BLOME INTERNATIONAL

Surrounding You with Exceptional Protection

TANK LINING SYSTEMS

TL-220

Trowelable Flake Glass Vinyl Ester Lining System

PRODUCT DESCRIPTION

Blome TL-220 is a trowelable, high performance flake glass vinyl ester tank lining system. TL-220 is suitable for **FDA** tank lining applications. TL-220 is highly filled with carefully selected large diameter glass flakes. Our flake glass is chemically treated for maximum integration into the resin matrix, which maximizes permeation resistance and physical properties. TL-220 is specially formulated to withstand wet gas and chemical exposures found in wet FGD systems. This unique formulation is suitable for service up to 180°F in a broad range of chemicals including oxidizing acids and alkalis. TL-220 is available in a high molecular weight formula, TL-220HMW. This formulation is especially suited for use in higher temperature service, oxidizing acid service such as nitric or chromic, in acid bleach environments such as chlorine dioxide and in acid/solvent solutions.

TYPICAL USES

Blome TL-220 provides a tough, durable lining system that protects properly prepared and primed substrates from chemical attack. Typical applications include FDA Approved Tank Linings, FGD tank and ductwork linings, bleach towers and chemical storage tanks.

HANDLING CHARACTERISTICS

TL-220 is applied by trowel method.

TYPICAL PROPERTIES

Solids by Volume	90% + - 3% mixed.
Tensile strength	3,800 PSI
Tensile elongation	0.3 – 0.6%
Bond strength to steel	1,000 – 1,200 PSI
Bond strength to concrete	Concrete cohesive Failure
Flexural strength	7,850 PSI
Permeability (perm-inch) ASTM E-96	0.0002
Coefficient of Thermal Expansion	14-16 X 10^{-6} IN/IN/F
Shelf life @ 70°F	4 months
Color	off white/gray
Pot life @ 70°F	30-40 minutes
Tack free @ 70°F	4 – 6 HOURS
Final Cure	75%; 24 HOURS 100%; 7 DAYS
Primer	Primer 205

PACKAGING & STORAGE

TL-220 is a two-component material consisting of Part A (resin) and Part B (catalyst). Tl-220 is packaged in 1 gallon, 5 gallon and drum quantities. 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 storage

temperature to 70-80°F to facilitate handling of the product. This product has a shelf life of 4 months when properly stored.

BID SPECIFICATION GUIDE

Use TL-220 filled with large diameter glass flakes and having permeability of .0002 perm-inch as manufactured by Blome International O'Fallon Mo. Use in accordance with manufactures most currently published technical product information.

APPLICATION GUIDELINES

JOB SITE ENVIRONMENTAL CONDITIONS

The temperature of the surface to be lined 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 controls if necessary to meet this requirement. Always use forced ventilation while applying this material and for its entire cure cycle.

JOB SITE STORAGE OF MATERIALS

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 storage temperature to 70-80°F to facilitate handling 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 lined must be abrasive blasted to white metal finish (NACE no. 1, 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.

PRIMING/SURFACE REPAIR

- 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.

- 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.

MIXING AND APPLICATION

- Stir Part A to a smooth, uniform consistency and color using a Jiffy type mixer.
- For every gallon of Part A, add 2-4 ounces of Part B (catalyst), and mix thoroughly for 2-3 minutes.
- Be sure to scrape the sides and bottom of the mixing pail to ensure thorough mixing.
- Pot life of the mixture using 2 ounces of Part B per gallon of Part A will be approximately 30-40 minutes at 75°F (significantly less at elevated temperatures).
- The longer the material is in the pail after mixing, the shorter the pot-life will be…USE IMMEDIATELY.
- Apply a 35-45 mil base coat using a trowel. Before the basecoat cures, dampen a short nap roller with styrene and roll the surface of the fresh coating to orient the glass flakes parallel to the substrate. Allow to cure tack free before applying the topcoat.
- Before applying the topcoat, closely inspect the basecoat to ensure that there are no soft, uncured spots. If there are uncured spots, remove by scrapping and solvent wiping and reapply the TL-220 to the area to be repaired. Sand or grind down any sharp protrusions.
- Mix topcoat material just as the basecoat. Apply 35-45 mils by trowel. Spread to an even, uniform finish. Before topcoat cures, dampen a short nap roller with styrene and roll the surface of the fresh coating to orient the glass flakes parallel to the substrate.

INTER-COAT PREP

- 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 6 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 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 6 hours do the following: Remove any contamination and mechanically abrade. Apply lining material and allow to cure.

OPTIONAL GEL-COAT

- For some applications, TL-220S with PGC additive (aka “VEPGC”), an optional 5-10 mil gelcoat, can be applied over the lining. This will produce a smooth lining surface. A surface coated with the gel-coat

will be easier to clean. Additionally, it can serve as a bond breaker between Blome TL-220 and Blome vinyl ester mortars, including CP-110 HB. This allows for additional movement between the substrate-membrane and bed joint-membrane interfaces without compromising the integrity of the brick-membrane system. Apply gelcoat using a medium nap roller. Allow to cure 24 hours before placing in service. Gel-coated surface should not be spark tested. All spark testing and pinhole repair should be done before gelcoat is applied.

CURE TIME

Pot life @ 70°F	30 – 40 minutes
Tack free @ 70°F	4-6 hours
Final cure	(75%) 24 hours
	(100%) 7 days

CLEANUP

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

SAFETY PRECAUTIONS

The various components of TL-220 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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