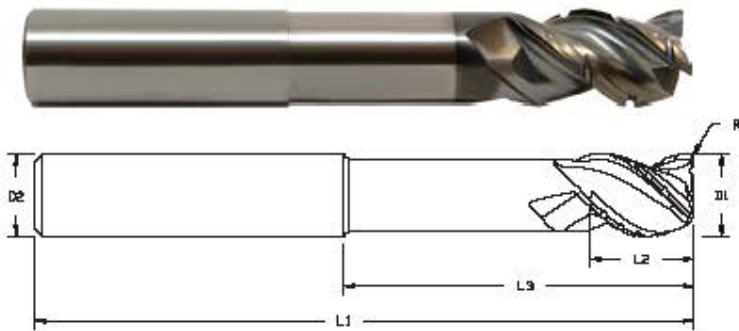


**3**  
Flute  
NEW SIZES

**TuffCut® XR-AL Series 334**



- Enhanced flute design for improved chip control and reduced cutting forces.
- Chipbreaker design provides better part finish than a traditional knuckle rougher and aids in chip management.
- Variable helix strengthens the tool corner reducing the chance of a chipped corner.
- Manufactured from premium grade ultrafine carbide material for extended tool life.



**XR-AL:  
Xtreme Roughing  
for ALuminum**

Gem + Coating		Diameter		Shank	OAL	Flute Length	Neck Length	Corner Radius
Tool No.	EDP	D1	Decimal	D2	L1	L2	L3	R
33425000R.020GP	33400	1/4	.2500	1/4	2	1/2		.020
33425010R.020GP	33404	1/4	.2500	1/4	2-1/2	3/4		.020
33437500R.020GP	33408	3/8	.3750	3/8	2	5/8		.020
33437510R.020GP	33412	3/8	.3750	3/8	2-1/2	1		.020
33450000R.030GP	33416	1/2	.5000	1/2	3	5/8		.030
3345000N4R.030GP	33428	1/2	.5000	1/2	4	5/8	2-1/8	.030
33450010R.030GP	33419	1/2	.5000	1/2	3	1		.030
33450020R.030GP	33423	1/2	.5000	1/2	3	1-1/4		.030
334625010R.030GP	33430	5/8	.6250	5/8	3-1/2	1-1/4		.030
334625020R.030GP	33441	5/8	.6250	5/8	4	2		.030
33475000N4R.030GP	33436	3/4	.7500	3/4	5	1	3	.030
33475000R.030GP	33432	3/4	.7500	3/4	4	1		.030
33475010R.030GP	33434	3/4	.7500	3/4	4	1-5/8		.030
33475020R.030GP	33444	3/4	.7500	3/4	5	2-1/4		.030
33475030R.030GP	33443	3/4	.7500	3/4	6	3-1/4		.030
33410000R.030GP	33445	1	1.0000	1	6	1-1/4		.030
33410010R.030GP	33439	1	1.0000	1	4	1-1/2		.030
33410020R.030GP	33447	1	1.0000	1	5	2		.030
33410030R.030GP	33449	1	1.0000	1	6	2-1/2		.030
33410040R.030GP	33451	1	1.0000	1	6	3-1/4		.030

Inch	
D1	Tolerance
.2500 - 1.0000	+0/- .0005

Inch	
D2	Tolerance (h6)
.2500 - .3937	+0/- .00035
.3938 - .7087	+0/- .00043
.7088 - 1.0000	+0/- .00051

NEW  
NEW

NEW  
NEW

NEW  
NEW

NEW  
NEW



**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)	4710
Max. Service Temperature	500°C / 932°F
Friction Coefficient	0.30
M.A. Ford® Tool Designation Number	GP

