



QuakeBond™ 300SR

Product Description

QuakeBond™ 300SR (Saturating Resin) is a two-component, high-strength, low-viscosity structural epoxy-resin. The low viscosity and long pot life, with fast cure time is designed for high-volume saturating of heavy reinforcement fabrics using an impregnator machine. Combined with carbon or glass reinforcement, 300SR Saturating Resin produces fiber composite laminates with exceptional strength, durability, and chemical resistance. The convenient color-coded components and the 2:1 volumetric mix ratio is user friendly. QuakeBond™ 300SR is a 100% solids formulation with low toxicity and low odor during cure.

Uses

- Saturating carbon and glass fabrics for structural retrofit applications
- Adhesive for bonding external reinforcement to concrete, masonry, and wood
- A moisture barrier (water-resistant) system when used in conjunction with QuakeWrap® carbon or glass fabrics
- As a binder for epoxy mortar repairs

Advantages

- Long pot life
- High-strength, high-modulus, low-viscosity structural adhesive
- Fully compatible and excellent adhesion to QuakeWrap® carbon and glass fabrics
- Convenient 2:1 mix ratio, by volume
- 100% solvent free
- Color coded components (pigmented syrup and amber liquid) to ensure proper mixing control
- Nearly odor free
- Low toxicity during cure

Epoxy Properties

Viscosity mixed at 77° F (25° C)	1,250 cps
Mix Ratio (Weight) A:B	100:42.7
Gel Time (Pot Life) at 77° F (25° C)	67 minutes
Full Cure Time at 77° F (25° C) Full Cure Time at 176° F (80° C)	7 days (ambient cure) 8 hours (heated cure)
Density at 77° F (25° C)	Part A: 9.67 lb/gal (1.16 kg/L) Part B: 8.27 lb/gal (1.00 kg/L)
Tensile Strength (ASTM D-638) Tensile Modulus (ASTM D-638)	10,000 psi (68.9 MPa) 244,200 psi (1,683.7 MPa)
Compressive Strength (ASTM D-695) Compressive Modulus (ASTM D-695)	14,700 psi (101.4 MPa) 381,900 psi (2,633.1 MPa)
Flexural Strength (ASTM D-790) Flexural Modulus (ASTM D-790)	15,100 psi (104.1 MPa) 501,000 psi (3,454 MPa)
Glass Transition (T _g) at 77° F (25° C) Glass Transition (T _g) at 176° F (80° C)	143.3° F (61.9° C) 176° F (80.1° C)
24-hr Water Absorption (% gain)	< .5%
14 -day Water Absorption (% gain)	< .5%
Hardness (Shore D)	85D

Coverage

Applied as saturating resin to a fabric with a density of 27 oz/yd² achieves a yield of 50 ft²/gal. Yield varies slightly for different fabric densities.

Application Equipment

Wet Layup: A saturating machine is recommended for impregnating fabrics, but trowels or spatulas may be used for smaller projects or smaller areas of fabric. Use a squeegee for removal of excessive resin.

Dry Layup: Rollers and squeegees are to be used for saturation.



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Surface Preparation

For Bond-Critical Applications: Surfaces must be entirely free of oil, grease, dirt, detergent, 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 and no longer outgassing before application. Final prepared surface should be clean and rough. The concrete surface should be prepared to a minimum concrete surface profile (CSP) 2 as defined by the ICRI surface-profile chips.

For Contact-Critical Applications: Surfaces must be entirely free of oil, grease, dirt, detergent, laitance, curing compounds, coatings, or other contaminants that may interfere with adhesion. Surface voids should be patched, and materials and coatings with low compression strengths and elastic moduli should be removed.

For Applications of Additional Layers: In multiple-ply applications where previous layers are cured, interlayer surface preparation, such as light sanding and void filling is required.

Mixing

Prior to mixing, all products should be preconditioned to room temperature (65-85° F / 18-29° C).

Proportion parts "A" and "B" to a 100:42.7 weight ratio. Mix thoroughly for 3 minutes using a paddle and a mechanical drill at low speed (400-600 rpm) until uniform color is achieved. Mix only the quantities that can be used within the pot life. DO NOT THIN; solvents will prevent proper cure. Begin application immediately.

Application

Wet Layup: Use QuakeBond™ 300SR in conjunction with the saturating machine to impregnate carbon or glass fabrics. For smaller projects or smaller areas of fabric, the fabrics may be saturated by hand; pour mixed 300SR onto the fabric and use a trowel or spatula to spread the resin into the fabric. Turn the fabric over and repeat the process, ensuring that the fabric is thoroughly saturated. Use a squeegee or putty knife to remove excess resin from the fabric before installing the fabric on the structural element. Once the saturated fabric is installed, remove all entrapped air bubbles with gloved hands; a plastic laminating roller can be used as well. Do not disturb installed saturated fabric for 24 hours.

Cleanup

Collect with absorbent material, flush with water. Clean up using Acetone or other Ketone solvent. Dispose waste in accordance with local disposal regulation.

Packaging

Each of the components is supplied in 55-gallon (208L) drums, 5-gallon (19L), or 1-gallon containers, resulting in 157-gallon, 15-gallon, and 3-gallon kits. Ships DOT non-regulated.



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Shelf life and Storage

Shelf life is 1 year from the marked date of manufacture when unopened and stored in a dry, covered area at temperatures between 65-85° F (18-29° C). Keep away from heat, flame, and ignition sources.

Limitations

QuakeBond™ 300SR may not cure properly in temperatures below 40° F (4° C). DO NOT THIN this epoxy with solvents. The product should not be used on damp substrates or installed in wet environments.

First Aid

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

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.