

SL METALS CORPORATION

Secondary Aluminum Alloy A356

This reference document. A356 is a premium secondary aluminum casting alloy engineered for high-strength, high-reliability applications requiring superior ductility and corrosion resistance. SL Metals Corporation supplies A356 ingots produced to ASTM B85 specification, with full Certificate of Analysis (CoA) per shipment. Our A356 is particularly suitable for aerospace-grade, automotive structural components, and pressure-critical casting applications. The alloy's enhanced magnesium content and controlled impurity levels deliver superior mechanical properties over standard A380/ADC12 alloys.

Secondary Aluminum Alloy A356

Chemical Composition

All values in weight percent (wt.%). Actual CoA provided per shipment.

Element	Range / Limit	Notes
Silicon (Si)	7.0 – 8.0 %	Primary strengthening element; improves fluidity
Magnesium (Mg)	0.25 – 0.45 %	Enhances tensile strength and hardness; critical for high-performance applications
Iron (Fe)	≤ 0.20 %	Low levels improve ductility and corrosion resistance
Copper (Cu)	≤ 0.10 %	—
Zinc (Zn)	≤ 0.10 %	—
Manganese (Mn)	≤ 0.10 %	—
Nickel (Ni)	≤ 0.05 %	—
Lead (Pb)	≤ 0.05 %	—
Tin (Sn)	≤ 0.05 %	—
Titanium (Ti)	≤ 0.15 %	Grain refiner; enhances mechanical properties
Aluminum (Al)	Balance	—

Mechanical Properties

Average results from 10 test pieces per production lot.

Property	Typical Value
Tensile Strength	280 MPa
Proof Stress (0.2%)	160 MPa
Elongation	3.0 %
Hardness	75 HB

Packaging & Ingot Dimensions

Parameter	Specification
Ingot Weight	5.0 kg
Ingot Dimensions	700 × 100 × 500 mm
Bundle Weight	500 kg (or to customer requirement)
Handling	Forklift-compatible bundling

Typical Applications

A356 is the material of choice for aerospace and high-performance automotive applications requiring superior strength and reliability across global markets. Common applications include: Aerospace turbine blade housings • EV battery enclosures • High-strength suspension components • Pressure vessels & hydraulic fittings • Engine cylinder heads & crankcases • Structural automotive frames • Heavy-duty industrial equipment • Vibration-critical components

International Standard Equivalents

Region	Standard	Designation
Japan	JIS H 2117	AC8A / AC8B
Europe	EN 1706	AC-51000
USA	ASTM B85	A356
China	GB/T 15115	YL112

SL Metals can supply to customer-specific chemistry requirements and T-heat treatment specifications (T6, T7, etc.). Premium purity grades and custom tighter tolerances available upon request.



Contact & Quote Requests

To receive a competitive offer, please provide:

Alloy grade or local standard designation

Quantity (MT or FCL)

Destination port

Packaging preference

Company introduction

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