

ADVANCED PERFORMANCE

Solid Carbide End Mills For Aluminum And Non-Ferrous Materials



INTRO

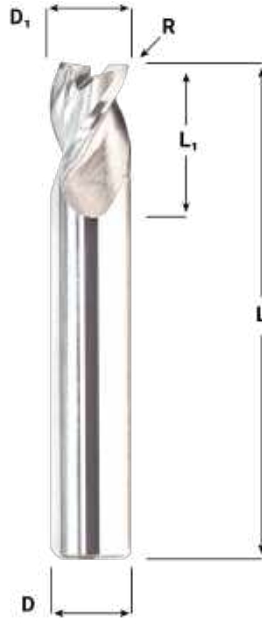
MILLING

SPECIALTY

HOLEMAKING

THREADING

INSERTS



FEATURES/DESCRIPTION	APPLICATION	FEATURES										
<p>PERFORMANCE AL</p> <p>All-Terrain Aluminum Milling</p> <ul style="list-style-type: none"> Premium sub-micron grade carbide substrate for wear resistance For conventional or high speed machining of Aluminum Productivity and cost-efficiency Highly polished cutting face and flutes Stocked Bright or NF1 coating for Aluminum machining 		<table border="1"> <tr> <td>CARBIDE</td> <td>37°</td> </tr> <tr> <td>3FL</td> <td>SQ</td> </tr> <tr> <td>RAD</td> <td>h6</td> </tr> <tr> <td>P195</td> <td>NF1</td> </tr> <tr> <td colspan="2">Bright</td> </tr> </table>	CARBIDE	37°	3FL	SQ	RAD	h6	P195	NF1	Bright	
CARBIDE	37°											
3FL	SQ											
RAD	h6											
P195	NF1											
Bright												

STEEL			STAINLESS		CAST IRON		NON-FERROUS		HBSA		HARDENED STEEL	
P1	P2	P3	M1	M2	K1	K2	N1	N2	S1	S2	H1	H2
							●	●				

● Best ○ Good

Series 2030 350 | 3FL | Square and Radius

Diameter(D ₁)	LOC(L ₁)	OAL(L)	Shank(D)	Radius(R)	Bright	NF1
1/8	1/4	1-1/2	1/8	-	314434	314436
1/8	5/16	1-1/2	1/8	-	314442	314445
1/8	3/8	1-1/2	1/8	-	314447	314450
1/8	3/8	1-1/2	1/8	0.020	314456	-
1/8	3/8	1-1/2	1/8	0.030	314458	-
1/8	1/2	2	1/8	-	314462	314466
1/8	5/8	2	1/8	-	314468	314472
1/8	3/4	2	1/8	-	314476	314479
1/8	1	2-1/2	1/8	-	314483	314487
5/32	5/16	2	3/16	-	314491	314493
5/32	9/16	2	3/16	-	314496	-
3/16	5/16	2	3/16	-	314498	314502
3/16	3/8	2	3/16	-	314508	314512
3/16	5/8	2-1/2	3/16	-	314516	314518
3/16	5/8	2-1/2	3/16	0.010	-	314520
3/16	5/8	2-1/2	3/16	0.030	-	314527
3/16	3/4	2-1/2	3/16	-	314531	314534
3/16	1	2-1/2	3/16	-	314536	314539
7/32	3/8	2-1/2	1/4	-	314542	314545
7/32	3/4	2-1/2	1/4	-	314547	314549
1/4	3/8	2-1/2	1/4	-	314551	314553
1/4	3/8	2-1/2	1/4	0.015	-	314556
1/4	3/8	2-1/2	1/4	0.020	-	314558
1/4	3/8	2-1/2	1/4	0.030	-	314560
1/4	3/8	2-1/2	1/4	0.060	-	314564
1/4	1/2	2-1/2	1/4	-	314568	314570
1/4	5/8	2-1/2	1/4	-	314572	314575
1/4	3/4	2-1/2	1/4	-	314577	314581
1/4	3/4	2-1/2	1/4	0.010	314584	-
1/4	3/4	2-1/2	1/4	0.015	314586	-
1/4	3/4	2-1/2	1/4	0.020	314590	-
1/4	3/4	2-1/2	1/4	0.030	314592	-
1/4	3/4	2-1/2	1/4	0.045	314596	-
1/4	3/4	2-1/2	1/4	0.060	314598	-
1/4	1	2-1/2	1/4	-	314600	314602
1/4	1-1/8	2-1/2	1/4	-	314605	314607
1/4	1-1/4	3	1/4	-	314610	314614
1/4	1-1/2	3	1/4	-	314616	314618
1/4	2	4	1/4	-	314622	314624
9/32	7/16	2-1/2	5/16	-	314626	314630
9/32	13/16	2-1/2	5/16	-	314633	314636
5/16	7/16	2-1/2	5/16	-	314639	-
5/16	7/16	2-1/2	5/16	-	-	314642
5/16	7/16	2-1/2	5/16	0.020	-	314645
5/16	7/16	2-1/2	5/16	0.030	-	314648

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5/16	1/2	2-1/2	5/16	-	314651	314655
5/16	13/16	2-1/2	5/16	-	314657	314661
5/16	13/16	2-1/2	5/16	0.020	-	314663
5/16	13/16	2-1/2	5/16	0.030	-	314666
5/16	13/16	2-1/2	5/16	0.060	-	314670
5/16	1-1/8	2-1/2	5/16	-	314672	-
5/16	1-1/8	2-1/2	5/16	-	314674	-
5/16	1-1/4	3-1/2	5/16	-	314678	-
5/16	1-1/4	3	5/16	-	314681	-
5/16	1-1/2	3-1/2	5/16	-	314684	314687
5/16	2-1/8	4	5/16	-	314690	314692
11/32	1/2	2-1/2	3/8	-	314694	314696
11/32	1	2-1/2	3/8	-	314700	314703
3/8	1/2	2-1/2	3/8	-	314705	314709
3/8	1/2	2-1/2	3/8	0.020	-	314711
3/8	1/2	2-1/2	3/8	0.030	-	314714
3/8	1/2	2-1/2	3/8	0.045	-	314716
3/8	5/8	2-1/2	3/8	-	314719	314723
3/8	3/4	2-1/2	3/8	-	314726	314729
3/8	1	2-1/2	3/8	-	314732	314736
3/8	1	2-1/2	3/8	0.020	-	314738
3/8	1	2-1/2	3/8	0.030	-	314742
3/8	1	2-1/2	3/8	0.045	-	314744
3/8	1	2-1/2	3/8	0.060	-	314747
3/8	1-1/4	3	3/8	-	314749	314753
3/8	1-1/2	4	3/8	-	314755	314758
3/8	2	4	3/8	-	314762	314766
3/8	2	4	3/8	-	-	-
3/8	2-1/2	6	3/8	-	314768	314771
13/32	9/16	2-3/4	7/16	-	314773	314775
13/32	1	2-3/4	7/16	-	314779	314781
7/16	9/16	2-3/4	7/16	-	314783	314786
7/16	1	2-3/4	7/16	-	314790	314793
7/16	2	4	7/16	-	314797	314801
15/32	5/8	3	1/2	-	314803	314805
15/32	1-1/4	3	1/2	-	314808	314810
1/2	5/8	3	1/2	-	314814	314818
1/2	5/8	3	1/2	0.020	-	314821
1/2	5/8	3	1/2	0.030	-	314823
1/2	5/8	3	1/2	0.060	-	314827
1/2	5/8	3	1/2	0.090	-	314830
1/2	3/4	3	1/2	-	314834	314836
1/2	1	3	1/2	-	314838	314840
1/2	1-1/4	3	1/2	-	314843	314845
1/2	1-1/4	3	1/2	0.020	-	314847
1/2	1-1/4	3	1/2	0.030	-	314850
1/2	1-1/4	3	1/2	0.060	-	314854
1/2	1-1/4	3	1/2	0.090	-	314857
1/2	1-1/4	3	1/2	0.120	-	314860
1/2	1-1/2	4	1/2	-	314863	314865
1/2	2	4	1/2	-	314869	314872
1/2	2-1/4	6	1/2	-	314876	314878
1/2	2-1/2	6	1/2	-	314880	314884
1/2	3-1/4	6	1/2	-	314888	314892
1/2	4	8	1/2	-	314896	314900
5/8	3/4	3-1/2	5/8	-	314904	314908
5/8	1-1/4	3-1/2	5/8	-	314912	314914
5/8	1-5/8	3-1/2	5/8	-	314917	314920
5/8	1-5/8	3-1/2	5/8	0.030	-	314924
5/8	1-5/8	3-1/2	5/8	0.060	-	314928
5/8	1-5/8	3-1/2	5/8	0.090	-	314930
5/8	1-5/8	3-1/2	5/8	0.120	-	314934
5/8	2	5	5/8	-	314938	314941
5/8	2-1/2	5	5/8	-	314944	314948
5/8	2-3/4	5	5/8	-	314952	314954
5/8	3-1/4	6	5/8	-	314956	314960
5/8	4	8	5/8	-	314962	314965
3/4	1	4	3/4	-	314969	314972
3/4	1	4	3/4	0.060	-	314975
3/4	1	4	3/4	0.090	-	314978
3/4	1	4	3/4	0.120	-	314981
3/4	1-1/2	4	3/4	-	314983	314987
3/4	1-5/8	4	3/4	-	314991	314994
3/4	1-5/8	4	3/4	0.060	-	314996
3/4	1-5/8	4	3/4	0.090	-	314998
3/4	1-5/8	4	3/4	0.120	-	315002

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Diameter(D ₁)	LOC(L ₁)	OAL(L)	Shank(D)	Radius(R)	Bright	NF1
3/4	2	5	3/4	-	315005	315007
3/4	2-1/4	5	3/4	-	315011	315013
3/4	2-1/2	5	3/4	-	315017	315021
3/4	3	6	3/4	-	315023	315025
3/4	3-1/4	6	3/4	-	315027	315029
3/4	3-1/2	6	3/4	-	315031	315033
3/4	4	7	3/4	-	315036	315039
3/4	5	8	3/4	-	315043	315047
1	1-1/4	5	1	-	315051	315054
1	1-1/4	5	1	-	-	-
1	1-1/2	5	1	-	315057	315060
1	2	5	1	-	315062	315065
1	2	5	1	0.060	-	315067
1	2	5	1	0.090	-	315070
1	2	5	1	0.120	-	315074
1	2-1/2	5	1	-	315077	-
1	2-1/2	5	1	-	315081	-
1	3	6	1	-	315084	315086
1	3-1/2	6	1	-	315090	315093
1	4-1/8	7	1	-	315096	315099
1	5-1/2	8	1	-	315101	315105
1-1/4	1-1/4	5	1-1/4	-	-	315107
1-1/4	2	4-1/2	1-1/4	-	315109	315112
1-1/4	3-1/4	6	1-1/4	-	315115	315118
1-1/4	5-1/2	8	1-1/4	-	-	315121

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Popular Custom Milling Options

- Proprietary GWS tool coatings
- Longer lengths
- Enhanced geometry
- Special shank modifications like **SAFE-LOCK**®

**CUSTOM
COMES
STANDARD**