



ADVANCED PRODUCT GROUP



M.A. FORD
High Performance Cutting Tools

TuffCut® XT & XR7 High Performance End Mills

For Titanium, High Temp Alloys And Similar Materials.



**Double the
Tool Life!**

	TuffCut® XT Series 278	Competitor X
1/2" (12.7mm) Diameter End Mill	5 Flute End Mill	5 Flute End Mill
Material	303 Stainless	
RPM	2500	2500
SFM	328	328
IPR	.010	.010
IPM	25	25
Tool Life	8 Hours	4 Hours

**33% Increase
in Productivity**

	TuffCut® XR7 Series 180	Competitor M
5/8" (16mm) Diameter End Mill	7 Flute End Mill	5 Flute End Mill
Material	Titanium	
RPM	1200	1200
SFM	200	200
IPR	.020	.015
IPM	24	18



Made in USA

ISO 9001:2008 Certified

TuffCut® XT & XR7

4 Flute - Series 277

4 Flute Ball - Series 279

5 Flute - Series 278

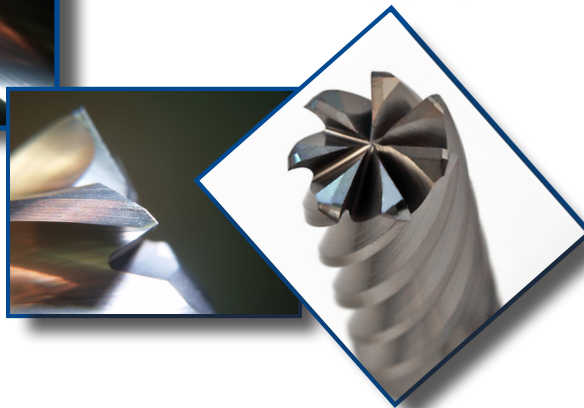
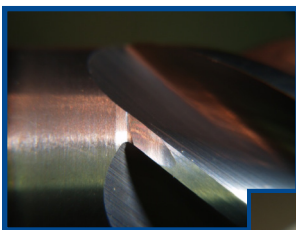
7 Flute - Series 180



Where *high performance* is the *standard*®

Features

- Proprietary Carbide Substrate
- Improved Geometries
- Variable Helix/Pitch
- Enhanced Corner Protection
- Industry Standard Corner radii
- ALtima® Blaze coated
- Whisper Blend Transition Between OD and Neck
- Stub, Standard, long and extra long lengths, with square, corner radius, neck relief, chipbreaker, and weldon flat options



Benefits

- Higher Feeds Over Similar End Mills
- Reduced Vibration Harmonics
- Improved Part Finishes
- Maintains Cutting Edge Strength & Sharpness for Improved Tool Life
- Slotting at 1X Diameter Deep
- State-of-the-Art ALtima® Blaze Coating for Superior Tool Life and higher metal removal rates
- Designed for specific applications in steels, stainless steels, special alloys, cast iron, titanium inconel, and high temp alloys

	Series	# of Flutes	Stub	Std	Long	X-Long	XX-Long	Square End	Ball Nose	Corner Radius	Neck Relief	Chip-breaker	Weldon Flat	Coating
TuffCut® XR7	180	7	x	x				x		x				ALtima® Blaze
	180CB	7			x	x		x				x		ALtima® Blaze
	180N	7		x						x	x			ALtima® Blaze
TuffCut® XT	277	4	x	x				x		x			x	ALtima® Blaze
	277L	4			x			x		x			x	ALtima® Blaze
	277N	4	x					x		x	x			ALtima® Blaze
	277X	4				x		x		x			x	ALtima® Blaze
	277XX	4					x	x		x			x	ALtima® Blaze
	278	5	x	x				x		x			x	ALtima® Blaze
	278L	5			x			x		x			x	ALtima® Blaze
	278N	5		x						x	x			ALtima® Blaze
	278X	5				x		x		x			x	ALtima® Blaze
	279	4	x	x						x				ALtima® Blaze

Need a non-standard corner radius or weldon flat? - contact Customer Service for our Rapid Turn Around Service

Visit Our Web Site To
View The Full Offering of
The TuffCut® XT and XR7 End Mill Line
www.maford.com



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For product information, call your local distributor.