

Tools for ALUMINUM



Aluminum Machining Without Chatter!

Scan this code to:

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- Get Technical Info
- Get Tips and Tricks to Cut Thin Wall and Deep Pocket Parts
- And More...

AL3-303 SPEEDS & FEEDS use 70% CLPT for AL3-304 (long) and AL3-305 (extra long)

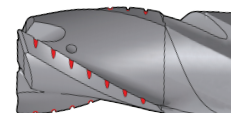
Tool Diameter	Aluminum 6061-T6		Aluminum 6061-T3		Aluminum 7075		Aluminum 2024	
	RPM	CLPT	RPM	CLPT	RPM	CLPT	RPM	CLPT
1/8"	Max	0.0020"	Max	0.0018"	Max	0.0020"	Max	0.0020"
3/16"	Max	0.0030"	Max	0.0026"	Max	0.0030"	Max	0.0030"
1/4"	Max	0.0040"	Max	0.0035"	Max	0.0040"	Max	0.0040"
5/16"	Max	0.0050"	Max	0.0044"	Max	0.0050"	Max	0.0050"
3/8"	Max	0.0060"	Max	0.0053"	Max	0.0060"	Max	0.0060"
1/2"	Max	0.0080"	Max	0.0070"	Max	0.0080"	Max	0.0080"
5/8"	Max	0.0100"	Max	0.0088"	Max	0.0100"	Max	0.0100"
3/4"	Max	0.0120"	Max	0.0105"	Max	0.0120"	Max	0.0120"
1"	Max	0.0160"	Max	0.0140"	Max	0.0160"	Max	0.0160"

Don't just use the tip of the tool on longer length tools.
Make sure to engage most of the cutting edges.

Spring passes with Long length and extra long length tools might be needed to improve finish and deflection.
We tested up to 4 spring passes without problems with AL3-305 series using the entire cutting length.



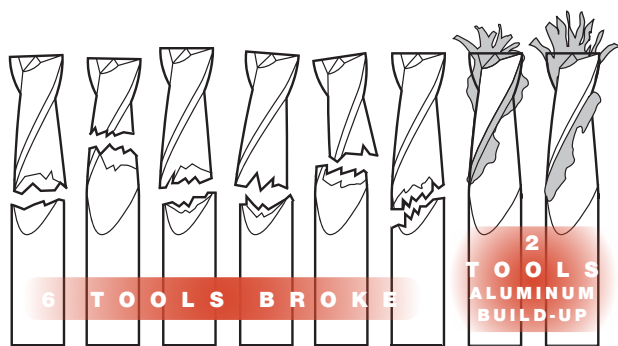
Chip Breakers



All AL3-304 (Long Length) and AL3-305 (Extra Long Length) come standard with Chip Breakers to control chips!

AL3-303

The **Only** Tool That Could Make the Part*



**8 Other High-Performance Tools
(Tried and Failed)**

* Automotive aluminum part: No chatter, superfast feed rates, very high production 450 ipm in an aluminum extrusion.

VS.



**MAX RPM!
MAX Feed Rate!
No Chatter!**



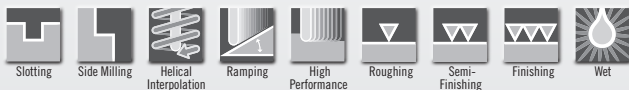
**1 RJ AL3-303
Tool**

AL3 3 Flute High Performance Aluminum Carbide End Mill

Characteristics



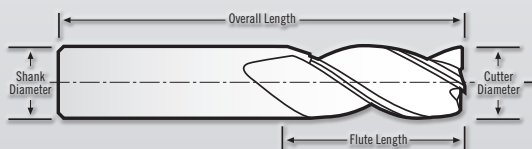
Applications



Materials



Coatings



AL3 Series Tolerances:

Cutting Dia. = $-.0007/-0.0015$ "
 Shank Dia. = $-.0001/-0.0002$ "
 Flute Length = $+.060/-0.000$ "
 OAL = $+/- .060$ "

**Eliminate
Tool Pull Out!**

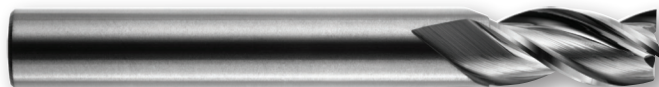
ALL Tools h4 Shank Tolerance
up to 150% more gripping force

**Tightest in the
Industry!**

**NEXT
GENERATION**

**Mirror
Edge!**

Eliminates Chatter
& Vibration



NEW!

AL3 3 Flute

	Cutting Diam.	Shank Diam.	Flute Length	Corner radius	Overall Length	Uncoated	DLC Coated	Thru Coolant Uncoated	Thru Coolant DLC Coated	
STANDARD	0.125	0.125	0.375	Sharp Corner	1.5	AL3-303-04	AL3-303-04-DLC	AL3-303-04-TC*	AL3-303-04-TC-DLC*	1/8" DIAMETER
	0.125	0.125	0.375	0.01	1.5	AL3-303-04-010	AL3-303-04-010-DLC	AL3-303-04-010-TC*	AL3-303-04-010-TC-DLC*	
	0.125	0.125	0.375	0.03	1.5	AL3-303-04-030	AL3-303-04-030-DLC	AL3-303-04-030-TC*	AL3-303-04-030-TC-DLC*	
	0.125	0.125	0.375	0.062	1.5	AL3-303-04-BN	AL3-303-04-BN-DLC			
LONG	0.125	0.125	0.625	Sharp Corner	2	AL3-304-04	AL3-304-04-DLC	AL3-304-04-TC*	AL3-304-04-TC-DLC*	
	0.125	0.125	0.625	0.01	2	AL3-304-04-010	AL3-304-04-010-DLC	AL3-304-04-010-TC*	AL3-304-04-010-TC-DLC*	
	0.125	0.125	0.625	0.03	2	AL3-304-04-030	AL3-304-04-030-DLC	AL3-304-04-030-TC*	AL3-304-04-030-TC-DLC*	
	0.125	0.125	0.625	0.062	2	AL3-304-04-BN	AL3-304-04-BN-DLC			
EXTRA LONG	0.125	0.125	1	Sharp Corner	2	AL3-305-04	AL3-305-04-DLC	AL3-305-04-TC*	AL3-305-04-TC-DLC*	
	0.125	0.125	1	0.01	2	AL3-305-04-010	AL3-305-04-010-DLC	AL3-305-04-010-TC*	AL3-305-04-010-TC-DLC*	
	0.125	0.125	1	0.03	2	AL3-305-04-030	AL3-305-04-030-DLC	AL3-305-04-030-TC*	AL3-305-04-030-TC-DLC*	
	0.125	0.125	1	0.062	2	AL3-305-04-BN	AL3-305-04-BN-DLC			
STANDARD	0.1875	0.1875	0.563	Sharp Corner	2	AL3-303-06	AL3-303-06-DLC	AL3-303-06-TC*	AL3-303-06-TC-DLC*	3/16" DIAMETER
	0.1875	0.1875	0.563	0.01	2	AL3-303-06-010	AL3-303-06-010-DLC	AL3-303-06-010-TC*	AL3-303-06-010-TC-DLC*	
	0.1875	0.1875	0.563	0.03	2	AL3-303-06-030	AL3-303-06-030-DLC	AL3-303-06-030-TC*	AL3-303-06-030-TC-DLC*	
	0.1875	0.1875	0.563	0.06	2	AL3-303-06-060	AL3-303-06-060-DLC	AL3-303-06-060-TC*	AL3-303-06-060-TC-DLC*	
	0.1875	0.1875	0.563	0.094	2	AL3-303-06-BN	AL3-303-06-BN-DLC			
LONG	0.1875	0.1875	0.75	Sharp Corner	2	AL3-304-06	AL3-304-06-DLC	AL3-304-06-TC*	AL3-304-06-TC-DLC*	
	0.1875	0.1875	0.75	0.01	2	AL3-304-06-010	AL3-304-06-010-DLC	AL3-304-06-010-TC*	AL3-304-06-010-TC-DLC*	
	0.1875	0.1875	0.75	0.03	2	AL3-304-06-030	AL3-304-06-030-DLC	AL3-304-06-030-TC*	AL3-304-06-030-TC-DLC*	
	0.1875	0.1875	0.75	0.06	2	AL3-304-06-060	AL3-304-06-060-DLC	AL3-304-06-060-TC*	AL3-304-06-060-TC-DLC*	
	0.1875	0.1875	0.75	0.094	2	AL3-304-06-BN	AL3-304-06-BN-DLC			

* non center cutting single thru hole 1/8" and 3/16"

NEW!

Aluminum

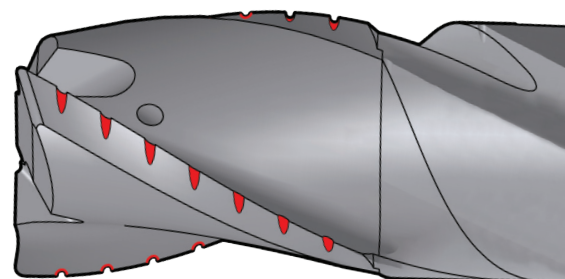
AL3 3 Flute – continued

	Cutting Diam.	Shank Diam.	Flute Length	Corner radius	Overall Length	Uncoated	DLC Coated	Thru Coolant Uncoated	Thru Coolant DLC Coated	
EXTRA LONG	0.1875	0.1875	1	Sharp Corner	2.5	AL3-305-06	AL3-305-06-DLC	AL3-305-06-TC*	AL3-305-06-TC-DLC*	3/16" DIAMETER
	0.1875	0.1875	1	0.01	2.5	AL3-305-06-010	AL3-305-06-010-DLC	AL3-305-06-010-TC*	AL3-305-06-010-TC-DLC*	
	0.1875	0.1875	1	0.03	2.5	AL3-305-06-030	AL3-305-06-030-DLC	AL3-305-06-030-TC*	AL3-305-06-030-TC-DLC*	
	0.1875	0.1875	1	0.06	2.5	AL3-305-06-060	AL3-305-06-060-DLC	AL3-305-06-060-TC*	AL3-305-06-060-TC-DLC*	
	0.1875	0.1875	1	0.094	2.5	AL3-305-06-BN	AL3-305-06-BN-DLC			
STANDARD	0.25	0.25	0.75	Sharp Corner	2.5	AL3-303-08	AL3-303-08-DLC	AL3-303-08-TC	AL3-303-08-TC-DLC	1/4" DIAMETER
	0.25	0.25	0.75	0.01	2.5	AL3-303-08-010	AL3-303-08-010-DLC	AL3-303-08-010-TC	AL3-303-08-010-TC-DLC	
	0.25	0.25	0.75	0.03	2.5	AL3-303-08-030	AL3-303-08-030-DLC	AL3-303-08-030-TC	AL3-303-08-030-TC-DLC	
	0.25	0.25	0.75	0.06	2.5	AL3-303-08-060	AL3-303-08-060-DLC	AL3-303-08-060-TC	AL3-303-08-060-TC-DLC	
	0.25	0.25	0.75	0.09	2.5	AL3-303-08-090	AL3-303-08-090-DLC	AL3-303-08-090-TC	AL3-303-08-090-TC-DLC	
	0.25	0.25	0.75	0.125	2.5	AL3-303-08-BN	AL3-303-08-BN-DLC	AL3-303-08-BN-TC	AL3-303-08-BN-TC-DLC	
LONG	0.25	0.25	1	Sharp Corner	3	AL3-304-08	AL3-304-08-DLC	AL3-304-08-TC	AL3-304-08-TC-DLC	5/16" DIAMETER
	0.25	0.25	1	0.01	3	AL3-304-08-010	AL3-304-08-010-DLC	AL3-304-08-010-TC	AL3-304-08-010-TC-DLC	
	0.25	0.25	1	0.03	3	AL3-304-08-030	AL3-304-08-030-DLC	AL3-304-08-030-TC	AL3-304-08-030-TC-DLC	
	0.25	0.25	1	0.06	3	AL3-304-08-060	AL3-304-08-060-DLC	AL3-304-08-060-TC	AL3-304-08-060-TC-DLC	
	0.25	0.25	1	0.09	3	AL3-304-08-090	AL3-304-08-090-DLC	AL3-304-08-090-TC	AL3-304-08-090-TC-DLC	
	0.25	0.25	1	0.125	3	AL3-304-08-BN	AL3-304-08-BN-DLC	AL3-304-08-BN-TC	AL3-304-08-BN-TC-DLC	
EXTRA LONG	0.25	0.25	1.25	Sharp Corner	3	AL3-305-08	AL3-305-08-DLC	AL3-305-08-TC	AL3-305-08-TC-DLC	5/16" DIAMETER
	0.25	0.25	1.25	0.01	3	AL3-305-08-010	AL3-305-08-010-DLC	AL3-305-08-010-TC	AL3-305-08-010-TC-DLC	
	0.25	0.25	1.25	0.03	3	AL3-305-08-030	AL3-305-08-030-DLC	AL3-305-08-030-TC	AL3-305-08-030-TC-DLC	
	0.25	0.25	1.25	0.06	3	AL3-305-08-060	AL3-305-08-060-DLC	AL3-305-08-060-TC	AL3-305-08-060-TC-DLC	
	0.25	0.25	1.25	0.09	3	AL3-305-08-090	AL3-305-08-090-DLC	AL3-305-08-090-TC	AL3-305-08-090-TC-DLC	
	0.25	0.25	1.25	0.125	3	AL3-305-08-BN	AL3-305-08-BN-DLC	AL3-305-08-BN-TC	AL3-305-08-BN-TC-DLC	
STANDARD	0.3125	0.3125	0.938	Sharp Corner	2.5	AL3-303-10	AL3-303-10-DLC	AL3-303-10-TC	AL3-303-10-TC-DLC	5/16" DIAMETER
	0.3125	0.3125	0.938	0.01	2.5	AL3-303-10-010	AL3-303-10-010-DLC	AL3-303-10-010-TC	AL3-303-10-010-TC-DLC	
	0.3125	0.3125	0.938	0.03	2.5	AL3-303-10-030	AL3-303-10-030-DLC	AL3-303-10-030-TC	AL3-303-10-030-TC-DLC	
	0.3125	0.3125	0.938	0.06	2.5	AL3-303-10-060	AL3-303-10-060-DLC	AL3-303-10-060-TC	AL3-303-10-060-TC-DLC	
	0.3125	0.3125	0.938	0.09	2.5	AL3-303-10-090	AL3-303-10-090-DLC	AL3-303-10-090-TC	AL3-303-10-090-TC-DLC	
	0.3125	0.3125	0.938	0.12	2.5	AL3-303-10-120	AL3-303-10-120-DLC	AL3-303-10-120-TC	AL3-303-10-120-TC-DLC	
	0.3125	0.3125	0.938	0.156	2.5	AL3-303-10-BN	AL3-303-10-BN-DLC	AL3-303-10-BN-TC	AL3-303-10-BN-TC-DLC	
LONG	0.3125	0.3125	1.25	Sharp Corner	3	AL3-304-10	AL3-304-10-DLC	AL3-304-10-TC	AL3-304-10-TC-DLC	5/16" DIAMETER
	0.3125	0.3125	1.25	0.01	3	AL3-304-10-010	AL3-304-10-010-DLC	AL3-304-10-010-TC	AL3-304-10-010-TC-DLC	
	0.3125	0.3125	1.25	0.03	3	AL3-304-10-030	AL3-304-10-030-DLC	AL3-304-10-030-TC	AL3-304-10-030-TC-DLC	
	0.3125	0.3125	1.25	0.06	3	AL3-304-10-060	AL3-304-10-060-DLC	AL3-304-10-060-TC	AL3-304-10-060-TC-DLC	
	0.3125	0.3125	1.25	0.09	3	AL3-304-10-090	AL3-304-10-090-DLC	AL3-304-10-090-TC	AL3-304-10-090-TC-DLC	
	0.3125	0.3125	1.25	0.12	3	AL3-304-10-120	AL3-304-10-120-DLC	AL3-304-10-120-TC	AL3-304-10-120-TC-DLC	
	0.3125	0.3125	1.25	0.156	3	AL3-304-10-BN	AL3-304-10-BN-DLC	AL3-304-10-BN-TC	AL3-304-10-BN-TC-DLC	

* non center cutting single thru hole 1/8" and 3/16"

Chip Breakers

All AL3-304 (Long Length) and AL3-305 (Extra Long Length) come standard with Chip Breakers to control chips!



	Cutting Diam.	Shank Diam.	Flute Length	Corner radius	Overall Length	Uncoated	DLC Coated	Thru Coolant Uncoated	Thru Coolant DLC Coated	
EXTRA LONG	0.3125	0.3125	1.563	Sharp Corner	3	AL3-305-10	AL3-305-10-DLC	AL3-305-10-TC	AL3-305-10-TC-DLC	5/16" DIAMETER
	0.3125	0.3125	1.563	0.01	3	AL3-305-10-010	AL3-305-10-010-DLC	AL3-305-10-010-TC	AL3-305-10-010-TC-DLC	
	0.3125	0.3125	1.563	0.03	3	AL3-305-10-030	AL3-305-10-030-DLC	AL3-305-10-030-TC	AL3-305-10-030-TC-DLC	
	0.3125	0.3125	1.563	0.06	3	AL3-305-10-060	AL3-305-10-060-DLC	AL3-305-10-060-TC	AL3-305-10-060-TC-DLC	
	0.3125	0.3125	1.563	0.09	3	AL3-305-10-090	AL3-305-10-090-DLC	AL3-305-10-090-TC	AL3-305-10-090-TC-DLC	
	0.3125	0.3125	1.563	0.12	3	AL3-305-10-120	AL3-305-10-120-DLC	AL3-305-10-120-TC	AL3-305-10-120-TC-DLC	
	0.3125	0.3125	1.563	0.156	3	AL3-305-10-BN	AL3-305-10-BN-DLC	AL3-305-10-BN-TC	AL3-305-10-BN-TC-DLC	
STANDARD	0.375	0.375	1.125	Sharp Corner	3	AL3-303-12	AL3-303-12-DLC	AL3-303-12-TC	AL3-303-12-TC-DLC	3/8" DIAMETER
	0.375	0.375	1.125	0.01	3	AL3-303-12-010	AL3-303-12-010-DLC	AL3-303-12-010-TC	AL3-303-12-010-TC-DLC	
	0.375	0.375	1.125	0.03	3	AL3-303-12-030	AL3-303-12-030-DLC	AL3-303-12-030-TC	AL3-303-12-030-TC-DLC	
	0.375	0.375	1.125	0.06	3	AL3-303-12-060	AL3-303-12-060-DLC	AL3-303-12-060-TC	AL3-303-12-060-TC-DLC	
	0.375	0.375	1.125	0.09	3	AL3-303-12-090	AL3-303-12-090-DLC	AL3-303-12-090-TC	AL3-303-12-090-TC-DLC	
	0.375	0.375	1.125	0.12	3	AL3-303-12-120	AL3-303-12-120-DLC	AL3-303-12-120-TC	AL3-303-12-120-TC-DLC	
	0.375	0.375	1.125	0.1875	3	AL3-303-12-BN	AL3-303-12-BN-DLC	AL3-303-12-BN-TC	AL3-303-12-BN-TC-DLC	
LONG	0.375	0.375	1.5	Sharp Corner	3.5	AL3-304-12	AL3-304-12-DLC	AL3-304-12-TC	AL3-304-12-TC-DLC	
	0.375	0.375	1.5	0.01	3.5	AL3-304-12-010	AL3-304-12-010-DLC	AL3-304-12-010-TC	AL3-304-12-010-TC-DLC	
	0.375	0.375	1.5	0.03	3.5	AL3-304-12-030	AL3-304-12-030-DLC	AL3-304-12-030-TC	AL3-304-12-030-TC-DLC	
	0.375	0.375	1.5	0.06	3.5	AL3-304-12-060	AL3-304-12-060-DLC	AL3-304-12-060-TC	AL3-304-12-060-TC-DLC	
	0.375	0.375	1.5	0.09	3.5	AL3-304-12-090	AL3-304-12-090-DLC	AL3-304-12-090-TC	AL3-304-12-090-TC-DLC	
	0.375	0.375	1.5	0.12	3.5	AL3-304-12-120	AL3-304-12-120-DLC	AL3-304-12-120-TC	AL3-304-12-120-TC-DLC	
	0.375	0.375	1.5	0.1875	3.5	AL3-304-12-BN	AL3-304-12-BN-DLC	AL3-304-12-BN-TC	AL3-304-12-BN-TC-DLC	
EXTRA LONG	0.375	0.375	1.875	Sharp Corner	3.5	AL3-305-12	AL3-305-12-DLC	AL3-305-12-TC	AL3-305-12-TC-DLC	
	0.375	0.375	1.875	0.01	3.5	AL3-305-12-010	AL3-305-12-010-DLC	AL3-305-12-010-TC	AL3-305-12-010-TC-DLC	
	0.375	0.375	1.875	0.03	3.5	AL3-305-12-030	AL3-305-12-030-DLC	AL3-305-12-030-TC	AL3-305-12-030-TC-DLC	
	0.375	0.375	1.875	0.06	3.5	AL3-305-12-060	AL3-305-12-060-DLC	AL3-305-12-060-TC	AL3-305-12-060-TC-DLC	
	0.375	0.375	1.875	0.09	3.5	AL3-305-12-090	AL3-305-12-090-DLC	AL3-305-12-090-TC	AL3-305-12-090-TC-DLC	
	0.375	0.375	1.875	0.12	3.5	AL3-305-12-120	AL3-305-12-120-DLC	AL3-305-12-120-TC	AL3-305-12-120-TC-DLC	
	0.375	0.375	1.875	0.1875	3.5	AL3-305-12-BN	AL3-305-12-BN-DLC	AL3-305-12-BN-TC	AL3-305-12-BN-TC-DLC	
STANDARD	0.5	0.5	1.5	Sharp Corner	3.5	AL3-303-16	AL3-303-16-DLC	AL3-303-16-TC	AL3-303-16-TC-DLC	1/2" DIAMETER
	0.5	0.5	1.5	0.01	3.5	AL3-303-16-010	AL3-303-16-010-DLC	AL3-303-16-010-TC	AL3-303-16-010-TC-DLC	
	0.5	0.5	1.5	0.03	3.5	AL3-303-16-030	AL3-303-16-030-DLC	AL3-303-16-030-TC	AL3-303-16-030-TC-DLC	
	0.5	0.5	1.5	0.06	3.5	AL3-303-16-060	AL3-303-16-060-DLC	AL3-303-16-060-TC	AL3-303-16-060-TC-DLC	
	0.5	0.5	1.5	0.09	3.5	AL3-303-16-090	AL3-303-16-090-DLC	AL3-303-16-090-TC	AL3-303-16-090-TC-DLC	
	0.5	0.5	1.5	0.12	3.5	AL3-303-16-120	AL3-303-16-120-DLC	AL3-303-16-120-TC	AL3-303-16-120-TC-DLC	
	0.5	0.5	1.5	0.19	3.5	AL3-303-16-190	AL3-303-16-190-DLC	AL3-303-16-190-TC	AL3-303-16-190-TC-DLC	
	0.5	0.5	1.5	0.25	3.5	AL3-303-16-BN	AL3-303-16-BN-DLC	AL3-303-16-BN-TC	AL3-303-16-BN-TC-DLC	
LONG	0.5	0.5	2	Sharp Corner	4	AL3-304-16	AL3-304-16-DLC	AL3-304-16-TC	AL3-304-16-TC-DLC	
	0.5	0.5	2	0.01	4	AL3-304-16-010	AL3-304-16-010-DLC	AL3-304-16-010-TC	AL3-304-16-010-TC-DLC	
	0.5	0.5	2	0.03	4	AL3-304-16-030	AL3-304-16-030-DLC	AL3-304-16-030-TC	AL3-304-16-030-TC-DLC	
	0.5	0.5	2	0.06	4	AL3-304-16-060	AL3-304-16-060-DLC	AL3-304-16-060-TC	AL3-304-16-060-TC-DLC	
	0.5	0.5	2	0.09	4	AL3-304-16-090	AL3-304-16-090-DLC	AL3-304-16-090-TC	AL3-304-16-090-TC-DLC	
	0.5	0.5	2	0.12	4	AL3-304-16-120	AL3-304-16-120-DLC	AL3-304-16-120-TC	AL3-304-16-120-TC-DLC	
	0.5	0.5	2	0.19	4	AL3-304-16-190	AL3-304-16-190-DLC	AL3-304-16-190-TC	AL3-304-16-190-TC-DLC	
	0.5	0.5	2	0.25	4	AL3-304-16-BN	AL3-304-16-BN-DLC	AL3-304-16-BN-TC	AL3-304-16-BN-TC-DLC	

NEW!

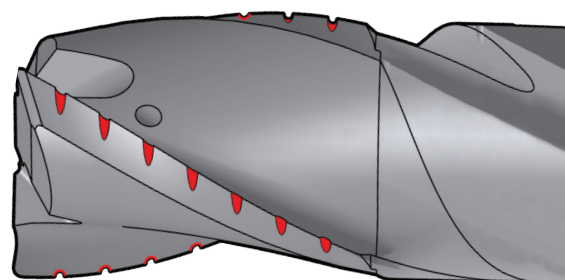
Aluminum

AL3 3 Flute – continued

	Cutting Diam.	Shank Diam.	Flute Length	Corner radius	Overall Length	Uncoated	DLC Coated	Thru Coolant Uncoated	Thru Coolant DLC Coated	
EXTRA LONG	0.5	0.5	2.5	Sharp Corner	4.5	AL3-305-16	AL3-305-16-DLC	AL3-305-16-TC	AL3-305-16-TC-DLC	1/2" DIAMETER
	0.5	0.5	2.5	0.01	4.5	AL3-305-16-010	AL3-305-16-010-DLC	AL3-305-16-010-TC	AL3-305-16-010-TC-DLC	
	0.5	0.5	2.5	0.03	4.5	AL3-305-16-030	AL3-305-16-030-DLC	AL3-305-16-030-TC	AL3-305-16-030-TC-DLC	
	0.5	0.5	2.5	0.06	4.5	AL3-305-16-060	AL3-305-16-060-DLC	AL3-305-16-060-TC	AL3-305-16-060-TC-DLC	
	0.5	0.5	2.5	0.09	4.5	AL3-305-16-090	AL3-305-16-090-DLC	AL3-305-16-090-TC	AL3-305-16-090-TC-DLC	
	0.5	0.5	2.5	0.12	4.5	AL3-305-16-120	AL3-305-16-120-DLC	AL3-305-16-120-TC	AL3-305-16-120-TC-DLC	
	0.5	0.5	2.5	0.19	4.5	AL3-305-16-190	AL3-305-16-190-DLC	AL3-305-16-190-TC	AL3-305-16-190-TC-DLC	
	0.5	0.5	2.5	0.25	4.5	AL3-305-16-BN	AL3-305-16-BN-DLC	AL3-305-16-BN-TC	AL3-305-16-BN-TC-DLC	
STANDARD	0.625	0.625	1.875	Sharp Corner	4	AL3-303-20	AL3-303-20-DLC	AL3-303-20-TC	AL3-303-20-TC-DLC	5/8" DIAMETER
	0.625	0.625	1.875	0.01	4	AL3-303-20-010	AL3-303-20-010-DLC	AL3-303-20-010-TC	AL3-303-20-010-TC-DLC	
	0.625	0.625	1.875	0.03	4	AL3-303-20-030	AL3-303-20-030-DLC	AL3-303-20-030-TC	AL3-303-20-030-TC-DLC	
	0.625	0.625	1.875	0.06	4	AL3-303-20-060	AL3-303-20-060-DLC	AL3-303-20-060-TC	AL3-303-20-060-TC-DLC	
	0.625	0.625	1.875	0.09	4	AL3-303-20-090	AL3-303-20-090-DLC	AL3-303-20-090-TC	AL3-303-20-090-TC-DLC	
	0.625	0.625	1.875	0.12	4	AL3-303-20-120	AL3-303-20-120-DLC	AL3-303-20-120-TC	AL3-303-20-120-TC-DLC	
	0.625	0.625	1.875	0.19	4	AL3-303-20-190	AL3-303-20-190-DLC	AL3-303-20-190-TC	AL3-303-20-190-TC-DLC	
	0.625	0.625	1.875	0.25	4	AL3-303-20-250	AL3-303-20-250-DLC	AL3-303-20-250-TC	AL3-303-20-250-TC-DLC	
	0.625	0.625	1.875	0.3125	4	AL3-303-20-BN	AL3-303-20-BN-DLC	AL3-303-20-BN-TC	AL3-303-20-BN-TC-DLC	
LONG	0.625	0.625	2.5	Sharp Corner	4.5	AL3-304-20	AL3-304-20-DLC	AL3-304-20-TC	AL3-304-20-TC-DLC	5/8" DIAMETER
	0.625	0.625	2.5	0.01	4.5	AL3-304-20-010	AL3-304-20-010-DLC	AL3-304-20-010-TC	AL3-304-20-010-TC-DLC	
	0.625	0.625	2.5	0.03	4.5	AL3-304-20-030	AL3-304-20-030-DLC	AL3-304-20-030-TC	AL3-304-20-030-TC-DLC	
	0.625	0.625	2.5	0.06	4.5	AL3-304-20-060	AL3-304-20-060-DLC	AL3-304-20-060-TC	AL3-304-20-060-TC-DLC	
	0.625	0.625	2.5	0.09	4.5	AL3-304-20-090	AL3-304-20-090-DLC	AL3-304-20-090-TC	AL3-304-20-090-TC-DLC	
	0.625	0.625	2.5	0.12	4.5	AL3-304-20-120	AL3-304-20-120-DLC	AL3-304-20-120-TC	AL3-304-20-120-TC-DLC	
	0.625	0.625	2.5	0.19	4.5	AL3-304-20-190	AL3-304-20-190-DLC	AL3-304-20-190-TC	AL3-304-20-190-TC-DLC	
	0.625	0.625	2.5	0.25	4.5	AL3-304-20-250	AL3-304-20-250-DLC	AL3-304-20-250-TC	AL3-304-20-250-TC-DLC	
	0.625	0.625	2.5	0.3125	4.5	AL3-304-20-BN	AL3-304-20-BN-DLC	AL3-304-20-BN-TC	AL3-304-20-BN-TC-DLC	
EXTRA LONG	0.625	0.625	3.125	Sharp Corner	5	AL3-305-20	AL3-305-20-DLC	AL3-305-20-TC	AL3-305-20-TC-DLC	5/8" DIAMETER
	0.625	0.625	3.125	0.01	5	AL3-305-20-010	AL3-305-20-010-DLC	AL3-305-20-010-TC	AL3-305-20-010-TC-DLC	
	0.625	0.625	3.125	0.03	5	AL3-305-20-030	AL3-305-20-030-DLC	AL3-305-20-030-TC	AL3-305-20-030-TC-DLC	
	0.625	0.625	3.125	0.06	5	AL3-305-20-060	AL3-305-20-060-DLC	AL3-305-20-060-TC	AL3-305-20-060-TC-DLC	
	0.625	0.625	3.125	0.09	5	AL3-305-20-090	AL3-305-20-090-DLC	AL3-305-20-090-TC	AL3-305-20-090-TC-DLC	
	0.625	0.625	3.125	0.12	5	AL3-305-20-120	AL3-305-20-120-DLC	AL3-305-20-120-TC	AL3-305-20-120-TC-DLC	
	0.625	0.625	3.125	0.19	5	AL3-305-20-190	AL3-305-20-190-DLC	AL3-305-20-190-TC	AL3-305-20-190-TC-DLC	
	0.625	0.625	3.125	0.25	5	AL3-305-20-250	AL3-305-20-250-DLC	AL3-305-20-250-TC	AL3-305-20-250-TC-DLC	
	0.625	0.625	3.125	0.3125	5	AL3-305-20-BN	AL3-305-20-BN-DLC	AL3-305-20-BN-TC	AL3-305-20-BN-TC-DLC	

Chip Breakers

All AL3-304 (Long Length) and AL3-305 (Extra Long Length) come standard with Chip Breakers to control chips!



AL3 3 Flute High Performance Aluminum Carbide End Mill

AL3 3 Flute – continued



	Cutting Diam.	Shank Diam.	Flute Length	Corner radius	Overall Length	Uncoated	DLC Coated	Thru Coolant Uncoated	Thru Coolant DLC Coated	
STANDARD	0.75	0.75	2.25	Sharp Corner	4.5	AL3-303-24	AL3-303-24-DLC	AL3-303-24-TC	AL3-303-24-TC-DLC	3/4" DIAMETER
	0.75	0.75	2.25	0.01	4.5	AL3-303-24-010	AL3-303-24-010-DLC	AL3-303-24-010-TC	AL3-303-24-010-TC-DLC	
	0.75	0.75	2.25	0.03	4.5	AL3-303-24-030	AL3-303-24-030-DLC	AL3-303-24-030-TC	AL3-303-24-030-TC-DLC	
	0.75	0.75	2.25	0.06	4.5	AL3-303-24-060	AL3-303-24-060-DLC	AL3-303-24-060-TC	AL3-303-24-060-TC-DLC	
	0.75	0.75	2.25	0.09	4.5	AL3-303-24-090	AL3-303-24-090-DLC	AL3-303-24-090-TC	AL3-303-24-090-TC-DLC	
	0.75	0.75	2.25	0.12	4.5	AL3-303-24-120	AL3-303-24-120-DLC	AL3-303-24-120-TC	AL3-303-24-120-TC-DLC	
	0.75	0.75	2.25	0.19	4.5	AL3-303-24-190	AL3-303-24-190-DLC	AL3-303-24-190-TC	AL3-303-24-190-TC-DLC	
	0.75	0.75	2.25	0.25	4.5	AL3-303-24-250	AL3-303-24-250-DLC	AL3-303-24-250-TC	AL3-303-24-250-TC-DLC	
	0.75	0.75	2.25	0.375	4.5	AL3-303-24-BN	AL3-303-24-BN-DLC	AL3-303-24-BN-TC	AL3-303-24-BN-TC-DLC	
LONG	0.75	0.75	3	Sharp Corner	5	AL3-304-24	AL3-304-24-DLC	AL3-304-24-TC	AL3-304-24-TC-DLC	3/4" DIAMETER
	0.75	0.75	3	0.01	5	AL3-304-24-010	AL3-304-24-010-DLC	AL3-304-24-010-TC	AL3-304-24-010-TC-DLC	
	0.75	0.75	3	0.03	5	AL3-304-24-030	AL3-304-24-030-DLC	AL3-304-24-030-TC	AL3-304-24-030-TC-DLC	
	0.75	0.75	3	0.06	5	AL3-304-24-060	AL3-304-24-060-DLC	AL3-304-24-060-TC	AL3-304-24-060-TC-DLC	
	0.75	0.75	3	0.09	5	AL3-304-24-090	AL3-304-24-090-DLC	AL3-304-24-090-TC	AL3-304-24-090-TC-DLC	
	0.75	0.75	3	0.12	5	AL3-304-24-120	AL3-304-24-120-DLC	AL3-304-24-120-TC	AL3-304-24-120-TC-DLC	
	0.75	0.75	3	0.19	5	AL3-304-24-190	AL3-304-24-190-DLC	AL3-304-24-190-TC	AL3-304-24-190-TC-DLC	
	0.75	0.75	3	0.25	5	AL3-304-24-250	AL3-304-24-250-DLC	AL3-304-24-250-TC	AL3-304-24-250-TC-DLC	
	0.75	0.75	3	0.375	5	AL3-304-24-BN	AL3-304-24-BN-DLC	AL3-304-24-BN-TC	AL3-304-24-BN-TC-DLC	
EXTRA LONG	0.75	0.75	3.75	Sharp Corner	6	AL3-305-24	AL3-305-24-DLC	AL3-305-24-TC	AL3-305-24-TC-DLC	3/4" DIAMETER
	0.75	0.75	3.75	0.01	6	AL3-305-24-010	AL3-305-24-010-DLC	AL3-305-24-010-TC	AL3-305-24-010-TC-DLC	
	0.75	0.75	3.75	0.03	6	AL3-305-24-030	AL3-305-24-030-DLC	AL3-305-24-030-TC	AL3-305-24-030-TC-DLC	
	0.75	0.75	3.75	0.06	6	AL3-305-24-060	AL3-305-24-060-DLC	AL3-305-24-060-TC	AL3-305-24-060-TC-DLC	
	0.75	0.75	3.75	0.09	6	AL3-305-24-090	AL3-305-24-090-DLC	AL3-305-24-090-TC	AL3-305-24-090-TC-DLC	
	0.75	0.75	3.75	0.12	6	AL3-305-24-120	AL3-305-24-120-DLC	AL3-305-24-120-TC	AL3-305-24-120-TC-DLC	
	0.75	0.75	3.75	0.19	6	AL3-305-24-190	AL3-305-24-190-DLC	AL3-305-24-190-TC	AL3-305-24-190-TC-DLC	
	0.75	0.75	3.75	0.25	6	AL3-305-24-250	AL3-305-24-250-DLC	AL3-305-24-250-TC	AL3-305-24-250-TC-DLC	
	0.75	0.75	3.75	0.375	6	AL3-305-24-BN	AL3-305-24-BN-DLC	AL3-305-24-BN-TC	AL3-305-24-BN-TC-DLC	
STANDARD	1	1	3	Sharp Corner	5	AL3-303-32	AL3-303-32-DLC	AL3-303-32-TC	AL3-303-32-TC-DLC	1" DIAMETER
	1	1	3	0.01	5	AL3-303-32-010	AL3-303-32-010-DLC	AL3-303-32-010-TC	AL3-303-32-010-TC-DLC	
	1	1	3	0.03	5	AL3-303-32-030	AL3-303-32-030-DLC	AL3-303-32-030-TC	AL3-303-32-030-TC-DLC	
	1	1	3	0.06	5	AL3-303-32-060	AL3-303-32-060-DLC	AL3-303-32-060-TC	AL3-303-32-060-TC-DLC	
	1	1	3	0.09	5	AL3-303-32-090	AL3-303-32-090-DLC	AL3-303-32-090-TC	AL3-303-32-090-TC-DLC	
	1	1	3	0.12	5	AL3-303-32-120	AL3-303-32-120-DLC	AL3-303-32-120-TC	AL3-303-32-120-TC-DLC	
	1	1	3	0.19	5	AL3-303-32-190	AL3-303-32-190-DLC	AL3-303-32-190-TC	AL3-303-32-190-TC-DLC	
	1	1	3	0.25	5	AL3-303-32-250	AL3-303-32-250-DLC	AL3-303-32-250-TC	AL3-303-32-250-TC-DLC	
	1	1	3	0.5	5	AL3-303-32-BN	AL3-303-32-BN-DLC	AL3-303-32-BN-TC	AL3-303-32-BN-TC-DLC	
LONG	1	1	4	Sharp Corner	7	AL3-304-32	AL3-304-32-DLC	AL3-304-32-TC	AL3-304-32-TC-DLC	1" DIAMETER
	1	1	4	0.01	7	AL3-304-32-010	AL3-304-32-010-DLC	AL3-304-32-010-TC	AL3-304-32-010-TC-DLC	
	1	1	4	0.03	7	AL3-304-32-030	AL3-304-32-030-DLC	AL3-304-32-030-TC	AL3-304-32-030-TC-DLC	
	1	1	4	0.06	7	AL3-304-32-060	AL3-304-32-060-DLC	AL3-304-32-060-TC	AL3-304-32-060-TC-DLC	
	1	1	4	0.09	7	AL3-304-32-090	AL3-304-32-090-DLC	AL3-304-32-090-TC	AL3-304-32-090-TC-DLC	
	1	1	4	0.12	7	AL3-304-32-120	AL3-304-32-120-DLC	AL3-304-32-120-TC	AL3-304-32-120-TC-DLC	
	1	1	4	0.19	7	AL3-304-32-190	AL3-304-32-190-DLC	AL3-304-32-190-TC	AL3-304-32-190-TC-DLC	
	1	1	4	0.25	7	AL3-304-32-250	AL3-304-32-250-DLC	AL3-304-32-250-TC	AL3-304-32-250-TC-DLC	
	1	1	4	0.5	7	AL3-304-32-BN	AL3-304-32-BN-DLC	AL3-304-32-BN-TC	AL3-304-32-BN-TC-DLC	

NEW!

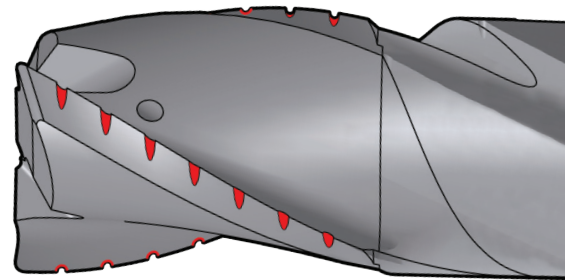
Aluminum

AL3 3 Flute – continued

EXTRA LONG	Cutting Diam.	Shank Diam.	Flute Length	Corner radius	Overall Length	Uncoated	DLC Coated	Thru Coolant Uncoated	Thru Coolant DLC Coated	1" DIAMETER
	1	1	5	Sharp Corner	8	AL3-305-32	AL3-305-32-DLC	AL3-305-32-TC	AL3-305-32-TC-DLC	
	1	1	5	0.01	8	AL3-305-32-010	AL3-305-32-010-DLC	AL3-305-32-010-TC	AL3-305-32-010-TC-DLC	
	1	1	5	0.03	8	AL3-305-32-030	AL3-305-32-030-DLC	AL3-305-32-030-TC	AL3-305-32-030-TC-DLC	
	1	1	5	0.06	8	AL3-305-32-060	AL3-305-32-060-DLC	AL3-305-32-060-TC	AL3-305-32-060-TC-DLC	
	1	1	5	0.09	8	AL3-305-32-090	AL3-305-32-090-DLC	AL3-305-32-090-TC	AL3-305-32-090-TC-DLC	
	1	1	5	0.12	8	AL3-305-32-120	AL3-305-32-120-DLC	AL3-305-32-120-TC	AL3-305-32-120-TC-DLC	
	1	1	5	0.19	8	AL3-305-32-190	AL3-305-32-190-DLC	AL3-305-32-190-TC	AL3-305-32-190-TC-DLC	
	1	1	5	0.25	8	AL3-305-32-250	AL3-305-32-250-DLC	AL3-305-32-250-TC	AL3-305-32-250-TC-DLC	
	1	1	5	0.5	8	AL3-305-32-BN	AL3-305-32-BN-DLC	AL3-305-32-BN-TC	AL3-305-32-BN-TC-DLC	

Chip Breakers

All AL3-304 (Long Length) and AL3-305 (Extra Long Length) come standard with Chip Breakers to control chips!



AL3-303 SPEEDS & FEEDS use 70% CLPT for AL3-304 (long) and AL3-305 (extra long)

Tool Diameter	Aluminum 6061-T6		Aluminum 6061-T3		Aluminum 7075		Aluminum 2024	
	RPM	CLPT	RPM	CLPT	RPM	CLPT	RPM	CLPT
1/8"	Max	0.0020"	Max	0.0018"	Max	0.0020"	Max	0.0020"
3/16"	Max	0.0030"	Max	0.0026"	Max	0.0030"	Max	0.0030"
1/4"	Max	0.0040"	Max	0.0035"	Max	0.0040"	Max	0.0040"
5/16"	Max	0.0050"	Max	0.0044"	Max	0.0050"	Max	0.0050"
3/8"	Max	0.0060"	Max	0.0053"	Max	0.0060"	Max	0.0060"
1/2"	Max	0.0080"	Max	0.0070"	Max	0.0080"	Max	0.0080"
5/8"	Max	0.0100"	Max	0.0088"	Max	0.0100"	Max	0.0100"
3/4"	Max	0.0120"	Max	0.0105"	Max	0.0120"	Max	0.0120"
1"	Max	0.0160"	Max	0.0140"	Max	0.0160"	Max	0.0160"

Don't just use the tip of the tool on longer length tools. Make sure to engage most of the cutting edges.

Spring passes with Long length and extra long length tools might be needed to improve finish and deflection. We tested up to 4 spring passes without problems with AL3-305 series using the entire cutting length.

