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Advanced Materials

Araldite® 252-1

Aerospace Solutions

TECHNICAL DATA SHEET

KEY PROPERTIES

- **Low density two-part Epoxy Void and Edge Filler**
- **Self extinguishing**
- **Non sagging paste**
- **High compression resistance**
- **Easily sandable**
- **24 months shelf life**
- **High Temperature stability after room temperature cure**

DESCRIPTION

Araldite® 252-1 is a two component, room temperature curing, low density syntactic designed to be used as an insert potting compound or as an edge and core reinforcement filler in honeycomb sandwich structures.

It meets the flammability requirements of FAR 25.853 (a) and technical requirements of ASNA 4072 & AIMS 10-03-005 specifications.

Araldite® 252-1 is available in blue or white version.

PRODUCT DATA

Property	Araldite® 252-1 Resin	Hardener 252-2	Mixed Syntactic
Colour (visual)	blue white	off white off white	blue white
Density (A16.2)* (g/cm^3)	ca. 0,85	ca. 0,55	≤ 0,77
Viscosity at 25°C (Pas)	Non-flow paste	Non-flow paste	Non-flow paste
Gel time at 25°C (A109)*			120 – 300 min

** 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

Mix ratio	Parts by weight	Parts by volume
Araldite® 252-1 Resin	100	100
Hardener 252-2	30	40

Recommended cure cycle:
7 days at 23°C or 2 hours at 70°C

Handling strength:
16 hours at 23°C

Application:
The resin and hardener must be blended until they form a homogeneous mix shown by a uniform color. The mix can be applied manually or extruded.

The pot life depends on the quantity mixed and the shape of the container (use a shallow container to extend pot life). As an approximate guide:
For a 50g mix, pot life at 23°C is 2 hours
For a 100g mix, pot life at 23°C is 1,5 hours

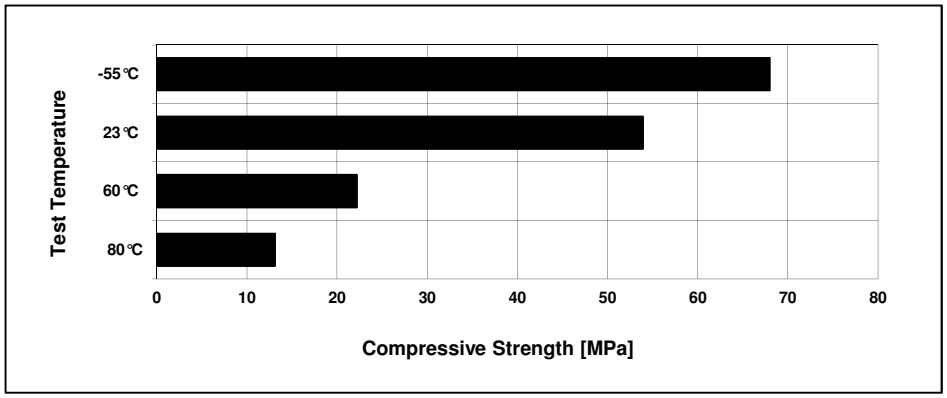
Equipment maintenance:

All tools should be cleaned before syntactic 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.

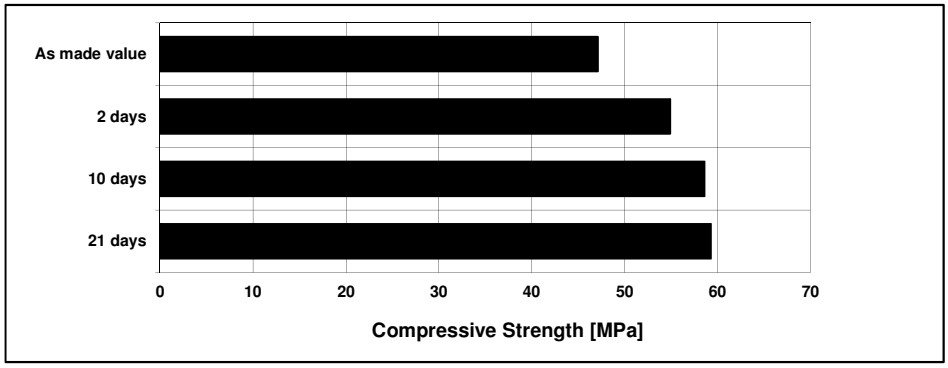
TYPICAL CURED PROPERTIES

(Not for specification purposes)

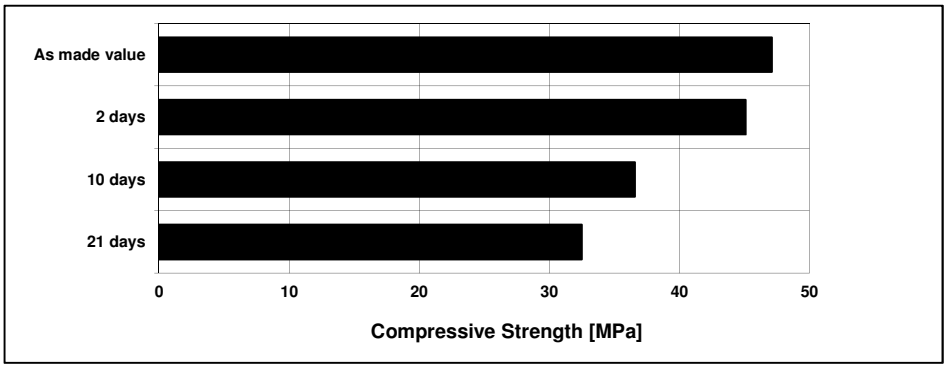
Compressive strength (typical average values) – Cure 2h at 70°C



Compressive strength versus 80°C heat ageing (typical average values)
Cure 7 days at RT
Test at 23°C



Compressive strength versus tropical weathering ageing (40°C / 92% RH)
(typical average values)
Cure 7 days at RT
Test at 23°C



Compressive Modulus at 23°C (typical average values):

cure 2h at 70°C:	2,6 GPa
cure 7 days at 23°C:	2,4 GPa

Average lap shear strength (typical average value): 12 MPa
Substrate: Sand blasted aluminium (ISO 4587)
Cure 2h at 70°C - Test at 23°C

Flammability - Vertical Bunsen Burner Test (typical average values)
Cure cycle: 7 days at 23°C

Test method	Standard	Test	Requirements	Results
12s Ignition Time	AITM 2-0002B	Burning time	≤ 15 s	0
		Drip burning time	≤ 5 s	0
		Burn length	≤ 203 mm	2
60s Ignition Time	AITM 2-0002A	Burning time	≤ 15 s	1
		Drip burning time	≤ 3 s	0
		Burn length	≤ 152 mm	80

Maximum optical smoke density (typical average values)
Cure cycle: 7 days at 23°C

Test method	Standard	Requirements	**Results** (sample thickness = 2 mm)
Non flaming mode	AITM 2-0007B	Dm < 200	75
Flaming mode	AITM 2-0007B	Dm < 200	164

Concentration of smoke gas (typical average values)
Cure cycle: 7 days at 23°C

Test method	Standard	Gas	Requirements	Results
Non flaming mode	AITM 3-0005	CO	Max 1000 ppm	8
		SO_2	Max 100 ppm	0
		NO_X	Max 100 ppm	1
		HF	Max 100 ppm	0
		HCl	Max 150 ppm	0
		HCN	Max 150 ppm	0
Flaming mode	AITM 3-0005	CO	Max 1000 ppm	199
		SO_2	Max 100 ppm	7
		NO_X	Max 100 ppm	13
		HF	Max 100 ppm	0
		HCl	Max 150 ppm	0
		HCN	Max 150 ppm	10

STORAGE

Araldite® 252-1 resin and Hardener 252-2 can be stored for up to 2 years at (6 - 28)°C in their original 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.

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.aralditeadhesives.com

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