED FOR SMALL DIAMETER END MILLS IN SLOTTING, ENGRAVING, POCKETING AND SIMILAR OPERATIONS.



MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART	MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART
1/32	3/16	3/64	2	A 62281	1/32	3/16	3/32	2-1/4	A 62301
3/64	3/16	1/16	2	A 62282	3/64	3/16	9/64	2-1/4	A 62302
1/16	3/16	3/32	2	A 62283	1/16	3/16	3/16	2-1/4	A 62303
5/64	3/16	1/8	2	A 62284	5/64	3/16	15/64	2-1/4	A 62304
3/32	3/16	9/64	2	A 62285	3/32	3/16	9/32	2-1/4	A 62305
7/64	3/16	5/32	2	A 62286	7/64	3/16	21/64	2-1/4	A 62306
1/8	3/16	3/16	2	A 62287	1/8	3/16	3/8	2-1/4	A 62307
9/64	3/16	7/32	2	A 62288	9/64	3/16	13/32	2-1/4	A 62308
5/32	3/16	15/64	2	A 62289	5/32	3/16	7/16	2-1/4	A 62309
11/64	3/16	1/4	2	A 62290	11/64	3/16	1/2	2-1/4	A 62310
3/16	3/16	9/32	2	A 62291	3/16	3/16	1/2	2-1/4	A 62311

DOUBLE END - FOUR FLUTE

TYPE 566 - STUB LENGTH

- FOUR FLUTE WITH MEDIUM HIGH HELIX ANGLE.
- RECOMMENDED FOR USE AT HIGHER SPEEDS IN SLOTTING, ENGRAVING, POCKETING AND SIMILAR OPERATIONS.



TYPE 567 - STANDARD LENGTH

- FOUR FLUTE WITH MEDIUM HIGH HELIX ANGLE.
- RECOMMENDED FOR USE AT HIGHER SPEEDS IN SLOTTING, ENGRAVING, POCKETING AND SIMILAR OPERATIONS.







MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART	MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART
1/16	3/16	3/32	2	A 62321	1/16	3/16	3/16	2-1/4	A 62331
3/32	3/16	9/64	2	A 62322	3/32	3/16	9/32	2-1/4	A 62332
1/8	3/16	3/16	2	A 62323	1/8	3/16	3/8	2-1/4	A 62333
5/32	3/16	15/64	2	A 62324	5/32	3/16	7/16	2-1/4	A 62334
3/16	3/16	9/32	2	A 62325	3/16	3/16	1/2	2-1/4	A 62335

NOTE: Due to special processing allow 2-3 weeks for delivery.

CIC 200™ BALL END MILLS

STANDARD AND LONG LENGTH

TYPE 521 - STANDARD LENGTH						TYPE 526 - LONG LENGTH						
<ul style="list-style-type: none"> REGULAR LENGTH, TWO FLUTE. RECOMMENDED FOR MILLING FILLETS AND BOTTOM SLOTS WITH A RADIUS AND FOR ROUNDING THE BOTTOM OF BLIND HOLES. EXCELLENT FOR TEMPLATE FOLLOWER APPLICATIONS. CENTER CUTTING. 						<ul style="list-style-type: none"> LONGER VERSION OF SERIES 521, TWO FLUTE. RECOMMENDED FOR SIMILAR OPERATIONS AS THE SERIES 521, ALLOWING FOR WORKING IN DEEPER CAVITIES AND POCKETS. 						
MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART		MILL DIA.	SHANK DIA.	LENGTH SHAFT	LENGTH OF CUT	OVERALL LENGTH	PART	
1/8	3/8	3/8	2-5/16	A	62341	1/8	3/8	13/16	3/8	2-3/8	A	62371
3/16	3/8	1/2	2-3/8	A	62342	3/16	3/8	1-1/8	1/2	2-11/16	A	62372
1/4	3/8	5/8	2-7/16	A	62343	1/4	3/8	1-1/2	5/8	3-1/16	A	62373
5/16	3/8	3/4	2-1/2	A	62344	5/16	3/8	1-3/4	3/4	3-5/16	A	62374
3/8	3/8	3/4	2-1/2	A	62345	3/8	3/8	1-3/4	3/4	3-5/16	A	62375
7/16	1/2	1	3	A	62346	7/16	1/2	1-7/8	1	3-11/16	A	62376
1/2	1/2	1	3	A	62347	1/2	1/2	2-1/4	1	4	A	62377
9/16	1/2	1-1/8	3-1/8	A	62348	5/8	5/8	2-3/4	1-3/8	4-5/8	A	62378
5/8	1/2	1-1/8	3-1/8	A	62349	3/4	3/4	3-3/8	1-5/8	5-3/8	A	62379
3/4	1/2	1-5/16	3-5/16	A	62350	1	1	5	2-1/2	7-1/4	A	62380
5/8	5/8	1-3/8	3-1/2	A	62351	-	-	-	-	-	-	-
3/4	3/4	1-5/8	3-7/8	A	62352	-	-	-	-	-	-	-
7/8	3/4	1-7/8	4-1/8	A	62353	-	-	-	-	-	-	-
7/8	7/8	2	4-1/4	A	62354	-	-	-	-	-	-	-
1	3/4	2-1/4	4-1/2	A	62355	-	-	-	-	-	-	-
1	1	2-1/4	4-3/4	A	62356	-	-	-	-	-	-	-
1-1/8	1	2-1/4	4-3/4	A	62357	-	-	-	-	-	-	-
1-1/4	1-1/4	2-1/2	5	A	62358	-	-	-	-	-	-	-
1-1/2	1-1/4	2-1/2	5	A	62359	-	-	-	-	-	-	-

TYPE 544 - STANDARD LENGTH						TYPE 523 - STANDARD LENGTH					
<ul style="list-style-type: none"> REGULAR LENGTH, FOUR FLUTE, CENTER CUTTING. RECOMMENDED FOR TRACER MILLING, DIE SINKING, FILLET MILLING AND SIMILAR OPERATIONS WHERE A BALL-END MILL IS REQUIRED. CENTER CUTTING. 						<ul style="list-style-type: none"> REGULAR LENGTH, TWO FLUTE, DOUBLE-END MILLS WITH SAME FEATURES AS 521 SERIES. RECOMMENDED FOR MILLING FILLETS AND BOTTOM SLOTS, ROUNDING THE BOTTOM OF BLIND HOLES. 					
MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART		MILL DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	PART	
3/8	3/8	3/4	2-1/2	A	62411	1/8	3/8	3/8	3-1/16	A	62391
1/2	1/2	1-1/4	3-1/4	A	62412	3/16	3/8	7/16	3-1/8	A	62392
5/8	5/8	1-5/8	3-3/4	A	62413	1/4	3/8	1/2	3-1/8	A	62393
3/4	3/4	1-5/8	3-7/8	A	62414	5/16	3/8	9/16	3-1/8	A	62394
7/8	7/8	1-7/8	4-1/8	A	62415	3/8	3/8	9/16	3-1/8	A	62395
1	1	2	4-1/2	A	62416	7/16	1/2	13/16	3-3/4	A	62396
1-1/4	1-1/4	2	4-1/2	A	62417	1/2	1/2	13/16	3-3/4	A	62397
1-1/2	1-1/4	2	4-1/2	A	62418	5/8	5/8	1-8	4-1/2	A	62398
-	-	-	-	-	-	3/4	3/4	1-5/16	5	A	62399
-	-	-	-	-	-	1	1	1-5/8	5-7/8	A	62300

NOTE: Due to special processing allow 2-3 weeks for delivery.

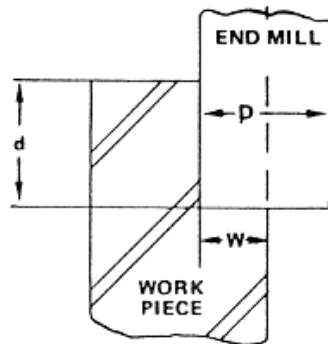


SUGGESTED SPEED AND FEED DATA FOR COBALT HIGH SPEED STEEL END MILL IN VARIOUS APPLICATIONS AND MATERIALS.

Number of Flutes	Heat-Resistant Austenitic Alloys Heat-Resistant Nickel Base Alloys High Strength Stainless Alloys High Strength Titanium Alloys		High Tensile Steel Medium Strength Stainless Steels Medium Strength Titanium Alloys		Medium Tensile Steels Unalloyed Titanium Alloys Heat-Resistant Ferritic Low Alloys		Mild Steel Forging Hard Brass and Bronze Copper		Mild Steels Cast Iron Brass Bronze		Aluminum Aluminum Alloys Plastics Wood	
	2 or More Flutes		2 or More Flutes		2 or More Flutes		2 or More Flutes		2 or More Flutes		2 or More Flutes	
	Diam. of End Mills	Speed 10-20SPM	Feed	Speed 30-40SPM	Feed	Speed 50-60SPM	Feed	Speed 70-90SPM	Feed	Speed 100-120SPM	Feed	Speed 200-400SPM
	RPM	Inch/Min	RPM	Inch/Min	RPM	Inch/Min	RPM	Inch/Min	RPM	Inch/Min	RPM	Inch/Min
1/16"	*	-	1834-2445	3/4"	3057-3668	1-1/4"	4280-5502	4"	6112-7333	3-1/8"	12222Up	5-1/8"
3/32"	*	-	1222-1426	3/4"	2038-2445	1-1/4"	2853-3668	4"	4073-4890	3-1/8"	8146Up	5-1/8"
1/8"	*	-	917-1222	3/4"	1528-1834	1-1/4"	2139-2750	4"	3056-3667	3-1/2"	6112Up	5-1/2"
3/16"	204-407	1/2"	611-815	1-1/4"	1019-1222	1-5/8"	1426-1834	4-3/4"	2037-2445	4"	4074-8148	5-7/8"
1/4"	153-309	1/2"	458-611	1-1/4"	764-917	1-5/8"	1070-1376	5-1/8"	1528-1833	4-3/4"	3056-6112	8"
5/16"	122-244	1/2"	357-489	1-5/8"	611-733	2"	856-978	5-1/2"	1222-1467	5-7/8"	2444-4888	12"
3/8"	102-204	5/8"	306-408	2"	509-611	2"	713-916	5-7/8"	1019-1222	6-5/16"	2038-4076	14"
7/16"	87-175	5/8"	262-349	2"	437-524	2"	611-786	5-7/8"	873-1048	6-5/16"	1746-3492	16"
1/2"	76-153	3/4"	229-305	2-3/8"	382-459	2"	535-688	4-3/4"	764-917	5-7/8"	1528-3056	16"
3/16"	68-137	3/4"	204-272	2-3/8"	340-407	2"	475-611	4"	678-805	5-1/2"	1356-2712	16"
5/8"	61-122	3/4"	184-245	2-3/8"	306-367	2-3/8"	428-552	4"	611-733	5-1/2"	1222-2444	16"
11/16"	55-112	3/4"	167-222	2-3/8"	278-333	2-3/8"	389-500	4"	555-671"	5-1/2"	1110-2220	16"
3/4"	51-102	3/4"	153-203	2"	254-306	2-3/8"	357-458	3-1/2"	509-611	5-1/8"	1018-2036	16"
13/16"	47-95	3/4"	142-190	2"	237-284	2-3/8"	332-427	3-1/2"	491-568	5-1/8"	938-1876	15"
7/8"	44-87	3/4"	131-185	2"	219-262	2-3/8"	306-392	3-1/2"	473-524	4-3/4"	872-1744	14"
15/16"	40-81	3/4"	123-163	2"	205-246	2"	287-366	3-1/8"	427-491	4-3/4"	814-1628	13"
1"	38-76	3/4"	115-153	1-5/8"	191-229	2"	267-344	3-1/8"	382-458	4-3/4"	764-1528	12"
1-1/8"	34-68	3/4"	102-135	1-5/8"	170-204	2"	238-306	2-3/4"	340-407	4-3/4"	680-1360	10"
1-1/4"	31-61	3/4"	92-123	1-1/4"	153-183	2"	214-274	2-3/4"	306-367	4"	612-1224	8-1/2"
1-3/8"	28-56	3/4"	83-111	1-1/4"	139-167	2"	195-250	2-3/8"	278-333	4"	556-1112	7"
1-1/2"	25-51	5/8"	76-102	1-1/4"	127-153	2"	178-229	2-3/8"	255-306	3-1/2"	510-1070	6"
1-5/8"	35	5/8"	70-94	1-1/4"	118-141	1-5/8"	165-212	2"	235-282	3-1/8"	470-940	6"
1-3/4"	32	5/8"	66-88	1-1/4"	109-131	1-5/8"	153-196	2"	218-262	2-3/4"	436-872	5-1/2"
1-7/8"	30	5/8"	62-81	3/4"	102-122	1-1/4"	143-183	1-5/8"	204-244	2-3/4"	408-816	5-1/2"
2"	29	5/8"	57-76	3/4"	96-115	1-1/4"	134-172	1-5/8"	191-229	2-3/8"	382-764	4-3/4"

SUGGESTED SPEED AND FEED DATA FOR COBALT HIGH SPEED STEEL ROUGHING CUT END MILL IN VARIOUS APPLICATIONS AND MATERIALS.

Materials Mill Dia.	Mild Steel Forging Hard Brass Bronze Copper		High Tensile Steel Medium Strength- Stainless Steel, Medium Strength- Titanium Alloys		Medium Tensile Steel Unalloyed Titanium- Alloys, Heat Resistant- Ferritic Low Alloys		Cast Iron Brass Bronze		Aluminum	
	RPM	FEED INCH/MIN.	RPM	FEED INCH/MIN.	RPM	FEED INCH/MIN.	RPM	FEED INCH/MIN.	RPM	FEED INCH/MIN.
1/2	690	3-1/2"	460	1-3/8"	535	2-3/8"	645	4"	2520	17"
5/8	550	4-3/8"	370	1-1/2"	430	2-3/8"	515	4-1/2"	2020	18"
3/4	460	4-5/8"	305	2"	355	2-3/4"	425	5"	1680	16"
7/8	395	4-1/2"	260	2"	305	2-3/4"	365	5"	1440	15"
1	345	4-1/8"	230	1-3/4"	265	2-1/2"	320	4-1/2"	1260	13"
1-1/8	305	4"	200	1-3/4"	235	2-3/8"	285	4-1/8"	1120	12"
1-1/4	275	4-5/8"	180	2-1/8"	215	2-3/4"	255	5"	1000	10"
1-1/2	230	4"	150	2"	175	2-3/4"	215	4-1/8"	840	9"
1-3/4	195	3-3/4"	130	1-3/4"	150	2-1/2"	180	4"	720	8"
2	170	3-3/8"	115	1-3/4"	130	2-3/8"	160	3-1/2"	630	7"



1/2" up to 1-1/8" --- d = 1.5D W = 0.5D

1-1/4" up to 2" --- d = 1.0D W = 0.5D

