HUNTSMAN

Enriching lives through innovation

Advanced Materials

Araldite® AW 2101 / Hardener HW 2951

Structural Adhesives

Araldite® AW 2101 / Hardener HW 2951

Two component rapid curing epoxy paste adhesive

Key properties

- **Rapid curing**
- **Lightly thixotropic**
- **Gap filling**
- **Excellent oil and petrol resistance**

Description

Araldite® AW 2101 / Hardener HW 2951 is a rapid cure, multipurpose, two component, room temperature curing industrial paste adhesive of high strength and toughness.

It is suitable for bonding a wide variety of metals, ceramics, glass, rubber, rigid plastics and many other materials in common use.

Typical product data

	Araldite® AW 2101	Hardener HW 2951	Mixed adhesive
Colour (visual)	White paste	Grey paste	Grey paste
Specific gravity	ca. 1.65	ca. 1.9	ca. 1.8
Viscosity (Pas)	thixotropic	thixotropic	thixotropic
Pot Life (100 gm at 25°C)	-	-	4 - 8 mins

Processing

Pretreatment

The strength and durability of a bonded joint are dependant on proper 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 2101	100	100
Hardener HW 2951	100	87 - 100*

The resin and hardener should be blended until they form a homogeneous mix.
* Note - Mixing at 100: 100 by volume gives similar performance to the quoted results which are tested at 100 : 100 by weight.
This product is also available in easy to use cartridges.

Mechanical processing

Specialist firms have developed metering, mixing and spreading equipment that enables the bulk processing of adhesive.

We will be pleased to advise customers on the choice of equipment for their particular needs.

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.

Times to minimum shear strength

Temperature	°C	10**	15	23	40	60	80
Cure time	hours	12	4	1	-	-	-
	minutes	-	-	-	20*	5*	3*

LSS = Lap shear strength.

* These times do not include the time to heat the components to the curing temperature

** Curing at temperatures of 10°C and below will result in below average properties. These can be enhanced by postcure at higher temperatures.

Typical cured properties

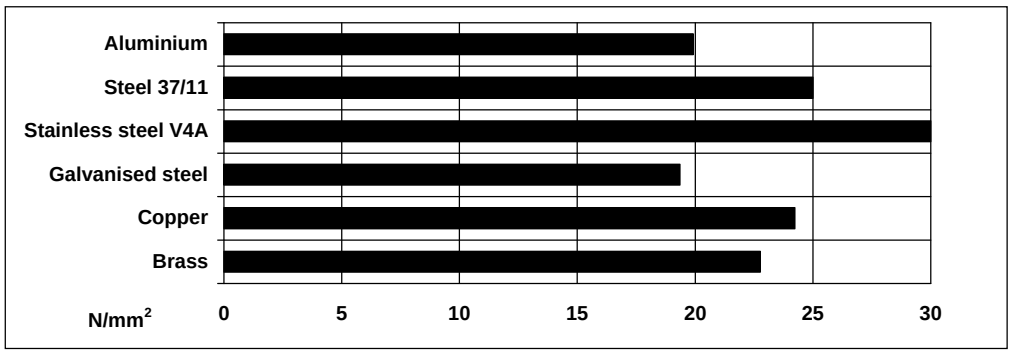
Unless otherwise stated, the figures given below were all determined by testing standard specimens made by lap-jointing 170 x 25 x 1.5 mm strips of aluminium alloy. The joint area was 12.5 x 25 mm in each case.

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.

Average lap shear strengths of typical metal-to-metal joints (ISO 4587)

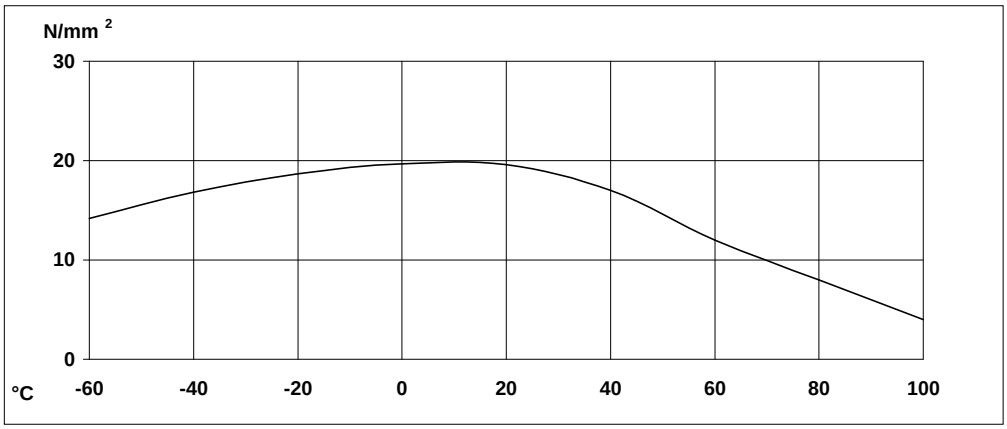
Cure: 24 hours at 23°C and tested at 23°C

Pretreatment - Sand blasting



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

Cure: 24 hours at 23°C

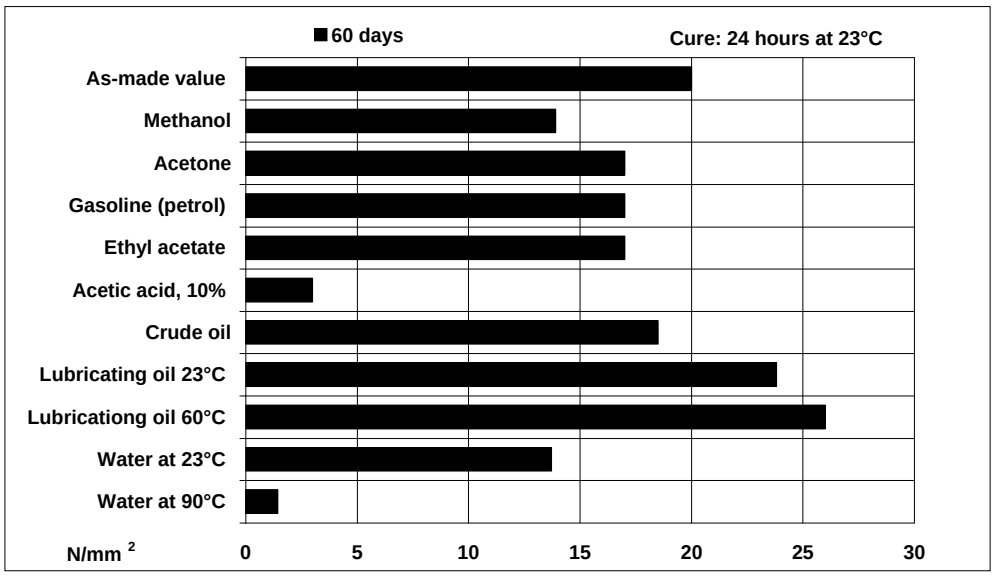


Roller peel test (ISO 4578) (cure: 24hours at 23°C) 4.5 N/mm

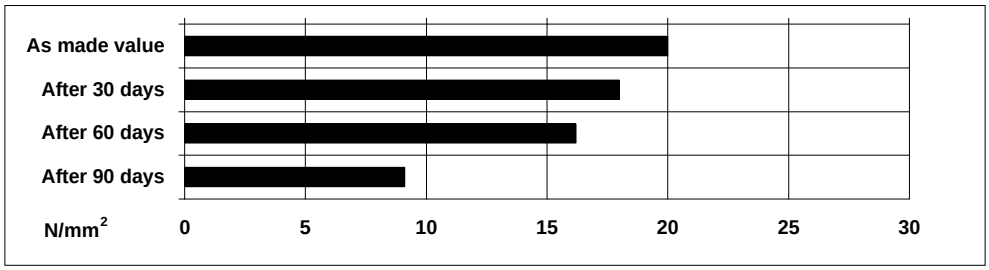
Glass transition temperature (DSC) (cure: 24hours at 23°C) Typically 46-52°C

Lap shear strength versus immersion in various media (typical average values)

Unless otherwise stated, L.S.S. was determined after immersion for 60 days at 23°C



Lap shear strength versus tropical weathering
(40/92, DIN 50015; typical average values)
Cure: 24 hours at 23°C; test at 23°C



Storage

Araldite® AW 2101 and Hardener HW 2951 may be stored for up to 6 years and 3 years respectively at 2 – 40ºC provided the components are stored in sealed containers. The expiry date is indicated on the labels.

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 food-stuffs 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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