

## TECHNICAL DATA SHEET

# FORTIS AD822 – Universal Epoxy Adhesive

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## INTRODUCTION

### FORTIS AD822 – Universal Epoxy Adhesive

FORTIS AD822 is a two-component epoxy adhesive to provide enhanced adhesion to wood, glass reinforcing and other laminates.

### USE

Timber Preservation and waterproofing  
Structural adhesive  
Sheathing system  
Sealing of porous substrates

### FEATURES

Good substrate wetting characteristics  
Silane modified for substrate bonding  
Relatively short thin film cure time, enabling rapid laminate fabrication  
Blush resistance to humid conditions  
Alternative hardeners for summer or winter usage to ensure consistent handling characteristics

## TECHNICAL DATA

<b>Colour</b>	Clear Amber
<b>Mixing Ratio</b>	The two components must be thoroughly mixed prior to use in the ratio of: By volume – 4 parts resin to 1 part hardener By weight – 4.55 parts resin to 1 part hardener For consistent results and to realise the full structural potential of the system, measuring accuracy should be within the range of + or -5%
<b>Pack Size</b>	5Lt
<b>Shelf Life &amp; Storage</b>	Store in a cool, dry place. Under normal conditions (20 - 25°C) a shelf life of 12 months is expected in unopened containers.

## APPLICATION

### RECOMMENDATIONS FOR USE

#### TIMBER PRESERVATION WATERPROOFING

The application of FORTIS AD822 to timber components during vessel construction provides protection against water-logging and rot infestation, a major cause of destruction of timber boats, FORTIS AD822, in sealing the surfaces of timber components, maintains the desired level of moisture content, thus prolonging strength and low weight capabilities whilst improving the flexural strength and resistance to impact. Depth of penetration will vary dependant on the moisture content of the timber, which should be less than 12%.

For maximum penetration the first coat should be thinned with approximately 25% of Methylated Spirits. Do not exceed 25% thinning. Apply liberally with brush or roller. Allow a minimum of 12-24 hours curing time between each coat. Between coats lightly sand back the surface with a medium grit paper. Second and third coats must **NOT** be thinned. Ensure that end grain areas are completely saturated. Screw and nail holes should be filled with an epoxy filler after saturation. (i.e.FORTIS AD822 thickened with Fortis Paste)  
Coverage will depend on the moisture content and nature of the timber.

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## APPLICATION Continued

### STRUCTURAL ADHESIVE

A thickening agent must be added to the system to increase viscosity and ensure adequate "wet out" is achieved (ie, Fortis GEL PASTE). Use sufficient to gain a 'gel', unthickened epoxy will leave the joint dry. The type of thickening agent used should produce thixotropy (i.e. resistance to flow) without increasing the viscosity excessively. To this end the fumed silicas have been used extensively in the past, but with recent advances in asbestos-free fibres it is now possible to obtain a thixotrope with the advantages of reinforcement and ease of dispersal. As these two types of thixotropes differ in efficiency, it is recommended that advice from the thickener supplier be sought for application technique. Do not clamp epoxy adhesive with too much pressure. It is necessary to ensure there is sufficient glue in the joint, which is then held immobile by light clamping during the curing period.

### SHEATHING SYSTEM

Incorporating reinforcing materials such as glass cloth in the epoxy coating of timber craft provides strength, impact and abrasion resistance. Such reinforcement should be used for all surfaces below the water line, and on decks. Surfaces must be clean and dry, and any irregularities, holes or sharp corners filled or filleted. Precut glass to easily handled sizes, and coat surface with FORTIS AD822 using a brush or roller. If using 6oz cloth, allow 2 square metres per litre of binder. In general, you need to use between 2.2 and 2.5 times the glass reinforcing weight per square metre for proper wet out. Apply the fibreglass to the wet surface and push it into the binder using normal fibreglass application tools. The cloth when properly wet will become transparent whilst areas not impregnated retain the dry cloth appearance. These dry areas require more binder. With successive laminations the build can be increased to any desired level. Upon obtaining the required build, the binder is allowed to cure and then sanded to remove protruding "glass hair" and the surface glazed with unfilled resin/hardener mix. The final coat should consist of a high quality UV resistant paint. Refer to **FORTIS** for recommendations.

### SEALING OF POROUS SUBSTRATES

FORTIS AD822 epoxy is highly cross-linked and forms an effective vapour barrier over porous substrates such as concrete. The surface must be clean, dry and sound. When overlaying concrete with a high performance coating or a bonded timber system, dry diamond grinding is a fast and effective method of preparing and trueing up the surface. The FORTIS AD822 epoxy should be thinned 10% with Methylated Spirits to ease rolling and applied at an application rate of 6m<sup>2</sup> per litre with a mohair roller. To be effective as a vapour barrier, there must be a continuous glossy film left on the surface. If this is not achieved in one coat application, repeat the operation. If the epoxy is soaking away, it normally indicates a low strength concrete (high free volume) probably caused by overwatering during laying. Watch also for signs of rejection (pulling back/poor wetting) during application, as this indicates contaminated concrete, which must be further cleaned/prepared before coating. FORTIS AD822 can also be used for crack filling if there is no live load movement. Make a temporary dam with either Plaster of Paris or self-adhesive foam strips either side of cracks, opening them a little with a grinding wheel if possible to aid ingress. Pour unthinned FORTIS AD822 into the retained area and top up as epoxy migrates. Grind off excess product after curing.

### CAUTIONS:

#### MOISTURE

The cure of epoxy products can be affected by moisture, which reacts with the hardener to give a surface "bloom". This blooming can give a permanent loss of gloss, less than normal chemical and physical resistance at the surface, and affect inter-coat adhesion if over-coated. Take all reasonable steps to minimise the risk of water, moisture, or excessive humidity exposure during the cure period (which may be several days in cold temperatures).

#### TEMPERATURE

Do not use this product at ambient temperatures lower than 10°C, as full strength will not develop reliably below this temperature. Epoxy resins used in the manufacture of this product may thicken and crystallise over time at low storage temperatures. The product should be stored at not less than 10°C. If cold temperature crystallising occurs, it can be simply reversed by reconditioning the resin component by raising the temperature of the product to at least 35°C overnight, and thoroughly mixing with a power mixer whilst hot. Heating can be done by standing the unopened containers in a small room with a thermostat-controlled electric heater, or by standing the pails in very hot water. Contact Fortis for specific advice.

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### SAFETY

Please refer to Fortis Safety Data Sheet for Fortis AD822. Fortis AD822 is safe if good working practices and proper application equipment is used. Good industrial hygiene should be observed at all times - **impervious gloves are essential** when handling adhesive. Ensure use in ventilated area due to odours.

#### Disclaimer

*Fortis products should be used in accordance with the information contained here. Each user should read and consider this information carefully in the context of how the products will be handled and used in the workplace including in conjunction with other products. While the information contained here is to the best of our knowledge at the date of publication, Fortis makes no representation about the accuracy of the information. If you need clarification or more information, you should contact Fortis Adhesives & Coatings office directly. Fortis products are sold without express or implied warranties, other than as provided by statute, and subject to our standard terms and conditions (provided to customers and available on request). Subject to our standard terms and conditions, and any statutory provisions, Fortis accepts no responsibility (including in negligence) for loss or damage of any nature resulting from the use of Fortis Adhesives & Coatings products or reliance upon the information contained here*