



ALCOA

Alcoa Engineered Products

ACC-U-PLATE[®]

Tightest Tolerance Extruded Aluminum Bar



ACC-U-PLATE®

Tightest Tolerance Extruded Aluminum Bar

- EXTREMELY CLOSE TOLERANCES
- MAXIMUM FLATNESS OF ANY EXTRUDED BAR
- STRESS-RELIEVED TO MINIMIZE RESIDUAL STRESS

Alcoa Engineered Products' ACC-U-PLATE® is the closest-tolerance and highest quality extruded aluminum bar available. It offers consistent high quality, tight thickness tolerances (all on the plus side of nominal), flatness and dimensional stability at attractive savings over rolled plate.

ACC-U-PLATE extruded aluminum bar delivers stable machinability for excellent cutting, drilling, milling and boring performance. This high quality product is the lower-cost alternative for:

- Molds
- Gauges
- Tools
- Dies
- Structural Supports
- Jigs and Fixtures
- Machine Components
- Bases and Housings



EXCELLENT MACHINABILITY

ACC-U-PLATE tightest tolerance extruded aluminum bar exhibits excellent stability for precision machining. Users report reduced machining time and extended tool life, with fewer rejects and less waste.

ACC-U-PLATE tightest tolerance extruded aluminum bar is produced in 6061 and 6262 alloys with standard thicknesses from .250" (.500" in alloy 6262) to 4.000" and widths from 8.000" to 18.000". (Also available in metric sizes: thicknesses from 16 mm to 80 mm and widths from 348 mm to 457 mm.) ACC-U-PLATE product, the best value for today's market requirements, is available through your local Metal Service Center.

COMPARATIVE THICKNESS TOLERANCES

Selected Thickness (Inches)	6061-T6511 Alcoa Extruded ACC-U-PLATE® Product Tolerance (Inches)	6061-T651 Industry Precision Rolled Plate Tolerance (Inches)	6061-T6511 Alcoa Extruded ECON-O-PLATE™ Product Tolerance ⁽¹⁾ (Inches)
1/4	+0.016 / -0.000 ⁽²⁾	N/A	+0.016 / -0.016
3/8	+0.016 / -0.000	+0.018 / -0.000	+0.016 / -0.016
1/2	+0.022 / -0.000	+0.023 / -0.000	+0.017 / -0.017
3/4	+0.030 / -0.000	+0.031 / -0.000	+0.018 / -0.018
1	+0.038 / -0.000	+0.039 / -0.000	+0.019 / -0.019
1-1/2	+0.038 / -0.000	+0.039 / -0.000	+0.024 / -0.024
2	+0.054 / -0.000	+0.055 / -0.000	+0.034 / -0.034
2-1/2	+0.074 / -0.000	+0.075 / -0.000	+0.034 / -0.034
3	+0.074 / -0.000	+0.100 / -0.000	+0.034 / -0.034
3-1/2	+0.100 / -0.000	+0.100 / -0.000	+0.034 / -0.034
4	+0.130 / -0.000	+0.130 / -0.000	+0.044 / -0.044

NOTE: (1) FOR WIDTHS 10" AND GREATER. (2) TOLERANCE FOR WIDTHS OVER 12.000 IS +0.024 / -0.000

High-Performance Physical and Dimensional Characteristics

- Dimensional tolerances (all on the plus side of nominal) to 1/2 extrusion product commercial standards and equivalent to rolled plate.
- Flatness to better than 1/4 extrusion product commercial standards.
- Minimum ultimate strength and minimum yield strength equal to rolled plate.
- Surface finish of 90 micro-inches, max.
- 6061 alloy ACC-U-PLATE® meets ASTM B 221 and ASME SB 221
- 6262 alloy ACC-U-PLATE® meets ASTM B 221

ACC-U-PLATE® EXTRUDED ALUMINUM BAR IS PRODUCED IN 6061 and 6262 ALLOYS... with 6061 being one of the most widely used alloys in the 6000 Series. As a standard structural alloy, 6061 is one of the most versatile of the heat-treatable alloys, is popular for medium to high strength requirements and has good toughness characteristics. Alloy 6061 has excellent corrosion resistance to atmospheric conditions. This alloy also offers good mechanical, chemical and electrochemical finishing characteristics and responds well to anodizing. Alloy 6262 has a similar chemistry to 6061 except small additions of Pb and Bi are present to enhance machineability.

Chemical Analysis — 6061 & 6262 Alloys

Alloy	Elements										Others Each	Others Total	Aluminum
	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi			
6061	.40-.8	.7	.15-.40	.15	.8-1.2	.04-.35	.25	.15	—	—	.05	.15	Remainder
6262	.40-.8	.7	.15-.40	.15	.8-1.2	.04-.14	.25	.15	.40-.7	.40-.7	.05	.15	Remainder
	Density			Liquidus Temperature				Solidus Temperature					
6061	0.098 lb./in. ³			1206°F				1080°F					
6262	0.098 lb./in. ³			1204°F				1078°F					

Reference: ASM Metals Handbook®, Tenth Edition, Volume 2

ALLOY 6061 AND 6262 ACC-U-PLATE® MECHANICAL PROPERTY LIMITS

Temper	Thickness ¹	Tensile Strength (ksi)				Elongation Percent Min. in 2 inch or 4D	Typical Brinell Hardness (500 kg load/ 10 mm ball)	Typical Ultimate Shearing Strength (ksi)
		Ultimate		Yield				
		Min.	Max.	Min.	Max.			
Standard Tempers								
T6, T6511	.375 and Over	42.0	—	35.0	—	10	95	30

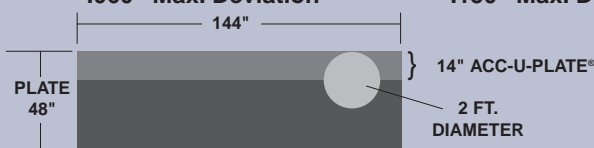
1. MINIMUM ULTIMATE TENSILE STRENGTH FOR LESS THAN .375" THICKNESS ACC-U-PLATE PRODUCT IS 38.0 KSI.

Flatness-Short Span (in any equivalent 24" dimension)

Alcoa Extruded Product
ACC-U-PLATE®⁽¹⁾
.060" Max. Deviation

Industry Precision
Rolled Plate⁽²⁾
.060" Max. Deviation

Alcoa Extruded Product
ECON-O-PLATE™
.150" Max. Deviation



(1) Maximum Deviation From Total Flatness. Total Flatness (Which Includes Twist, Straightness and Flatness) Is Not To Exceed .060" In Any 2 Ft. Or Less Of Length And .100" For Lengths Through 6 Ft. With Extrusion Resting On Flat Surface.

(2) In Plate - Short Span Flatness Is The Deviation From Flat Over Full Span For Spans 2 Ft. And Less As Measured With The Plate Resting On A Flat Surface.

COMPARATIVE ACC-U-PLATE® PROPERTIES

Property	6061-T6511 6262-T6511 Alcoa Extruded ACC-U-PLATE® Product	6061-T651 Industry Precision Rolled Plate	6061-T6511 6262-T6511 Alcoa Extruded ECON-O-PLATE™ Product
LONGITUDINAL FLATNESS (UP TO 72")	.100" MAX. DEVIATION	.100" MAX. DEVIATION	.450" (1) MAX. DEVIATION
TRANSVERSE FLATNESS	.020" TO .045" (2) MAX. DEVIATION	.100" TO .125" (3) MAX. DEVIATION	.032" TO .072" (4) MAX. DEVIATION
MINIMUM ULTIMATE TENSILE STRENGTH (5) (LONGITUDINAL DIRECTION)	42,000 PSI (6)	42,000 PSI	38,000 PSI
MINIMUM YIELD TENSILE STRENGTH (LONGITUDINAL DIRECTION)	35,000 PSI	35,000 PSI	35,000 PSI
% ELONGATION (LONGITUDINAL DIRECTION)	10%	8%	10%
SURFACE FINISH	90 MICRO-INCH MAX.	90 MICRO-INCH MAX.	N/A
SPECIFICATIONS	ASTM B 221 ASME SB 221	ASTM B 209 ASME SB 209	ASTM B 221 ASME SB 221

NOTES: (1) For 14.000 WIDTH.
 (2) TO 8" WIDTH, .020"; 8" TO 10" WIDTH, .025"; 10" TO 12" WIDTH, .030"; 12" TO 14" WIDTH, .035"; 16" WIDTH, .040"; 18" WIDTH, .045".
 (3) IN 3" TO 4 FT. WIDTH.
 (4) IN 8" TO 18" WIDTH.
 (5) MINIMUM ULTIMATE TENSILE STRENGTH FOR LESS THAN .375" THICKNESS ACC-U-PLATE PRODUCT IS 38.0 KSI.
 (6) THICKNESS .375" AND GREATER.



Alcoa Engineered Products

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Alcoa Engineered Products

ACC-U-PLATE®

Tightest Tolerance Extruded Aluminum Bar

Standard Sizes (inches)

THICKNESS x WIDTH (")	WT./FT.	SECTION NO.
.250(+.016) x 8.000(+.108)	2.444	510969*
.250(+.016) x 10.000(+.148)	3.056	510970*
.250(+.016) x 12.000(+.168)	3.667	510971*
.375(+.016) x 8.000(+.108)	3.637	510972
.375(+.016) x 10.000(+.148)	4.549	510973
.375(+.016) x 12.000(+.168)	5.457	510974
.375(+.016) x 14.000(+.188)	6.348	510624
.375(+.016) x 16.000(+.208)	7.386	518672
.500(+.022) x 8.000(+.108)	4.840	510975
.500(+.022) x 10.000(+.148)	6.054	510976
.500(+.022) x 12.000(+.168)	7.262	510977
.500(+.022) x 14.000(+.188)	8.470	510625
.500(+.022) x 16.000(+.208)	9.753	518673
.625(+.022) x 8.000(+.108)	6.023	510978
.625(+.022) x 10.000(+.148)	7.535	510979
.625(+.022) x 12.000(+.168)	9.038	510980
.625(+.022) x 14.000(+.188)	10.541	510626
.625(+.022) x 16.000(+.208)	12.045	518674
.750(+.030) x 8.000(+.108)	7.245	510981
.750(+.030) x 10.000(+.148)	9.063	510982
.750(+.030) x 12.000(+.168)	10.871	510983
.750(+.030) x 14.000(+.188)	12.680	510627
.750(+.030) x 16.000(+.208)	14.488	515521
.750(+.030) x 18.000(+.228)	16.296	518675
.875(+.030) x 8.000(+.108)	8.430	510984
.875(+.030) x 10.000(+.148)	10.544	510985
.875(+.030) x 12.000(+.168)	12.648	510986
.875(+.031) x 14.000(+.188)	14.760	510628
.875(+.030) x 16.000(+.208)	16.964	515522
.875(+.030) x 18.000(+.228)	18.959	518704

THICKNESS x WIDTH (")	WT./FT.	SECTION NO.
1.000(+.038) x 8.000(+.108)	9.651	510987
1.000(+.038) x 9.000(+.108)	10.850	511927
1.000(+.038) x 10.000(+.148)	12.072	510988
1.000(+.038) x 12.000(+.168)	14.481	510989
1.000(+.038) x 13.000(+.168)	15.680	514801
1.000(+.038) x 14.000(+.188)	16.890	510629
1.000(+.038) x 15.000(+.188)	18.088	514789
1.000(+.038) x 16.000(+.208)	19.298	515175
1.000(+.038) x 18.000(+.228)	21.707	515458
1.125(+.038) x 8.000(+.108)	10.835	518705
1.125(+.038) x 10.000(+.148)	13.553	518706
1.125(+.038) x 12.000(+.168)	16.257	514059
1.125(+.038) x 14.000(+.168)	18.961	514060
1.125(+.038) x 16.000(+.208)	21.665	517333
1.125(+.038) x 18.000(+.228)	24.369	515788
1.250(+.038) x 8.000(+.108)	12.020	510990
1.250(+.038) x 10.000(+.148)	15.034	510991
1.250(+.038) x 12.000(+.168)	18.034	510992
1.250(+.038) x 13.000(+.168)	19.526	514556
1.250(+.038) x 14.000(+.188)	21.033	510630
1.250(+.038) x 15.000(+.188)	22.525	514790
1.250(+.038) x 16.000(+.208)	24.033	515523
1.250(+.038) x 18.000(+.228)	27.033	515789
1.375(+.038) x 8.000(+.108)	13.203	516407
1.375(+.038) x 10.000(+.148)	16.515	518707
1.375(+.038) x 12.000(+.168)	19.817	514061
1.375(+.038) x 14.000(+.188)	23.105	514062
1.375(+.038) x 16.000(+.208)	26.400	517334
1.375(+.038) x 18.000(+.228)	29.694	515791

(continued on back side)

Available in 6061 and 6262 alloys; standard 12' lengths.

*Does not meet ACC-U-PLATE® mechanical properties.



Alcoa Engineered Products

ACC-U-PLATE®

Tightest Tolerance Extruded Aluminum Bar

Standard Sizes (inches)

THICKNESS x WIDTH (")	WT./FT.	SECTION NO.
1.500(+.038) x 8.000(+.108)	14.387	510993
1.500(+.038) x 10.000(+.148)	17.995	510994
1.500(+.038) x 12.000(+.168)	21.587	510995
1.500(+.038) x 13.000(+.168)	23.373	514802
1.500(+.038) x 14.000(+.188)	25.177	510761
1.500(+.038) x 15.000(+.188)	26.963	514791
1.500(+.038) x 16.000(+.208)	28.767	515524
1.500(+.038) x 17.992(+.208)	32.326	533336
1.500(+.038) x 18.000(+.228)	32.358	515459
1.625(+.038) x 8.000(+.108)	15.571	518708
1.625(+.038) x 10.000(+.148)	19.477	518709
1.625(+.038) x 12.000(+.168)	23.363	514063
1.625(+.038) x 13.000(+.168)	25.296	514555
1.625(+.038) x 14.000(+.188)	27.249	514064
1.625(+.038) x 16.000(+.208)	31.135	517335
1.750(+.048) x 8.000(+.108)	16.803	510996
1.750(+.048) x 10.000(+.148)	21.016	510997
1.750(+.048) x 12.000(+.168)	25.210	510998
1.750(+.048) x 13.000(+.168)	27.296	514554
1.750(+.048) x 14.000(+.188)	29.404	510631
1.750(+.048) x 15.000(+.188)	31.490	514793
1.750(+.048) x 16.000(+.208)	33.596	515525
1.771(+.038) x 14.881(+.188)	31.538	533633
2.000(+.054) x 8.000(+.108)	19.198	510999
2.000(+.054) x 10.000(+.148)	24.014	511000
2.000(+.054) x 12.000(+.168)	28.805	511001
2.000(+.054) x 13.000(+.168)	31.189	514553
2.000(+.054) x 14.000(+.188)	33.597	510632
2.000(+.054) x 15.000(+.188)	35.980	514792
2.000(+.054) x 16.000(+.208)	38.388	515176

THICKNESS x WIDTH (")	WT./FT.	SECTION NO.
2.250(+.054) x 8.000(+.108)	21.567	514017
2.250(+.054) x 10.000(+.148)	26.976	514018
2.250(+.054) x 12.000(+.168)	32.358	518710
2.250(+.054) x 13.000(+.168)	35.035	514552
2.250(+.054) x 14.000(+.188)	37.740	514558
2.250(+.054) x 16.000(+.208)	43.123	515737
2.250(+.054) x 16.250(+.208)	44.066	532486
2.375(+.054) x 8.000(+.108)	22.751	518711
2.375(+.054) x 10.000(+.148)	28.457	518712
2.375(+.054) x 12.000(+.168)	34.134	518713
2.375(+.054) x 13.000(+.168)	36.959	514551
2.375(+.054) x 14.000(+.188)	39.812	514557
2.375(+.054) x 16.000(+.208)	45.490	515794
2.500(+.074) x 8.000(+.188)	24.149	514019
2.500(+.074) x 10.000(+.188)	30.116	514020
2.500(+.074) x 12.000(+.168)	36.083	515093
2.500(+.074) x 14.000(+.188)	42.050	515092
2.500(+.074) x 16.000(+.208)	48.045	515526
3.000(+.074) x 8.000(+.108)	28.765	518714
3.000(+.074) x 10.000(+.148)	35.979	515095
3.000(+.074) x 12.000(+.168)	43.158	515096
3.000(+.074) x 14.000(+.188)	51.075	515094
3.000(+.074) x 16.000(+.208)	57.516	515527
3.500(+.100) x 8.000(+.108)	33.624	518715
3.500(+.100) x 10.000(+.148)	42.057	516402
3.500(+.100) x 12.000(+.168)	50.448	516403
3.500(+.100) x 14.000(+.188)	58.840	516404
3.500(+.100) x 16.000(+.208)	67.231	518716
4.000(+.130) x 8.000(+.108)	38.502	518717
4.000(+.130) x 10.000(+.148)	48.158	518718
4.000(+.130) x 12.000(+.168)	57.770	516405
4.000(+.130) x 14.000(+.188)	67.375	516406

Available in 6061 and 6262 alloys; standard 12' lengths.



Alcoa Engineered Products

ACC-U-PLATE®

Standard Sizes (metric)

Tightest Tolerance Extruded Aluminum Bar

THICKNESS x WIDTH	WT./FT.	SECTION NO.
16mm (+.559) x 348mm (+4.267)	10.375	532013
16mm (+.559) x 363mm (+4.775)	10.827	532015
16mm (+.559) x 378mm (+4.775)	11.271	532016
16mm (+.559) x 393mm (+4.775)	11.708	532014
20mm (+.762) x 457mm (+5.283)	17.079	519908
25mm (+.762) x 457mm (+5.283)	21.270	519909
30mm (+.965) x 457mm (+5.283)	25.542	519910
35mm (+.965) x 348mm (+4.267)	22.631	532021
35mm (+.965) x 378mm (+4.775)	24.584	532023
35mm (+.965) x 457mm (+5.283)	29.729	519911
40mm (+.965) x 348mm (+4.267)	25.824	532025
40mm (+.965) x 363mm (+4.775)	26.948	532027
40mm (+.965) x 378mm (+4.775)	28.054	532028
40mm (+.965) x 393mm (+4.775)	29.161	532026
40mm (+.965) x 410mm (+5.283)	30.451	519914
45mm (+1.219) x 348mm (+4.267)	29.099	532029
45mm (+1.219) x 363mm (+4.267)	30.366	532031
45mm (+1.219) x 393mm (+4.775)	32.859	532030
45mm (+1.219) x 410mm (+5.283)	34.306	519915
50mm (+1.372) x 348mm (+4.267)	32.341	532033
50mm (+1.372) x 363mm (+4.267)	33.734	532035
50mm (+1.372) x 378mm (+4.775)	35.118	532036
50mm (+1.372) x 393mm (+4.775)	36.519	532034
50mm (+1.372) x 410mm (+5.283)	38.123	530228
50mm (+1.372) x 455mm (+5.283)	42.234	532037
55mm (+1.372) x 348mm (+4.267)	35.535	532038
55mm (+1.372) x 363mm (+4.775)	37.090	532039
55mm (+1.372) x 378mm (+4.775)	38.611	532040
55mm (+1.372) x 393mm (+4.775)	40.126	532041
55mm (+1.372) x 410mm (+5.283)	41.888	530540
60mm (+1.372) x 348mm (+4.267)	38.728	532042
60mm (+1.372) x 363mm (+4.775)	40.423	532043
60mm (+1.372) x 378mm (+4.775)	42.081	532044
60mm (+1.372) x 393mm (+4.775)	43.732	532045
60mm (+1.372) x 410mm (+5.283)	45.645	530229
65mm (+1.397) x 363mm (+4.775)	43.755	532046
65mm (+1.397) x 393mm (+4.775)	47.052	532047
70mm (+1.397) x 363mm (+4.775)	47.071	532048
70mm (+1.397) x 393mm (+4.775)	50.926	532049
80mm (+1.397) x 363mm (+4.775)	53.744	532017
80mm (+1.397) x 393mm (+4.775)	58.157	532018

Available in 6061 and 6262 alloys; standard 12' lengths.