

The top reasons customers

CHOOSE HOWARD PRECISION METALS

KNOWLEDGE

We invest in the training and education of our team to ensure we are aluminum experts. As a 100% aluminum distributor, we know aluminum because aluminum is all we do.

QUALITY

At Howard Precision Metals, we hold ourselves to stringent quality standards and fully comply with ISO 9001:2000. Our products are purchased from premier mill sources, who stand behind the quality and performance of their products.

SERVICE

Beginning with the initial quote and ending with on-time delivery of your order, we are proud of the outstanding customer service we devote to every customer interaction.

SAWING

Our custom-built, high speed, precision aluminum saws allow us to deliver precision tolerances, as close as ± 0.005 , with a built-in square-ness guarantee.

PACKAGING

Because we believe in protecting your investment, our packaging department creates custom skids to prepare each order for shipment.

DELIVERY

At Howard Precision Metals, we proudly offer responsive lead times, in addition to exemplary customer service, innovative sawing techniques, custom packaging, and comprehensive product knowledge.

Have you *seen* what we *saw*?

8058 N. 87th Street
Milwaukee, WI 53224
(414) 355-9611
Toll Free: (800) 444-0311
www.howardprecision.com



"A CUT ABOVE THE REST"
SINCE 1928





THE PREMIER SAWING HOUSE

Our custom built, high-speed, proprietary aluminum plate saws are coveted in the marketplace. These precision machines are operated by skilled technicians and meticulously maintained to deliver what we at Howard Precision Metals refer to as "Precision Plus Sawing." We can deliver saw tolerances as close as $\pm.005"$, offer squareness guarantees as tight as $\pm.005"$, and have the ability to cut aluminum plate in thicknesses of .063" up through 10.00". Our reputation for providing premier aluminum sawing services along with top quality aluminum products to our customers is why we are still "A Cut Above the Rest" after more than 90 years in the metals industry.

In addition to our plate saws, we also have six custom aluminum extrusion saws in house to help us meet customer demands. Like our plate saws, our extrusion saws are also capable of holding saw tolerances as tight as $\pm.005"$. The ability to saw material thicknesses .090" through 8.00" thick while achieving surface finishes as close as 32 RMS enable us to deliver premium sawn aluminum extrusions to our customers with ease.

For larger aluminum extrusions, we are also equipped with two band saws in house. These saws increase our sawing capacity tremendously by enabling us to bundle cut large quantities of aluminum extrusions where saw tolerances are not critical. Capable of cutting material as large as 22" in diameter, these machines can achieve tolerances of $\pm.030"$ and surface finishes as close as 76 RMS.

Type of Aluminum Saw	Quantity in House	Thickness Capability	Width Capability	Sawing Tier	Tolerance Level	Squareness Level**
Precision Plus Aluminum Plate Saws	6	10.00" maximum	144" maximum	Precision*	$\pm.005"$.005"
				Intermediate	$\pm.010"$.010"
				Utility	$\pm.030"$.030"
Aluminum Extrusion Saws	6	8.00" maximum	24" maximum	Precision*	$\pm.005"$.005"
				Intermediate	$\pm.010"$.010"
				Utility	$\pm.030"$.030"
Aluminum Band Saws	2	22" maximum	22" maximum	Band Sawing	as close as $\pm.030"$	N/A

*Precision sawing capabilities vary with plate thickness. Thicknesses of 2.76" through 5.99" will be guaranteed a precision tolerance of $\pm.010"$, while aiming for $\pm.005"$. Thicknesses of 6.0" through 8.0" will be guaranteed a precision tolerance of $\pm.030"$, while aiming for $\pm.010"$. Thicknesses over 8.0" will be sawn to a plus side only tolerance to allow for machine stock.

**Squareness on aluminum plate is measured within 12.0" from any Howard Precision Metals sawn corner. Squareness of aluminum extrusions is relative to the straightness of the mills' product(s), in combination with the length of the material.





100% ALUMINUM DISTRIBUTOR

Aluminum Sheet

6061-T6	.063" through .190" thicknesses
7075-T6	.125" through .190" thicknesses

Wrought Aluminum Plate Inventory

2024-T351	.250" through 6" thicknesses
6061-T651	.250" through 10" thicknesses
7075-T651	.25" through 8" thicknesses
7050-T7451	Inquire for stock availability

Aluminum Cast Tool & Jig Plate Inventory

Alca 5®	.25" through 4" thicknesses
MIC 6®	.236" through 4" thicknesses

Aluminum Mold Plate

M-1®	1.5" through 30" thicknesses*
M-5®	2" through 24" thicknesses*
Max 5®	4" through 42.5" thicknesses*

6061-T6/6061-T6511 Extruded Aluminum Bar Stock

Rounds	.25" through 13" diameters
Rectangles	.25" through 6" thick, up to 16" widths*
Squares	.25" through 6" squares
Shapes & Custom Profiles	Inquire for availability*

Other Aluminum Bar Alloys Available Upon Request*

Cold Finished 2011	Extruded 6063
Cold Finished 2024	Extruded 6082
Cold Finished 6061	Extruded 6101
Extruded 6005/6005A	Extruded 6105
Extruded 6042	Extruded 6262

*Some items may be subject to mill lead times, productions schedules, and minimum purchasing requirements.





STANDARD PLATE INVENTORY

Howard Precision Metals stocks all 6061-T651 plate to precision plate thickness tolerances, which guarantee thickness tolerances to be half commercial and all on the plus side. In addition, some producers of 6061 plate offer improved flatness tolerances on their precision plate. If flatness is critical, please advise at the time of quote, as not all of our 6061 plate inventory meets these improved flatness tolerances.

Don't see a size you need? Don't fret. We can order custom thicknesses, widths, and lengths from our mills. Inquire with your sale representative for more information.

All material sold by Howard Precision Metals is certifiable back to the parent plate. This includes every discounted random piece available on our Random Rack, www.howardprecision.com/random-rack. All randoms are updated hourly. Random Rack items ship same or next day.




Thickness	6061-T651	7075-T651	7050-T7451	2024-T351	MIC 6®	ALCA 5®	M-1® Mold Plate
.236"			Inquire for stock availability		X		
.250"	X	X			X	X	
.313"	X				X		
.375"	X	X		*inquire	X	X	
.3937"				X	X		
.50"	X	X			X	X	
.625"	X			*inquire	X	X	
.75"	X	X		X	X	X	
.7874"					X		
.875"	X				X	X	
.984"					X		
1.00"	X	X		X	X	X	
1.125"	X				X	X	
1.181"					X		
1.250"	X	X		X	X	X	
1.50"	X	X		X	X	X	X
1.75"	X	X		X	X	X	
2.00"	X	X		X	X	X	X
2.25"	X	X			X	X	X
2.50"	X	X		X	X	X	X
2.75"	X				X		
3.00"	X	X		X	X	X	X
3.50"	X	*inquire		X			X
4.00"	X	X		X	X	X	X
4.50"	X			X			X
5.00"	X	X		X			X
5.50"	X						X
6.00"	X	X		X			X
6.50"							X
7.00"	X	X					X
7.50"							X
8.00"	X	X					X
9.00"	X						X
10.00"	X						X

Don't Be A Square

Save time and money with custom aluminium extrusions from Howard Precision Metals.



Current Manufacturing Process:

-  Standard Aluminum Extrusion
-  Machining away corners
-  End Part

Tool A Custom Aluminum Extrusion

-  New Custom Aluminum Extrusion

Advantages of Custom Aluminum Extrusion:


Eliminates
Machining Time

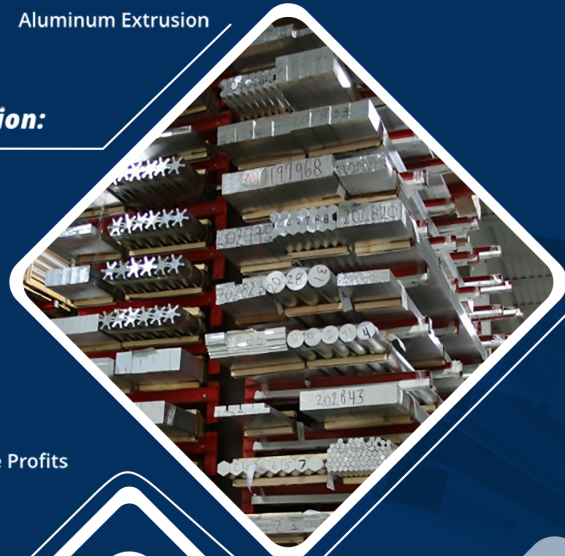

Reduces Wear
and Tear on Tools


Faster
Production Time


Increases
Productivity


Green Alternative
▶ Less Shipped Weight
on Initial Purchase
▶ Lessen Emissions
▶ Less Energy Consumed
to generate parts
▶ Less Scrap and Waste


Generates More Profits



Howard Precision Metals can deliver newly tooled, custom aluminum extruded shapes or non-standard sizes in as little as 6 to 8 weeks after print approval.



Ask about custom aluminum extrusions today.



 (800)-444-0311



howardprecision.com





EXTRUDED ROUND BAR

Available Sawing Services for Extruded Round Bar

Alloy 6061
Meets ASTM B221
Tempers: T6 & T6511
Density: .098
Standard Length: 144"

Extrusion Saw Cutting

Tolerances as close as $\pm.005$
 Cut lengths .50" and longer
 RMS finish as low as 32
 Max 4:1 diameter to length ratio

Band Saw Cutting

Tolerances as close as $+.030/-0.000$
 Cut lengths .375" and longer
 RMS finish as low as 76
 Capable of cutting larger than 4:1 ratio
 22.0" max diameter size

Diameter	Tolerance	Weight (lbs/ft)
0.250"	$\pm.008$	0.058
0.375"	$\pm.004$	0.129
0.500"	$\pm.004$	0.231
0.625"	$\pm.004$	0.361
0.750"	$\pm.004$	0.520
0.875"	$\pm.004$	0.707
1.000"	$\pm.004$	0.924
1.125"	$\pm.005$	1.169
1.188"	$\pm.005$	1.304
1.250"	$\pm.005$	1.443
1.312"	$\pm.005$	1.590
1.375"	$\pm.005$	1.746
1.500"	$\pm.005$	2.078
1.625"	$\pm.005$	2.439
1.750"	$\pm.005$	2.829
1.875"	$\pm.005$	3.247
2.000"	$\pm.008$	3.695
2.125"	$\pm.008$	4.171
2.250"	$\pm.008$	4.676
2.375"	$\pm.008$	5.210
2.500"	$\pm.008$	5.773
2.625"	$\pm.008$	6.364
2.750"	$\pm.008$	6.985
3.000"	$\pm.008$	8.313
3.125"	$\pm.012$	9.020
3.250"	$\pm.012$	9.756
3.375"	$\pm.012$	10.521
3.500"	$\pm.012$	11.314

Diameter	Tolerance	Weight (lbs/ft)
3.750"	$\pm.012$	12.989
4.000"	$\pm.017$	14.778
4.125"	$\pm.017$	15.716
4.250"	$\pm.017$	16.683
4.500"	$\pm.017$	18.703
4.750"	$\pm.017$	20.840
5.000"	$\pm.017$	23.091
5.250"	$\pm.017$	25.458
5.500"	$\pm.017$	27.940
5.750"	$\pm.017$	30.538
6.000"	$\pm.022$	33.251
6.250"	$\pm.022$	36.079
6.500"	$\pm.022$	39.023
6.750"	$\pm.022$	42.083
7.000"	$\pm.022$	45.258
7.250"	$\pm.022$	48.548
7.500"	$\pm.022$	51.954
8.000"	$\pm.030$	59.113
8.500"	$\pm.054$	66.732
9.000"	$\pm.054$	74.814
10.000"	$\pm.074$	92.363
10.125" *	$\pm.074$	94.686
11.000" *	$\pm.084$	111.759
12.000" *	$\pm.084$	133.002
12.125" *	($+.125/-0.084$)	136.247
12.500" *	$\pm.084$	144.240
13.000" *	$\pm.084$	156.084

*Master lengths of these bars vary. Inquire for further information



EXTRUDED SQUARE BAR

Available Sawing Services for Extruded Square Bar

Alloy 6061
Meets ASTM B221
Tempers: T6 & T6511
Density: .098
Standard Length: 144"

Extrusion Saw Cutting

Tolerances as close as $\pm.005$
Cut lengths .50" and longer
RMS finish as low as 32
Max 4:1 diameter to length ratio

Band Saw Cutting

Tolerances as close as $+.030/-0.000$
Cut lengths .375" and longer
RMS finish as low as 76
Capable of cutting larger than 4:1 ratio
22.0" square max size

Dimension	Tolerance	Weight (lbs/ft)
0.250"	$\pm.008$	0.074
0.375"	$\pm.008$	0.165
0.438" *	$\pm.008$	0.226
0.500"	$\pm.009$	0.294
0.563"	$\pm.009$	0.373
0.625"	$\pm.009$	0.460
0.688"	$\pm.009$	0.577
0.750"	$\pm.010$	0.662
0.813"	$\pm.010$	0.777
0.875"	(+) 0.010	.911
0.938"	(+) 0.010	1.033
1.000"	(+) 0.012	1.190
1.125"	(+) 0.012	1.507
1.250"	(+) 0.012	1.855
1.375"	(+) 0.012	2.246
1.500"	(+) 0.014	2.671
1.625"	(+) 0.014	3.105
1.750"	(+) 0.014	3.630
2.000"	(+) 0.024	4.761
2.250"	(+) 0.024	6.071
2.500"	(+) 0.024	7.421
2.750"	(+) 0.024	8.970
3.000"	(+) 0.024	10.669
3.250"	(+) 0.024	12.513
3.500"	(+) 0.024	14.504
4.000"	(+) 0.034	18.976
4.500"	(+) 0.034	23.994
5.000"	(+) 0.034	29.600
5.500"	(+) 0.034	35.794
6.000"	(+) 0.044	42.647

*Stocked in T6 temper

All sizes .875" and above are stocked as manifold quality. These sizes are extruded to half commercial, plus-side only tolerances.





EXTRUDED RECTANGULAR BAR

Available Sawing Services for Rectangular Bar

Alloy 6061

Meets ASTM B221

Tempers: T6 & T6511

Density: .098

Extrusion Saw Cutting

Tolerances as close as $\pm.005$

Cut lengths .50" and longer

RMS finish as low as 32

Max 4:1 diameter to length ratio

8.0" max thickness

Band Saw Cutting

Tolerances as close as $+.030/-0.000$

Cut lengths .375" and longer

RMS finish as low as 76

Capable of cutting larger than 4:1 ratio

22.0" max thickness

Thickness (tol.)	Width (tol.)	Weight (lbs/ft)
0.125" ($\pm.007$)	0.500" ($\pm.009$)	0.074
0.125" ($\pm.007$)	0.750" ($\pm.010$)	0.110
0.125" ($\pm.007$)	1.000" ($\pm.012$)	0.150
0.125" ($\pm.007$)	1.250" ($\pm.012$)	0.184
0.125" ($\pm.007$)	1.500" ($\pm.014$)	0.221
0.125" ($\pm.007$)	2.000" ($\pm.024$)	0.294
0.125" ($\pm.007$)	2.500" ($\pm.024$)	0.368
0.125" ($\pm.007$)	3.000" ($\pm.024$)	0.441
0.125" ($\pm.007$)	4.000" ($\pm.034$)	0.588
0.125" ($\pm.007$)	6.000" ($\pm.044$)	0.882
0.188" ($\pm.007$)	0.500" ($\pm.006$)	0.110
0.188" ($\pm.007$)	1.000" ($\pm.012$)	0.221
0.188" ($\pm.007$)	1.250" ($\pm.012$)	0.276
0.188" ($\pm.007$)	1.500" ($\pm.014$)	0.331
0.188" ($\pm.007$)	2.000" ($\pm.024$)	0.442
0.188" ($\pm.007$)	2.500" ($\pm.024$)	0.551
0.188" ($\pm.007$)	3.000" ($\pm.024$)	0.662
0.188" ($\pm.007$)	4.000" ($\pm.034$)	0.884
0.250" ($\pm.008$)	0.500" ($\pm.006$)	0.147
0.250" ($\pm.008$)	0.750" ($\pm.010$)	0.221
0.250" ($\pm.008$)	1.000" ($\pm.012$)	0.294
0.250" ($\pm.008$)	1.250" ($\pm.012$)	0.368
0.250" ($\pm.008$)	1.500" ($\pm.014$)	0.441
0.250" ($\pm.008$)	1.750" ($\pm.014$)	0.545
0.250" ($\pm.008$)	2.000" ($\pm.024$)	0.588
0.250" ($\pm.008$)	2.250" ($\pm.024$)	0.661
0.250" ($\pm.008$)	2.500" ($\pm.024$)	0.588
0.250" ($\pm.008$)	2.750" ($\pm.024$)	0.808
0.250" ($\pm.008$)	3.000" ($\pm.024$)	0.882
0.250" ($\pm.008$)	3.500" ($\pm.024$)	1.032
0.250" ($\pm.008$)	4.000" ($\pm.034$)	1.176
0.250" ($\pm.008$)	5.000" ($\pm.034$)	1.470
0.250" ($\pm.008$)	6.000" ($\pm.044$)	1.764
0.250" ($\pm.016$)	8.000" ($\pm.064$)	2.352
0.250" ($\pm.016$)	10.000" ($\pm.074$)	2.940
0.250" ($\pm.016$)	12.000" ($\pm.084$)	3.528

Thickness (tol.)	Width (tol.)	Weight (lbs/ft)
0.313" ($\pm.008$)	1.000" ($\pm.012$)	0.368
0.313" ($\pm.008$)	1.500" ($\pm.014$)	0.551
0.313" ($\pm.008$)	2.000" ($\pm.024$)	0.736
0.313" ($\pm.008$)	3.000" ($\pm.024$)	1.104
0.375" ($\pm.008$)	0.500" ($\pm.006$)	0.221
0.375" ($\pm.008$)	0.750" ($\pm.010$)	0.331
0.375" ($\pm.008$)	1.000" ($\pm.012$)	0.441
0.375" ($\pm.008$)	1.250" ($\pm.012$)	0.551
0.375" ($\pm.008$)	1.500" ($\pm.014$)	0.662
0.375" ($\pm.008$)	1.750" ($\pm.014$)	0.772
0.375" ($\pm.008$)	2.000" ($\pm.024$)	0.882
0.375" ($\pm.008$)	2.500" ($\pm.024$)	1.103
0.375" ($\pm.008$)	3.000" ($\pm.024$)	1.323
0.375" ($\pm.008$)	3.500" ($\pm.024$)	1.544
0.375" ($\pm.008$)	4.000" ($\pm.034$)	1.764
0.375" ($\pm.008$)	4.500" ($\pm.034$)	1.984
0.375" ($\pm.008$)	5.000" ($\pm.034$)	2.205
0.375" ($\pm.008$)	6.000" ($\pm.044$)	2.646
0.375" ($\pm.016$)	8.000" ($\pm.064$)	3.528
0.375" ($\pm.016$)	10.000" ($\pm.074$)	4.410
0.375" ($\pm.016$)	12.000" ($\pm.084$)	5.292
0.500" ($\pm.009$)	0.750" ($\pm.010$)	0.441
0.500" ($\pm.009$)	1.000" ($\pm.012$)	0.588
0.500" ($\pm.009$)	1.250" ($\pm.012$)	0.735
0.500" ($\pm.009$)	1.500" ($\pm.014$)	0.882
0.500" ($\pm.009$)	1.750" ($\pm.014$)	1.029
0.500" ($\pm.009$)	2.000" ($\pm.024$)	1.176
0.500" ($\pm.009$)	2.500" ($\pm.024$)	1.470
0.500" ($\pm.009$)	3.000" ($\pm.024$)	1.764
0.500" ($\pm.009$)	3.500" ($\pm.024$)	2.058
0.500" ($\pm.009$)	4.000" ($\pm.034$)	2.352
0.500" ($\pm.009$)	4.500" ($\pm.034$)	2.652
0.500" ($\pm.009$)	5.000" ($\pm.034$)	2.940
0.500" ($\pm.009$)	6.000" ($\pm.044$)	3.528
0.500" ($\pm.009$)	6.500" ($\pm.044$)	3.822
0.500" ($\pm.017$)	8.000" ($\pm.064$)	4.800
0.500" ($\pm.017$)	10.000" ($\pm.074$)	5.880
0.500" ($\pm.017$)	12.000" ($\pm.084$)	7.056

Stock list continued on back page.



EXTRUDED RECTANGULAR BAR CONT'D

Thickness (tol.)	Width (tol.)	Weight (lbs/ft)
0.625" (±.009)	1.000" (±.012)	0.735
0.625" (±.009)	1.250" (±.012)	0.919
0.625" (±.009)	1.500" (±.014)	1.103
0.625" (±.009)	2.000" (±.024)	1.470
0.625" (±.009)	2.500" (±.024)	1.837
0.625" (±.009)	3.000" (±.024)	2.205
0.625" (±.009)	4.000" (±.034)	2.940
0.625" (±.009)	5.000" (±.034)	3.675
0.625" (±.009)	6.000" (±.044)	4.410
0.625" (±.017)	8.000" (±.064)	5.880
0.625" (±.017)	12.000" (±.084)	8.820
0.750" (±.010)	1.000" (±.012)	0.882
0.750" (±.010)	1.250" (±.012)	1.103
0.750" (±.010)	1.500" (±.014)	1.323
0.750" (±.010)	1.750" (±.014)	1.544
0.750" (±.010)	2.000" (±.024)	1.764
0.750" (±.010)	2.500" (±.024)	2.205
0.750" (±.010)	3.000" (±.024)	2.646
0.750" (±.010)	3.500" (±.024)	3.087
0.750" (±.010)	4.000" (±.034)	3.528
0.750" (±.010)	5.000" (±.034)	4.410
0.750" (±.010)	6.000" (±.044)	5.292
0.750" (±.018)	8.000" (±.064)	7.056
0.750" (±.018)	10.000" (±.074)	8.820
0.750" (±.018)	12.000" (±.084)	10.584
1.000" (+.012)	1.250" (+.012)	1.486
1.000" (+.012)	1.500" (+.014)	1.783
1.000" (+.012)	1.750" (+.014)	2.080
1.000" (+.012)	2.000" (+.024)	2.380
1.000" (+.012)	2.500" (+.024)	2.972
1.000" (+.012)	3.000" (+.024)	3.563
1.000" (+.012)	3.500" (+.024)	4.155
1.000" (+.012)	4.000" (+.034)	4.752
1.000" (+.012)	5.000" (+.034)	5.935
1.000" (+.012)	6.000" (+.044)	7.131
1.000" (+.012)	8.000" (+.054)	9.496
1.000" (±.019)	10.000" (±.074)	11.760
1.000" (±.019)	12.000" (±.084)	14.112
1.250" (+.012)	1.500" (+.014)	2.205
1.250" (±.012)	1.750" (±.014)	2.572
1.250" (+.012)	1.750" (+.014)	2.597
1.250" (+.012)	2.000" (+.024)	2.974
1.250" (+.012)	2.500" (+.024)	3.710
1.250" (+.012)	3.000" (+.024)	4.449
1.250" (+.012)	3.500" (+.024)	5.187
1.250" (±.012)	3.750" (+.024)	5.512
1.250" (+.012)	4.000" (+.034)	5.933
1.250" (+.012)	4.500" (+.034)	6.677
1.250" (+.012)	5.000" (+.034)	7.416
1.250" (+.012)	6.000" (+.044)	8.902
1.250" (±.012)	8.000" (±.054)	11.760

Thickness (tol.)	Width (tol.)	Weight (lbs/ft)
1.500" (+.014)	1.750" (+.014)	3.056
1.500" (+.014)	2.000" (+.024)	3.566
1.500" (+.014)	2.500" (+.024)	4.460
1.500" (+.014)	3.000" (+.024)	5.338
1.500" (+.014)	3.500" (+.024)	6.233
1.500" (+.014)	4.000" (+.034)	7.119
1.500" (+.014)	4.500" (+.034)	7.938
1.500" (+.014)	5.000" (+.034)	8.891
1.500" (+.014)	6.000" (+.044)	10.672
1.500" (+.014)	6.500" (+.044)	11.470
1.500" (+.014)	8.000" (+.064)	14.112
1.500" (+.014)	8.500" (+.054)	15.112
1.500" (±.024)	12.000" (±.084)	21.168
1.750" (+.014)	2.000" (+.024)	4.116
1.750" (+.014)	3.000" (+.024)	6.174
1.750" (+.014)	4.000" (+.034)	8.232
1.750" (+.014)	5.000" (+.034)	10.366
2.000" (+.024)	2.500" (+.024)	5.944
2.000" (+.024)	3.000" (+.024)	7.127
2.000" (+.024)	3.500" (+.024)	8.309
2.000" (+.024)	4.000" (+.034)	9.505
2.000" (+.024)	5.000" (+.034)	11.871
2.000" (+.024)	6.000" (+.044)	14.249
2.000" (+.024)	6.500" (+.044)	15.432
2.000" (+.024)	8.000" (+.044)	18.820
2.500" (+.024)	3.000" (+.024)	8.898
2.500" (+.024)	3.500" (+.024)	10.374
2.500" (+.024)	4.000" (+.034)	11.867
2.500" (+.024)	4.500" (+.034)	13.344
2.500" (+.024)	5.000" (+.034)	14.821
2.500" (+.024)	6.000" (+.044)	17.790
2.500" (+.024)	8.000" (+.054)	23.713
3.000" (+.024)	3.500" (+.024)	12.439
3.000" (+.024)	4.000" (+.034)	14.229
3.000" (+.024)	4.500" (+.034)	16.000
3.000" (+.024)	5.000" (+.034)	17.771
3.000" (+.024)	6.000" (+.044)	21.331
3.500" (.024)	4.000" (+.034)	16.614
3.500" (.024)	4.500" (+.034)	18.655
3.500" (.024)	5.000" (+.034)	20.750
3.500" (.024)	6.000" (+.044)	24.871
4.000" (+.034)	4.500" (+.034)	21.338
4.000" (+.034)	5.000" (+.034)	23.700
4.000" (+.034)	6.000" (+.044)	28.448
4.500" (+.034)	5.000" (+.034)	26.650
4.500" (+.034)	6.000" (+.044)	31.989
5.000" (+.034)	6.000" (+.044)	35.530

***Many bar sizes 1.0" and larger are produced as manifold quality. this includes a plus-side only, half commercial tolerance on the extruded dimension.**