

TITAN PRIMER

Low viscosity epoxy primer for the TITAN Composite Strengthening System

YIELD

Part A – 3 qts; 2 gal pail; 7 lbs
Part B – 1 qt; 1 qt can; 2 lbs

VOLUME PACKAGING WEIGHT

Steel

250 to 325 ft²/gal (6.1 to 8.0 m²/L)

Concrete

200 to 250 ft²/gal (4.9 to 6.1 m²/L)

Masonry (Concrete)

150 to 200 ft²/gal (3.8 to 4.9 m²/L)

Masonry (Clay)

200 to 250 ft²/gal (4.9 to 6.1 m²/L)

(Coverage rate on concrete and masonry may vary depending on density and porosity of the substrate)

PACKAGING

Available in 1 gal (3.8 L) units.
Each unit is packaged as follows:

COLOR

Part A – Amber
Part B – Clear
Mixed – Amber

SHELF LIFE

18 months when properly stored

STORAGE

Store in unopened containers in a clean, dry area between 50 and 90° F (10 to 32° C) away from direct sunlight, flame, or other hazards.

DESCRIPTION

TITAN PRIMER is a low viscosity, 100% solids, polyamine cured epoxy. As the first applied component of the TITAN System, it is used to penetrate the pore structure of cementitious substrates and to provide a high bond base coat for the TITAN System. TITAN PRIMER is based on a unique adduct curing technology that results in tolerance for surface moisture and for ambient temperatures down to 35° F (2° C).

PRODUCT HIGHLIGHTS

- Low viscosity Easily penetrates pore structure of concrete
- 100% solids epoxy Low odor, low VOC's
- Suitable for low-temperature application can be applied if ambient temperature is 35° F and rising; extends application window in cooler conditions

SUBSTRATES

- Concrete
- Masonry
- Steel

APPLICATIONS

TITAN PRIMER is the first component of the TITAN System that is applied to concrete, steel, and masonry substrates. TITAN PRIMER is used to provide excellent adhesion of the TITAN System to the substrate. TITAN PRIMER is the first component any TITAN installation

- Vertical
- Horizontal
- Exterior
- Interior

TECHNICAL DATA

COMPOSITION

TITAN PRIMER is a two component polyamine cured epoxy

NOTES:

- (1) Based on testing of cured samples per ASTM D 638 at 72° F (20° C) and 40% relative humidity.
- (2) Based on testing of cured samples per ASTM D 695 at 72° F (20° C) and 40% relative humidity.
- (3) Based on testing of cured samples per ASTM D 790 at 72° F (20° C) and 40% relative humidity.

PHYSICAL PROPERTIES

PROPERTY	VALUE
Installed Thickness (approx)	3 mils (0.075 mm)
Density	68.8 pcf (1102 kg/m ³)

COMPRESSIVE PROPERTIES (2)

PROPERTY	VALUE
Yield Strength	3800 psi (26.2 MPa)
Strain at Yield	4.0%
Elastic Modulus	97 ksi (670 MPa)
Ultimate Strength	4100 psi (28.3 MPa)
Rupture Strain	10%

FUNCTIONAL PROPERTIES (4)

PROPERTY	VALUE
CTE	20·10 ⁻⁶ /° F (35·10 ⁻⁶ /° C)
Thermal Conductivity	1.39 Btu-in/hr-ft ² ° F (0.20 W/m·° K)
Glass Transition Temp, T_g	171° F (77° C)

TENSILE PROPERTIES (1)

PROPERTY	VALUE
Yield Strength	2100 psi (14.5 MPa)
Strain at Yield	2.0%
Elastic Modulus	105 ksi (717 MPa)
Ultimate Strength	2500 psi (17.2 MPa)
Rupture Strain	40%
Poisson's Ratio	0.48

FLEXURAL PROPERTIES (3)

PROPERTY	VALUE
Yield Strength	3500 psi (24.1 MPa)
Strain at Yield	4.0%
Elastic Modulus	86.3 ksi (595 MPa)
Ultimate Strength	3500 psi (24.1 MPa)
Rupture Strain	Large deformation with no rupture

HANDLING PROPERTIES

PROPERTY	VALUE
Mixed Weight	9.2 lb/gal (1103 g/L)
VOC Content	84.1 g/L less water and exempt solvents
Flash Point	Part A: 204 ° F (95 ° C) Part B: > 200 ° F (93 ° C) (Pensky-Martens Closed Cup)
Mixed Viscosity	
at 50 ° F (10 ° C)	1200 cps
at 77 ° F (25 ° C)	400 cps
at 90 ° F (32 ° C)	200 cps

HOW TO APPLY

SURFACE PREPARATION

1. Substrate should be fully cured, clean, sound, and dry. Any damaged areas, spalled areas, delaminated areas, or areas with corrosion damage must be repaired prior to applying the system.
2. For concrete and masonry substrates, mechanically prepare the substrate to remove coatings, laitance, and all miscellaneous surface contaminants and to provide a proper surface profile. Surface profile should be a minimum of ICRI CSP 3 (similar to 80 grit sandpaper).
3. For steel substrates, abrasive blast to "white metal" in accordance with Society for Protective Coatings (SSPC) Specification SP-5-89 or NACE No. 1, using clean, dry abrasive to obtain a minimum 3 mil profile.

MIXING

1. The mix ratio is 3:1 (Part A to Part B) by volume or 100:30 (Part A to Part B) by weight. Mix only the amount of material that can be used within the working time of the material. Approximate working times for a 1 Gal (3.8 L) unit are:
 - 75 min at 50° F (10° C)
 - 20 min at 77° F (25° C)
 - 10 min at 90° F (32° C)
2. Carefully measure (ratio) each component and then add Part B (hardener) to Part A (resin).
3. Mix Parts A and B using a low-speed drill (600 rpm) and mixing paddle (e.g., a Jiffy mixer). Carefully scrape the sides and bottom of the container while mixing. Keep the paddle below the surface of the material to avoid entrapping air. Proper mixing will take at least 3 – 5 minutes. Well-mixed material will be free of streaks or lumps.

APPLICATION

1. Apply the material in areas to receive the Titan system using a 3/8" nap roller or short bristle brush to a wet film thickness of approximately 3-mils.
2. Spray application is not recommended.

CLEAN

Use xylene or methyl ethyl ketone. Observe fire and health precautions with solvents.

MAINTENANCE

Periodically inspect the applied material and repair localized areas as needed. Consult a Titan representative for additional information.

FOR BEST PERFORMANCE

Only apply TITAN P 3500 the ambient temperature is between 35° and 120° F

- (2° and 50° C).
- Subsequent components of the TITAN System should be applied within 48 hours of applying TITAN PRIMER
- If more than 48 hours have passed following application of TITAN PRIMER the surface shall be lightly abraded and cleaned with a solvent wipe prior to applying the next component.
- Make certain the most current versions of product data sheet and SDS are being used; call Customer Service 815-372-2493 to verify the most current version.
- Proper application is the responsibility of the user. Field visits by personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the job-site.

OBSERVE WORKING TIME LIMITATIONS

- Catalyze no more material than can be applied within the work time period. Available work time, temperature and complexity of the application area will determine how much material should be catalyzed at one time.
- Keep material cool and shaded from direct sunlight in warm weather. During hot weather, work time can be extended by keeping material cool before and after mixing or by immersing pot in ice water.

WARNING

Vapor may be harmful. Contains epoxy resins and curing agent. May cause skin sensitivity or other allergic responses. Keep away from heat, sparks or open flame. In enclosed areas or where ventilation is poor use an approved air mask and utilize adequate safety precautions to prevent fire or explosion. In case of skin contact, wash with soap and water. For eyes, flush immediately (seconds count) with water for 15 minutes and CALL A PHYSICIAN. If swallowed, CALL A PHYSICIAN IMMEDIATELY. Product Safety Data Sheets (SDS) are available and should be consulted and on hand whenever handling these products. These products are for professional and industrial use only and are only installed by trained and qualified applicators. Trained applicators must follow installation instructions.

HEALTH, SAFETY AND ENVIRONMENTAL

Health, Safety and Environmental Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. Use only as directed.

For medical emergencies only, call ChemTrec® 1(800)424-9300.

