

6082 T6 Aluminum Tube & Pipe

Specifications

6082 T6 aluminum is a high-strength alloy from the 6000 series that is widely used in various structural and marine applications due to its excellent strength-to-weight ratio, corrosion resistance, and weldability. The **T6 temper** is achieved through heat treatment, offering enhanced mechanical properties. **6082 T6 aluminum tube and pipe** are particularly popular in industries like aerospace, marine, automotive, and construction.

Chemical Composition of 6082 T6 Aluminum Tube & Pipe

Element	Composition Range
Aluminum (Al)	Balance
Silicon (Si)	0.7% - 1.3%
Iron (Fe)	0.5% max
Copper (Cu)	0.1% max
Manganese (Mn)	0.4% - 1.0%
Magnesium (Mg)	1.0% - 1.3%
Chromium (Cr)	0.1% max
Zinc (Zn)	0.25% max
Titanium (Ti)	0.1% max

This composition makes **6082 T6 aluminum** highly resistant to corrosion, particularly in marine and high-humidity environments, and gives it good structural integrity.

Mechanical Properties of 6082 T6 Aluminum Tube & Pipe

6082 T6 aluminum is known for its high strength and durability, especially when used in **marine, aerospace, automotive, and construction applications**. Below are the typical mechanical properties of 6082 T6 aluminum in **tube and pipe** form:

Property	Value
Tensile Strength	290 MPa (min)
Yield Strength	240 MPa (min)

Property	Value
Elongation	8-10% in 50 mm (2 inches)
Hardness (Brinell)	95 HB
Modulus of Elasticity	70 GPa (10,000 ksi)
Fatigue Strength	Excellent for cyclic loading
Density	2.77 g/cm ³

These mechanical properties provide **6082 T6 aluminum tube and pipe** with excellent strength, resistance to fatigue, and durability under stress.

Physical Properties of 6082 T6 Aluminum Tube & Pipe

Property	Value
Density	2.77 g/cm ³
Melting Point	655° C (1211° F)
Coefficient of Thermal Expansion (20-100° C)	13.0 × 10 ⁻⁶ /° C
Thermal Conductivity	160 W/m • K
Electrical Conductivity	33% IACS

These physical properties ensure **6082 T6 aluminum tubes and pipes** perform reliably in both extreme temperature environments and applications requiring good heat dissipation.

Dimensional Specifications for 6082 T6 Aluminum Tube & Pipe

6082 T6 aluminum tubes and pipes are available in various sizes and can be customized to meet specific project requirements. Below are the common dimensions for tubes and pipes manufactured from **6082 T6 aluminum**:

Tube Dimensions

Tube Type	Outer Diameter (OD)	Wall Thickness	Length
Round Tube	10 mm to 300 mm (custom sizes available)	1 mm to 20 mm	Up to 6 meters (custom lengths available)

Tube Type	Outer Diameter (OD)	Wall Thickness	Length
Square Tube	10 mm x 10 mm to 100 mm x 100 mm	1 mm to 20 mm	Up to 6 meters
Rectangular Tube	10 mm x 20 mm to 200 mm x 100 mm	1 mm to 20 mm	Up to 6 meters

Pipe Dimensions

Pipe Type	Outer Diameter (OD)	Wall Thickness	Length
Round Pipe	10 mm to 250 mm (custom sizes available)	1 mm to 15 mm	Up to 6 meters
Square Pipe	10 mm x 10 mm to 100 mm x 100 mm	1 mm to 15 mm	Up to 6 meters
Rectangular Pipe	20 mm x 10 mm to 150 mm x 100 mm	1 mm to 15 mm	Up to 6 meters

Applications of 6082 T6 Aluminum Tube & Pipe

Due to its high strength, excellent corrosion resistance, and ease of fabrication, **6082 T6 aluminum tubes and pipes** are used in a wide range of applications, including:

1. **Shipbuilding and Marine:** Used in structural components like frames, hulls, and piping systems due to its lightweight and resistance to seawater corrosion.
2. **Aerospace:** Aircraft structures and components requiring high strength and low weight, such as wing spars and fuselage.
3. **Automotive:** Lightweight frames and structural parts, improving fuel efficiency without compromising strength.
4. **Construction:** Used in bridges, frames, and structural support systems where high-strength and corrosion resistance are crucial.
5. **Manufacturing and Industrial:** Tubing for fluid transport, heat exchangers, and structural applications in machinery.

Advantages of 6082 T6 Aluminum Tube & Pipe

- **High Strength:** Offers superior tensile and yield strength, making it suitable for structural applications.
- **Corrosion Resistance:** Excellent resistance to atmospheric and marine corrosion.
- **Lightweight:** Reduces the overall weight of structures and systems, improving performance and fuel efficiency.
- **Weldability and Fabrication:** Easy to fabricate and weld, which reduces manufacturing costs and time.
- **Durability:** Performs well in harsh environments, such as high humidity, seawater exposure, and extreme temperatures.

6082 T6 aluminum tube and pipe are ideal for applications in industries that demand a combination of strength, corrosion resistance, and light weight. Whether used in **shipbuilding, aerospace, automotive, or construction**, 6082 T6 aluminum provides an excellent balance of mechanical properties, making it a go-to material for high-performance applications. With customizable sizes and excellent fabrication capabilities, **6082 T6 aluminum tubes and pipes** are engineered to meet your specific project requirements.

We regularly keep stock for 6082 T6 Pipe. tube with CCS certificate

Size	Material grade	Unit Weight(Kg/M)	Length(M)	Quantity in Piece
Φ20*3	6082-T6	0.436	6	202.33
Φ22*3	6082-T6	0.487	6	8
Φ22*3.5	6082-T6	0.553	6	0
Φ25*3	6082-T6	0.564	6	614.5
Φ25*3.5	6082-T6	0.643	6	0
Φ26.7*3.91	6082-T6	0.761	6	40
Φ27*2.87	6082-T6	0.592	6	222.5
Φ30*3	6082-T6	0.692	6	260

Φ 30*4	6082-T6	0.889	6	360.5
Φ 32*3	6082-T6	0.743	6	438.75
Φ 32*4	6082-T6	0.957	6	245.54
Φ 33. 4*4. 55	6082-T6	1.122	6	300
Φ 34*3	6082-T6	0.795	6	461.5
Φ 34*4	6082-T6	1.025	6	140.5
Φ 34*5	6082-T6	1.239	6	312
Φ 34*8	6082-T6	1.777	6	90
Φ 35*3	6082-T6	0.82	6	191
Φ 35*5	6082-T6	1.282	6	169
Φ 38*3	6082-T6	0.897	6	244.49
Φ 38*4	6082-T6	1.162	6	87.17
Φ 40*4	6082-T6	1.231	6	56.5
Φ 40*8	6082-T6	2.188	6	136
Φ 42*3	6082-T6	1	6	317.5
Φ 42*3. 5	6082-T6	1.151	6	102.5
Φ 42*4	6082-T6	1.299	6	77
Φ 42. 2*4. 85	6082-T6	1.548	6	12
Φ 45*4	6082-T6	1.401	6	28.98
Φ 48*3	6082-T6	1.154	6	49.5
Φ 48*4	6082-T6	1.504	6	95.5
Φ 48*5	6082-T6	1.837	6	214

Φ 48. 3*6	6082-T6	2.169	6	11.8
Φ 50*3	6082-T6	1.205	6	88.5
Φ 50*4	6082-T6	1.572	6	201.68
Φ 50*4. 5	6082-T6	1.75	6	31
Φ 51*5	6082-T6	1.965	6	20.63
Φ 60*3	6082-T6	1.461	12.2	24
Φ 60*3	6082-T6	1.461	6	20
Φ 60*4	6082-T6	1.914	6	121.8
Φ 60*5	6082-T6	2.35	6	111.83
Φ 60*6	6082-T6	2.769	6	102.9
Φ 60*8	6082-T6	3.555	6	96
Φ 60. 3*5. 54	6082-T6	2.592	6	30
Φ 65*4	6082-T6	2.085	6	99
Φ 70*6	6082-T6	3.281	6	106.5
Φ 73*5	6082-T6	2.905	6	22
Φ 73*7	6082-T6	3.948	6	109
Φ 75*4	6082-T6	2.427	12.2	26
Φ 75*4	6082-T6	2.427	6	27
Φ 75*7	6082-T6	4.067	6	35
Φ 76*5	6082-T6	3.034	6	113
Φ 76*6	6082-T6	3.589	6	39
Φ 80*4	6082-T6	2.598	6	64

Φ 80*5	6082-T6	3.181	6	0.5
Φ 80*8	6082-T6	4.922	6	80
Φ 80*10	6082-T6	5.982	6	21.15
Φ 85*5	6082-T6	3.418	6	130
Φ 88. 9*7	6082-T6	4.899	6	8.8
Φ 89*4. 05	6082-T6	2.94	6	35.88
Φ 89*5	6082-T6	3.589	6	90.37
Φ 89*8	6082-T6	5.537	6	60.5
Φ 90*6	6082-T6	4.307	6	20.33
Φ 90*8	6082-T6	5.606	6	63
Φ 90*10	6082-T6	6.836	6	25
Φ 90*12	6082-T6	7.998	6	49
Φ 95*8	6082-T6	5.947	6	26
Φ 100*4	6082-T6	3.281	6	56.5
Φ 100*5	6082-T6	4.059	6	76
Φ 100*8	6082-T6	6.289	6	48
Φ 100*10	6082-T6	7.691	6	63.9
Φ 101. 6*6. 35	6082-T6	5.168	6	72
Φ 102*6	6082-T6	4.922	6	20.5
Φ 108*4	6082-T6	3.555	6	59
Φ 108*8	6082-T6	6.836	6	25
Φ 108*8	6061-T6	6.836	6	28

Φ 110. 3*5	6082-T6	4.499	6	59
Φ 114*5	6082-T6	4.657	6	16.5
Φ 114. 3*6	6082-T6	5.553	6	11.83
Φ 114. 3*7	6082-T6	6.418	6	5
Φ 114. 3*8. 6	6082-T6	7.768	6	18.52
Φ 115*9	6082-T6	8.152	6	40
Φ 120*5	6082-T6	4.913	6	53.5
Φ 120*6	6082-T6	5.845	6	66
Φ 120*10	6082-T6	9.399	6	12
Φ 125*3	6082-T6	3.128	6	150
Φ 127*19	6082-T6	17.535	6	11
Φ 130*5	6082-T6	5.341	6	23
Φ 130*10	6082-T6	10.254	6	37.47
Φ 135*17. 5	6082-T6		6	8
Φ 140*6	6082-T6	6.87	6	52.5
Φ 140*8	6082-T6	8.96	6	6.33
Φ 140*10	6082-T6	11.109	6	29
Φ 150*5	6082-T6	6.195	6	72
Φ 150*10	6082-T6	11.88	6	3
Φ 150*12	6082-T6	14.151	6	10
Φ 150*20	6082-T6	22.217	6	19.67
Φ 160*10	6082-T6	12.818	6	43

Φ 170*7	6082-T6	9.75	6	25.25
Φ 170*10	6082-T6	13.672	6	4.3
Φ 180*10	6082-T6	14.527	6	10.78
Φ 180*15	6082-T6	21.14	6	5
Φ 190*10	6082-T6	15.381	6	9.5
Φ 190*11	6082-T6	16.825	6	19
Φ 190*12	6082-T6	18.96	6	19
Φ 190*20	6082-T6	29.053	6	10
Φ 210*5	6082-T6	10.036	6	32.67
Φ 216*12.7	6082-T6	22.063	6	11.5
Φ 219*8	6082-T6	14.32	6	22.33
Φ 250*5	6082-T6	10.468	6	20
Φ 270*10	6082-T6	22.217	6	5
Φ 280*10	6082-T6	23.072	6	26
Φ 356*10.5	6082-T6	31	6	2