



12.04 XPERT PROFIBER CW ADHESIVE

(Epoxy encapsulation resin adhesive for the XPERT PROFIBER CW System)

PRODUCT DESCRIPTION

XPERT PROFIBER CW ADHESIVE is 100% solids, low viscosity epoxy material that is used to encapsulate XPERT PROFIBER carbon, glass, and aramid fibre fabrics. When reinforced with XPERT PROFIBER fabrics, the XPERT PROFIBER CW ADHESIVE cures to provide a high performance FRP laminate. The resulting FRP laminate can provide additional strength to concrete, masonry, steel, and wood structural elements.

USES

- Used to encapsulate any XPERT PROFIBER fabric.
- As an impregnating / laminating resin for the XPERT PROFIBER fabric reinforcement wet application method
- As a substrate primer for the wet application method
- Moderate viscosity Can be applied in vertical and overhead applications, but still adequately saturates XPER PROFIBER fabrics
- 100% solids epoxy Low odor, low VOC's
- High build, high performance Epoxy adhesive can be applied on Concrete, Masonry, Steel.

CHARACTERISTICS / ADVANTAGES

- Easy to mix
- Application by impregnation roller Formulated for manual or mechanical saturation methods
- Good adhesion to many substrates
- High mechanical properties
- Extra-long pot life

TENSILE PROPERTIES:

CATEGORY	PARAMETER
Yield Strength	7985 psi (55 MPa)
Strain at Yield	2.5%

Elastic Modulus	440 ksi (3034 MPa)
Ultimate Strength	8000 psi (55.2 MPa)
Rupture Strain	3.5%
Poisson's Ratio	0.40

FLEXURAL PROPERTIES:

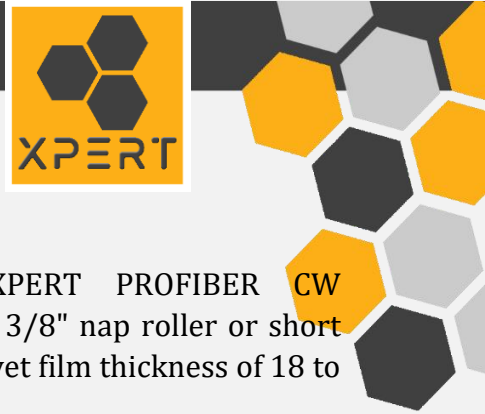
CATEGORY	PARAMETER
Yield Strength	20000 psi (138 MPa)
Strain at Yield	3.8%
Elastic Modulus	540 ksi (3724 MPa)
Ultimate Strength	20000 psi (138 MPa)
Rupture Strain	5%

COMPRESSIVE PROPERTIES:

CATEGORY	PARAMETER
Yield Strength	12500 psi (86.2 MPa)
Strain at Yield	5.0%
Elastic Modulus	380 ksi (2620 MPa)
Ultimate Strength	12500 psi (86.2 MPa)
Rupture Strain	5%

FUNCTIONAL PROPERTIES:

CATEGORY	PARAMETER
CTE	20·10-6/°F (35·10-6/°C)
Thermal Conductivity	1.45 Btu·in/hr·ft ² ·°F (0.21 W/m·°K)
Glass Transition Temp, Tg	163 °F (71 °C)

**APPLICATION METHODOLOGY:****SURFACE PREPARATION**

1. XPERT PROFIBER CW ADHESIVE should be applied to a substrate prepared with XPERT EP - 100. The XPERT PROFIBER CW ADHESIVE can be applied before or after the XPERT EP - 100 have achieved full cure.
2. Surfaces with a tack-free XPERT EP - 100 coat must be lightly sanded and cleaned of any dust, oils, or other surface contaminants.

MIXING

1. The mix ratio is 2:1 (Part A to Part B) by volume or 66.67 : 33.33 (Part A to Part B) by weight. Mix only the amount of material that can be used within the working time of the material. Approximate working times for a 1 gal (3.8 L) unit are: 200 min at 50 °F (10 °C) 45 min at 77 °F (25 °C) 15 min at 90 °F (32 °C)
2. Part A (resin) must be pre-mixed using a low speed drill (600 rpm) and mixing paddle (e.g., a Jiffy Mixer). Keep the paddle below the surface of the material to avoid entrapping air. Pre-mix for a minimum of 3 minutes.
3. Carefully measure (ratio) each component and then add Part B (hardener) to Part A (resin).
4. Mix Parts A and B using a low-speed drill (600 rpm) and mixing paddle (e.g., a Jiffy mixer). Carefully scrape the sides and bottom of the container while mixing. Keep the paddle below the surface of the material to avoid entrapping air. Proper mixing will take at least 3 – 5 minutes. Well-mixed material will be free of streaks or lumps.

APPLICATION

1. Apply the XPERT PROFIBER CW ADHESIVE using a 3/8" nap roller or short bristle brush to a wet film thickness of 18 to 22 mils.
2. Apply the desired XPERT PROFIBER fabric into the saturant before the saturant becomes tacky. (Note some fabrics may require additional XPERT PROFIBER CW ADHESIVE be applied directly onto the fabric prior to placing the fabric.)
3. Apply a second layer of XPERT PROFIBER CW ADHESIVE over the XPERT PROFIBER fabric using a 3/8" nap roller or short bristle brush to a wet film thickness of 18 to 22 mils.
4. If additional layers of XPERT PROFIBER fabric are required, repeat steps 1 through 3.

CLEAN UP

Use xylene or methyl ethyl ketone. Observe fire and health precautions with solvents.

MAINTENANCE

1. Periodically inspect the applied material and repair localized areas as needed. Consult a XPERT CCPL representative for additional information.

CAUTION:

- Only apply XPERT PROFIBER CW ADHESIVE when the ambient temperature is between 50 and 120 °F (10 and 50 °C).
- Surfaces subject to UV exposure should be protected with XPERT WP THERMO SHIELD, or equivalent 100% acrylic top coat.
- Interior surfaces may be coated — consult your local sales representative for available options. Coatings applied over XPERT PROFIBER CW ADHESIVE should be applied within 48 hours.



- If more than 48 hours have passed following application of XPERT PROFIBER CW ADHESIVE the surface shall be lightly abraded and cleaned with a solvent wipe prior to applying the next component.
- Make certain the most current versions of product data sheet are being used.
- Proper application is the responsibility of the user. Field visits by personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

OBSERVE WORKING TIME LIMITATIONS

- Catalyse no more material than can be applied within the work time period.
- Available work time, temperature and complexity of the application area will determine how much material should be catalysed at one time.
- Keep material cool and shaded from direct sunlight in warm weather.
- During hot weather, work time can be extended by keeping material cool before and after mixing or by immersing pot in ice water.

HEALTH, SAFETY AND ENVIRONMENTAL

Health, Safety and Environmental Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.xpertchemical.com.

WARRANTY

This product is warranted to be free of defects in material and workmanship, and conform to XPERT Construction Chemicals ("XPERT") quality control standards. All recommendations, statements and technical data herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a

warranty or guaranty of any kind, expressed or implied including but not limited to, an implied warranty of merchantability or an implied warranty of fitness for a particular purpose.

Satisfactory results depend upon many factors beyond XPERT's control. User shall rely on his or her own information and tests to determine suitability of the product for the intended use and user assumes all risk, loss, damage, expense and liability resulting from his or her direct use, indirect use or consequential to their use of the product.

- XPERT shall not be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use or inability to use the product.
- XPERT's sole responsibility shall be to replace that portion of the product, which proves to be defective.
- Any warranty claim must be made within six (6) months from the date of the claimed breach.
- This limited warranty applies only if the was properly stored prior to use.