

# ERS™400

Epoxy Resin Saturant

## PRODUCT DESCRIPTION

ERS™400 is a 100% solids, epoxy based resin used to Saturate and install of fiber wrap, NSM rods, FRP plates or FRP anchors. ERS™400 is an environmentally friendly product with no Volatile Organic Compounds (VOC) and no hazardous air pollutant, solvents free and minimum odor. The resin is perfect for healthcare, hospitals, schools, industrial and highly populated areas as well as food and drug industries.

This resin is used for high strength composite bonding applications. It provides a good working time for application, with no offensive odor.

## PRODUCT FEATURES

- Easy mix and application by trowel and impregnation roller
- Excellent application behavior to vertical and overhead surfaces
- Excellent adhesion to concrete, masonry, metals, wood and most structural materials
- 100% Solvent free
- Long pot life
- High mechanical properties
- High strength, high modulus adhesive.
- High abrasion and shock resistance.
- Good elongation
- Good high / low temperature properties
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## PRODUCT USES

ERS™400 epoxy resins are high-performance adhesives which are widely used in strengthening and retrofitting of different types of structures and manufacturing composite products.

## HOW TO USE

### SURFACE PREPARATION

ERS™400 should be applied to prepared substrates that are primed with ERS™200 adhesive resin, moisture free, and are free of dust, oils, other surface contaminants, or bond inhibiting materials.

## TECHNICAL DATA & PHYSICAL PROPERTIES

Chemical Base	Epoxy resin
Density	1.25 Kg/L
Mixing Ratio	100:50
Part A	100
Part B	50
Appearance	Grey Paste
Part A	Light Grey Paste
Part B	Grey Paste
T <sub>g</sub> (ASTM D4065)	70°C
Application Methods	Hand lay-up
Shelf Time	18 month
Storage Conditions	Store dry at 4°C – 40°C

Curing schedule 72 hours post cure @ 60°C  
Testing temperature: 21°C



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## APPLICATION EQUIPMENT

For NSM applications, fill each groove half way with resin using manual or pneumatic caulk gun or by pouring directly into the groove. Install bar then fill the groove.

## MIXING

Mix entire unit for best results. Part A must be mechanically premixed separately for 2 minutes. After premixing, blend Part A and Part B with a mechanical mixer for 2 minutes until a homogeneous mixture is achieved. After mixing Parts A and B, untreated fumed silica (or equal) may be added in order to modify the consistency of the material for placement. The maximum ratio of fumed silica to ERS™400 is 1:0.5 by volume.

## APPLICATION

Apply ERS™400 resin directly to the prepared primed substrate for surface embedded bars (NSM application), fill surface grooves using caulk gun or by pouring directly into the groove.

## APPROXIMATE POT LIFE

Approximate pot life for ERS™400 is approximately 90 Min at 21°C

## COVERAGE RATES

Coverage rate depends on the application:

GRR™ NSM reinforcement 0.7-1.2 m/L for bar 12mm  
UCL™ 1.4 CFRP Plate 0.7-1.2 m/L

Coverage rates may vary based on installation procedure and fabric type. Contact us for coverage rates.

## LIMITATIONS

Only apply ERS™400 when the ambient temperature is between 4°C and 40°C.

Topcoat selection should be based upon requirements for protection from environmental exposures, aesthetics, and fire protection/burn characteristics.

## OBSERVE WORKING TIME LIMITATIONS

Mix no more material than can be applied within the work time period. Available work time, temperature and complexity of the application will determine how much material should be mixed at one time. Keep material cool and in shaded area, away from direct sunlight in warm weather. During hot weather, work

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time can be extended by keeping the material cool before and after mixing or by immersing the pot in ice water.

## **CLEAN UP**

Use methyl ethyl ketone or acetone. Observe fire and health precautions when using solvents. Dispose of in accordance with local regulations.

## **SHELF LIFE**

Stored at 21°C: 18 months (Parts A and B)

## **HANDLING**

Use of approved personal protection equipment should be worn at all times. Particle mask is recommended for possible airborne particles. Gloves are recommended when handling fabrics and resins to avoid skin irritation. Safety glasses are recommended to prevent eye irritation. Wear chemical resistant clothing/gloves/ goggles. Ventilate area. In absence of adequate ventilation, use properly fitted NIOSH respirator.

These products are for professional and industrial use only and are only installed by trained and qualified applicators. Trained applicators must follow installation instructions.

## **STORAGE**

Store in a cool, dry area (4°C to 40°C) away from direct sunlight, flame, or other hazards.

## **SAFETY**

**WARNING:** Vapor may be harmful. Contains epoxy adhesive and curing agent. May cause skin sensitivity or other allergic responses. Keep away from heat, sparks or open flame. In enclosed areas or where ventilation is poor use an approved air mask and utilize adequate safety precautions to prevent fire or explosion.

## **FIRST AID**

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water; contact physician immediately. For respiratory problems, remove to fresh air. Wash clothing before reuse.

## **DISCLAIMER OF LIABILITY**

AFZIR, LLC warrants its products to be free from manufacturing defects. Buyer determines suitability of product for use and assumes all risks. Buyer's sole remedy shall be limited to replacement of product. Any claim for breach of this warranty must be brought within six months of the date of purchase.

AFZIR shall not be liable for any consequential or special damages of any kind, resulting from any claim or breach of warranty, breach of contract, negligence or any legal theory.

The Buyer, by accepting the products described herein, agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production.