

SeaShield™ FX-70™ Fiberglass Jacket

High-Strength Fiberglass Interlocking Jacket



DESCRIPTION

The SeaShield FX-70 high-strength fiberglass protective jacket is a fiber-reinforced plastic (FRP) composite that is used as a stay-in-place form in the SeaShield Series FX-70 structural pile repair and protection system. When used with our specialty underwater grouts, this system allows repairs to be made to concrete, wood and steel structures that are submerged or in tidal zones without constructing costly cofferdams. The custom-made FRP jackets are available in a variety of shapes and sizes.

ASSESSMENT

WHERE TO USE

- Repairs and protection of marine structures
- Pile repairs
- Underwater grouting applications
- Utility pole repairs
- Pile splicing/extensions
- Seawall repairs

FEATURES

- Repair damage in place, with no need to dewater or take the structure out of service
- Corrosion-free system prevents deterioration, weatherizing and erosion
- Accommodates piles of various shapes and sizes – round, square, H-Piles, or custom shapes
- Suitable for marine environments

PRODUCT DATA

Generic Description

Fiberglass composite

Available Shapes and Sizes

Thickness – 1/8", 3/16", 1/4"

Shapes – round, square, H-Piles, octagonal, and custom

Colors – translucent and gray. Other colors available upon request.

TECHNICAL INFORMATION

Flexural Strength

ASTM D790

25,000 psi 172 MPa

Flexural Modulus

ASTM D790

700,000 psi 4,826 MPa

Ultimate Tensile Strength

ASTM D638

15,000 psi 103 MPa

Barcol Hardness

ASTM D2583

45± 7

Water Absorption

ASTM D570

Less than 1%

LIMITATIONS

- Do not overfill.
- Install proper bracing.
- Underwater placement should be attempted only by certified and experienced professional divers.
- Do not apply the FX-70 system to surfaces below 40°F (4°C) or above 95°F (35°C).
- All submerged forms should be installed by certified professional divers. All forms must be sealed appropriately to prevent grout leakage during installation.

APPLICATION INSTRUCTIONS

More comprehensive SeaShield Series FX-70 structural pile repair and protection system installation instructions are available; please refer to the SeaShield Series FX-70 Structural Piling Repair and Protection System Installation Guide PDF.

SURFACE PREPARATION

All surfaces must be sound and free of loose rust, marine growth, oil, and other contaminants. To confirm the stability of the structure during the restoration process, consult with a qualified professional engineer before attempting any structural repairs.

Concrete: Prepare surface by high-pressure water-blasting or other mechanical means to meet ICRI Guideline 310.2R CSP 3-6. Mechanically remove unsound concrete in the damaged area to provide a minimum concrete surface profile CSP 6, per ICRI Guideline 310.2R. Repair or replace any reinforcing steel as determined by a qualified professional engineer.

Steel: Prepare surface by high-pressure water-jetting or other mechanical means necessary to meet SSPC-SP12/ NACE 5 WJ-4. Repair or replace any structural steel elements with excessive section loss as determined by a qualified professional engineer.

Wood: Prepare surface by high-pressure water-blasting or other mechanical means necessary to achieve a sound surface, free of all contaminants.

Fiberglass Jackets: Fiberglass surfaces must be sound, clean, and free of all contaminants that could impair product adhesion or performance.

JACKET PREPARATION

Install SeaShield FX-Spacers to the inside of the jacket using SeaShield FX-523 flexibilized epoxy adhesive or SeaShield stand-off adhesive.

Place a bead of adhesive from an SeaShield FX-70TNG Tongue-and-Groove Adhesive Cartridge or SeaShield 525 TG Epoxy using a ADT30 Manual Dispensing Tool into the female portion of the tongue-and-groove joint.

Pull the jacket open and place around the pile, engaging tongue-and-groove joint(s), and then secure the jacket with ratchet strap(s).

Position the jacket over the repair area so that the jacket's length allows 18" (457 mm) to 24" (610 mm) of undamaged pile above and below the damaged area.

Secure the tongue-and-groove joint with SeaShield 316 Stainless-Steel Screws, self-drilling, self-tapping screws along the center of the tongue-and-groove joint every 6" (152 mm) on center.

Install external bracing to prevent jackets from bulging during placement of filler materials.

CAUTION

The SeaShield Series FX-70 system includes a number of individual products; detailed health and safety information for each product can be found on product Safety Data Sheets (SDS), please contact Winn & Coales (Denso) Ltd for an SDS. Information on Personal Protective Equipment (PPE) is provided to assist installers/employers in complying with OSHA regulations found in 29 CFR. Each individual jobsite will have its own health and safety considerations with regards to the type and number of hazards as well as any local or state regulations that may apply. 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 FX-70 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. This system includes large molded articles which may be heavy and awkward to lift. Use proper lifting and handling techniques. The use of a respirator is not required during installation. However, if FX-70 jackets or the cured epoxy product needs to be ground or cut, or if respiratory discomfort or irritation is experienced, respiratory protection should be worn.

FIRST AID

Eye Contact: Flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses as needed. If you experience redness, burning, blurred vision, or swelling, seek medical advice.

Skin Contact: Wash affected area with soap and water. If rash or irritation occurs, seek medical advice.

Inhalation: Remove affected individual to fresh air. Give oxygen or artificial respiration if needed. If individual continues to experience difficulty breathing, seek medical advice.

Ingestion: Ingestion is unlikely. If swallowed, rinse mouth immediately. DO NOT INDUCE VOMITING. Seek medical advice.

CLEAN-UP

Spill/Release and Clean-up Procedures: Avoid processes that result in the creation of dust. In the case of the creation or spill of process dust, avoid dry sweeping. Use water spraying/flushing or ventilated or HEPA filter–vacuum cleaning system. If those methods are not available, gently moisten dust before collection with shovel or broom.

IMPORTANT INFORMATION

Winn & Coales (Denso) Ltd pursue a policy to develop and continually improve all of our products and therefore information given in this data sheet is intended as a general guide and does not constitute a warranty, specification or risk assessment. These guidelines may not cover all circumstances; however, our sales personnel are committed to assisting the user in establishing the suitability of the product for its intended purpose and additional specific information, including Safety Data Sheets, is available on request. We recommend that installation is carried out with due regard to Health and Safety and in accordance with relevant local statutes and regulations. Any conflict between these guidelines and the specific project specifications must be resolved by the user before work commences. All rights reserved.