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## Aerospace Adhesives

### Epocast® 1618 A/B

#### Low density two part epoxy syntactic

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#### Key properties

- Rapid room temperature cure
- Self extinguishing
- Extrudable
- Low weight gain when immersed in hydraulic fluid

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#### Description

Epocast 1618 A/B is a self extinguishing, low density epoxy syntactic developed for potting fasteners in honeycomb structures. It is easily extruded through a 3mm nozzle, but is non-flow after application. Epocast 1618 A/B sets quickly at room temperature, benefitting production cycle times. Qualified to BMS 5-28, type 18.

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#### Typical product data

Property	Epocast 1618 A	Epocast 1618 B	Mixed Syntactic	Test Method
Colour (visual)	off white	amber	off white	visual
Specific gravity	ca.0.60	ca.1.0	ca.0.7	ASTM-D-1622
Viscosity at 25°C (Pas)	paste	ca.0.4	paste	ASTM-D-2196
Gel time (57 gm at 25°C)mins	-	-	10 - 20	ASTM-D-2471

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#### 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, trichloroethylene or proprietary degreasing agent 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
Epocast 1618 A	100	-
Epocast 1618 B	14	-

The resin and hardener should be blended until they form a homogeneous mix.

### Mechanical processing

Specialist firms have developed metering, mixing and spreading equipment that enables the bulk processing of adhesive.

Vantico will be pleased to advise customers on the choice of equipment for their particular needs.

### 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 cure schedule

24 hours at 20-25°C or gelation at room temperature plus 5 hours at 50°C.

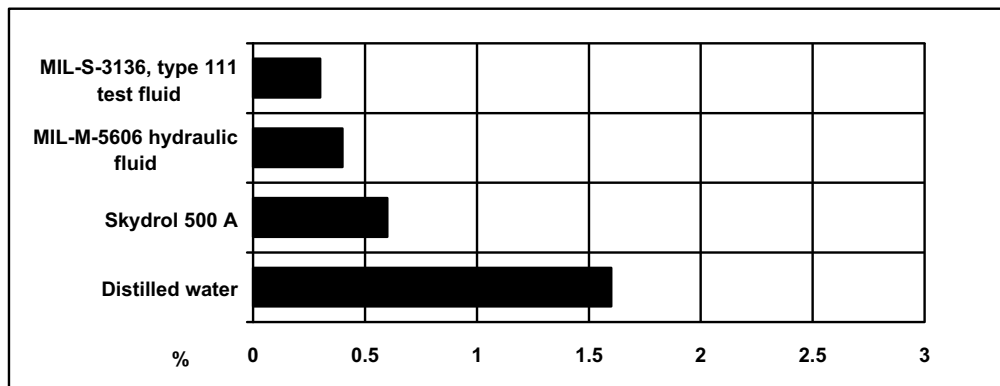
### Typical cured properties

The figures were determined with typical production batches using standard testing methods. They are provided solely as technical information and do not constitute a product specification.

Properties	Units	Results	Test method
Compressive strength	MPa	35	ASTM-D-695
Compressive modulus	GPa	2.4	
Tensile lap shear aluminium/aluminium	MPa	4.8	ASTM-D-1002
Flammability	-	self extinguishing	-

### Weight gain on immersion after 24 hours at 25°C

Test method ASTM-D-543



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**Storage**

Epocast 1618 A/B may be stored for up to 6 months at 6-28°C, provided that the components are stored in their original sealed containers. The expiry date is indicated on the label.

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**Handling precautions****Caution**

Vantico 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 Vantico publication No. 24264/3/e Hygienic precautions for handling plastics products of Vantico and in the Vantico Material Safety Data sheets for the individual products. These publications are available on request and should be referred to for fuller information.

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**Adhesives and Tooling**

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