SL METALS CORPORATION

Secondary Aluminum Alloy — International Standards Equivalence Reference

This reference document enables SL Metals customers and commercial counterparts in USA, Japan, China, Europe, and South America to identify exact equivalencies between SL Metals supplied grades and their locally applicable standards. All alloys are available in ingot form, with full Certificate of Analysis (CoA) per shipment.

1. Alloy Grade Equivalence — SL Metals Grades vs. International Standards

The table below maps each SL Metals supply grade to its closest equivalent designation under ASTM/AA (USA), JIS (Japan), EN 1706 (Europe), and GB/T (China) standards.

SL Metals Grade	JIS (Japan)	ASTM/AA (USA)	EN 1706 (Europe)	GB/T (China)	Application / Notes
Primary Die-Casting Alloys					
ADC12	JIS H 2118 ADC12	ASTM B85 A383 / 383	EN 1706 AC-46000 (AlSi12Cu1Fe)	GB/T 15115 YL113	*General-purpose die casting; automotive housings, covers*
A380	JIS H 2118 ADC10	ASTM B85 A380 / 380	EN 1706 AC-46200 (AlSi8Cu3)	GB/T 15115 YL102	*High-strength die casting*
AlSi9Cu3	JIS H 2118 ADC10Z	—	EN 1706 AC-46000 (AlSi9Cu3)	GB/T 15115 ZAlSi9Cu4	*Automotive & industrial; gearboxes, brackets*
AlSi10Cu	JIS H 2118 ADC12Z	—	EN 1706 AC-46100 (AlSi10Cu1Mg)	GB/T 8733 ZAlSi10Cu1	*Gravity & pressure die casting; complex shapes*
Al-Si-Mg (RSI / 356 off-grade)	JIS H 2118 ADC5 (approx.)	356.0 / A356.0	EN 1706 AC-42100 (AlSi7Mg)	GB/T 8733 ZAlSi7Mg	*Low-iron alloy; wheels, structural gravity casting*
Al-Si-Mg (RSI / 380 off-grade)	JIS H 2118 ADC10 (approx.)	380.0 off-grade	EN 1706 AC-43400 (AlSi10Mg)	GB/T 15115 (approx.)	*RSI off-grade; general industrial die casting*

Note: Exact composition ranges may vary by production lot. SL Metals supplies alloys to customer-specific chemistry requirements. All compositions verified by mill cert (CoA) per shipment.

2. Chemical Composition Reference (% by Weight)

Typical chemical composition ranges for each major alloy grade. SL Metals supplies to customer-specified chemistry requirements. A Certificate of Analysis is provided with every shipment.

Alloy Grade	Si %	Cu %	Mg %	Fe % (max)	Mn % (max)	Zn % (max)	Al	Standard Ref.
Chemical Composition Ranges (% by weight)								
ADC12	9.6–12.0	1.5–3.5	≤0.30	≤1.30	≤0.50	≤1.00	Bal.	*JIS H 2118 / EN AC-46000 / GB YL113*
A380 / ADC10	7.5–9.5	3.0–4.0	≤0.10	≤1.30	≤0.50	≤3.00	Bal.	*ASTM B85 / JIS H 2118 / EN AC-46200*
AlSi9Cu3	8.0–11.0	2.0–4.0	≤0.55	≤1.30	≤0.55	≤1.20	Bal.	*EN AC-46000 / JIS ADC10Z*
AlSi10Cu	9.0–11.0	0.7–1.2	≤0.50	≤1.10	≤0.55	≤0.55	Bal.	*EN AC-46100 / JIS ADC12Z*
356 / Al-Si-Mg	6.5–7.5	≤0.25	0.25–0.45	≤0.60	≤0.35	≤0.35	Bal.	*ASTM 356 / EN AC-42100 / GB ZAlSi7Mg*

Alloy Grade	Si %	Cu %	Mg %	Fe % (max)	Mn % (max)	Zn % (max)	Al	Standard Ref.
All values are typical ranges. Actual CoA per shipment. SL Metals can supply to tighter tolerances upon request. 'Bal.' = balance aluminum.								

3. Regional Standards Cross-Reference Matrix

Quick-reference matrix for procurement teams working across multiple national standards. Each column shows the designation used in that standards body for approximately equivalent alloy chemistry.

Standard (Region)	≈ ADC12	≈ A380	≈ AlSi9Cu3	≈ AlSi10Cu	Notes
Regional Standards Cross-Reference					
JIS H 2118 (Japan)	ADC12	ADC10	ADC10Z	ADC12Z	*Most common standard in Japan and Taiwan; used by major Japanese OEMs*
ASTM B85 (USA)	A383 / 383	A380 / 380	—	—	*ASTM is the primary North American standard; widely referenced globally*
EN 1706 (Europe)	AC-46000	AC-46200	AC-46000	AC-46100	*European standard used by German, Italian, and Eastern European die casters; common in South America as well*
GB/T 15115 (China)	YL113	YL102	ZAlSi9Cu4	—	*Chinese national standard; China is the world's largest secondary aluminum consumer*
DIN 226 (Germany, legacy)	GD-AlSi12(Cu)	GD-AlSi8Cu3	GD-AlSi9Cu3	—	*Superseded by EN 1706 but still referenced in older contracts and legacy specs*

Contact & Quote Requests

To request a quote, please provide: alloy grade (or local standard designation), quantity (MT or FCL), destination port, packaging preference, and company introduction.

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