

## **TL-45-S GF** **100% Solids, Glass Flake-filled, Novolac Epoxy Tank Lining**

### **DESCRIPTIONS AND USES**

Blome International's TL-45-S GF Glass Flake-filled, Novolac Epoxy tank lining system is formulated to offer superior resistance to many chemicals found in the petrochemical and chemical process industries. TL-45-S GF exhibits excellent resistance to a broad range of harsh chemicals, including high concentrations of sulfuric acid, hydrochloric acid, phosphoric acid, strong caustic solutions, as well as many organic chemicals and solvents.

TL-45-S GF is a high performance Novolac epoxy tank lining for immersion service. TL-45-S GF utilizes carefully selected and sized glass flake reinforcement which maximizes permeation resistance and physical properties. Typically spray applied, its high build properties allow thicknesses of 20 to 80 mils to be achieved in one coat on horizontal surfaces.

TL-45-S GF is a two component product with a 4:1 volumetric mix ratio. TL-45-S GF possesses the following properties:

- Excellent chemical resistance;
- Thermal shock, impact and wear resistance;
- 100% solids;
- Long Pot Life for airless spray application;
- Excellent bond strength;
- Resistance to chipping and cracking due to torsional twisting;
- Superior edge coat properties;
- High cohesive strength;
- Low permeability;
- Low odor

Typical uses include:

Tank Linings, External Tank Coatings, and Coating Structural Steel in harsh environments.

### **PACKAGING/COVERAGE**

TL-45-S GF is available in 1-gallon, 5-gallon, and 25-gallon units. Each unit consists of pre-measured Part A and Part B components.

Application thickness will vary depending on expected service conditions. Consult Blome International's Tank Lining Systems Guide or contact our technical service group for specific lining recommendations.

Coverage rates will be affected by the condition of surface being coated (degraded vs. smooth, steel vs. concrete, etc.). To calculate theoretical coverage per gallon, divide desired mil thickness into 1,604. (For example, theoretical coverage for a 30 mil thickness is: 1,604 divided by 30 = 53.46 square feet per gallon.) For practical coverage, make necessary allowances for condition of the substrate, temperatures, jobsite conditions, waste, overspray, etc.

## TYPICAL PROPERTIES -WET

Solids by Volume:	100%
Weight per Mixed Gallon:	10 LBS
Pot Life @ 75°F:	45 to 60 min*
Cure Times @ 75°F:	Dry to Touch: 12 hrs
Firm:	24 hrs
Chemical Service:	72 hours
Primer (steel):	Not required on properly prepared steel
Flammability:	Non-flammable

\*Significantly less at elevated temperatures.

## TYPICAL PROPERTIES -CURED

Color:	Medium Grey or Red
Hardness- ASTM D-2240 Shore D:	74
Compressive Strength -ASTM C-579:	15,000 psi
Tensile Strength -ASTM D-638:	7,900 psi
Flexural Strength -ASTM D-790:	13,500 psi
Flexural Modulus of Elasticity -ASTM D-790:	7.7 psi x 10 <sup>5</sup>
Bond Strength -ASTM D-4541:	Concrete: concrete failure
	Steel: 1 ,500 psi
Water Vapor Transmission -ASTM E-96:	0.0120 grain per hr ft <sup>2</sup>
Permeability:	0.0036 perm. - in.

## STORAGE AND SHELF LIFE

Keep TL-45-S GF components tightly sealed in their original containers until ready for use. Store at 50°F to 75°F out of direct sunlight.

## APPLICATION GUIDELINES

For applications on vertical surfaces, use TL-45-S GF within four months of its date of manufacture. Otherwise, Blome TL-45-S GF has a shelf life of one year, when properly stored.

## TEMPERATURE CONSIDERATIONS

The temperature of the surface to be coated and the ambient air temperature should be at least 50°F while applying TL-45-S GF and while it cures. If you attempt to apply TL-45-S GF in cooler temperatures, tarp and heat the area to be coated to maintain the minimum 50°F conditions.

Stop application if the temperature falls within 5°F of the dew point.

Outgassing bubbles may appear in TL-45-S GF if it is applied over concrete, particularly in direct sunlight, or when air and substrate temperatures are rising. This is due to the expansion of air and/or moisture trapped in the concrete. It is especially true of air entrained concrete. For best results, shade the work area and apply TL-45-S GF when the temperature of the concrete substrate is falling. A surface thermometer must be used to frequently monitor substrate temperature.

Twenty-four hours before application, all materials (components A and B) should be stored at a 75°F to 85°F, to facilitate handling and spraying.

## **SURFACE PREPARATION -GENERAL**

Surfaces must be dry and free of dust, dirt, grease, oil, chemicals and contaminants immediately prior to applying each coat of either primer or TL-45-S GF.

## **SURFACE PREPARATION OF STEEL**

1. Abrasive blast steel surfaces to a minimum near white metal finish with a 3 to 5 mil anchor profile. (Ref. SSPC-SP-10)
2. All welds should be continuous and should be ground to remove all sharp edges, laps, under cuts and other surface irregularities. Relatively smooth, ripple finished welds are acceptable. Stripe coat all welds just prior to applying coating.
3. Steel in Non -Immersion Service  
Abrasive blast steel surfaces to a near white metal finish with 2 to 4 mil anchor profile. (Ref. SSPC-SP-10)

## **SURFACE PREPARATION OF CONCRETE**

New concrete must cure a minimum of 28 days or achieve a minimum compressive strength of 3000 psi prior to coating. Concrete surfaces should be abrasive blasted to provide a sound surface with a texture similar to medium grit sandpaper. Surfaces must be dry.

## **MASKING**

Mask surfaces that are not to be coated. TL-45-S GF is difficult to remove, once cured.

## **PRIMING**

Priming is not required when applying TL-45-S GF to freshly prepared steel surfaces. For concrete, mix and apply Primer 75 by brush, roller or spray. Apply at 6-8 mils. Do not allow primer to puddle. Coverage rate should be 150-175 square feet per gallon. Allow primer to cure tack free before proceeding with application of TL-45-S GF.

## **APPLICATION EQUIPMENT**

TL-45-S GF may be applied using a spray rig, brush or notched trowel. Use Graco 56:1 King airless spray rig with hopper feed or Graco Hydro-Cat fixed at a 4:1 volumetric ratio.

## **CARE OF SPRAY RIG HOSES**

Take care to prevent the mixed material from setting up in your hoses. For best results, keep hoses as short as possible, purge hoses immediately if work is interrupted. Keep hoses out of direct sunlight and insulated or away from hot surfaces.

## **MIXING AND APPLICATION**

TL-45-S GF may be thinned for certain applications. Use up to 5% by weight of Blome Additive #7. Refer to specifications for your project, or consult Blome International for alternate thinner recommendations. The mix ratio of Part A to Part B is 4:1 A to B by volume.

1. The components must be individually mixed immediately prior to use:  
Part A: Blend Part A component to a uniform consistency in its individual container, using a Jiffy type mixer.  
Part B: Blend Part B component to a uniform consistency in its individual container.

2. If you are using plural component equipment, skip this step. Otherwise: Pour the entire contents of Part B into the container holding Part A and mix thoroughly for two minutes using a Jiffy type mixer. The temperature of the mixed material should be 75°F to 85°F for hot potting. The pot life of the mixture will be approximately 60 to 75 minutes at 75°F; significantly less time at elevated temperatures. The longer the material is in the bucket after mixing, the shorter its pot life will be. Therefore, use immediately once mixed.
3. Material should be applied in even coats.  
If spraying, use multidirectional passes to ensure positive coverage and proper film build
4. Horizontal Surfaces  
The entire thickness may be applied to horizontals in a single coat.
5. Vertical Surfaces  
Minimum of 12 mils up to 25 mils may be applied to vertical surfaces in one coat.
6. Spark Testing Steel  
Spark testing is recommended for coated steel in immersion service. Test at 100 volts per mil.
7. Prepare surfaces for inter-coat adhesion as follows:
  - a. Allow TL-45-S GF to cure until firm before applying subsequent coats.
  - b. After the surface cures firm to the touch, wash with soap and water, IF a blush is present. Ensure that surface is rinsed and dried before re-coating if washing has occurred. (Consult Blome for suggested detergent)
  - c. Surfaces cured beyond 72 hours at or above 75 F must be lightly sanded prior to top coating. Ensure that surface is free of dust before applying a second coat.
8. If work is interrupted, or at the end of the day, terminate the coating in a straight line.
9. Depending on environmental conditions during the cure process, TL-45-S GF may sometimes develop a thin, "oily film" or blush on its surface. This film may be easily removed by washing with soap and water followed by a thorough rinse.

## **CLEANUP**

Before material gels, tools and equipment may be cleaned using hot, soapy water. After TL-45-S GF begins to cure, thinners will be required. Chlorinated solvents may be used if flammable solvents are prohibited.

## **SAFETY PRECAUTIONS FOR INDUSTRIAL USE ONLY**

Avoid contact with skin and eyes; do not ingest material or inhale vapors. When working with TL-45-S GF, always wear chemical goggles, appropriate rubber gloves, and other appropriate safety clothing. When spraying in confined areas, wear a fresh air hood and make provisions for forced air ventilation. When spraying in open areas, a NIOSH approved respirator suitable for organic vapors can replace fresh air hood. Prolonged or repeated exposure to the Part A and Part B components of TL-45-S GF may cause skin irritation and/or allergic reactions. Refer to Blome Material Safety Data Sheets for individual components.

## WARRANTY

We warrant that our goods will conform to the description contained in the order and that we have good title to all goods sold. Our material data sheets and other literature are to be considered accurate and reliable, but are used as guides only. WE GIVE NO WARRANTY OR GUARANTEE, WHETHER OF MERCHANT ABILITY OR FITNESS OF PURPOSE OR OTHERWISE, AND WE ASSUME NO LIABILITY IN CONNECTION THEREWITH. We are happy to give suggestions for applications; however, the user assumes all risks and liabilities in connection there with regardless of any suggestion, we may give. We assume no liability for consequential or incidental damages. Our liability, in law and equity, shall be expressly limited to the replacement of non-conforming goods at our factory, or at our sole option, to repayment of the purchase price of the non-conforming goods.

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