

## 1235 Aluminum Alloy Overview

1235 aluminum alloy is a commercially pure aluminum alloy known for its excellent formability, high reflectivity, and good electrical conductivity. It belongs to the wrought aluminum series and is often used in applications where its unique combination of properties is advantageous.

### Chemical Composition

- Aluminum (Al): 99.35% minimum
- Silicon (Si): 0.65% maximum
- Iron (Fe): 0.05% maximum
- Copper (Cu): 0.05% maximum
- Zinc (Zn): 0.10% maximum
- Other Elements: 0.15% maximum each, 0.05% total for other elements

### Physical Properties

- Density: 2.71 g/cm<sup>3</sup> (0.0977 lb/in<sup>3</sup>)
- Melting Point: 660.3°C (1220.5°F)

### Mechanical Properties

- Tensile Strength: 55-95 MPa (8,000-14,000 psi)
- Yield Strength: 20-70 MPa (3,000-10,000 psi)
- Elongation: 5-30%
- Modulus of Elasticity: 68.9 GPa (10,000 ksi)

### Applications

1. Foil and Packaging: It is commonly used for packaging materials, such as aluminum foil, due to its high formability and barrier properties.
2. Reflective Panels: The high reflectivity of 1235 alloy makes it suitable for reflective panels used in lighting and solar applications.
3. Electrical Conductors: Its good electrical conductivity makes it suitable for electrical conductors and cables.
4. Heat Exchangers: Used in heat exchangers and radiators due to its corrosion resistance and formability.
5. Decorative Trim: Its high surface reflectivity makes it suitable for decorative trim applications.
6. Thermal Insulation: Its reflective properties make it useful for thermal insulation applications.
7. Labels and Nameplates: Used for labels and nameplates due to its ease of embossing and formability.

1235 aluminum alloy offers a unique combination of properties that make it valuable in a range of applications. Its excellent formability, high reflectivity, and good electrical conductivity make it well-suited for foil and packaging, reflective panels, electrical conductors, and various other industries. Its versatility and ease of processing make it a reliable choice for applications that require lightweight materials with desirable

Email: [sales@wdalu.com](mailto:sales@wdalu.com)

Phone/Whatsapp/WeChat: +86 17719845538

Office Add: E6 Building, Zhima Street Park, Zhongyuan District, Zhengzhou City, Henan Province, China.

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Email: [sales@wdalu.com](mailto:sales@wdalu.com)

Phone/Whatsapp/WeChat: +86 17719845538

Office Add: E6 Building, Zhima Street Park, Zhongyuan District, Zhengzhou City, Henan Province, China.