BLOME INTERNATIONAL

Surrounding You with Exceptional Protection

TANK LINING SYSTEMS

TL-220-S

Mineral Flake Filled, Vinyl Ester Tank Lining System

PRODUCT DESCRIPTION

Blome TL-220-S is a mineral flake filled, sprayable vinyl ester tank lining system. TL-220-S is suitable for **FDA** tank lining applications. We use only the highest quality resins manufactured to exacting specifications to ensure maximum chemical resistance for reliable barrier protection. Our mineral flake is specially treated for maximum integration into the resin system resulting in low permeability ratings that rival any other products on the market. TL-220-S is available as a graphite filled system (TL-222-S) for use in fluorides or hot caustic service. Also available is TL-220-S HMW (high molecular weight) for increased resistance to certain chemicals at higher temperatures. A fast setting formula is available, TL-221-S, and requires application with a plural component spray rig. An abrasion resistant formula, TL-220-S AR, is also available. Consult Blome International for additional information on these systems.

TYPICAL USES

Linings for steel and concrete tanks used for a wide variety of food processing, chemical processing, chemical storage, and wastewater applications. Well suited for lining of Stock Chests, Bleach Towers and FGD Tanks and Ductwork.

APPLICATION METHODS

Spray, brush, or roller.

PRIMER

Steel: Primer 205 (as needed to hold blast)
Concrete: Primer 205

SURFACING AND COVING MATERIALS

CP-100

TYPICAL RECOMMENDED THICKNESS

40-60 mils applied in two coats

ENVIRONMENTAL CONDITIONS

CLIMATE CONDITIONS

Work area must be dry. Work must be stopped if temperature drops within 5 degrees of dew point. Temperature in work area must be maintained at between 50°F – 90°F. The ideal temperature for application is 75°F.

TECHNICAL DATA

Standard TL-220-S mineral flake filled
Volume solids 83 ± 2% mixed

Cure time

Temp	Pot life	To re-coat	Service
75°F	35-45 minutes	Min 5 hrs, Max 7 days	48hrs
50°F	45-60 minutes	Min 12 hrs, Max 7 days	72hrs

Curing time varies with temperature, air movement, humidity, and lining thickness.

TYPICAL PROPERTIES

Shore D Hardness ASTM D-2240	80-85
Tensile Strength ASTM D-638	3,100 – 3,500 psi
Tensile Elongation ASTM D-638	0.3 – 0.6%
Flexural Strength ASTM D- 790	6,500-7,000 psi
Bond Strength ASTM D-4541	Steel: 1,400 – 1,700 psi Concrete: Concrete Failure
HDT ASTM D-648	225°F standard TL-220-S 300°F HMW version
Water Vapor Transmission ASTM E-96	
Permeability (perm-inch)	0.0009
Solvent Extraction Test 21 CFR 177. 2420	Passes for FDA applications

Theoretical Coverage 1331 mil sq ft/gal

Color:	gray
Storage Conditions:	Min. 45°F Max 75°F
Shelf Life:	3 months
Packaging:	1-gallon units, 5 gallon units and drums
Weight per gallon:	10. 2 lbs.

JOB SITE ENVIRONMENTAL CONDITIONS

- The temperature of the surface to be coated and the ambient air temperature must be at least 50°F while applying this product and as it cures.
- Monitor weather conditions and dew point. Stop the application if the temperature falls within 5°F of the dew point.
- Use dehumidification and/or temperature control if necessary to meet this requirement.
- All surfaces to be lined must be free of all dirt, oil, grease, chemical contamination, salts, incompatible coatings and other deleterious substances.

JOB SITE STORAGE OF MATERIAL

- Proper storage of these materials is critical to handling characteristics and performance.
- Store all components in unopened containers in a dry place, at 50-75°F, out of direct sunlight, and protect from the elements. Keep away from heat and flame.
- 24 hours before use, narrow the temperature of the storage conditions to 75-85°F to facilitate handling and sprayability of the product.

SURFACE PREPARATION

STEEL

- Steel surfaces intended for lining application must be clean and free of oil, grease, dirt, rust, mill scale, salts, other coatings, corrosion products and other deleterious substances.
- Welds and weld splatter must be ground smooth. Avoid skip welds.
- Grind all sharp projections and round all corners to a 1/8" radius.
- All steel to be lining must be abrasive blasted to a White Metal Finish (NACE No1, SSPC SP5) with a 2-4-mil sharp anchor profile.
- Mask all areas that are not to be lined.

CONCRETE

New concrete must cure a minimum of 28 days. Concrete surfaces should be abrasive blasted to provide a sound surface with a texture similar to medium grit sandpaper. Surfaces must be dry. All voids, pits, rock pockets, and honeycombed surfaces should be filled with Blome CP-100 vinyl ester mortar prior to application of TL-220-S

PRIMING

- Mix and apply primer by brush, roller or spray. Apply at 6-8 mils. Do not allow primer to puddle. Coverage rate should be 200 – 250 square feet per gallon. Allow primer to cure tack free before proceeding with application of TL-220-S.
- When priming concrete, it is important to apply the primer when ambient and substrate temperatures are declining. Apply sufficient amount of primer to seal the surface of the concrete without creating puddles. This may require more than one coat of primer depending on the porosity of the concrete. If more than one coat is necessary, allow each coat to cure tack free before applying the next coat.
- After the last coat of primer has cured tack free, fill any voids in the concrete surface using Blome CP-100 vinyl ester mortar and allow to cure tack free before application of TL-220-S.

APPLICATION EQUIPMENT FOR PLURAL COMPONENT SPRAY

- Use air assist Binks 37:1 ratio B8-DSQ cart mounted Super Slave spray unit with air controls, 7-1/2 S.S. hopper with cover and quick disconnect, SQ S.S. line filter, 50' resin, catalyst and air hose assembly, swivel, Century Gun with T.C. Seat, needle and tip.

- Premix Part A resin immediately before use using a Jiffy type mixer to ensure that settling of the fillers has not occurred during shipping and storage.

- Use spray equipment in accordance with equipment manufacturer instructions.

MIXING AND APPLICATION

- Stir Part A to a smooth, uniform consistency and color using a Jiffy type mixer.

- Pour 2-4 ounces of Part B (catalyst) into the container holding Part A, and mix thoroughly for 2-minutes.

- Pot life of the mixture using 2 ounces of Part B per gallon of Part A will be approximately 45-60 minutes at 75°F (significantly less at elevated temperatures). The longer the materials are in the pail after mixing, the shorter the pot-life will be…USE IMMEDIATELY.

SINGLE COMPONENT SPRAY

- Conventional or airless spray equipment can be used to apply TL-220-S and HMW versions. Conventional standard air spray gun, with pressure pot or low ratio pump, and a minimum .070" fluid nozzle is recommended. If airless equipment is used, a minimum 30:1 ratio pump is required. The gun should have a reversible "self cleaning" tip with a .035" orifice or larger, tungsten carbide nozzle.

IF APPLYING WITH CATALYST INJECTION SPRAY RIG

- Pour the pre-mixed Part A and the Part B into their appropriate hoppers on the rig. Recirculate the Part A component through its hoses until it reaches the correct working temperature of 85°F.

- A minimum .070" fluid nozzle is recommended.

- Use multidirectional passes to ensure positive coverage and proper film build.

- Apply TL-220-S in a minimum of two coats allowing each coat to cure tack free before applying the next coat. The maximum thickness of a single coat on a vertical surface will be 25 mils at 75-85°F.

- When applying subsequent coats, allow previous coat to cure firm to the touch. If surface is not contaminated and has not cured beyond 72 hours at an average temperature of 75°F, no inter-coat prep is required.

- If surface has been exposed to contamination or has cured beyond 72 hours or has been exposed to direct sunlight for over 12 hours do the following: Remove any contamination and mechanically abrade by sanding or lightly abrasive blasting the surface to be coated.

INSPECTING FOR PINHOLES:

- Spark test cured lining at 100 volts per mil. Mark all pinholes and repair using the following touch-up procedure. Retest only the areas that have been repaired.

TOUCH-UP OR RECOATING

- Allow material to cure firm to the touch. If surface is not contaminated and has not cured beyond 72 hours at an average temperature of 75°F, no intercoat prep is required. If surface has been exposed to contamination or has cured beyond 72 hours or has been exposed to direct sunlight for over 24 hours do the following: Remove any contamination and mechanically abrade. Apply lining material and allow to cure.

CLEANUP

Clean tools and equipment with nonflammable chlorinated solvents before material begins to set.

SAFETY PRECAUTIONS

The various components of TL-220-S products present health and safety hazards if they are handled improperly. Do not store, mix or use near open flame, sparks or heat source. Keep all containers closed when not in use. Always wear safety glasses, proper respirator, and protective clothing and rubber gloves while mixing or applying these products. Refer to Material Safety Data Sheet prior to using these products.

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 therewith 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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