TuffCut® 3D

XFO-AL Series Recommended Cutting Data - Speeds - **Inch**

Recommended Speeds by Material Group						Finishing	Semi-Finishing
Workpiece Material Group		**Material Type**	Stock Allowance			.01-.03 x D	.05-.07 x D
			Coolant			Vc-SFM	
			Emulsion	Compressed Air	MQL		
Aluminum	N	Wrought (≤ 10% Si)	●	X	○	2000	1900
		Cast (> 10% Si)	●	X	○	1710	1610

● Preferred   ○ Possible   X Not Possible

XFO-AL Series Recommended Cutting Data - Feeds - **Inch**

Recommended Feeds by Material Group			Tool Diameter (inch)							
Workpiece Material Group		**Material Type**	.2362		.3150		.3937		.4724	
			Semi Finish	Finish	Semi Finish	Finish	Semi Finish	Finish	Semi Finish	Finish
			Fz - in/tooth							
Aluminum	N	Wrought (≤ 10% Si)	.0024	.0015	.0032	.0020	.0039	.0026	.0047	.0031
		Cast (> 10% Si)	.0024	.0015	.0032	.0020	.0039	.0026	.0047	.0031

Notes:

- To prevent chip evcaution issues, avoid cutting with the tip of the tool wherever possible.

- Reduced feeds required when cutting with the tip of the tool.

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

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Back to Table of Contents

End Mills - Technical Information   Series XFO-AL

TuffCut® 3D

XFO-AL Series Recommended Cutting Data - Speeds - **Metric**

Recommended Speeds by Material Group						Finishing	Semi-Finishing
Workpiece Material Group	Material Type	Stock Allowance				.01-.03 x D	.05-.07 x D
		Coolant				Vc - M/Min	
		Emulsion	Compressed Air	MQL			
Aluminum N	Wrought (≤ 10% Si)	●	X	○		610	580
	Cast (> 10% Si)	●	X	○		520	490

● Preferred   ○ Possible   X Not Possible

XFO-AL Series Recommended Cutting Data - Feeds - **Metric**

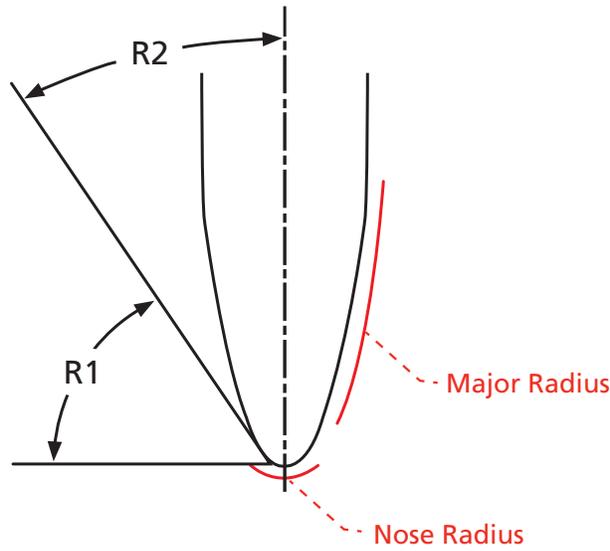| Recommended Feeds by Material Group		Tool Diameter (mm)							
Workpiece Material Group	Material Type	6		8		10		12	
		Semi Finish	Finish	Semi Finish	Finish	Semi Finish	Finish	Semi Finish	Finish
		Fz - mm/tooth							
Aluminum N	Wrought (≤ 10% Si)	.060	.039	.080	.052	.100	.065	.120	.078
	Cast (> 10% Si)	.060	.039	.080	.052	.100	.065	.120	.078

Notes:

- To prevent chip evcaution issues, avoid cutting with the tip of the tool wherever possible.

- Reduced feeds required when cutting with the tip of the tool.

End Mills - Technical Information
Series XFO-AL

TuffCut® 3D
XFO / XFO-AL Series

Effective Angles

Tool Ø	Nose Radius		Major Radius	
DC	R1	Effective Angle (Max.)	R2	Effective Angle (Max.)
6	1	78.2°	95	11.8°
8	1	75.1°	90	14.9°
10	2	74.6°	85	15.4°
12	2	71.6°	80	18.4°

*Numbers above represent maximum angle values.

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162
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Back to Table of Contents

TuffCut® 3D
XFO / XFO-AL Series

Stepover Distance by Cusp Height - **Inch**

Tool Ø (mm)		Cusp Height (Inch)	.0001	.0002	.0003	.0004	.0005
DC	R2						
6	95	Stepover (Inch)	.059	.077	.097	.109	.124
8	90		.058	.075	.094	.106	.120
10	85		.056	.072	.092	.103	.117
12	80		.054	.070	.089	.100	.113

Stepover Distance by Cusp Height - **Metric**

Tool Ø (mm)		Cusp Height (mm)	0.003	0.005	0.008	0.010	0.013
DC	R2						
6	95	Stepover (mm)	1.50	1.95	2.46	2.76	3.14
8	90		1.47	1.90	2.40	2.69	3.06
10	85		1.43	1.84	2.33	2.61	2.97
12	80		1.38	1.79	2.26	2.53	2.88

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