

**Advanced Materials****Araldite® AW 2104 / Hardener HY 4076****Structural Adhesives****TECHNICAL DATA SHEET****Araldite® AW 2104 / Hardener HY 4076  
Two component epoxy paste adhesive****Key properties**

- Long gel time
- Self-levelling
- General purpose
- Bonds a wide variety of materials
- Tough and resilient

**Description**

Araldite® AW 2104 / Hardener HY 4076 is a self-levelling, room temperature curing, adhesive of high strength and toughness.  
It is suitable for bonding a wide variety of substrates for industrial applications.

**Product data**

Property	Araldite® AW 2104**	Hardener HY 4076**	Mix
Colour (visual) (A112)*	opaque	pale yellow liquid	pale yellow
Specific gravity	1.16 -1.18	0.95 - 0.97	ca. 1.08
Viscosity at 25°C (Pas)	20 - 60	1.0 - 2.0	typically 8
Pot Life (100 gm at 25°C)	-	-	80 min.

\* Specified data are on a regular basis analysed. Data which is described in this document as 'typical' is not analysed on a regular basis and is given for information purposes only. Data values are not guaranteed or warranted unless if specifically mentioned.

\*\*The quality control testing of the resin Araldite® AW 2104 is performed in combination with the Hardener HW 2934 and the quality control testing of the Hardener HY 4076 is performed in combination with the resin Araldite® AV 4076-1.

**Processing****Pre-treatment**

The strength and durability of a bonded joint are dependent on proper pre-treatment of the surfaces to be bonded. At the very least, joint surfaces should be cleaned with a good degreasing agent such as acetone or other proprietary degreasing agents in order to remove all traces of oil, grease and dirt.  
Low grade alcohol, gasoline (petrol) or paint thinners should never be used.  
The strongest and most durable joints are obtained by either mechanically abrading or chemically etching ("pickling") the degreased surfaces. Abrading should be followed by a second degreasing treatment.

Mix ratio	Parts by weight	Parts by volume
Araldite® AW 2104	100	100
Hardener HY 4076	40	50

**Application of adhesive**

The resin/hardener mix may be applied manually or robotically to the pre-treated and dry joint surfaces. Huntsman's technical support group can assist the user in the selection of a suitable application method as well as suggest a variety of reputable companies that manufacture and service adhesive dispensing equipment.

A layer of adhesive 0.05 to 0.10 mm thick will normally impart the greatest lap shear strength to the joint. Huntsman stresses that proper adhesive joint design is also critical for a durable bond. The joint components should be assembled and secured in a fixed position as soon as the adhesive has been applied.

For more detailed explanations regarding surface preparation and pre-treatment, adhesive joint design, and the dual syringe dispensing system, visit [www.aralditeadhesives.com](http://www.aralditeadhesives.com).

**Equipment maintenance**

All tools should be cleaned with hot water and soap before adhesives residues have had time to cure. The removal of cured residues is a difficult and time-consuming operation.

If solvents such as acetone are used for cleaning, operatives should take the appropriate precautions and, in addition, avoid skin and eye contact.

**Typical times to minimum shear strength**

Tested on sandblasted aluminium

Temperature	°C	23
Cure time to reach LSS > 1MPa	hours minutes	7
Cure time to reach LSS > 10MPa	hours minutes	10

LSS = Lap shear strength.

**Minimum recommended cure time at different temperatures**

23°C	16 hours
40°C	5 hours
60°C	1 hour 30 minutes
80°C	1 hour

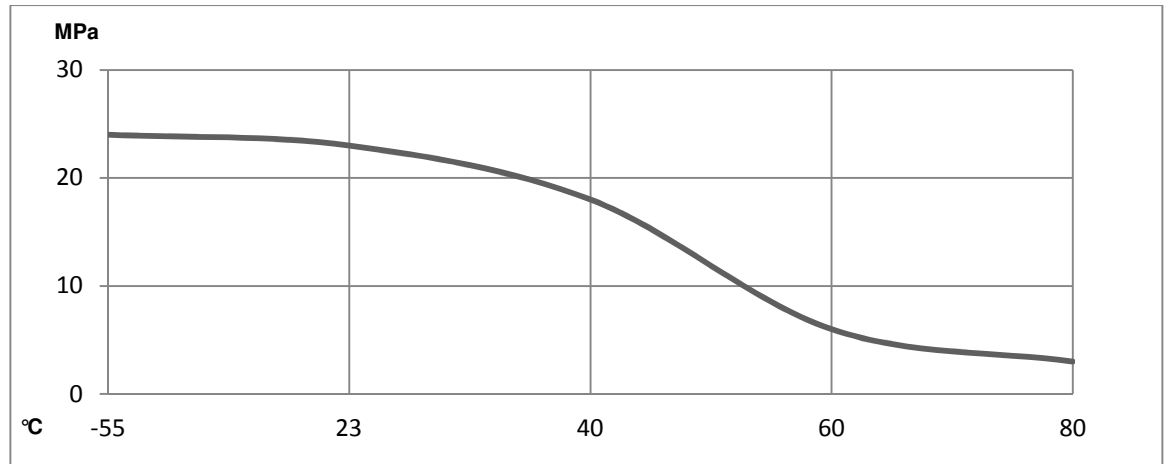
**Typical cured properties**

Unless otherwise stated, the figures given below were all determined by testing standard specimens made by lap-jointing 114 x 25 x 1.6 mm strips of aluminium alloy. The joint area was 12.5 x 25 mm in each case.

The figures were determined with typical production batches using standard testing methods. They are provided solely as technical information and do not constitute a product specification.

**Lap shear strength versus temperature (ISO 4587) (typical average values)**

On aluminium. Pre-treatment - Sand blasting. Cure: 7 days /23°C

**Roller peel test (ISO 4578) (typical average values) On etched aluminium**

Cure: 7 days at 23°C

2.3 N/mm

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**Storage**

Araldite® AW 2104 and Hardener HY 4076 must be stored at room temperature provided the components are stored in sealed containers. The expiry date is indicated on the label.

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**Handling precautions****Caution**

Our products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in the Material Safety Data sheets for the individual products and should be referred to for fuller information.



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