

**Alloy: AA337**



**Chemical Composition Limits:**

Governing Specification:	AS 1874-2000
AAC Alloy Designation:	AA337

Hayes Metals Internal	D6337
Product Code(s):	

Element	Standard	
	Min %	Max %
	Remainder	
Al		
Si	8.5	10.5
Fe		0.8
Cu	2.0	4.0
Mn		0.50
Mg	0.6	1.5
Cr		0.10
Ni	0.50	1.5
Zn		0.50
Sn		0.20
Pb		0.15
Ti		0.20
Footnote: The Fe max relates to ingot. The max Fe for castings may be higher so refer the standard. For castings Mg range is 0.50 to 1.5%.		
Others - each		0.05
Total Others		0.20

Nearest Related Chemical Composition Specifications: (Guide only)

British Standard Alloy: **LM13**

Aluminium Association (US) **332**  
Alloy Type:

German Alloy: **AlSi10Cu**

Japanese (JIS) Alloy: **AC8B**

ISO Alloy:

**Mechanical Properties of Test Bars:**

Temper	Casting Method	Tensile Strength (MPa)	
		Ult (min)	Ult (typ)
F1	Gravity Diecast		175
T5	Gravity Diecast		215
T6	Gravity Diecast		275

Yield (Mpa) (typ)	Elongation (% on 50 mm min)		Brinell Hardness (typ)
	(min)	(typ)	
		90	
		110	

**Recommended Heat Treatment Method:**

**T5:** Age at 180°C for 8 hours. **T6:** 520°C for 4-6 hours, quench in hot water (not less than 60°C). Age at 170° for 10-12 hours.

- Footnotes:**
- Nominal metal temperature should be obtained as rapidly as possible and maintained within ± 5°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
kg/m <sup>3</sup> x 10 <sup>3</sup>	at 25°C W/m.K	Approx. °C	
2.77	105	520	640

Electrical Conductivity at 20°C	Average Coefficient of Thermal Expansion
%ACS Equal Volume	per °C
26	20.0

**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	Fair	Good	Good			

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

**Typical Uses / General Comments:**

Auto piston alloy combining good wear resistance and low thermal expansion.

The alloy data given above has been prepared by Hayes Metals for use by its 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.