

Advanced Materials

Araldite® 1570 FST A/B

Aerospace Adhesives

DATA SHEET

- KEY PROPERTIES**
- **Two component epoxy adhesive**
 - **Flame retardant**
 - **Room temperature curing**

DESCRIPTION

Araldite® 1570 FST A/B is an halogen-free two-component epoxy adhesive. It is designed for aerospace applications which require flame retardant properties, its first application being PE foam to phenolic GRP bonding in cargo areas.

Araldite® 1570 FST A/B is qualified to AIMS 10-04-006 and meets following FST (Flame Smoke Toxicity) standards: FAR 25.853 (a), FAR 25.853 (a-1) and AITM 3.0005.

PRODUCT DATA

Property	Araldite® 1570 FST A	Araldite® 1570 FST B	Mixed Adhesive
Colour (A112)*	Black*	White*	Dark grey
Appearance (A112)*	Thixotropic paste*	Thixotropic paste*	Thixotropic paste
Specific gravity	1.3 – 1.5	1.1 – 1.3	1.2 – 1.4
Viscosity at 25°C (A191)*	50 - 250	100 - 400	
Pot life (100g at 25°C)	-	-	ca. 140 min
Shelf life at 2-8°C	1 year	1 year	

** 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 or other proprietary degreasing agents 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 degreasing treatment.

Mix ratio	Parts by weight	Parts by volume
Araldite [®] 1570 FST A	100	100
Araldite [®] 1570 FST B	87.8	100

Araldite[®] 1570 FST A/B is available in bulk and in cartridges for ease of mixing and application.

Application

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 an 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.

Equipment maintenance

All tools should be cleaned 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.

Recommended cure cycle

48 hrs at 23°C

TYPICAL CURED PROPERTIES

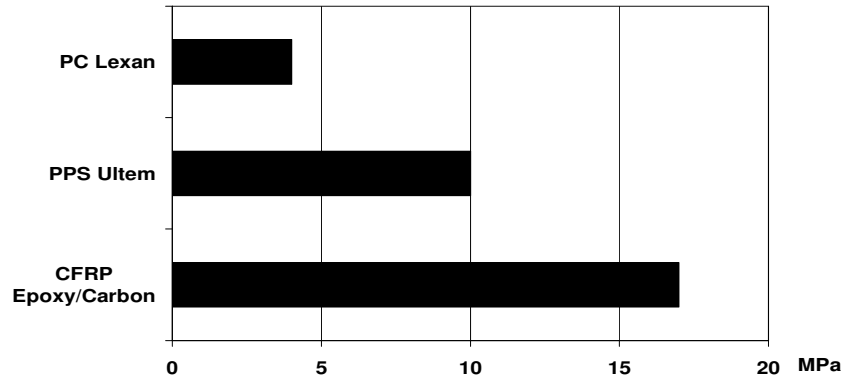
(Not for specification purposes)

Lap Shear Strength on Aluminium (ISO 4587) (typical average values)

Test Temperature (°C)	Results (MPa)	Failure Mode
- 55	18 - 23	cohesive
+ 23	14 - 20	cohesive
+ 80	3 - 6	cohesive

Tested on chromic acid etched Al 2024 T3, Cure cycle: 48 hrs at 23°C

- Lap Shear Strength of typical plastic-plastic joints (ISO 4587) (typical average values)



- Glass transition temperature Cure cycle: 48 hrs at 23°C ca. 60°C

- Flammability (typical average values) / Cure cycle: 4 hrs at 60°C

Test Method : Bunsen Burner Test, Vertical – 60s Ignition Time
Standard : FAR 25.853 (a)

	Unit	Results	Requirements
Burn Length	mm	42	152
Flame Time	s	0	15
Drip Flame Time	s	0	3

- Smoke (typical average values) / Cure cycle: 4 hrs at 60°C

Test Method : Smoke density, Flaming Mode
Standard : FAR 25.853 (a-1) / AITM 2.0007

After 4 minutes, Specific optical smoke density **Ds = 46** (maximum limit of 200).

- Toxicity (typical average values) / Cure cycle: 4 hrs at 60°C

Standard : AITM 3.0005 / ABD 0031

Gas	Unit	Results	Requirements
HCN	ppm	5	150
CO		90	1000
NO _x		7	100
SO ₂ + H ₂ S		2	100
HF		0	100
HCl		0	150

STORAGE

Araldite® 1570 FST A and Araldite® 1570 FST B must be stored for up to 1 year at 2 - 8 °C and must be stored in sealed containers. The expiry date is indicated on the label.

Keep containers in dry atmosphere, avoid exposure of the containers to moisture and direct sources of heat.

**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