

# SL METALS CORPORATION

## Secondary Aluminum Alloy AlSi9Cu3

This reference document. AlSi9Cu3 is a premium secondary aluminum die-casting alloy preferred for high-performance applications requiring excellent strength-to-weight ratios and superior fluidity in cold-chamber die-casting processes. SL Metals Corporation supplies AlSi9Cu3 ingots produced to EN 1706 specification, with full Certificate of Analysis (CoA) per shipment. Our AlSi9Cu3 is suitable for direct charging into cold-chamber die-casting machines and is widely used in automotive, electronics, and industrial manufacturing with enhanced mechanical properties.

### Secondary Aluminum Alloy AlSi9Cu3

#### Chemical Composition

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

| Element        | Range / Limit | Notes                                            |
|----------------|---------------|--------------------------------------------------|
| Silicon (Si)   | 8.0 – 10.0 %  | Primary strengthening element; improves fluidity |
| Copper (Cu)    | 2.0 – 4.0 %   | Enhances hardness and machinability              |
| Iron (Fe)      | ≤ 1.5 %       | Prevents die soldering                           |
| Zinc (Zn)      | ≤ 1.0 %       | —                                                |
| Manganese (Mn) | ≤ 0.50 %      | —                                                |
| Magnesium (Mg) | ≤ 0.30 %      | —                                                |
| Nickel (Ni)    | ≤ 0.50 %      | —                                                |
| Lead (Pb)      | ≤ 0.25 %      | —                                                |
| Tin (Sn)       | ≤ 0.20 %      | —                                                |
| Titanium (Ti)  | ≤ 0.30 %      | —                                                |
| Aluminum (Al)  | Balance       | —                                                |

#### Mechanical Properties

Average results from 10 test pieces per production lot.

| Property            | Typical Value |
|---------------------|---------------|
| Tensile Strength    | 228 MPa       |
| Proof Stress (0.2%) | 158 MPa       |
| Elongation          | 1.5 %         |
| Hardness            | 80 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

AlSi9Cu3 is the preferred die-casting alloy for high-strength automotive and electronics applications across Japan, China, Malaysia, and Indonesia. Common applications include: Engine covers & housings • Transmission components • Electronic enclosures • Pump bodies • Bracket assemblies • Consumer electronics • Industrial connectors

## International Standard Equivalents

| Region | Standard   | Designation           |
|--------|------------|-----------------------|
| Japan  | JIS H 2118 | AlSi9Cu3              |
| Europe | EN 1706    | AC-46100 (AlSi9Cu3Fe) |
| USA    | ASTM B85   | A385 / 385            |
| China  | GB/T 15115 | YL114                 |



## Contact & Quote Requests

**SL Metals Corporation | 134 S. Dixie Hwy, Suite 212, Hallandale Beach, FL 33009, USA**

Tel: +1.305.320.4433 | Email: [info@slmet.com](mailto:info@slmet.com) | Web: [www.slmet.com](http://www.slmet.com)

WeChat / WhatsApp available upon request