

Araldite Structural Adhesives Technical Information

Araldite[®] AW136HS Hardener HY994

2 Component Epoxy Adhesives

Key properties

- Excellent Heat Resistance, Water Resistance and Peel Strength
- Toughened , Excellent adhesion under dynamic load
- Good adhesion on various materials such as Metals, Wood, Ceramics, Rubber, and hard plastics
- Thixotropic - no flow during curing

Description

Araldite AW136HS with Hardener HY994 is a multipurpose, two component, room temperature curing, Thixotropic paste adhesive of high strength and toughness.

It is suitable for bonding a wide variety of metals, ceramics and many other substrates in common use.

Typical product data

| | AW136HS | HY994 |
|-------------------|----------------|--------------|
| Appearance | White Paste | Amber liquid |
| Viscosity (mPa·s) | 530,000 | 1,130 |

Processing

Pretreatment

The strength and durability of a bonded joint are dependent on proper pretreatment of the surfaces to be bonded.

At the very least, joint surface should be cleaned with a good degreasing agent such as acetone in order to remove all traces of oil, grease and dirt. 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 decreasing treatment.

Mixing ratio

AW136HS/HY994

parts by weight.

100:40

Appearance

White Thixtropic Paste

Application of adhesives

The resin/hardener mix is applied with a spatula to the pretreated and dry joint surfaces.

A layer of adhesive 0.05 to 0.10 mm thick will normally impart the greatest lap shear strength to a joint.

The joint components should be assembled and clamped as soon as the adhesive has been applied.

An even contact pressure throughout the joint area will ensure optimum cure.

Mechanical Processing

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

Huntsman 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 adhesive 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 cured properties

Standard test specimens

Unless otherwise stated, the figures given below were all determined by testing standard specimens made up by lap-jointing 170 x 25 x 1.5 mm strips of aluminum alloy.

The joint area was 10 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 share strength

| Cure: | LSS (N/mm ²) at 23°C |
|-----------------|----------------------------------|
| 24 hrs. at 40°C | 16.7 |
| 30 min. at 80°C | 24.8 |

Storage

Araldite AW136HS and Hardener HY994 may be stored for up to 30 months at 15-30°C provided the components are stored in sealed containers. The expiry date is indicated on the labels.

Handling precautions

Caution

Huntsman's 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 solvent 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 Huntsman publication Hygienic precautions for handling plastic products and in the Huntsman Material Safety Data Sheets for the individual products. These publications are available on request and should be referred to for fuller information.

All recommendations for the use of our products, whether given by us in writing, verbally, or to be implied from the results of tests carried by us, are based on the current state of our knowledge. Notwithstanding any such recommendations the Buyer shall remain responsible for satisfying himself that the products as supplied by us are suitable for his intended process or purpose.

Since we cannot control the application, use or processing of the products, we cannot accept responsibility therefore. The Buyer shall ensure that the intended use of the products will not infringe any third party's intellectual property rights. We warrant that our products are free from the defects in accordance with and subject to our general conditions of supply.

®Araldite is a registered trademark used and owned by or licensed to Huntsman AG, Basel, Switzerland, and/or companies belonging to the Huntsman Group.

Huntsman Japan K.K.

5-5-2, Minatojima Minamimachi, Chuo-ku, KOBE, 650-0047 Japan

Tel: +81 78 304 3920 Fax: ++81 78 304 3970