

ARALDITE® 2011

TWO COMPONENT EPOXY ADHESIVE

KEY PROPERTIES

- Multi purpose
- Long working life
- Low shrinkage
- Good resistance to dynamic loading
- Bonds a wide variety of materials in common use

DESCRIPTION

Araldite® 2011 is a multipurpose, two component, room temperature curing adhesive of high strength and toughness. It is suitable for bonding a wide variety of metals, ceramics, glass, rubber, rigid plastics and most other materials in common use. It is a versatile adhesive for the craftsman as well as most industrial applications.

PRODUCT DATA

	2011/A	2011/B	2011 (mixed)
Colour - visual (A112)*	Neutral	Pale yellow	Pale yellow
Specific gravity	ca. 1.15	ca. 0.95	ca. 1.05
Viscosity at 25°C (Pas) (A191)*	30 - 50	20 - 35	30 - 45
Pot Life (100 gm at 25°C)	-	-	ca. 100 minutes
Lap shear strength at 23°C (A501)*	-	-	> 19 MPa

* 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

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, iso-propanol (for plastics) 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® 2011/A	100	100
Araldite® 2011/B	80	100

Araldite® 2011 is available in cartridges incorporating mixers and can be applied as ready to use adhesive with the aid of the tool recommended by Huntsman Advanced Materials.

Application of adhesive

The resin/hardener mix may be applied manually or robotically to the pretreated 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 pretreatment, adhesive joint design, and the dual syringe dispensing system, visit www.araldite2000plus.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

Temperature	°C	10	15	23	40	60	100
Cure time to reach LSS > 1 MPa	hours	24	12	7	2	-	-
	minutes	-	-	-	-	30	6
Cure time to reach LSS > 10 MPa	hours	36	18	10	3	-	-
	minutes	-	-	-	-	45	7

LSS = Lap shear strength.

STORAGE

Araldite® 2011/A and Araldite® 2011/B must be stored at room temperature and the components must be stored in sealed containers. The expiry date is indicated on the label.

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.

