

PRODUCT DESCRIPTION

ERS™480 is an epoxy – based adhesive and consists of a two component compound with a 2:1 mixing ratio. This product is 100% solid and has low amounts of toxicity and has a slight odor during operation. In general, ERS™480 epoxy resin is designed for under water applications. ERS™480 epoxy resin is compatible with all surfaces, including steel, concrete, wood, etc.

PRODUCT FEATURES

- Designed for underwater application
- High strength, modulus, structural paste adhesive
- Excellent adhesion
- Two component epoxy resin
- 100 % solvent free
- low viscosity
- Moisture resistant
- 12 hour full cure
- High mechanical and chemical resistance.
- High final compressive strength
- environmentally sound

PRODUCT USES

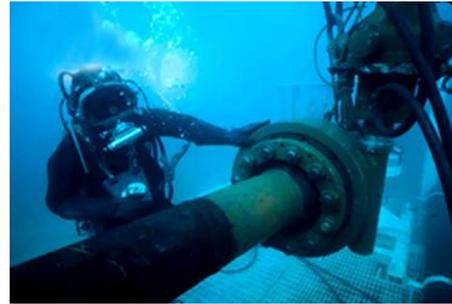
- ERS™480 epoxy resin saturant is designed for epoxy applications
- These adhesives are widely used in strengthening and retrofitting of different types of structures such as concrete, masonry, wood, stone, steel and manufacturing composite products
- It can be used as a patching and bonding material
- Structural bonding of carbon or glass
- Structural bonding of fabrics saturated with resin on vertical and overhead surfaces

| TECHNICAL DATA | |
|--|-------------------|
| Mixing ratio, by wt | 100:50 |
| Specific gravity | 1.6 kg/l |
| Viscosity A & B mixed, | 14000 – 18000 cps |
| Gel time, -7°C, | 2.5 – 3.5 hours |
| ASTM D695, 7day Compressive strength, | 48 - 55 Mpa |
| ASTM D695, 7day Compressive strength, mortar, ($\frac{gel}{uw}$: sand=1:1 by volume) | 55 – 62 Mpa |
| ASTM D2240 Shore D hardness | 80 - 85 |

HOW TO USE

SURFACE PREPARATION

All surfaces must be free of contamination before starting work. The method of removing contamination



ERS™480 Epoxy Resin Saturant for Underwater Applications

is different at each level. The solution for preparing steel and concrete surfaces is as follows:

Steel:

1. Immersion service: Using the sspc-sp10 method (Near White Blast Cleaning) is used. In fact, in this method, the grade is very good. When the surface is prepared to look clean without magnification, no oil, grease, dust, sediment, rust or foreign matter can be seen in it and only contaminated inside deep pores and crevices. In fact, the level of pollution is about 5%.

2. Non Immersion service: The sspc-sp6 method (commercial blast cleaning) can be used. In fact, in this method, the degree of cleanliness is good. When the surface is prepared with a good degree of cleanliness without magnification, grease, oil and dust are not visible to the naked eye, and many of the rolling deposits and rust left on the surface are sticky. About 33% of the cleaned surface, as a result of remaining rust, stains, rolling deposits, previous paint, etc., is darker in color and most of the time have not been cleaned in deep pores.

Concrete: Concrete must be properly cured for a minimum of 28 days before application of coating. Surface must be entirely free of oil, grease, dirt, detergent, surface water, laitance, curing compounds, coatings or other contaminants that may interfere with adhesion. The concrete must be abrasive blasted to provide an anchor pattern for adhesion. Final prepared surface should be clean and rough.

MIXING

Prior to mixing components A resin and B hardener should be at room temperature. ERS™480 compounds are supplied in two different containers. Before mixing the components, each must first be stirred separately to prevent sediment in the container. Then add part B (hardener) to part A (resin) and mix evenly with a mixer for 3 or 5 minutes. ERS™480 should be used in 30 minutes.

APPLICATION

The surface must first be cleaned of any contaminants. Then the underwater resin components are mixed according to the instructions and applied on the desired surface by special tools. Due to the low viscosity of the product, it must be mixed with a diluent so that it can be easily used under water. The pot life of the product is 30 minutes.

LIMITATIONS

- This product may not cure properly in temperatures below 10° C. Therefore, the temperature should be in the range of 10- 32 ° C.
- All epoxies will show chalking/yellowing on exterior exposures. Application of epoxy coatings in cool temperatures and high humidity can result in the formation of amine blush. Blush may appear as a milky, white, tacky residue on the surface of the cured coating and must be removed before the application of another coat. Intercoat adhesion problems may occur if blush is not removed.
- Definitely, before using this product, the desired surface must be cleaned of any contamination.
- The product must be combined according to the instructions. Otherwise it may not function properly

CLEANUP

Dispose of material in accordance with local disposal regulations. Uncured material can be removed with approved solvents. Cured materials can only be removed mechanically. In fact, the thinner can not completely clean the equipment, Therefore, acetone or ketone solution can be used to clean equipment.

STORAGE

This product should be stored in closed containers, in a dry place with a temperature of 7°C to 35°C, away from sources of heat, flame and ignition. It is recommended that the coating components be stored at a temperature of at least 16 ° C for 24 hours before use .Avoid freezing the product and keep it away from direct sunlight, under water resin can be stored for 2 years from the date of manufacture when stored in unopened containers and under appropriate conditions

SAFETY

Users should observe good industrial and personal hygiene. The use of hardhats, proper footwear, and ear protection should be evaluated on a site-by-site basis. In situations where installation is occurring in water, flotation devices should be utilized. In general, installers of products should wear long-sleeve shirts and pants and use safety glasses/goggles and gloves to minimize skin contact. Measures such as washing after handling the material and before eating, drinking, and/or smoking, as well as routinely washing work clothing and protective equipment to remove contaminants, should be employed.

FIRST AID

- In case of contact with skin, wash thoroughly with soap and water
- In case of contact with eyes, rinse immediately with plenty of water.
- Get out of space or use oxygen capsules if you have trouble breathing.
- 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.