

Advanced Materials

Araldite® 1570 FST A/B

Aerospace Adhesives

DATA SHEET

KEY PROPERTIES

- **Two component epoxy adhesive**
- **Meets FST Requirements – Self Extinguishing**
- **Room temperature curing**

DESCRIPTION

Araldite® 1570 FST A/B is a 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.

TYPICAL PROPERTIES

Property	Araldite® 1570 FST A	Araldite® 1570 FST B	Mixed Adhesive
Color (visual)	Black	White	Dark grey
Appearance	Thixotropic paste	Thixotropic paste	Thixotropic paste
Density, lb.gal (g/cm ³)	10.8 - 12.5 (1.3 - 1.5)	9.2 - 10.8 (1.1 - 1.3)	10.0 - 11.7 (1.2 - 1.4)
Viscosity, cps. at 77 °F (25°C)	100,000 - 200,000	250,000 - 350,000	Thixotropic paste
Pot life, 100g at 77 °F (25°C)	-	-	~ 140 min.

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 appropriate degreasing agent in order to remove all traces of oil, grease and dirt. Alcohol, gasoline (petroleum) 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	100.0	100
Araldite® 1570 FST B	87.8	100

Araldite® 1570 FST A/B is available in bulk and in 200ml cartridges for ease of mixing and application.

Application

The resin/hardener mix may be applied manually or using some automated processing equipment to the pretreated and dry joint surfaces. A 2 to 4 mil thick (0.05 to 0.10 mm) layer of adhesive will normally impart the greatest lap shear strength to the joint. Emphasis must be placed on the selection of a proper adhesive joint design which is also critical for a durable bond. The joint components should be assembled and clamped into 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, the operators should work in a well ventilated area and wear the necessary protective clothing and equipment to prevent any accidental contact with skin and eyes..

Recommended cure cycle

48 hrs at 73°F (23°C)

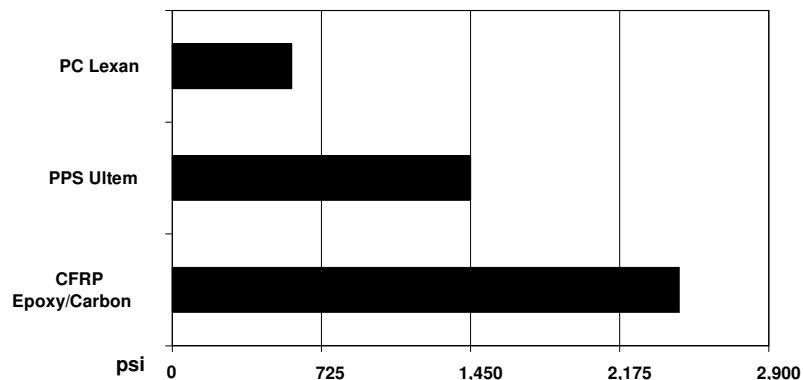
TYPICAL CURED PROPERTIES

(Not for specification purposes)

Lap Shear Strength on Aluminum (ISO 4587)

Test Temperature °F (°C)	Results, psi (MPa)	Failure Mode
- 67 (- 55)	2,610 - 3,330 (18 - 23)	cohesive
73 (+ 23)	2,030 - 2,900 (14 - 20)	cohesive
176 (+ 80)	430 - 870 (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)**Glass transition temperature**

Cure cycle: 48 hrs at (73°F) 23°C

~ 140°F (60°C)

Flammability

Test Method : Bunsen Burner Test, Vertical - 60s Ignition Time
Standard : FAR 25.853 (a)
Cure cycle: 4 hrs at 140°F (60°C)

	Unit	Results	Requirements
Burn Length	inch	1.654	< 6
Flame Time	s	0	< 15
Drip Flame Time	s	0	< 3

Smoke

Test Method : Smoke density, Flaming Mode
Standard : FAR 25.853 (a-1) / AITM 2.0007
Cure cycle: 4 hrs at 140°F (60°C)

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

Toxicity

Standard : AITM 3.0005 / ABD 0031
Cure cycle: 4 hrs at 140°F (60°C)

Gas	Unit	Results	Requirements
HCN	ppm	5	< 150
CO		90	< 1000
NO_x		7	< 100
SO₂ + H₂S		2	< 100
HF		0	< 100
HCl		0	< 150

STORAGE

When stored in their original sealed containers in a dry place at a temperature within 36°F (+ 2°C) and 46°F (+ 8°C), Araldite® 1570 FST A and Araldite® 1570 FST B have a shelf-life of 1 year.

Do not expose containers to any direct heat source.

**PRECAUTIONARY
STATEMENT**

Huntsman Advanced Materials Americas LLC maintains up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to MSDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN**FOR PROFESSIONAL AND INDUSTRIAL USE ONLY****Huntsman Advanced Materials**

10003 Woodloch Forest Drive
The Woodlands, Texas 77380

Tel: 888-564-9318

Fax: 281-719-4047

www.huntsman.com/advanced_materials

Huntsman Advanced Materials warrants only that its products meet the specifications agreed with the buyer. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications.

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 our knowledge, information and belief, accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

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., 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.

Araldite is a registered trademark of Huntsman Corporation or an affiliate thereof.

Copyright © 2009 Huntsman Corporation or an affiliate thereof. All rights reserved.