

Alloy: **CA313**



Chemical Composition Limits:

Governing Specification:	AS 1874-2000
AAC Alloy Designation:	CA313

Hayes Metals Internal	D6313 - 10 kg Ingot
Product Code(s):	D6317 - 5 kg Ingot

Element	Standard	
	Min %	Max %
Al	Remainder	
Si	7.5	9.5
Fe		1.3
Cu	3.0	4.0
Mn		0.50
Mg		0.30
Cr		0.10
Ni		0.50
Zn		3.0
Sn		0.25
Pb		0.35
Ti		0.20
Others - each		0.05
Total Others		0.20

Nearest Related Chemical Composition Specifications: (Guide only)

British Standard Alloy: **LM24**

Aluminium Association (US) **A380**
Alloy Type:

German Alloy:

Japanese (JIS) Alloy:

ISO Alloy: **AlSi8Cu3Fe**

Mechanical Properties of Test Bars:

Temper	Casting Method	Tensile Strength (MPa)	
		Ult (min)	Ult (typ)
F1	Pressure Diecasting		270

Yield (Mpa) (typ)	Elongation (% on 50 mm min)		Brinell Hardness (typ)
	(min)	(typ)	
160		2	85

Recommended Heat Treatment Method:

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- Footnotes:**
- Nominal metal temperature should be obtained as rapidly as possible and maintained within $\pm 5^{\circ}\text{C}$ during the time at temperature.
 - For maximum effectiveness of solution heat treatment, quench water should be kept as low as possible consistent with a minimum of 60°C .

Typical Physical Properties:

Density	Thermal Conductivity	Freezing Range	
		Solidus	Liquidus
$\text{kg/m}^3 \times 10^3$	at 25°C W/m.K	Approx. $^{\circ}\text{C}$	
2.77	96	520	580

Electrical Conductivity at 20°C	Average Coefficient of Thermal Expansion
%ACS Equal Volume	per $^{\circ}\text{C}$
24	21.0

Relative Ratings: (Ratings: Excellent - Good - Fair - Unsuitable)

Corrosion Resistance	Weldability (see footnote 1)	Pressure Tightness	Machinability	Castability By Method of Casting		
				Sand Cast	Gravity Die	Pressure
Fair	Unsuitable	Good	Good			Excellent

- Footnotes:**
- Unsoundness in castings may adversely affect the weldability rating.
 - Corrosion Resistance ratings refer to atmospheric corrosion.

Typical Uses / General Comments:

The most widely used general purpose alloy. Used principally for pressure diecastings having thin walls such as domestic appliance housings, lawn mower and machinery components, automotive components such as transmission parts, crankcases, heatsinks, timing cases, rocker covers, oil pumps and water pumps.

The alloy data given above has been prepared by Hayes Metals for use by it's customers and associates as a guide to this alloy's typical properties. For editorial reasons the given specifications may not include all the minute details of the governing specification and therefore at any dispute or query, the relative original Specification should be consulted.