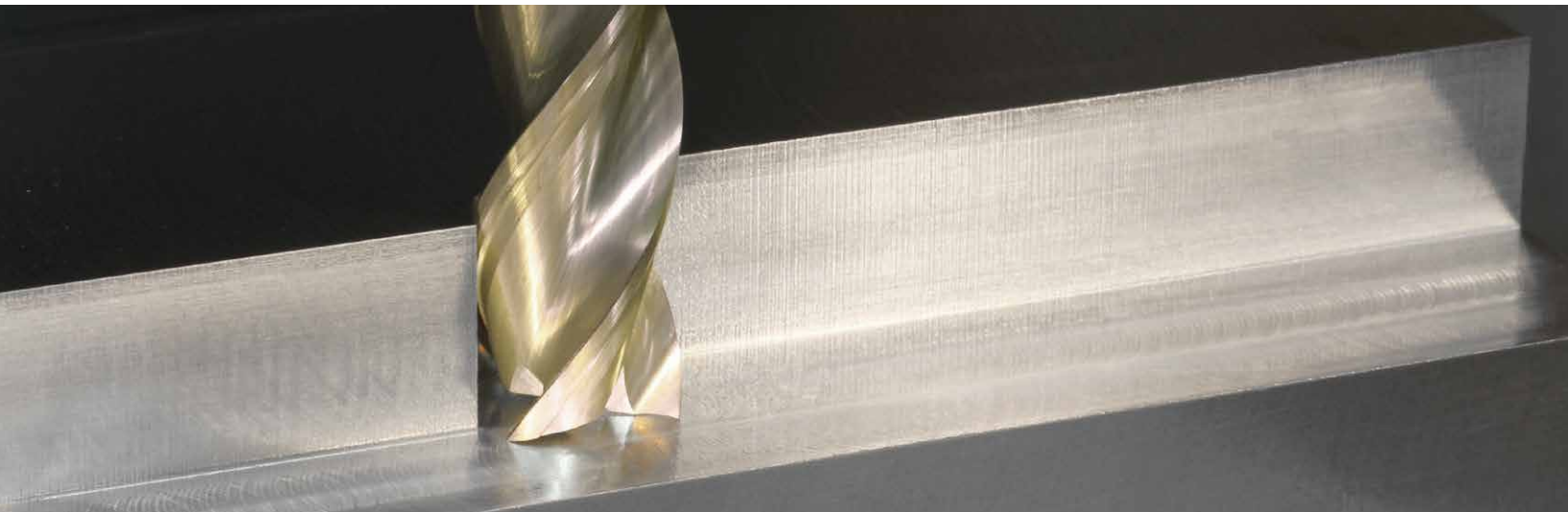




ATLAS

High Performance End Mills



High Speed Machining of Aluminum, Copper Alloys, Brass, and Plastics

Large Lineup for a Wide Range of Applications

Square End, Corner Radius, Ball Nose, and Roughing Types Available

Excellent Surface Finish



ATLAS High Performance End Mills

High Speed Machining of Aluminum, Copper Alloys, Brass, and Plastics

1 Large Lineup of 3 Flute Square, Corner Radius, Ball Nose, and Roughers Available

All styles are 3 flutes and center cutting

Square End

Superior anti-vibration performance
Special lengths available upon request



Cutting Dia. $\varnothing 0.125\text{--}\varnothing 1.000$
Uncoated or in High Performance ZrN Coating

Stub Length

Standard Length

Long Length

Ball Nose

Chatter-resistant designs
Special lengths available upon request



Cutting Dia. $\varnothing 0.125\text{--}\varnothing 1.000$
Uncoated or in High Performance ZrN Coating

Stub Length

Standard Flute

Long Length

Corner Radius

High efficiency small, medium, and large, corner radius end mills
Special lengths or corner radius available upon request



Cutting Dia. $\varnothing 0.125\text{--}\varnothing 1.000$
Uncoated or in High Performance ZrN Coating

Small Corner Radius

Medium Corner Radius

Large Corner Radius

Stub Length

Standard Length

Long Length

Rougher Finisher

Staggered chip breakers for curling chips providing excellent surface finish
Special lengths available upon request



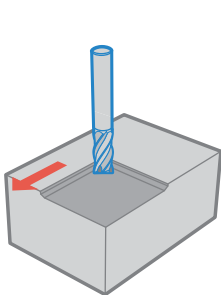
Cutting Dia. $\varnothing 0.125\text{--}\varnothing 1.000$
Uncoated or in High Performance ZrN Coating

Stub Length

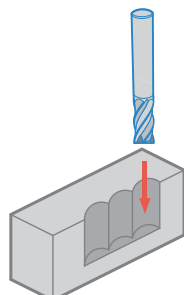
Standard Length

Long Length

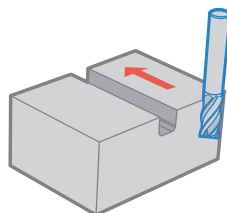
2 Wide Range of Machining Applications



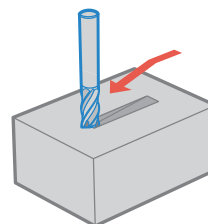
Facing & Shouldering



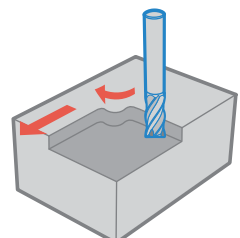
Plunging



Slotting



Ramping



Profiling

3

High Performance ZrN Coating Improves Wear and Reduces Edge Build-up

Zirconium Nitride (ZrN) coatings effectively reduce built-up edges when machining Aluminum and Copper

Coating Properties

Coating	ZrN
Structure	Monolayer
Hardness [GPa]	20
Friction Coefficient	0.4
Thickness [μm]	1-4
Oxidation Temperature [$^{\circ}\text{C}$]	550 $^{\circ}$



Uncoated



ZrN Coating

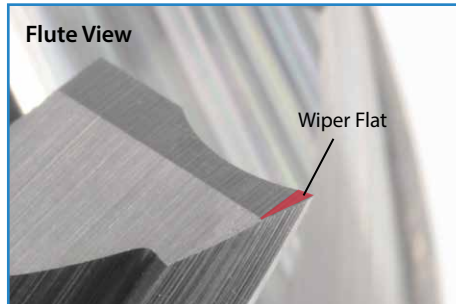
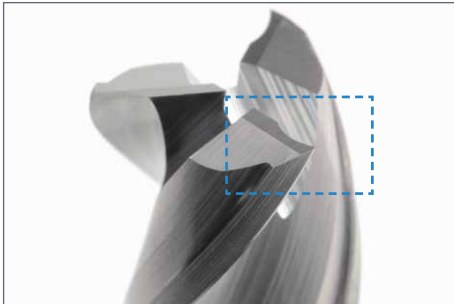
Other coatings available upon request

4

Excellent Surface Finish

Micro circular lands on OD and wiper flats on the square and corner radius styles create smooth floors and excellent surface finishes

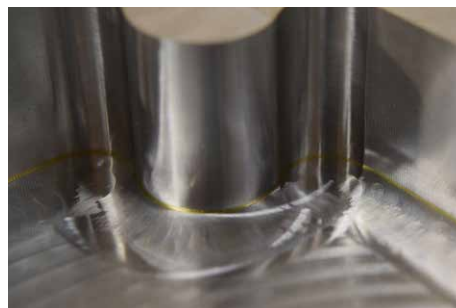
Cutting Edge Design



Surface Finish Comparison (Internal Evaluation)



ATLAS



Competitor A

Cleaner and more consistent floor finish than Competitor A

(Uncoated Shown)

3 Flute

Cutting Dia. (ØD)	Cutting Dia. Tolerance	Shank Tolerance
0.1250" ~ 0.1875"	+0.00000" -0.00031"	+0.00000" -0.00031"
0.2500" ~ 0.3750"	+0.00000" -0.00035"	+0.00000" -0.00035"
0.5000" ~ 0.6250"	+0.00000" -0.00043"	+0.00000" -0.00043"
0.7500" ~ 1.0000"	+0.00000" -0.00051"	+0.00000" -0.00051"

Max. Ramping Angle: 12°

Stub Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD				
1770-1250.250	●	1770-1250AD250	●	0.1250	1/8	1/8	1 1/2	0.250
1770-1875.313	●	1770-1875AD313	●	0.1875	3/16	3/16	2	0.313
1770-2500.375	●	1770-2500AD375	●	0.2500	1/4	1/4	2 1/2	0.375
1770-3125.438	●	1770-3125AD438	●	0.3125	5/16	5/16	2 1/2	0.438
1770-3750.500	●	1770-3750AD500	●	0.3750	3/8	3/8	2 1/2	0.500
1770-5000.625	●	1770-5000AD625	●	0.5000	1/2	1/2	3	0.625
1770-6250.750	●	1770-6250AD750	●	0.6250	5/8	5/8	3 1/2	0.750
1770-7500.1000	●	1770-7500AD1000	●	0.7500	3/4	3/4	4	1.000
1770-10000.1250	●	1770-10000AD1250	●	1.0000	1	1	4	1.250

Standard Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD				
1770-1250.500	●	1770-1250AD500	●	0.1250	1/8	1/8	1 1/2	0.500
1770-1875.625	●	1770-1875AD625	●	0.1875	3/16	3/16	2	0.625
1770-2500.750	●	1770-2500AD750	●	0.2500	1/4	1/4	2 1/2	0.750
1770-3125.750	●	1770-3125AD750	●	0.3125	5/16	5/16	2 1/2	0.750
1770-3750.1000	●	1770-3750AD1000	●	0.3750	3/8	3/8	2 1/2	1.000
1770-5000.1250	●	1770-5000AD1250	●	0.5000	1/2	1/2	3	1.250
1770-6250.1625	●	1770-6250AD1625	●	0.6250	5/8	5/8	3 1/2	1.625
1770-7500.1625	●	1770-7500AD1625	●	0.7500	3/4	3/4	4	1.625
1770-10000.2000	●	1770-10000AD2000	●	1.0000	1	1	4	2.000

Long Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD				
1770-2500.1125	●	1770-2500AD1125	●	0.2500	1/4	1/4	3	1.125
1770-3125.1125	●	1770-3125AD1125	●	0.3125	5/16	5/16	3	1.125
1770-3750.1500	●	1770-3750AD1500	●	0.3750	3/8	3/8	4	1.500
1770-5000.2250	●	1770-5000AD2250	●	0.5000	1/2	1/2	4	2.250
1770-6250.2500	●	1770-6250AD2500	●	0.6250	5/8	5/8	5	2.500
1770-7500.2500	●	1770-7500AD2500	●	0.7500	3/4	3/4	5	2.500
1770-10000.2500	●	1770-10000AD2500	●	1.0000	1	1	6	2.500

Cutting Dia. (ØD)	Cutting Dia. Tolerance	Shank Tolerance
0.1250" ~ 0.1875"	+0.00000" -0.00031"	+0.00000" -0.00031"
0.2500" ~ 0.3750"	+0.00000" -0.00035"	+0.00000" -0.00035"
0.5000" ~ 0.6250"	+0.00000" -0.00043"	+0.00000" -0.00043"
0.7500" ~ 1.0000"	+0.00000" -0.00051"	+0.00000" -0.00051"

Max. Ramping Angle: 6°

Stub Length Dimensions (Inch Size)

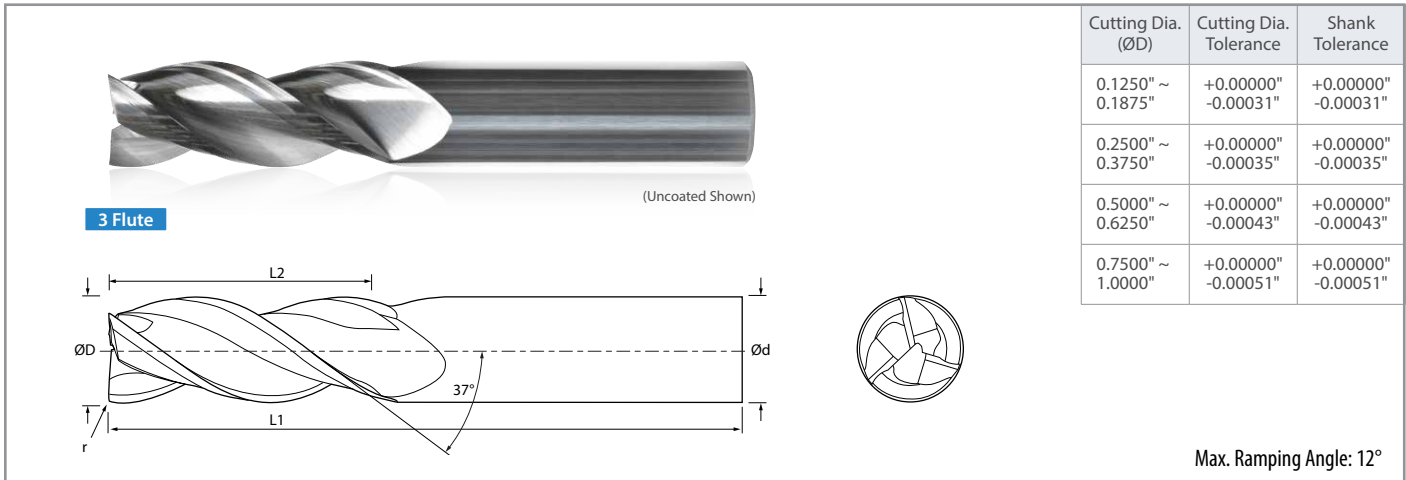
Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD		Ød	L1	L2
1775-1250.250	●	1775-1250AD250	●	0.1250	1/8	1/8	1 1/2	0.250
1775-1875.313	●	1775-1875AD313	●	0.1875	3/16	3/16	2	0.313
1775-2500.375	●	1775-2500AD375	●	0.2500	1/4	1/4	2 1/2	0.375
1775-3125.437	●	1775-3125AD437	●	0.3125	5/16	5/16	2 1/2	0.437
1775-3750.500	●	1775-3750AD500	●	0.3750	3/8	3/8	2 1/2	0.500
1775-5000.625	●	1775-5000AD625	●	0.5000	1/2	1/2	3	0.625
1775-6250.750	●	1775-6250AD750	●	0.6250	5/8	5/8	3 1/2	0.750
1775-7500.1000	●	1775-7500AD1000	●	0.7500	3/4	3/4	4	1.000
1775-10000.1250	●	1775-10000AD1250	●	1.0000	1	1	4	1.250

Standard Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD		Ød	L1	L2
1775-1250.500	●	1775-1250AD500	●	0.1250	1/8	1/8	1 1/2	0.500
1775-1875.625	●	1775-1875AD625	●	0.1875	3/16	3/16	2	0.625
1775-2500.750	●	1775-2500AD750	●	0.2500	1/4	1/4	2 1/2	0.750
1775-3125.750	●	1775-3125AD750	●	0.3125	5/16	5/16	2 1/2	0.750
1775-3750.1000	●	1775-3750AD1000	●	0.3750	3/8	3/8	2 1/2	1.000
1775-5000.1250	●	1775-5000AD1250	●	0.5000	1/2	1/2	3	1.250
1775-6250.1625	●	1775-6250AD1625	●	0.6250	5/8	5/8	3 1/2	1.625
1775-7500.1625	●	1775-7500AD1625	●	0.7500	3/4	3/4	4	1.625
1775-10000.2000	●	1775-10000AD2000	●	1.0000	1	1	4	2.000

Long Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD		Ød	L1	L2
1775-2500.1125	●	1775-2500AD1125	●	0.2500	1/4	1/4	3	1.125
1775-3125.1125	●	1775-3125AD1125	●	0.3125	5/16	5/16	3	1.125
1775-3750.1500	●	1775-3750AD1500	●	0.3750	3/8	3/8	4	1.500
1775-5000.2250	●	1775-5000AD2250	●	0.5000	1/2	1/2	4	2.250
1775-6250.2500	●	1775-6250AD2500	●	0.6250	5/8	5/8	5	2.500
1775-7500.2500	●	1775-7500AD2500	●	0.7500	3/4	3/4	5	2.500
1775-10000.2500	●	1775-10000AD2500	●	1.0000	1	1	6	2.500



Stub Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD	Ød				
1771-1250.250CR1	●	1771-1250AD250CR1	●	0.1250	1/8	1/8	1 1/2	0.250	0.010
1771-1875.313CR1	●	1771-1875AD313CR1	●	0.1875	3/16	3/16	2	0.313	0.010
1771-2500.375CR1	●	1771-2500AD375CR1	●	0.2500	1/4	1/4	2 1/2	0.375	0.010
1771-3125.438CR1	●	1771-3125AD438CR1	●	0.3125	5/16	5/16	2 1/2	0.438	0.010
1771-3750.500CR1	●	1771-3750AD500CR1	●	0.3750	3/8	3/8	2 1/2	0.500	0.015
1771-5000.625CR1	●	1771-5000AD625CR1	●	0.5000	1/2	1/2	3	0.625	0.015
1771-6250.750CR1	●	1771-6250AD750CR1	●	0.6250	5/8	5/8	3 1/2	0.750	0.020
1771-7500.1000CR1	●	1771-7500AD1000CR1	●	0.7500	3/4	3/4	4	1.000	0.030
1771-10000.1250CR1	●	1771-10000AD1250C1	●	1.0000	1	1	4	1.250	0.030

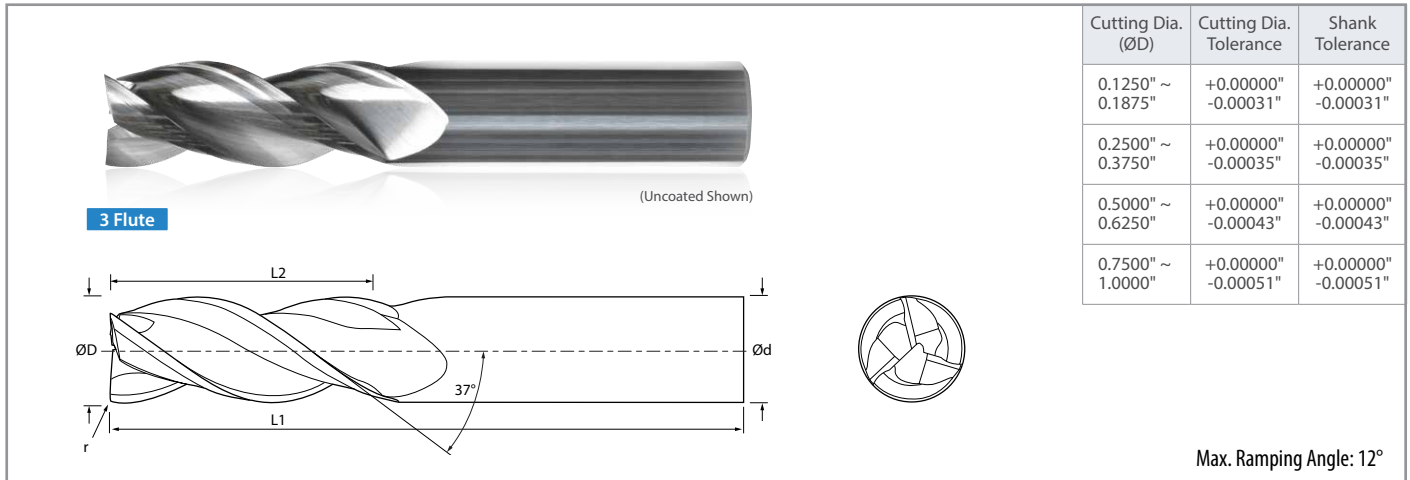
Standard Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD	Ød				
1771-1250.500CR1	●	1771-1250AD500CR1	●	0.1250	1/8	1/8	1 1/2	0.500	0.010
1771-1875.625CR1	●	1771-1875AD625CR1	●	0.1875	3/16	3/16	2	0.625	0.010
1771-2500.750CR1	●	1771-2500AD750CR1	●	0.2500	1/4	1/4	2 1/2	0.750	0.010
1771-3125.750CR1	●	1771-3125AD750CR1	●	0.3125	5/16	5/16	2 1/2	0.750	0.010
1771-3750.1000CR1	●	1771-3750AD1000CR1	●	0.3750	3/8	3/8	2 1/2	1.000	0.015
1771-5000.1250CR1	●	1771-5000AD1250CR1	●	0.5000	1/2	1/2	3	1.250	0.015
1771-6250.1625CR1	●	1771-6250AD1625CR1	●	0.6250	5/8	5/8	3 1/2	1.625	0.020
1771-7500.1625CR1	●	1771-7500AD1625CR1	●	0.7500	3/4	3/4	4	1.625	0.030
1771-10000.2000CR1	●	1771-10000AD2000C1	●	1.0000	1	1	4	2.000	0.030

Long Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD	Ød				
1771-2500.1125CR1	●	1771-2500AD1125CR1	●	0.2500	1/4	1/4	3	1.125	0.010
1771-3125.1125CR1	●	1771-3125AD1125CR1	●	0.3125	5/16	5/16	3	1.125	0.010
1771-3750.1500CR1	●	1771-3750AD1500CR1	●	0.3750	3/8	3/8	4	1.500	0.015
1771-5000.2250CR1	●	1771-5000AD2250CR1	●	0.5000	1/2	1/2	4	2.250	0.015
1771-6250.2500CR1	●	1771-6250AD2500CR1	●	0.6250	5/8	5/8	5	2.500	0.020
1771-7500.2500CR1	●	1771-7500AD2500CR1	●	0.7500	3/4	3/4	5	2.500	0.030
1771-10000.2500CR1	●	1771-10000AD2500C1	●	1.0000	1	1	6	2.500	0.030

● : U.S. Stock



Stub Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD		Ød	L1	L2	r
1771-1250.250CR2	●	1771-1250AD250CR2	●	0.1250	1/8	1/8	1 1/2	0.250	0.020
1771-1875.313CR2	●	1771-1875AD313CR2	●	0.1875	3/16	3/16	2	0.313	0.020
1771-2500.375CR2	●	1771-2500AD375CR2	●	0.2500	1/4	1/4	2 1/2	0.375	0.025
1771-3125.438CR2	●	1771-3125AD438CR2	●	0.3125	5/16	5/16	2 1/2	0.438	0.030
1771-3750.500CR2	●	1771-3750AD500CR2	●	0.3750	3/8	3/8	2 1/2	0.500	0.040
1771-5000.625CR2	●	1771-5000AD625CR2	●	0.5000	1/2	1/2	3	0.625	0.050
1771-6250.750CR2	●	1771-6250AD750CR2	●	0.6250	5/8	5/8	3 1/2	0.750	0.060
1771-7500.1000CR2	●	1771-7500AD1000CR2	●	0.7500	3/4	3/4	4	1.000	0.060
1771-10000.1250CR2	●	1771-10000AD1250C2	●	1.0000	1	1	4	1.250	0.060

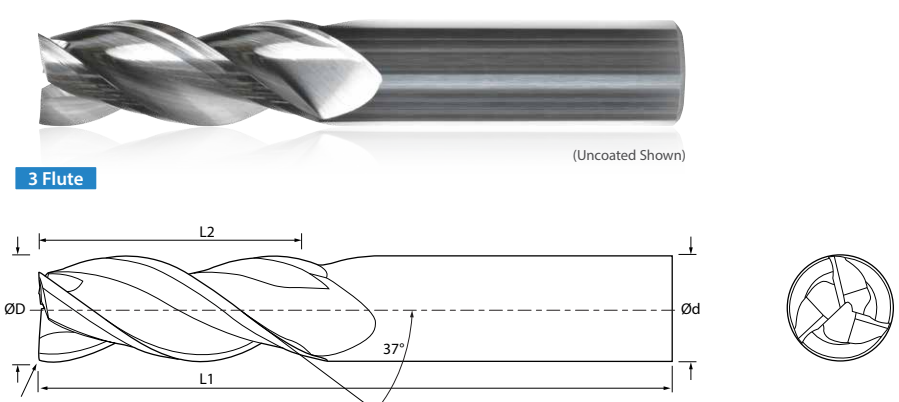
Standard Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD		Ød	L1	L2	r
1771-1250.500CR2	●	1771-1250AD500CR2	●	0.1250	1/8	1/8	1 1/2	0.500	0.020
1771-1875.625CR2	●	1771-1875AD625CR2	●	0.1875	3/16	3/16	2	0.625	0.020
1771-2500.750CR2	●	1771-2500AD750CR2	●	0.2500	1/4	1/4	2 1/2	0.750	0.025
1771-3125.750CR2	●	1771-3125AD750CR2	●	0.3125	5/16	5/16	2 1/2	0.750	0.030
1771-3750.1000CR2	●	1771-3750AD1000CR2	●	0.3750	3/8	3/8	2 1/2	1.000	0.040
1771-5000.1250CR2	●	1771-5000AD1250CR2	●	0.5000	1/2	1/2	3	1.250	0.050
1771-6250.1625CR2	●	1771-6250AD1625CR2	●	0.6250	5/8	5/8	3 1/2	1.625	0.060
1771-7500.1625CR2	●	1771-7500AD1625CR2	●	0.7500	3/4	3/4	4	1.625	0.060
1771-10000.2000CR2	●	1771-10000AD2000C2	●	1.0000	1	1	4	2.000	0.060

Long Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD		Ød	L1	L2	r
1771-2500.1125CR2	●	1771-2500AD1125CR2	●	0.2500	1/4	1/4	3	1.125	0.025
1771-3125.1125CR2	●	1771-3125AD1125CR2	●	0.3125	5/16	5/16	3	1.125	0.030
1771-3750.1500CR2	●	1771-3750AD1500CR2	●	0.3750	3/8	3/8	4	1.500	0.040
1771-5000.2250CR2	●	1771-5000AD2250CR2	●	0.5000	1/2	1/2	4	2.250	0.050
1771-6250.2500CR2	●	1771-6250AD2500CR2	●	0.6250	5/8	5/8	5	2.500	0.060
1771-7500.2500CR2	●	1771-7500AD2500CR2	●	0.7500	3/4	3/4	5	2.500	0.060
1771-10000.2500CR2	●	1771-10000AD2500C2	●	1.0000	1	1	6	2.500	0.060

● : U.S. Stock



(Uncoated Shown)

3 Flute

Cutting Dia. (ØD)	Cutting Dia. Tolerance	Shank Tolerance
0.1250" ~ 0.1875"	+0.00000" -0.00031"	+0.00000" -0.00031"
0.2500" ~ 0.3750"	+0.00000" -0.00035"	+0.00000" -0.00035"
0.5000" ~ 0.6250"	+0.00000" -0.00043"	+0.00000" -0.00043"
0.7500" ~ 1.0000"	+0.00000" -0.00051"	+0.00000" -0.00051"

Max. Ramping Angle: 12°

Stub Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD	Ød				
1771-1250.250CR3	●	1771-1250AD250CR3	●	0.1250	1/8	1/8	1 1/2	0.250	0.030
1771-1875.313CR3	●	1771-1875AD313CR3	●	0.1875	3/16	3/16	2	0.313	0.030
1771-2500.375CR3	●	1771-2500AD375CR3	●	0.2500	1/4	1/4	2 1/2	0.375	0.040
1771-3125.438CR3	●	1771-3125AD438CR3	●	0.3125	5/16	5/16	2 1/2	0.438	0.050
1771-3750.500CR3	●	1771-3750AD500CR3	●	0.3750	3/8	3/8	2 1/2	0.500	0.060
1771-5000.625CR3	●	1771-5000AD625CR3	●	0.5000	1/2	1/2	3	0.625	0.080
1771-6250.750CR3	●	1771-6250AD750CR3	●	0.6250	5/8	5/8	3 1/2	0.750	0.100
1771-7500.1000CR3	●	1771-7500AD1000CR3	●	0.7500	3/4	3/4	4	1.000	0.120
1771-10000.1250CR3	●	1771-10000AD1250C3	●	1.0000	1	1	4	1.250	0.120

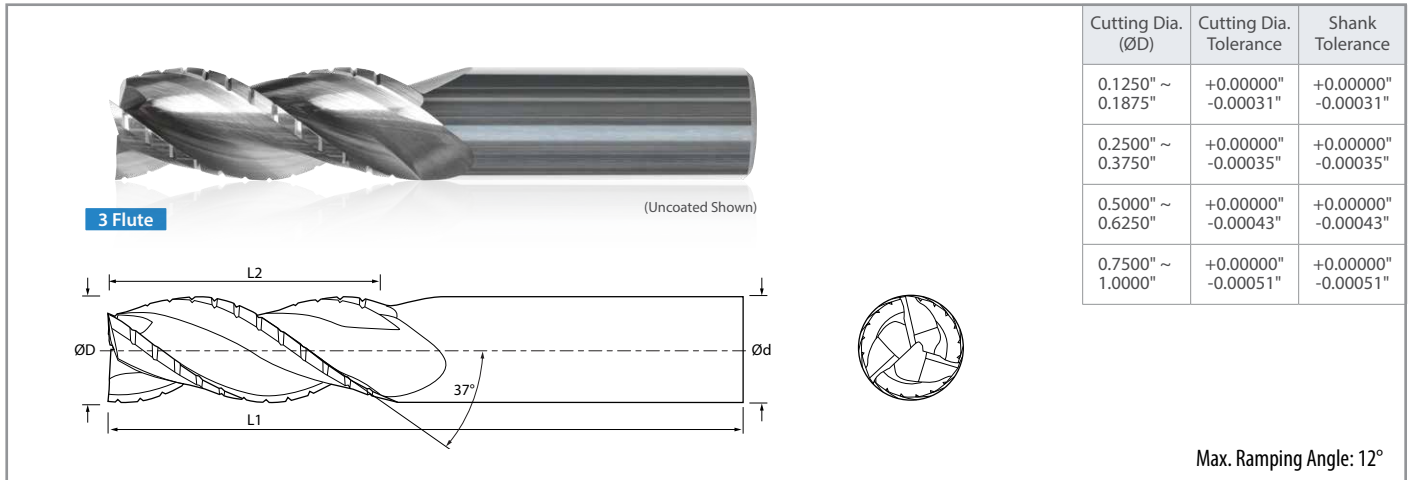
Standard Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD	Ød				
1771-1250.500CR3	●	1771-1250AD500CR3	●	0.1250	1/8	1/8	1 1/2	0.500	0.030
1771-1875.625CR3	●	1771-1875AD625CR3	●	0.1875	3/16	3/16	2	0.625	0.030
1771-2500.750CR3	●	1771-2500AD750CR3	●	0.2500	1/4	1/4	2 1/2	0.750	0.040
1771-3125.750CR3	●	1771-3125AD750CR3	●	0.3125	5/16	5/16	2 1/2	0.750	0.050
1771-3750.1000CR3	●	1771-3750AD1000CR3	●	0.3750	3/8	3/8	2 1/2	1.000	0.060
1771-5000.1250CR3	●	1771-5000AD1250CR3	●	0.5000	1/2	1/2	3	1.250	0.080
1771-6250.1625CR3	●	1771-6250AD1625CR3	●	0.6250	5/8	5/8	3 1/2	1.625	0.100
1771-7500.1625CR3	●	1771-7500AD1625CR3	●	0.7500	3/4	3/4	4	1.625	0.120
1771-10000.2000CR3	●	1771-10000AD2000C3	●	1.0000	1	1	4	2.000	0.120

Long Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)					
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut	Corner Radius
				ØD	Ød				
1771-2500.1125CR3	●	1771-2500AD1125CR3	●	0.2500	1/4	1/4	3	1.125	0.040
1771-3125.1125CR3	●	1771-3125AD1125CR3	●	0.3125	5/16	5/16	3	1.125	0.050
1771-3750.1500CR3	●	1771-3750AD1500CR3	●	0.3750	3/8	3/8	4	1.500	0.060
1771-5000.2250CR3	●	1771-5000AD2250CR3	●	0.5000	1/2	1/2	4	2.250	0.080
1771-6250.2500CR3	●	1771-6250AD2500CR3	●	0.6250	5/8	5/8	5	2.500	0.100
1771-7500.2500CR3	●	1771-7500AD2500CR3	●	0.7500	3/4	3/4	5	2.500	0.120
1771-10000.2500CR3	●	1771-10000AD2500C3	●	1.0000	1	1	6	2.500	0.120

● : U.S. Stock



Stub Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD				
1780-1250.250	●	1780-1250AD250	●	0.1250	1/8	1/8	1 1/2	0.250
1780-1875.313	●	1780-1875AD313	●	0.1875	3/16	3/16	2	0.313
1780-2500.375	●	1780-2500AD375	●	0.2500	1/4	1/4	2 1/2	0.375
1780-3125.437	●	1780-3125AD437	●	0.3125	5/16	5/16	2 1/2	0.437
1780-3750.500	●	1780-3750AD500	●	0.3750	3/8	3/8	2 1/2	0.500
1780-5000.625	●	1780-5000AD625	●	0.5000	1/2	1/2	3	0.625
1780-6250.750	●	1780-6250AD750	●	0.6250	5/8	5/8	3 1/2	0.750
1780-7500.1000	●	1780-7500AD1000	●	0.7500	3/4	3/4	4	1.000
1780-10000.1250	●	1780-10000AD1250	●	1.0000	1	1	4	1.250

Standard Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD				
1780-1250.500	●	1780-1250AD500	●	0.1250	1/8	1/8	1 1/2	0.500
1780-1875.625	●	1780-1875AD625	●	0.1875	3/16	3/16	2	0.625
1780-2500.750	●	1780-2500AD750	●	0.2500	1/4	1/4	2 1/2	0.750
1780-3125.750	●	1780-3125AD750	●	0.3125	5/16	5/16	2 1/2	0.750
1780-3750.1000	●	1780-3750AD1000	●	0.3750	3/8	3/8	2 1/2	1.000
1780-5000.1250	●	1780-5000AD1250	●	0.5000	1/2	1/2	3	1.250
1780-6250.1625	●	1780-6250AD1625	●	0.6250	5/8	5/8	3 1/2	1.625
1780-7500.1625	●	1780-7500AD1625	●	0.7500	3/4	3/4	4	1.625
1780-10000.2000	●	1780-10000AD2000	●	1.0000	1	1	4	2.000

Long Length Dimensions (Inch Size)

Uncoated		ZrN Coated		Dimensions (in)				
Part Number	Stock	Part Number	Stock	Cutting Diameter		Shank Diameter	Overall Length	Length of Cut
				ØD				
1780-2500.1125	●	1780-2500AD1125	●	0.2500	1/4	1/4	3	1.125
1780-3125.1125	●	1780-3125AD1125	●	0.3125	5/16	5/16	3	1.125
1780-3750.1500	●	1780-3750AD1500	●	0.3750	3/8	3/8	4	1.500
1780-5000.2250	●	1780-5000AD2250	●	0.5000	1/2	1/2	4	2.250
1780-6250.2500	●	1780-6250AD2500	●	0.6250	5/8	5/8	5	2.500
1780-7500.2500	●	1780-7500AD2500	●	0.7500	3/4	3/4	5	2.500
1780-10000.2500	●	1780-10000AD2500	●	1.0000	1	1	6	2.500

● : U.S. Stock

Recommended Cutting Conditions

Workpiece Material	Uncoated Recommended Cutting Speed (sfm)	ZrN Coated Recommended Cutting Speed (sfm)	Cutting Dia. ØDc (in)		Application Feed Rate (ipt)	
					Roughing (> 10% of Dia.)	Finishing (< 10% of Dia.)
Aluminum	900 - 1,000 - 1,100	1,100 - 1,200 - 1,300	Ø0.1250 - Ø0.1875	Ø1/8 - Ø3/16	0.0012 - 0.0020	0.0019 - 0.0034
			Ø0.2500 - Ø0.3750	Ø1/4 - Ø3/8	0.0030 - 0.0043	0.0055 - 0.0070
			Ø0.5000 - Ø0.6250	Ø1/2 - Ø5/8	0.0050 - 0.0057	0.0080 - 0.0095
			Ø0.7500 - Ø1.0000	Ø3/4 - Ø1	0.0062 - 0.0070	0.0099 - 0.0110
Brass	400 - 500 - 600	500 - 600 - 700	Ø0.1250 - Ø0.1875	Ø1/8 - Ø3/16	0.0012 - 0.0020	0.0019 - 0.0034
			Ø0.2500 - Ø0.3750	Ø1/4 - Ø3/8	0.0024 - 0.0032	0.0045 - 0.0055
			Ø0.5000 - Ø0.6250	Ø1/2 - Ø5/8	0.0034 - 0.0042	0.0057 - 0.0067
			Ø0.7500 - Ø1.0000	Ø3/4 - Ø1	0.0041 - 0.0047	0.0071 - 0.0077
Copper Alloy	525 - 625 - 725	650 - 750 - 850	Ø0.1250 - Ø0.1875	Ø1/8 - Ø3/16	0.0012 - 0.0020	0.0019 - 0.0034
			Ø0.2500 - Ø0.3750	Ø1/4 - Ø3/8	0.0024 - 0.0032	0.0045 - 0.0055
			Ø0.5000 - Ø0.6250	Ø1/2 - Ø5/8	0.0034 - 0.0042	0.0057 - 0.0067
			Ø0.7500 - Ø1.0000	Ø3/4 - Ø1	0.0041 - 0.0047	0.0071 - 0.0077
Plastics	1,150 - 1,250 - 1,350	1,400 - 1,500 - 1,600	Ø0.1250 - Ø0.1875	Ø1/8 - Ø3/16	0.0020 - 0.0030	0.0025 - 0.0040
			Ø0.2500 - Ø0.3750	Ø1/4 - Ø3/8	0.0040 - 0.0057	0.0073 - 0.0093
			Ø0.5000 - Ø0.6250	Ø1/2 - Ø5/8	0.0080 - 0.0095	0.0130 - 0.0155
			Ø0.7500 - Ø1.0000	Ø3/4 - Ø1	0.0103 - 0.0117	0.0165 - 0.0183

- Max ramping angle is 12° for Square End, Corner Radius, and Rougher Finisher types and 6° for Ball Nose types.
- Above recommendations are suggested starting parameters. Cutting speeds and feed rates may vary according to machining application and setup.



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