



Where **high performance**
is the **standard**®



ISO 9001:2015 Certified

TuffCut® XR-AL Series 334 / 334N

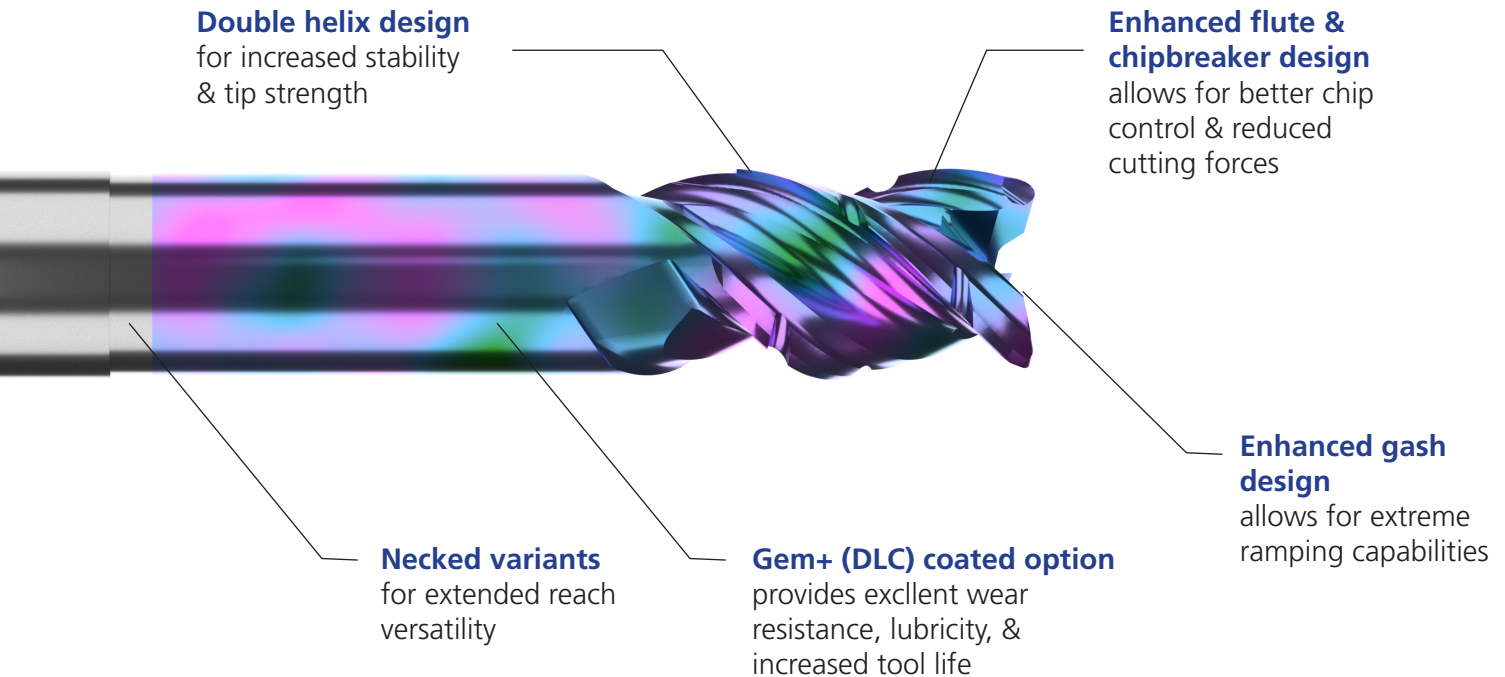
3-Flute, High Performance, Aluminum Rougher

Xtreme metal removal roughing in aluminum alloys

www.mafor.com

TuffCut® XR-AL Series 334 / 334N

3-Flute, High Performance, Aluminum Rougher

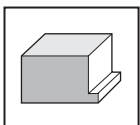


Suitable materials

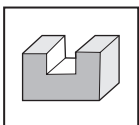


Applications

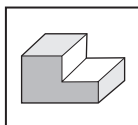
The 3-flute, high performance, 334 series was designed for Xtreme, high-volume roughing in aluminum alloys.



HEM

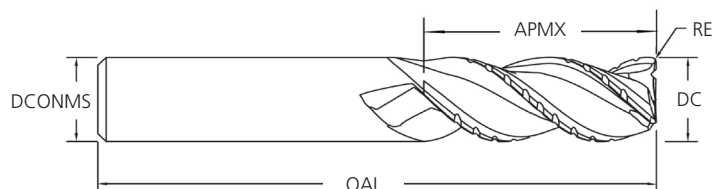


Slotting



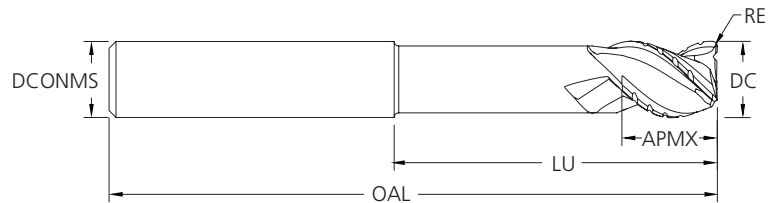
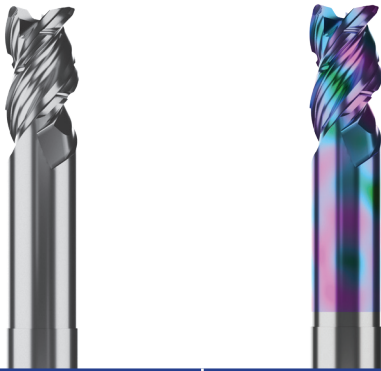
Traditional
Roughing

TuffCut® XR-AL Series 334



Uncoated		Gem+		DC		DCONMS	OAL	APMX	RE
Tool No.	EDP	Tool No.	EDP	Inch	Decimal	Inch	Inch	Inch	Inch
33425000R.020	33452	33425000R.020GP	33400	1/4	.2500	1/4	2	1/2	.020
33425010R.020	33453	33425010R.020GP	33404	1/4	.2500	1/4	2-1/2	3/4	.020
33437500R.020	33454	33437500R.020GP	33408	3/8	.3750	3/8	2	5/8	.020
33437510R.020	33455	33437510R.020GP	33412	3/8	.3750	3/8	2-1/2	1	.020
33450000R.030	33456	33450000R.030GP	33416	1/2	.5000	1/2	3	5/8	.030
33450010R.030	33458	33450010R.030GP	33419	1/2	.5000	1/2	3	1	.030
33450020R.030	33459	33450020R.030GP	33423	1/2	.5000	1/2	3	1-1/4	.030
334625010R.030	33460	334625010R.030GP	33430	5/8	.6250	5/8	3-1/2	1-1/4	.030
334625020R.030	33461	334625020R.030GP	33441	5/8	.6250	5/8	4	2	.030
33475000R.030	33463	33475000R.030GP	33432	3/4	.7500	3/4	4	1	.030
33475010R.030	33464	33475010R.030GP	33434	3/4	.7500	3/4	4	1-5/8	.030
33475020R.030	33465	33475020R.030GP	33444	3/4	.7500	3/4	5	2-1/4	.030
33475030R.030	33466	33475030R.030GP	33443	3/4	.7500	3/4	6	3-1/4	.030
33410000R.030	33467	33410000R.030GP	33445	1	1.0000	1	6	1-1/4	.030
33410010R.030	33468	33410010R.030GP	33439	1	1.0000	1	4	1-1/2	.030
33410020R.030	33469	33410020R.030GP	33447	1	1.0000	1	5	2	.030
33410030R.030	33470	33410030R.030GP	33449	1	1.0000	1	6	2-1/2	.030
33410040R.030	33471	33410040R.030GP	33451	1	1.0000	1	6	3-1/4	.030

TuffCut® XR-AL Series 334N



Uncoated		Gem+		DC		DCONMS	OAL	APMX	LU	RE
Tool No.	EDP	Tool No.	EDP	Inch	Decimal	Inch	Inch	Inch	Inch	Inch
3343751N3R.020	33475	3343751N3R.020GP	33481	3/8	.3750	3/8	3	3/4	1-1/8	.020
3343750N5R.020	33476	3343750N5R.020GP	33482	3/8	.3750	3/8	3-1/2	1/2	1-7/8	.020
3345001N3R.030	33477	3345001N3R.030GP	33483	1/2	.5000	1/2	3-1/2	1	1-1/2	.030
3345000N4R.030	33457	3345000N4R.030GP	33428	1/2	.5000	1/2	4	5/8	2-1/8	.030
3345000N5R.030	33478	3345000N5R.030GP	33484	1/2	.5000	1/2	5	5/8	2-1/2	.030
33475001N3R.030	33479	33475001N3R.030GP	33485	3/4	.7500	3/4	5	1-1/2	2-1/4	.030
33475000N4R.030	33462	33475000N4R.030GP	33436	3/4	.7500	3/4	5	1	3	.030
33475000N5R.030	33480	33475000N5R.030GP	33486	3/4	.7500	3/4	6	1	3-3/4	.030

Inch	
DC	Tolerance
.2500 - 1.0000	+0/- .0005

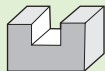
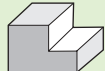
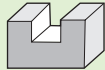
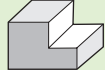
Inch	
DCONMS	Tolerance (h6)
.2500 - .3937	+0/- .00035
.3938 - .7087	+0/- .00043
.7088 - 1.0000	+0/- .00051

Gem+ Coating (GP):

Recommended for aluminum and aluminum alloys up to 12% Si, non-ferrous metals and composites. Gem+ provides excellent wear resistance and maintains sharp cutting edges.

Gem+ Coating Properties			
Microhardness (HV)	Max. Service Temp.	Friction Coefficient	M.A.Ford® Tool Designation Number
4710	500° C / 932° F	0.10	GP

334 Series Recommended Cutting Data - Inch

Workpiece Material Group	I S O	Application	Type of cut		Vc (SFM)	Tool Diameter (inch)					
			Radial (Ae)	Axial (Ap)		1/4	3/8	1/2	5/8	3/4	1
						fz - in/tooth					
Aluminum - Wrought (≤ 10 Si)	N		1 x D	.5 x D	1750-2000	.008	.012	.020	.022	.025	.030
			1 x D	1 x D	1250-1750	.005	.008	.010	.012	.015	.020
			.75 x D	1 x D	2000-2500	.006	.009	.012	.013	.015	.018
			.5 x D	1.5 x D	1750-2000	.006	.009	.012	.013	.015	.018
			.3 x D	2 x D	1250-1750	.008	.012	.016	.018	.020	.024
Aluminum - Cast (> 10 Si)			1 x D	.5 x D	1400-1600	.008	.012	.020	.022	.025	.030
			1 x D	1 x D	1000-1400	.005	.008	.010	.012	.015	.020
			.75 x D	1 x D	1600-2000	.006	.009	.012	.013	.015	.018
			.5 x D	1.5 x D	1400-1600	.006	.009	.012	.013	.015	.018
			.3 x D	2 x D	1000-1400	.008	.012	.016	.018	.020	.024

Above 20,000 RPM, tool balancing required.

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

- Recommended starting ramp angles = 5-15° @ 30-50% feed reduction
- Under optimal process conditions, increased ramp angles (up to 30°) are possible.

334N Series Recommended Cutting Data - 3xD Neck Length - Inch

Workpiece Material Group	I S O	Application	Type of cut		Vc (SFM)	Tool Diameter (inch)		
			Radial (Ae)	Axial (Ap)		3/8	1/2	3/4
						fz - in/tooth		
Aluminum - Wrought (≤ 10 Si)	N		1 x D	.5 x D	1750-2000	.012	.020	.025
			1 x D	1 x D	1250-1750	.008	.010	.015
			.75 x D	1 x D	2000-2500	.009	.012	.015
			.5 x D	1.5 x D	1750-2000	.009	.012	.015
			.3 x D	2 x D	1250-1750	.012	.016	.020
Aluminum - Cast (> 10 Si)			1 x D	.5 x D	1400-1600	.012	.020	.025
			1 x D	1 x D	1000-1400	.008	.010	.015
			.75 x D	1 x D	1600-2000	.009	.012	.015
			.5 x D	1.5 x D	1400-1600	.009	.012	.015
			.3 x D	2 x D	1000-1400	.012	.016	.020

Above 20,000 RPM, tool balancing required.

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

- Recommended starting ramp angles = 5-15° @ 30-50% feed reduction
- Under optimal process conditions, increased ramp angles (up to 30°) are possible.

334N Series Recommended Cutting Data - 5xD Neck Length - Inch

Workpiece Material Group	I S O	Application	Type of cut		Vc (SFM)	Tool Diameter (inch)		
			Radial (Ae)	Axial (Ap)		3/8	1/2	3/4
						fz - in/tooth		
Aluminum - Wrought (≤ 10 Si)	N	 Slotting	1 x D	≤ .25 x D	800-1300	.003	.005	.007
		 Profiling	.5 x D	≤ .25 x D	800-1300	.003	.005	.007
			≤ .2 x D	1 x D	1000-1600	.006	.008	.010
Aluminum - Cast (> 10 Si)		 Slotting	1 x D	≤ .25 x D	650-1000	.003	.005	.007
		 Profiling	.5 x D	≤ .25 x D	650-1000	.003	.005	.007
			≤ .2 x D	1 x D	800-1200	.006	.008	.010

Above 20,000 RPM, tool balancing required.

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

- Recommended starting ramp angles = 3-5° @ 30-50% feed reduction



Where **high performance** is the **standard**®

Also available:



Safety Note

Always wear the appropriate personal protective equipment such as safety glasses and protective clothing when using solid carbide or HSS cutting tools. Machines should be fully guarded.

⚠ WARNING: This product can expose you to chemicals including cobalt, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

M.A. Ford® Mfg. Co., Inc. **7737 Northwest Blvd.**

Davenport, IA 52806
USA

Tel: 563-391-6220 or 800-553-8024
e-mail: sales@maford.com
www.maford.com

M.A. Ford® Europe Ltd.

650 City Gate
London Road, Derby
DE24 8WY
United Kingdom

Tel: +44 (0) 1332 267960
Fax: +44 (0) 1332 267969
e-mail: sales@mafordeurope.com
www.mafordeurope.com

M.A. Ford® Asia-Pacific Limited

Room 1709, Level 17
Millennium City 2
378 Kwun Tong Road
Kowloon, Hong Kong

Tel: +852-2167-7150
Fax: +852-2167-8150
e-mail: sales@mafordeurope.com