

**TL-81**  
**High Performance Epoxy Lining and Coating System**

**PRODUCT DESCRIPTION**

TL-81 is a 100% solids, flake filled epoxy product for steel and concrete tank lining applications. It can be applied at thicknesses ranging from 15 mils to 50 mils in single or multiple coats. TL-81 is well suited for coating structural steel in aggressive fume or vapor service. Blome TL-81 offers excellent resistance to splash and spills of highly corrosive chemicals.

TL-81 is a two component product with a 4:1 volumetric mix ratio. It is typically applied by plural component spray equipment, brush, or roller, at thicknesses of 15-to-50 mils in one or two coats. TL-81 exhibits several unique properties, including resistance to various chemicals, including many acids, concentrated caustics, fuels, salts and many solvents. TL-81 also offers impact resistance, resistance to cracking when exposed to torsional twisting, excellent edge coat properties, superior bond strength to steel and concrete, and good surface tolerance.

**GENERAL USES**

TL-81 is suitable for a variety of lining and coating applications including:  
 Chemical Storage Tanks  
 Caustic Storage Tanks  
 Oil Storage Tanks  
 Rail Car "center bands"  
 Structural Steel in aggressive fumes and vapors  
 Waste Water Tanks

**HANDLING  
CHARACTERISTICS**

Blome TL-81 is typically applied using a spray rig as directed by the manufacturer. Blome International recommends a plural component spray rig equipped with a 4:1 volumetric ratio apparatus. TL-81 may also be applied using brush, rollers or notched trowel. Application thickness will vary depending on expected service conditions. Consult Blome Tank Lining Systems Guide or Blome Technical Service for specific thickness recommendations.

**TYPICAL PROPERTIES  
WET**

Solids by Volume:	100%
Weight per Mixed Gallon:	9.5 lbs.
*Pot-life: 35°F:	30-40 min.
75°F:	20-25 min.
Cure Time (approximate): Dry To Touch: 35°F:	18 hrs.
75°F:	6 hrs.
Chemical Service: 35°F:	72 hrs.
75°F:	36 hrs.
Primer:	Concrete: 75 Primer Steel: optional
Flammability:	Nonflammable

\*Significantly less at higher temperatures.

## TYPICAL PROPERTIES CURED

	Color:	Gray
Hardness -ASTM D-2240 Shore D:		78
Compressive Strength -ASTM C-579:		15,500 psi
Tensile Strength -ASTM D-638:		9,000 psi
Flexural Strength -ASTM D-790:		11,000 psi
	Permeability:	0.004 perm. – in.
Bond Strength -ASTM D-4541:		Concrete: Failure In Concrete Steel: 1,600 PSI

## PACKAGING & STORAGE

TL-81 is packaged in 1-gallon, 5-gallon, and 25-gallon units. Each unit consists of pre-measured Part A and Part B components. Keep TL-81 tightly sealed in its original containers until ready for use. Store at 50°F – 75°F, out of direct sunlight. TL-81 products have a minimum shelf life of one year, when properly stored. Refer to date of manufacture or lot number on package label.

## SPECIFICATION GUIDE

Use TL-81 100% solids, cycloaliphatic amine cured, epoxy tank lining system as manufactured by Blome International, O'Fallon MO.

## ENVIRONMENTAL CONDITIONS

Weather conditions, and especially dew point, should be constantly monitored. Final blast cleaning and application of tank lining system must only be performed when the temperature of the steel substrate will not fall within 5 degrees of the dew point. Dehumidification and/or temperature control may be necessary to meet this requirement. Use a surface thermometer to frequently monitor the temperature of the steel substrate.

## JOB SITE STORAGE OF MATERIAL

Proper storage of Blome International products is important to successful applications. Store components (Part A and Part B) unopened, in a dry place, at 50°F to 85°F, out of direct sunlight, and protected from the elements. Keep away from heat and flame. For the 24 to 36 hours just prior to use adjust the storage temperature to 75°F - 85°F to facilitate handling.

## SURFACE PREPARATION

Immediately prior to application of the coating or lining:  
The steel substrate must be clean of all oil, grease, dirt, dust, mill scale, rust, flash rust, corrosion product, salts, solvents, chlorides, other chemicals, and existing coatings.

All welds must be smooth and continuous. All weld splatter, buckshot, laminations, and slivers must be removed and ground smooth; undercuts and pinholes must be ground smooth and filled with weld metal.

All projections, high points, sharp edges, and fillets must be ground smooth to a radius of at least 1/8 inch and all corners must be rounded. All pitting, scratches, gouges, and other defects must be repaired either by welding or by filling with Blome 83MP repair materials that are compatible with the TL-81 system and suitable for the intended service conditions.

All surfaces to be coated or lined must be readily accessible. For tank linings, the steel must be blasted to a White Metal Finish (NACE No.1, SSPC SP 5) with a 2 - 4 mil dense, sharp anchor profile. For exterior coatings, the steel must be blasted to a Near White Metal Finish (NACE No.2, SSPC SP 10) with a 1 - 2 mil dense, sharp anchor profile.

## **MASKING & PROTECTION**

1. Mask or remove adjacent surfaces and equipment that are not to be lined.
  2. Protect nearby equipment from spent abrasive exiting tank during blasting.

## **APPLICATION EQUIPMENT**

- TL-81 may be applied using a spray rig, notched trowel, brush or roller.
1. Spraying TL-81: Use a plural component airless spray rig such as a Graco "King" Hydro-Cat or equal, fixed at a 4:1 ratio.
  2. Always use spray equipment in accordance with equipment manufacturer's instructions.
  3. Care of Spray Rig Hoses: Take care to prevent the mixed material from setting up in your hoses. For best results, keep your hoses as short as possible, purge them immediately if work is interrupted, keep hoses out of direct sunlight and insulated or away from hot surfaces.

## **IMPORTANT NOTES**

Before mixing begins, carefully review procedures for applying system. The mix ratio of Part A to Part B is 4:1 A to B by volume.

## **MIXING TECHNIQUE**

Use a Jiffy type mixer for all mixing. When operating the mixer avoid plunging it up and down in the bucket. This will fold air into the resin, causing bubbles to form after the coating has been applied.

## **WORKING TIME**

The working time for mixed material is short. If work is delayed, even momentarily, immediately flush the whip hose and gun.

1. The warmer the components are when mixed, the shorter the working time will be. But, materials should be at least 100°F to spray properly. If possible, shade the spray rig.
2. Stripe all welds and edges with a brush coat to assure protection of these areas.
3. All spot welds should be puttied before applying final coats. Refer to project specifications and/or Blome International for putty material recommendations.

Use a wet mil thickness gauge and frequently monitor lining thickness

## **MIXING & APPLICATION**

1. Individually stir Part A and Part B components to a smooth, uniform consistency and color. Any settling in the containers must be thoroughly scraped up and remixed prior to mixing or application.
2. If using a plural component spray rig, skip this step.

Pour the entire contents of Part B into the container holding the Part A, and mix thoroughly for 2-minutes. The pot life of the mixture will be approximately 20 to 25 minutes at 75°F (Significantly less at elevated temperatures). The longer the material is in the bucket after mixing, the shorter its pot life will be. Use it immediately once mixed.
3. If applying with a plural component spray rig:

Pour the remixed Part A and Part B components into their respective hoppers on the rig. Circulate the separate components through their hoses until both reach the correct temperature for plural spray. Part A should be at 100°F, and Part B should be at 90°F.

4. Spray apply TL-81 at the specified mil thickness and allow to cure.

Note: Post curing may be recommended in certain circumstances.  
Check With Blome International.

#### **TOUCH-UP OR RE-COATING**

Before any touch-up or recoat material can be applied, the first coat must be properly prepared for maximum intercoat adhesion.

1. The first coat must be cured firm to the touch.
2. If the first coat cures more than 24-hours, lightly sand or mechanically abrade the surface to remove gloss.
3. Any surface to be touched up or recoated should be protected. When the recoat material is applied, the surface must be dry and free of dust, dirt, oil, grease, chemicals and other contamination.

#### **CLEAN UP**

The following tips will be helpful in cleaning hand tools and equipment after use. Before TL-81 gels, it can be cleaned from tools and equipment using hot, soapy water. Spray equipment should be cleaned and flushed with solvent before coating material begins to cure.

After TL-81 gels, solvents will be required for cleaning. Chlorinated solvents may be used if flammable solvents are prohibited.

#### **CAUTION**

TL-81 may cause skin irritation with prolonged or repeated contact. Handle with care and read the material safety data sheet, which is available for each product.

#### **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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