

Advanced Materials**Araldite® F349 with Hardener Powder / Paste or Hardener K100-1 red****Araldite® Structural Adhesives****Two part methacrylate mixing adhesive system**

Cold curing gap filling methacrylate adhesive for metals and plastics with good chemical resistance

Characteristics

	<p>Araldite® F349 is especially well suited for bonding rigid plastics and metals. The product displays gap-filling properties and good resistance to chemicals.</p>
Bondable Materials	<p>- Rigid plastics, especially rigid PVC, CAB, EP, UP, FRP, PC, PMMA and Formaldehyde condensation resins. - Metals, especially steel and aluminium (except copper / zinc / tin-alloys).</p>
Viscosity*	<p>Approx. 15 Pa.s</p>
Colour (visual) (A112)*	<p>Araldite® F349 is a pale yellow liquid</p>
Specific Gravity	<p>Approx. 0.98</p>
Storage stability	<p>Araldite® F349 and Hardener must be stored at 2 - 8°C and the components must be stored in sealed containers. The expiry date, assuming 2 - 8°C storage is indicated on the packaging.</p>
Mixing ratio	<p>100 parts of Araldite® F349 are mixed homogeneously with 2 - 5 %, preferably 3 % of hardener powder or paste. Araldite® F349 can also be used with hardener K100-1 red, mix ratio 10/1 (in volume and weight)</p>
Pot life	<p>After addition of hardener, the pot life of a 20 g testing sample at 23°C is about 50 minutes.</p>
Curing speed	<p>The bonded parts can be handled after 90 minutes. Final strength is reached after 24 hours.</p>

** 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.*

Application process**Pretreatment**

The surfaces to be bonded must be free from all contamination and, most important, free from grease and dust. Mechanical roughening of these surfaces is advisable.

Application of adhesive

The adhesive mixture is applied to the surfaces to be bonded. Immediately after the surfaces have been brought together, the parts should be kept under contact pressure.

Typical cured properties**Strength values:****Tensile shear strength****25 N/mm²**

according to DIN 53 283

Test material: AICuMg2pl (Bondur F44)

Test specimen: (100 x 25 x 1.6) mm

Overlap: 12 mm (single overlap)

Peel strength**approx. 4 N/mm**

measured by the T-peel test according to DIN 53 282

Test material: aluminium F 13,3

Test specimen: (100 x 30 x 0.5) mm

Chemical ResistanceTest material: Rigid PVCTest specimen: (100 x 20 x 2) mm

Tests conducted over a period of 6 months have shown that the bonds are resistant to:

- water
- soda solution (15 %)
- acetic acid (10 %),
- chromosulphuric acid

Long-term storage for 5 years in sodium hydroxide solution (20 %) and sulphuric acid (20 %) resulted in no decrease in the strength of the joints.

Temperature Stability

Bonded joints display long-term durability at temperatures ranging from -30 °C to +80 °C.

At temperatures exceeding 80 ° up to approximately 120 °C, the bonding strength decreases noticeably.

Above 120 °C, it decreases significantly.

Exposure to short-term thermal loads between 180 ° and 220 °C without mechanical stress -e.g. during paint bake-, in general hardly impair the bonded joints.

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.



Huntsman Advanced Materials
(Switzerland) GmbH
Klybeckstrasse 200
4057 Basel
Switzerland

Tel: +41 (0)61 299 11 11
Fax: +41 (0)61 299 11 12

www.huntsman.com/advanced_materials
Email: advanced_materials@huntsman.com

Huntsman Advanced Materials warrants only that its products meet the specifications agreed with the user. Specified data are analysed on a regular basis. Data which is described in this document as 'typical' or 'guideline' 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 manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.

While all the information and recommendations in this publication are, to the best of Huntsman Advanced Material's knowledge, information and belief, accurate at the date of publication, **nothing herein is to be construed as a warranty, whether express or implied, including but without limitation, as to merchantability or fitness for a particular purpose. In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose.**

The behaviour of the products referred to in this publication in manufacturing processes and their suitability in any given end-use environment are dependent upon various conditions such as chemical compatibility, temperature, and other variables, which are not known to Huntsman Advanced Materials. It is the responsibility of the user to evaluate the manufacturing circumstances and the final product under actual end-use requirements and to adequately advise and warn purchasers and users thereof.

Products may be toxic and require special precautions in handling. The user should obtain Safety Data Sheets from Huntsman Advanced Materials containing detailed information on toxicity, together with proper shipping, handling and storage procedures, and should comply with all applicable safety and environmental standards.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent on manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

Except where explicitly agreed otherwise, the sale of products referred to in this publication is subject to the general terms and conditions of sale of Huntsman Advanced Materials LLC or of its affiliated companies including without limitation, Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., Huntsman Advanced Materials (UAE) FZE, Huntsman Advanced Materials (Guangdong) Company Limited, and Huntsman Advanced Materials (Hong Kong) Ltd.

Huntsman Advanced Materials is an international business unit of Huntsman Corporation. Huntsman Advanced Materials trades through Huntsman affiliated companies in different countries including but not limited to Huntsman Advanced Materials LLC in the USA and Huntsman Advanced Materials (Europe) BVBA in Europe.

All trademarks mentioned are either property of or licensed to Huntsman Corporation or an affiliate thereof in one or more, but not all, countries.

Copyright © 2012 Huntsman Corporation or an affiliate thereof. All rights reserved