



The FRP Retrofit Experts

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Product Data Sheet QuakeBond™ 220UR Underwater Resin

DESCRIPTION

QuakeBond™ 220UR (Underwater Resin) is a two-component high-strength structural epoxy designed for underwater application. QuakeBond™ 220UR has an immediate high tack consistency both in air and water. QuakeBond™ 220UR trowels easily and has a user friendly 2:1 volumetric mix ratio. QuakeBond™ 220UR is a 100% solids formulation with low toxicity and low odor during cure and features a unique 12-hour turnaround to service without force cure or specialized equipment.

USE

- Adhesive for bonding external reinforcement to concrete, masonry, wood, stone, steel, etc.
- Structural bonding of carbon or glass laminates, e.g. PipeMedic™ or PileMedic™ products.
- Structural bonding of fabrics saturated with QuakeBond™ J300SR resin on vertical and overhead surfaces.

ADVANTAGES

- High strength, high modulus, structural paste adhesive.
- Fully compatible and excellent adhesion to PipeMedic™ or PileMedic™ laminates and fabrics saturated with QuakeBond™ J300SR resin.
- Paste consistency ideal for underwater applications.
- Convenient easy mix ratio, (2 volume parts of component "A" with 1 volume part of component "B").
- 100% solvent free.
- Moisture tolerant.
- 12 hour full cure.
- Tile like high gloss finish easy to clean and decontaminate.
- Environmentally sound.

COVERAGE

Applied at a thickness of 15 mil (0.4 mm) results in 100 square feet per gallon (0.4 liter per square meter). Rough and uneven surfaces result in lower yields.

PACKAGING

Component "A" is supplied in 2-gallon (7.58L) containers and component "B" in 1-gallon (3.79L) containers, resulting in 3-gallon kits. Likewise 15 gallon kits are available. Ships DOT non-regulated.

MIXING

Prior to mixing, components A Resin and B Hardener should be at room temperature (60-75 F/16-24C). Pour Part B Hardener into Part A Resin. Mix for 3 minutes using a Jiffy mixer head and a mechanical drill. To ensure complete mixing, scrape sides and bottom of container and continue mixing for an additional 1 or 2 minutes. Do not mix more material than can be applied within the 30 minutes pot life. DO NOT HAND MIX. Begin application immediately – no induction time.

SHELF LIFE

Shelf life is 12 months from the date of manufacture when stored in unopened containers and under recommended conditions. Material should be stored in a dry area under cover at temperatures between 45-95F/7-35C. It is recommended that the coating components be kept inside at a minimum of 60F/16C for 24 hours prior to start of application. Keep away from heat, flame and ignition sources.

CERTIFICATE OF COMPLIANCE

- Material Safety Data Sheet (MSDS) will be supplied upon request and is included with each shipment.
- Possesses 0% volatile content per EPA Test Method 24.

SURFACE PREPARATION

Steel – Immersion Service: SSPC-SP10 Near White Blast Cleaning with 3.0-mil profile

Non-Immersion Service: SSPC-SP6 Commercial Blast Cleaning with 2.0 mil profile

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 (similar to 60-80 grit sandpaper min.) for adhesion. Final prepared surface should be clean and rough. Consult SSPC-SP13 – Surface Preparation of Concrete.

APPLICATION

Air and surface temperature should be between 50-90F/10-32C. Do not begin application if air, substrate or material temperature is below 50 F/10C or expected to fall below 50F/10C within 12 hours of application. Do not begin application if dew point is within 5F/3C of the temperature. Variations in temperature can affect pot life and sag properties of this material. Do not exceed 20% by volume of thinner with NSP-T1 Thinner. NSP-T1 Thinner will not clean hoses or equipment adequately. Clean up using Acetone or other Ketone Solvent. For concrete surfaces, a primer coat of either NSP 100, 101 and 110 is strongly recommended.

LIMITATIONS

This product may not cure properly in temperatures below 50 F (10 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.

FIRST AID

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately. For respiratory problems, remove to fresh air. Wash clothing before reuse. Consult MSDS for detailed information.

CLEANUP

Collect with absorbent material, flush with water. Dispose of in accordance with local disposal regulations. Uncured materials can be removed with approved solvent. Cured materials can only be removed mechanically.

EPOXY PROPERTIES

Color	White, Black, Tile Red, Light Gray
Pot Life at 77° F (25° C)	30 minutes
Full cure time	12 hours
Tensile Strength (ASTM D-638)	4360 psi (38.6 MPa)
Compressive Strength (ASTM D-695)	11700 psi (80.7 MPa)
Flexural Strength (ASTM D-790)	8900 psi (61.4 MPa)
Adhesion to Concrete	Substrate Failure
Adhesion to Steel SSPC-SP10	>1200 psi (8.3 MPa)
Adhesion to Damp Concrete	>350 psi (2.4 MPa) Substrate Failure
Tensile Elongation	5%
Hardness, Shore D	90
Abrasion Resistance	37.7 mg Average Wt. Loss
Flame Spread	Class A
Flammability	Self Extinguishing

KEEP OUT OF REACH OF CHILDREN.
NOT FOR INTERNAL CONSUMPTION.

CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION.

FOR INDUSTRIAL USE ONLY.
KEEP CONTAINER CLOSED TIGHTLY.

QuakeWrap, Inc. warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current technical data sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

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