



ASTM B221-14

Extruded bars, rods, profiles, and tubes manufactured through hot extrusion. All standard aluminum alloys and tempers are covered.

Alloy and temper designations are in compliance with the latest version of ANSI H35.1

Tolerances for the tubes we supply are shown in the tolerance tab (<https://alfiniti.com/wp-content/uploads/2022/11/STANDARD-TOLERANCES-Extruded-Tube.pdf>) and are in compliance with the latest revision of ANSI H35.2 and Aluminum Standards and Data.

A complete copy of this specification may be purchased at www.ASTM.org

A copy of ANSI H35.1 and H35.2 is available from the American National Standards Institute @ www.ansi.org

A copy of the Aluminum Standards and Data is available from the Aluminum Association at www.aluminum.org

Chemical Composition Limits

Alloy	Silicon	Iron	Copper	Manganese	Magnesium	Chromium	Zinc	Titanium	Vanadium	Other Elements		Aluminum
										Each	Total	
1060	0.25	0.35	0.05	0.03	0.03	...	0.05	0.03	0.05	0.03	...	99.60 min
1100	0.95 Si + Fe		0.05-0.20	0.05	...	...	0.10	...	...	0.05	0.15	99.60 min
3003	0.6	0.7	0.05-0.20	1.0-1.5	...	...	0.10	...	...	0.05	0.15	remainder
Alclad 3003	...	3003 Clad with 7072 alloy			...	...	...	...	...	...	...	...
3102	0.40	0.7	0.1	0.05-0.40	...	...	0.30	0.10	...	0.05	0.15	remainder
6005	0.6-0.9	0.35	0.10	0.10	0.40-0.6	0.10	0.10	0.10	...	0.05	0.15	remainder
6005A	0.50-0.9	0.35	0.30	0.50	0.40-0.7	0.30	0.20	0.10	...	0.05	0.15	remainder
6060	0.30-0.6	0.10-0.30	0.10	0.10	0.35-0.6	0.5	0.15	0.10	...	0.05	0.15	remainder
6061	0.40-0.8	0.7	0.15-0.40	0.15	0.8-1.2	0.04-0.35	0.25	0.15	...	0.05	0.15	remainder
6063	0.20-0.6	0.35	0.10	0.10	0.45-0.9	0.10	0.10	0.10	...	0.05	0.15	remainder
6082	0.7-1.3	0.50	0.10	0.40-1.0	0.6-1.2	0.25	0.20	0.10.	...	0.05	0.15	remainder



Tensile Property Limits

Temper	Specified Section or Wall Thickness, in.	Area, in. ²	Tensile Strength, Ksi		Yield Strength (0.2% offset), Ksi		Elongation in 2 in. or 4 x Diameter, min, %
			min	max	min	max	
Aluminum 1060							
O	all	all	8.5	14	2.5	...	25
H112	all	all	8.5	...	2.5	...	25
Aluminum 1100							
O	all	all	11.0	15.5	3.0	...	25
H112	all	all	11.0	...	3.0	...	25
Alloy 3003							
O	all	all	14.0	19.00	5.0	...	25
H112	all	all	14.0	...	5.0	...	25
Alloy Alclad 3003							
O	all	all	13.0	18.0	4.5	...	25
H112	all	all	13.0	...	4.5	...	25
Alloy 3102							
H112	0.028-0.050	all	11.0	18.0	4.0	...	25
Alloy 6005							
T1	up through 0.500	all	25.0	...	15.0	...	16
T5	<div style="display: inline-block; vertical-align: middle; font-size: 2em;">{</div> up through 0.124 0.125-1.000	all	38.0	...	35.0	...	8
		all	38.0	...	35.0	...	10

Tensile Property Limits

Temper	Specified Section or Wall Thickness, in.	Area, in. ²	Tensile Strength, Ksi		Yield Strength (0.2% offset), Ksi		Elongation in 2 in. or 4 x Diameter, min, %
			min	max	min	max	
Alloy 6005A							
T1	up through 0.249	all	25.0	...	14.5	...	15
T5	up through 0.250	all	38.0	...	31.0	...	7
	0.250-0.999	all	38.0	...	31.0	...	9
T61	up through 0.249	all	38.0	...	35.0	...	8
	0.250-1.000	all	38.0	...	35.0	...	10
Alloy 6060							
T51	up through 0.125	all	22.0	...	16.0	...	8
T61	up through 0.124		30.0	...	25.0	...	8
	0.125-1.000		30.0	...	25.0	...	10
Alloy 6061							
O	all	all	...	22.0	...	16.0	16
T1	up through 0.625	all	26.0	...	14.0	...	16
T4	}	all	26.0	...	16.0	...	16
T4510							
T4511							
T42	all	all	26.0	...	12.0	...	16
T5	up through 0.625	all	35.0	...	30.0	...	8
T6, T62	}	all	38.0	...	35.0	...	8
T6510							
T6511	0.250 and over	all	38.0	...	35.0	...	10

Tensile Property Limits

Temper	Specified Section or Wall Thickness, in.	Area, in. ²	Tensile Strength, Ksi		Yield Strength (0.2% offset), Ksi		Elongation in 2 in. or 4 x Diameter, min, %
			min	max	min	max	
Alloy 6063							
O	all	all	...	19.0	...	...	18
T1	up through 0.500	all	17.0	...	9.0	...	12
	0.501-1.000	all	16.0	...	8.0	...	12
T4, T42	up through 0.500	all	19.0	...	10.0	...	14
	0.501-1.000	all	18.0	...	9.0	...	14
T5	up through 0.500	all	22.0	...	16.0	...	8
	0.501-1.000	all	21.0	...	15.0	...	8
T52	up through 1.000	all	22.0	30.0	16.0	25.0	8
T54	up through 0.124	all	33.0	...	30.0	...	8
	0.125-0.499	all	33.0	...	30.0	...	10
T6, T62	up through 0.124	all	30.0	...	25.0	...	8
	0.125-1.000	all	30.0	...	25.0	...	10
T65	up through 0.182	all	36.0	...	33.0	...	8
Alloy 6082							
T6, T6511	0.200-0.750	all	45.0	...	38.0	...	6
	0.751-6.000	all	45.0	...	38.0	...	8
	6.001-8.00	all	41.0	...	35.0	...	6