Alloy: CC401

HAYES METALS

Chemical Compostion Limits:

Governing Specification:	**AS 1874-2000**
AAC Alloy Designation:	**CC401**

Element	Standard	
	Min %	Max %
Al	Remainder	
Si	12.0	13.0
Fe		0.40
Cu		0.10
Mn		0.05
Mg		0.05
Cr		
Ni		0.05
Zn		0.10
Sn		
Pb		
Ti		0.20
Sr	0.02	0.04
Footnote: Strontium (Sr) added as a modifying agent to enhance mechanical properties.		
Others - each		0.05
Total Others		0.15

Hayes Metals Internal Product Code(s): B7402

Nearest Related Chemical Composition Specifications: (Guide only)

British Standard Alloy:	**LM6**
Aluminium Association (US) Alloy Type:	**A413**
German Alloy:	**AlSi12**
Japanese (JIS) Alloy:	**AC3A**
ISO Alloy:	

Mechanical Properties of Test Bars:

Temper	Casting Method	Tensile Strength (MPa) Ult (min)	Ult (typ)	Yield (Mpa) (typ)	Elongation (% on 50 mm min) (min)	(typ)	Brinell Hardness (typ)
F1	Sand Cast	160	180	70	5	7	50
F1	Gravity Diecast	190	205	90	7	9	60

Recommended Heat Treatment Method:

Footnotes:
1. Nominal metal temperature should be obtained as rapidly as possible and maintained within ± 5°C during the time at temperature.
2. 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 kg/m³ x 10³	Thermal Conductivity at 25°C W/m.K	Freezing Range Approx. °C Solidus	Liquidus	Electrical Conductivity at 20°C %IACS Equal Volume	Average Coefficient of Thermal Expansion per °C
2.65	142	570	580	37	20.8

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

Corrosion Resistance	Weldability (see footnote 1)	Pressure Tightness	Machin-ability	Castability By Method of Casting: Sand Cast	Gravity Die	Pressure
Excellent	Excellent	Excellent	Fair	Excellent	Excellent	

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

Typical Uses / General Comments:

Widely used in automotive, marine, chemical, furniture, food processing, domestic appliances and general engineering components.