

SPECIFICATIONS

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|------------|------|
| Commercial | 4925 |
|------------|------|

Aluminium alloy 4925 is the Pechiney equivalent of Alloy 4015 - A high quality general purpose alloy featuring good ductility coupled with mechanical strength. A close relation to 3103 Al Mn alloy, but with higher Silicon content, this alloy can be welded, anodized* or painted. It should be noted that the anodized finish of alloy 4925 will be much darker and less reflective than on alloys 1050 or 3103 so this is not recommended for decorative applications. Many users now prefer to use alloy 4925 having switched from other alloys such as 1050 and 3103.

The corrosion resistance of alloy 4925 is similar to the 3000 series alloys. Suitable for most applications in mill finish or painted, it is not recommended for use in aggressive environments.

Please note that the mechanical properties quoted are for H12 temper - Mechanical Properties for other tempers are shown on page 2.

CHEMICAL COMPOSITION

| Manufacturer's Data | |
|---------------------|-------------|
| Element | % Present |
| Silicon (Si) | 1.40 - 2.20 |
| Manganese (Mn) | 0.60 - 1.20 |
| Iron (Fe) | 0.70 max |
| Magnesium (Mg) | 0.10 - 0.50 |
| Copper (Cu) | 0.20 max |
| Zinc (Zn) | 0.20 max |
| Aluminium (Al) | Balance |

ALLOY DESIGNATIONS

Aluminium alloy 4925 has similarities to Alloy 4015 **but may not be a direct equivalent**

TEMPER TYPES

The most common tempers for 4925 aluminium are:

- H14 - Work hardened by rolling to half hard, not annealed after rolling
- H16 - Work hardened by rolling to three-quarter hard, not annealed after rolling
- H12 - Work hardened by rolling to quarter hard, not annealed after rolling
- H18 - Work hardened by rolling to fully hard, not annealed after rolling
- O - Soft

SUPPLIED FORMS

Alloy 4015 is only available as sheet

- Sheet

GENERIC PHYSICAL PROPERTIES

| Property | Value |
|-----------------------|-------------------------|
| Density | 2.72 g/cm ³ |
| Melting Point | 600 °C |
| Thermal Expansion | 24 x10 ⁻⁶ /K |
| Modulus of Elasticity | 70 GPa |
| Thermal Conductivity | 150-200 W/m.K |

MECHANICAL PROPERTIES

| Manufacturer's Data | |
|---------------------|-------------|
| Property | Value |
| Proof Stress | 110 min MPa |
| Tensile Strength | 135-175 MPa |
| Elongation A50 mm | 4 Min % |

CONTACT

Address: Please make contact directly with your local service centre, which can be found via the Locations page of our web site
Web: www.aalco.co.uk

REVISION HISTORY

Datasheet Updated 13 November 2018

DISCLAIMER

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon.

Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

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Mechanical Properties

| Temper | Rp0.2% MPa | UTS MPa | A Min % |
|--------|---------------|------------|------------|
| 0 | 45 Min | 110-150 | 20 |
| H12 | 110 Min | 135-175 | 4 |
| H14 | 135 Min | 160-200 | 3 |
| H16 | 155 Min | 185-225 | 2 |
| H18 | 180 Min | 210-250 | 2 |

Physical Properties

| | |
|------------------------|--------------------------|
| Density | 2.72 g mm ⁻³ |
| Melting Point | 600°C |
| Modulus of Elasticity | Approx 70 GPa |
| Electrical Resistivity | 23-29x10 ⁸ Ωm |
| Thermal Conductivity | 150-200 W/mK |
| Thermal Expansion | 24x10 ⁻⁶ /K |

Welding

Suitable for MIG and TIG welding using normal aluminium welding conditions. Recommended welding wire is 4043 (Al Si5). Typical welding conditions are shown below.

| Parameter | MIG | TIG |
|----------------|-----------|-----------|
| Current | 120A | 150A |
| Voltage | 20V | 14V |
| Travel Speed | 0.65m/min | 0.22m/min |
| Wire Feed rate | 5.2m/min | - |
| Gas Flow Rate | 25l/min | 9l/min |

Formability

Equivalent to alloy 3103 in same temper. r/t performance dependent upon thickness – Approx figures for H12 are shown below.

| Thickness mm | r/t min bend radius for 180° bend |
|-----------------|--------------------------------------|
| 0.5-0.8 | 0.0 |
| 0.8-1.5 | 1.0 |
| 1.5-3.0 | 2.0 |

Drawability

Typical properties for 0.8mm thick sheet

| Temper | r/t | r value ¹ | Erichsen Value ² (mm) |
|--------|---------|----------------------|--|
| 0 | 45 Min | 110-150 | 20 |
| H12 | 110 Min | 135-175 | 4 |
| H14 | 135 Min | 160-200 | 3 |
| H16 | 155 Min | 185-225 | 2 |
| H18 | 180 Min | 210-250 | 2 |

¹ An indication of drawability

² An indication of limit of biaxial stretching