

7072 Aluminum Alloy Overview

7072 aluminum alloy is a variant of the 7075 alloy, specifically designed for improved formability and weldability while maintaining high strength.

Chemical Composition:

- Aluminum (Al): 90.7% 91.7%
- Zinc (Zn): 5.1% 6.1%
- Magnesium (Mg): 2.1% 2.9%
- Copper (Cu): 1.2% 2.0%
- Chromium (Cr): 0.18% 0.28%
- Other Elements: < 0.5% each, < 0.15% total for other elements

Physical Properties:

- Density: 2.81 g/cm³ (0.1015 lb/in³)
- Melting Point: 475 640°C (887 1184°F)

Mechanical Properties:

- Tensile Strength: 570 600 MPa (82700 87000 psi)
- Yield Strength: 500 560 MPa (72500 81200 psi)
- Elongation: 7% 10%
- Modulus of Elasticity: 71.7 GPa (10400 ksi)

Applications:

- 1. Automotive Industry: Used in parts that need both strength and the ability to be formed and welded.
- 2. Industrial Fabrication: Applied in the manufacturing of structures and components requiring strength and versatility.
- 3. General Engineering: Utilized in various engineering applications where both formability and strength are crucial.
- 4. Welded Assemblies: Used in applications that involve welding and forming without sacrificing durability.
- 5. Aerospace Applications: Employed in aerospace components that require enhanced formability and weldability.

7072 aluminum alloy, a modification of the renowned 7075 alloy, focuses on enhancing formability and weldability while retaining high strength. This alloy finds favor in the automotive and general engineering sectors, where both strength and malleability are essential. The combination of strength, formability, and weldability makes 7072 a versatile and valuable material for a range of applications.