

# EPIWELD® 300

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Supersedes all previous publications



## Product Description

EPIWELD® 300 is a 100% solids, rapid setting epoxy system designed to achieve the strongest anchoring possible in solid concrete, hollow block, and masonry. EPIWELD® 300 uses the latest polymer technology. It has no strong offensive odor, is environmentally gentle, and is considered non-carcinogenic. It does not contain styrene that is hazardous to the environment (ozone layer) and health, or volatile chemicals. It is not flammable and is safe to handle. EPIWELD® 300 performs well when exposed to vibrations or shocks, and allows structural bonding to dry and damp concrete surfaces that are free of standing water or hydrostatic water pressure.

EPIWELD® 300 is packaged in a premeasured, 21.2 fluid ounce (627-ml), dual cartridge set which dispenses the epoxy from a specially made caulk-type dispensing gun at 1:1 ration. Cartridge sets are molded with the strongest plastics available to ensure no leaking problems or broken sets. Translucent cartridge sets allow visual reading of remaining material. As the epoxy flows through a 5/8-inch (15.9-mm) mixing nozzle both components are thoroughly mixed. The mixing nozzles are designed to thoroughly combine the components of the dual cartridge automatically. **THESE MIXING NOZZLES ARE SOLD SEPARATELY.** This process allows partial use of a cartridge, since the components are housed separately until they pass into the mixing nozzle. The EPIWELD® DISPENSING GUN (sold separately) is designed to exert pressure equally to both chambers of the dual cartridge system.

Basic uses of EPIWELD® 300 include: anchoring bolts, dowels, pins and rods in concrete, bonding fresh concrete to hardened concrete, steel or other materials, and bonding hardened concrete to hardened concrete or other materials.

## Installation

Before using this product, refer to the Material Safety Data Sheet for additional information. The conditions of use, handling, and application of this product are beyond Lambert Corporation's control. Conduct testing to determine satisfaction and suitability for intended use, health, safety, and environmental issues. Follow best industry practices. Unforeseeable variables and/or developed successful installer practices may cause variation in methods and/or results.

### Surface Preparation-Concrete

Surface must be clean and structurally sound. Concrete surfaces to be bonded, coated, or repaired should be dry for best results; however, a damp, surface-dry condition is acceptable. Mechanical scarifying to remove laitance and expose sound, coarse aggregate will result in optimum bond. Non-porous, dense or glassy type concrete surfaces must be roughened by sandblasting or etched with a solution of muriatic acid and neutralized. New concrete must be permitted to age before an epoxy is applied. Adequate aging or curing time is generally 28 days or more.

### Surface Preparation-Steel

Exposed rebar and anchor bolts, must be free of rust, paint, oil, and dirt. Metal surfaces should be sanded, sandblasted to a commercial blast finish, or chemically cleaned, using a 10% solution of muriatic acid followed by a water rinse and neutralization. A lightly abraded surface is desirable.

## Application

Prior to using the EPIWELD® 300 remove retaining nut, remove plugs, install static mixing nozzle and secure firmly with retaining nut. Cut off tip at desired opening. Dispense small quantity of EPIWELD® 300 in a separate container to ensure the flow and color is uniform-without streaks. Be sure both sides flow evenly. For ease of dispensing at temperatures below 70°F (21.1°C), warming is necessary. Use LAMBERT EPIWELD® DISPENSING GUN for cartridge epoxy dispensing. When finished dispensing, RELEASE THE PRESSURE AND REMOVE NUT AND STATIC MIXING HEAD. Replace correct plugs in A & B and replace the holding nut. Allow a minimum of 8 to 24 hours for full cure of the epoxy.

## Limitations

Condition EPIWELD® 300 components to 70°F (21.1°C) prior to use. Epoxies stored below 70°F (21.1°C) will cause the epoxy to thicken substantially making it difficult to blend the two materials and obtain the proper mating of resin and hardener. If the epoxy is below 70°F (21.1°C) at time of dispensing the epoxy becomes much thicker. When this occurs the epoxy will not flow properly and tubes may rupture.

Gel-time of mixed EPIWELD® 300 on a substrate temperature of 78°F (25.6°C) is about 8-10 minutes. Gel-time is dependent upon material and substrate temperatures and the quantity catalyzed. The greater the mass, the shorter the gel-time. Increased mass and temperature results in shorter gel-time.

**EPIWELD® 300 SHOULD ONLY BE USED AT TEMPERATURES OF 40°F (4.4°C) and rising at time of application, but less than 100°F (37.8°C).** New concrete or other materials being bonded should be placed while EPIWELD® 300 is still tacky. If it dries, a fresh coat must be applied. Test apply under the same conditions as the full-scale work.

### Structural Adhesive

Apply EPIWELD® 300 to mating or non-mating prepared substrates. Thoroughly work into the substrate for positive adhesion. Secure the bonded unit firmly into place until the adhesive is cured. Glue line should not exceed ¼-inch (6.4-mm) thickness.

Packaging:
Single-Cartridge 20/Case
Dual-Cartridge (12/Case)
Mixer nozzles, nuts, guns, retainers, ports and plugs sold separately



Anchoring Bolts, Rebar, Dowels, Pins

For efficient transfer of stress, the hole should be no greater than ¼-inch (6.35-mm) larger than the bolt diameter, rebar, dowel or pin to be embedded. Depth of embedment shall be 10 to 15 times the bolt, rebar, anchor diameter.

Hole Preparation

Drill holes with air or water-flushed rotary percussive drilling equipment. Holes should be brushed with a nylon or wire brush to dislodge drilling debris. Use compressed air to clean hole of debris. Diamond drilled holes are not recommended as they do not provide a rough hole profile which establishes the epoxy anchorage.

Bolt Preparation

Fill hole approximately 60 – 75% full starting at the bottom. After placing EPIWELD® 300 in the hole, insert the bolt, rebar, or anchor. With a twist action for maximum contact between EPIWELD® 300 and hardware and expulsion of air voids. Position hardware with wedges or jigs until initial cure.

Technical Data

Applicable Standards

- Florida Dept. of Transportation Specification for Epoxy Compounds Section 937
- Georgia Dept. of Transportation Section 886, Type III
- EPIWELD® 300 meets and exceeds ASTM C-881, Type I, II and V, Grade 3, Class B and C. Also meets the ICC and ICBO building codes

Properties		Pull Out Test of Anchors: ASTM E-488		
Mixing Properties (Parts)	1A to 1B by Volume	Anchor Diameter (in)	Type Failure	Ultimate Load at Failure
Part A Resin	White	3/8" (9.5-mm)	Concrete	9,334 lbs (4,233.8-kg)
Color Part B Hardener	Gray/Black			
Mixed Color	Concrete Gray	1/2" (12.7-mm)	Concrete	14,500 lbs (6,577.1-kg)
Viscosity	Gel 180,000 CP	5/8" (15.9-mm)	Concrete	21,804 lbs (9,890.1-kg)
Gel Time	8 – 10 Mins @80°F (26.7°C) with a 20 gram mass	3.4" (19.1-mm)	Concrete	29,109 lbs (13,203.6-kg)
Minimum Load Time	4 Hours @ 80F (26.7C)	7/8" (22.2-mm)	Concrete	37,769 lbs (17,131.7-kg)
Compressive Strength ASTM D-695	@77F (25C) Net Epoxy 14 Days 13,000 PSI (89.6 MPa)	1" (25.4-mm)	Concrete	46,430 lbs (21,060.3-kg)
Tensile Properties ASTM E-488	14 Days Tensile Strength 8,500 PSI (58.6 MPa) Elongation at Break – 2.5%			
Hardness, Shore-D	85			
Water Absorption, 24 Hours	0.17%			

72 hours Cure Time -3000 PSI (20.7 MPa) Concrete

\* Values shown are average ultimate values and are offered only as a guide and are not guaranteed in any way. A safety factor of 4:1 or 25% is generally accepted as a safe working load. Refer to applicable codes for the specific safe working ratio. These results were witnessed by an independent testing lab and meet all ASTM E-488 test methods for testing anchors in concrete. GRADE B 7 (A 193) threaded rod was used with no failures during tensile tests

Coverage

EPIWELD® 300 "SINGLES": Yields 8.6 fl. oz (254-ml)

EPIWELD® 300 DUAL CARTRIDGE: One cartridge set yields 21.2 fl. oz (627-ml)

Separate instructions for use of SINGLE size.

Please view the separate instruction sheet packaged with the EPIWELD® 300 Single cartridges for more information nor download it from the Lambert Corporation website: [www.lambertusa.com](http://www.lambertusa.com)

Clean-Up

Clean tools and equipment immediately after use with lacquer thinner. Do not allow epoxy to harden on tools or equipment.

First Aid

Avoid breathing possible fumes, mists and vapors that can cause respiratory damage. Use of NIOSH approved breathing apparatus is required for enclosed spaces and more than minimal exposure. Work in areas with adequate ventilation to allow dissipation of chemical fumes, and/or solvent fumes. Use of goggles, protective garments, rubber gloves, protective creams is recommended. If material gets into eyes, flush thoroughly with clean water for 20 minutes; then seek medical treatment. Avoid skin contact. Material can cause contact dermatitis. Wash exposed areas immediately, using warm water and soap, followed by rinsing with clean water. Keep away from open flame or ignition source.

**KEEP OUT OF REACH OF CHILDREN.  
FOR INDUSTRIAL USE ONLY.**