QuakeBond™ 320LV

HYCHEM
Infrastructure

Product Description

QuakeBond™ 320LV (Low Viscosity Resin) is a two-component, high strength, low viscosity structural epoxy. The low viscosity makes this an ideal product for gravity feed. It can be used as a liquid binder for sand, aggregate or other mineral fillers to form cost-effective material to fill the annular space around piles when PileMedic® laminates are used. The resin cures underwater, making it suitable for repair of submerged piles. The high compressive and tensile strength of this epoxy provide structural strength for the pile or pole in repairs using PileMedic® laminates. QuakeBond™ 320LV can be used in repair of concrete, masonry, and wood structures. QuakeBond™ 320LV is a 100% solids formulation with low toxicity and low odor during the cure.

Uses

- Filing the annular space created between the PileMedic® and concrete or timber pile or pole being repaired for both above-water and submerged conditions
- As a binder mixed with sand and small-size aggregates to form a resin-based grout to fill larger annular spaces in repair of piles and poles using PileMedic®.
- Filling cracks in concrete by injection or gravity feed.
- Crack repairs in masonry, wood and concrete structure members.

Advantages

- High strength, high modulus, low-viscosity structural adhesive.
- Moisture tolerant-it curves under water.
- Fully compatible and excellent adhesion to PileMedic® carbon or glass laminates.
- Convenient easy mix ratio, 2:1 by volume.
- 100% solids, VOC free and Butyl Glycidyl Ether (BGE) free.
- Nearly odor-free.

Coverage

Apply as a filler material to fill voids in concrete, masonry, and timber structures. Application rate varies greatly based on the porosity and the volume of voids or annular spaces present. For wider annular spaces, the epoxy can easily be mixed with clean silica sand and pea gravel (3/8 inch and under) for improved yield.

Epoxy Properties

Color – Mixed	Black/Purple
Mix Ratio – Weight (A:B)	100:45
Viscosity - Mixed at 77° F (ASTM D-2196)	600 cps
Working time at 77° F (25° C)	20 Minutes
Gel Time (Pot Life)	30 Minutes
Weight (Mixed) lb./gallon	9.1
Tensile Strength (ASTM D-638)	7,500 psi (51.7 MPa)
Compressive Strength (ASTM D-695)	9,800 psi (77.2 MPa)
Elongation @ Break (ASTM D-638)	4.8%
Adhesion to Concrete	>800 psi (5.5 MPa); 100% failure in concrete
Hardness, Shore D	82

Application Equipment

Metering or dispensing equipment with ratio capabilities of 2:1 and viscosity range of 100-5000 cps.

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.

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Mixing

Mix 2 parts resin “A” to 1 part hardener “B” by volume into a clean container. Alternatively, proportion parts “A” and “B” to a weight ratio of 100:45. Mix thoroughly for 3 minutes using a paddle at low speed (400-600 rpm) to avoid air entrainment. Mix only the quantities that can be used within pot life. REMEMBER- you will have less working time at higher temperatures. DO NOT THIN; solvents will prevent proper cure. If desired, silica sand and well-grained pea gravel (3/8 inch and under) can be added up to a maximum of 50 pounds sand and gravel per gallon of QuakeBond™ 320LV.

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

55-gallon kit: Pre portion batches. 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.

Application

Properly mixed QuakeBond™ 320LV can be used to fill the annular space between PileMedic® jackets and the pile or pole being repaired. When introduced at the bottom of the annular space, the high density of the resin pushes the entrapped water to the top. The resin can be thickened with clean silica sand and pea gravel (3/8 inch and under) for filling larger annular spaces. All epoxy components shall be preconditioned to be a temperature between 65°F (17°C) and 85°F (29°C) prior to the time of mixing.

Packaging

Each component is supplied in either 5-gallon (19L) containers or 55-gallon (208L) drums, resulting in 15-gallon kits.
Ships DOT non-regulated.

Shelf life and Storage

Shelf Life is 18 months in original, unopened and properly stored containers. Store at 65°-85°F (18°-29°C).

Limitations

Minimum application temperature of the epoxy is 45°F (7°C). DO NOT THIN the epoxy with solvents.
This is NOT a crack injection resin. Never install to a thickness greater than ½” without the presence of aggregate.

In large mass, product will exotherm, possible bubbling might occur, consult QuakeWrap expert.

Safety Precautions

Avoid inhalation of vapors. Forced local exhaust is recommended to effectively minimize exposure. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions may cause high vapor concentrations. Do not weld on, burn, or touch any epoxy materials as this will cause release of hazardous vapors. Consult MSDS for detailed information.

Cleanup

Uncured materials can be removed with approved solvent or warm soapy water.
Cured materials can only be removed mechanically.

First Aid

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

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Certificate of Analysis

Certificate of Analysis (C of A) will be provided upon request.

Warranties and Disclaimers

Hychem warrants that this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product is dependent upon the proper use and application of the product by the applicator. Hychem has no role in the application of the finished polymer other than to manufacture and supply its components. It is vital that the person applying this product understands the product and is fully trained and certified in the use of spray equipment and application of sol-gel materials. There are no warranties that extend beyond the description on the face of this instrument, except when provided in writing, directly by Hychem and executed under seal by a company officer.

Field Support

Field support where provided, does not constitute supervisory responsibility. Suggestions made by HYCHEM either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not HYCHEM are responsible for carrying out procedures appropriate to a specific application.

Customer Responsibility

The technical information and application advice given in this publication is based on the best information available at the time of print.
As the information herein is of a general nature, no assumption can be made as to the product suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.

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