TECHNICAL DATA SHEET

PRODUCT: A97475 ALUMINUM ALLOY PLATE

Aluminum alloys have high electrical conductivity and strong corrosion resistance characteristics. These alloys are good low-temperature alloys. They gain strength when exposed to subzero temperatures and lose strength when exposed to high temperatures. Aluminum alloys are sensitive to high temperatures ranging between 200 and 250°C (392 and 482°F).

PRODUCT BASIC INFORMATION:

Alloy:	**7475**
Form:	Plate
Temper:	Aluminum Round Bar Temper: O, H12, H14, H16, H18, H22, H24, H26, H32, H112 - Aluminum Alloy: ASTM B221, B211, B565, B316, DIN-AlZn5.5MgCu 7475
Dimension:	Thickness: 6.0mm to 150mm Width: 1,000mm to 2,500mm Length: 3,000mm to 10,000mm
Surface Finish:	Mill Finish
Standard Specification:	**A97475 - ASTM, ASME, AMS, GB/T, JIS**
Application:	General Use EN AW-Al Zn5,5MgCu

CHEMICAL COMPOSITION:

Element		**Percentage (%)**
Aluminum	**(Al)**	88.5 - 91.5
Silicon	**(Si)**	<= 0.10
Iron	**(Fe)**	<= 0.12
Copper	**(Cu)**	1.2 - 1.9
Manganese	**(Mn)**	<= 0.06
Magnesium	**(Mg)**	1.9 - 2.6
Chromium	**(Cr)**	0.18 - 0.25
Zinc	**(Zn)**	--
Titanium	**(Ti)**	<= 0.06
Remainder Each		0.05 max
Remainder Total		0.15 max

MECHANICAL PROPERTIES:

Properties	Metric	Imperial
Tensile strength	496 MPa	72000 psi
Tensile Strength, Yield	421 MPa	61000 psi
Elongation	13%	13%
Elastic modulus	71.7 GPa	10400 ksi
Shear strength	300 MPa	43500psi
Fatigue Strength	220 MPa	31900 psi

PHYSICAL DATA :

Density (20°C):	2,81	g/cc
Melting Point:	477 – 635 °C	
Thermal Expansion	23.2	µm/m-K
Modulus of Elasticity:	71.7	GPa
Thermal conductivity (Temper O):	163	W/mK
Electrical Resistivity (Temper O):	0.00000416	ohm-cm
Conductivity (Temper O):	46	%IACS
Magnetic performance:	No	
Color:	Silver	
Odour:	No	

TOLERANCE ON FORMS AND DIMENSIONS :

Thickness Tolerance:	Thickness	Width			
		≤1250mm	>1250~1600mm	>1600~2000mm	>2000~2500mm
	≥ 6~8mm	± 0.35mm	± 0.40mm	± 0.40mm	± 0.50mm
	> 8~10mm	± 0.45mm	± 0.50mm	± 0.50mm	± 0.55mm
	> 10~15mm	± 0.50mm	± 0.60mm	± 0.65mm	± 0.65mm
	> 15~20mm	± 0.60mm	± 0.70mm	± 0.75mm	± 0.80mm
	> 20~30mm	± 0.65mm	± 0.75mm	± 0.85mm	± 0.90mm
	> 30~40mm	± 0.75mm	± 0.85mm	± 1.00mm	± 1.10mm
	> 40~50mm	± 0.90mm	± 1.00mm	± 1.10mm	± 1.20mm
	> 50~60mm	± 1.10mm	± 1.20mm	± 1.40mm	± 1.50mm
	> 60~80mm	± 1.40mm	± 1.50mm	± 1.70mm	± 1.90mm
	> 80~100mm	± 1.70mm	± 1.80mm	± 1.90mm	± 2.10mm
	> 100~150mm	± 2.10mm	± 2.20mm	± 2.50mm	± 2.60mm

Width Tolerance:	Thickness	Width		
		≤ 1000mm	> 1000~2000mm	> 2000~2500mm
	≥ 6~12mm	+ 6mm	+ 7mm	+ 8mm
	> 12~50mm	+ 6mm	+ 7mm	+ 9mm
	> 50~150mm	+ 8mm	+ 8mm	+ 9mm

Length Tolerance:	Thickness	Length			
		≤ 2000mm	> 2000~3000mm	> 3000~4000mm	> 4000
	≥ 6~150mm	+ 7mm	+ 8mm	+ 9mm	+ 10mm

Flatness Tolerance:	Thickness	Total Deviation %		
		On Length	On Width	Partial Deviation
	≥ 6~50mm	≤ 0.2%	≤ 0.4%	≤ 0.3%
	> 50~150mm	≤ 0.2%	≤ 0.2%	By agreement

Lateral Curvature Tolerance:	Width	Lateral Curvature Tolerance for Specified Length			
		≤ 2000mm	> 2000~3000mm	> 3000~5000mm	> 5000mm
	≤1250mm	≤ 4mm	≤ 7mm	≤ 10mm	≤ 0.2% of Specified Length
	>1250~1500mm	≤ 3mm	≤ 6mm	≤ 8mm	
	>1500~2000mm	≤ 3mm	≤ 6mm	≤ 7mm	
	>2000mm	-	≤ 5mm	≤ 6mm	

Squareness Tolerance:	Length	Squareness Tolerance for Specified Width			
		≤ 1000mm	>1000~1500mm	>1500~2000mm	> 2000mm
	≤2000mm	≤ 6mm	≤ 7mm	≤ 8mm	-
	>2000~3000mm	≤ 7mm	≤ 7mm	≤ 9mm	≤ 10mm
	>3000~3500mm	≤ 7mm	≤ 8mm	≤ 10mm	≤ 10mm
	>3500~5000mm	≤ 8mm	≤ 10mm	≤ 10mm	≤ 12mm
	>5000mm	≤ 12mm	≤ 12mm	≤ 15mm	≤ 15mm

OTHER PROPERTIES:

Principal Design Features	Aluminum 7475 is one of the most versatile alloys available on the market today due to its excellent mechanical properties, including corrosion resistance, heat resistance and ease of machining/welding, making it suitable for a wide range of applications from aerospace components through automotive parts right down commercial items like electrical enclosures and structural components! Its ability to withstand high temperatures holds up well against other alloys with similar level strengths, making it a great option for hot environments like under car engines.
Machinability	Aluminum 7475 alloy has good machining characteristics in the annealed condition. Oil-based lubricants can be used during the machining operations of this alloy.
Weldability	Welding aluminum 7475 requires special attention when compared to other alloy types because this alloy is prone to cracking during welding operations if not managed correctly. To ensure successful welds, preheating should be performed prior to welding with temperatures ranging from 300500°F (149260°C). Post-weld heat treatment should also be done at 650700°F (343371°C), depending on application requirements.

Heat Treatment	Aluminum 7475 does not require special heat treatment techniques but can be cold-worked by stretching or bending the material into the desired shape before use. Cold working increases the tensile strength of the material significantly while still maintaining good ductility and formability.
Hot Working	--
Cold Working	Conventional methods are used to readily cold work Aluminum / Aluminum 7475 alloy in the annealed condition.
Annealing	--
Aging	--
Hardening	--

APPLICATIONS

Typical Applications	Aluminum 7475 has a wide range of applications due to its excellent mechanical properties. It is widely used in aerospace components due to its high strength-to-weight ratio and low density. It is also widely used in automotive components such as wheels, engine blocks, transmission parts, and fuel tanks. Aluminum 7475 can also be found in commercial applications such as electrical enclosures and structural components.

PACKAGING, HANDING & STORAGE:

Package:	Packed in waterproof Kraft, fastened by steel straps on wood pallets, suitable for handling, loading and unloading from the trunks or containers, suitable for export ocean forwarding.
Handling:	Prevent the goods hurting the people who are moving, loading, unloading, especially pay attention to the rolling and dropping for the coils.
Storage:	Stored in indoor area on plain floor, free away from moisture, water, snow, animal oils and dye wastes, avoid storing with acid or basic chemical goods.