QuakeBond™ 220UR

HYCHEM
Infrastructure

Product Description

QuakeBond™ 220UR (Universal Resin) is a two-component high-strength structural epoxy designed for a variety of applications including underwater and marine uses. This adhesive system trowels easily and has an immediate high tack consistency both in air and underwater. QuakeBond™ 220UR is a 100% solids formulation with low toxicity, low odor during cure, and features a unique 12-hour turnaround to service without force cure of specialized equipment.

Uses

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

Advantages

- High strength, high modulus structural paste adhesive.
- Non-sag consistency ideal for vertical and overhead applications.
- Fully compatible with PipeMedic™ and PileMedic™ laminates and fabrics saturated with QuakeBond™ J300SR resin.
- Paste consistency ideal for underwater applications.
- Convenient 2:1 mix ratio (2 parts component “A” with 1 part component “B”, by volume).
- 100% solvent free
- Moisture tolerant
- 12-hour full cure
- Tile-like high gloss finish easy-to-clean and decontaminate.
- Non-toxic when fully cured

Coverage

Surface Application: Applied at a thickness of 30 mil (.8 mm) results in 50 square feet per gallon (0.4 liter per square meter). Rough and uneven surfaces result in lower yields. Contact a QuakeWrap® specialist for more information.

Laminate Application: Applied at a thickness of 20-25 mil (.5-.6 mm) results in 60 square feet per gallon (0.4 liter per square meter).

Epoxy Properties

Color – Mixed	White, Black, Tile Red, Grey
Pot life at 77°F (25°C)	30 minutes
Full cure time	12 hours
Tensile Strength (ASTM D-638)	4,360 psi (38.6 MPa)
Compressive Strength (ASTM D-695)	11,700 psi (80.7 MPa)
Flexural Strength (ASTM D-790)	1,400 cps
Adhesion to Concrete	Substrate Failure
Adhesion to Steel SSPC-SP10	>1,200 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

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Application Equipment

For kits and cartridges, use a putty knife or trowel for smoothing of resin.

3-gallon & 15-gallon kits: Metering or dispensing equipment with ratio capabilities of 2:1 with liquid to paste viscosity range.

Cartridges: 900ml (600x300 capacity) dual cartridge dispensing gun capable of 2:1 dispensing ratio. Static mixing nozzle included with cartridge.

Surface Preparation

Surfaces must be entirely free of oil, grease, dirt, detergent, surface water, laitance, curing compounds, coatings or other contaminants that may interfere with adhesion.

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 shall be properly cured for a minimum of 28 days before application of coating. The concrete must be abrasive blasted to provide an anchor pattern for adhesion. Final prepared surface should be clean and rough. Consult SSPC-SP13 - Surface Preparation of Concrete.

Mixing

Prior to mixing, all products should be preconditioned to room temperature (60-75° F / 16-24° C). Do not mix more material than can be applied within the 30-minute pot life. Begin application immediately – no induction time.

3-gallon kit: Pour Part B Hardener in Part A Resin. Hand mix for 3 minutes, scraping sides and bottom of container to ensure complete mixing.

15-gallon kit: Pour Part B Hardener in 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 to 2 minutes. DO NOT HAND MIX.

Cartridges: Insert cartridge into dispensing gun and cut tip off static mixing nozzle. Prime dispensing gun, allowing resin to fill mixing nozzle. Dispose of first pumps of product to ensure proper mixing.

Application

Air and surface temperature should be between 50-90° F (10-32° C). Do not begin application if air, substrate, or material temperatures is below 50° F (10° C) or expected to fall below 50° F (10° C) within 12 hours of application. Do not begin application if dew point is within 5° F (3° C) of the temperature. Variations in temperature can affect pot life and sag properties of this material.

Apply product to substrate with a putty knife or trowel and smooth to appropriate thickness.

Cleanup

Collect with absorbent material, flush with water. Clean up using Acetone or other Ketone solvent. For concrete surfaces, a primer coat of either NSP 100, 101, or 110 is strongly recommended. Dispose waste in accordance with local disposal regulation. Cured materials can only be removed mechanically.

Packaging

- 3-gallon (11.4 L) kits
- 15-gallon (56.8 L) kits
- 30.4 oz. (900 mL) cartridges

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Shelf life and Storage

Shelf life Is 12 months from the marked date of manufacture when unopened and stored in a dry, covered area at temperatures between 45-95° F (7-35° C). It is recommended that the coating components be kept at a minimum of 60° F (16° C) for 24 hours prior to start of application. Keep away from heat, flame, and ignition sources.

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

Appropriate Personal Protective Equipment (PPE) should be worn at all times when handling product.
Consult SDS for more information.

Certificate of Compliance

Safety Data Sheet (SDS) will be supplied upon request and is included with each shipment.

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