

TL-292 **High-performance, Epoxy-Silicon Hybrid Coating**

PRODUCT DESCRIPTION

TL-292 is an ambient or low-temperature, force-cured, protective lining for steel and stainless steel surfaces, such as tanks, vessels, chimneys, ducts, pipes, fans, condensers, stacks, scrubbers, and spray towers.

TL-292 will also withstand high temperatures, wet gas and chemical exposures found in wet FGD systems and other extreme chemical environments. This unique coating is formulated to have temperature resistance to 300 °F in wet conditions (depending on chemistry) and 400 °F dry. TL-292 has a smooth surface will resist fly ash build up and abrasion.

TYPICAL USES

TL-292 provides a tough, durable lining system that protects properly prepared substrates from high temperature chemical attack. The product is especially suited for high temperature service, severe chemical environments and abrasive conditions.

FEATURES

- VOC Compliant
- Excellent abrasion resistance
- Complies with FDA 21 CFR 175.300 for food handling
- Low coefficient of thermal expansion
- Very high bond strength – 2800-3000 PSI on properly prepared steel

- Surface tolerant – Can be applied to pitted steel
- Outstanding flexibility
- Non-permeable
- Steam cleanable
- UV/Sunlight resistant

HANDLING CHARACTERISTICS

TL-292 is best applied by spray method. The product can be applied by brush or roller for areas requiring touch-up or when used for “cutting in” small areas. However, areas applied by brush or roller will have a rough texture finish and will be different in appearance than the spray applied lining.

Note: TL-292 is a highly advanced lining system. Carefully follow mixing instructions in this outlined document to ensure the optimal performance of this material. Consult Blome International if clarification or additional details are needed for any item given below.

TYPICAL PROPERTIES

Colors (standard)	Red oxide, Medium grey
Density	12.5 lbs/gal
V.O.C Content	<99 g/L)
Pot Life (75 °F)	30-45 minutes
Flash Point	127 °F (53 °C)
Volume Solids	90%
Weight Solids	95.5%
Theoretical Coverage	1360 sq. ft./gal/1-mil DFT
Recommended DFT	7-8 mils WFT per coat (6-7 mils DFT per coat – 12-14 mils total)
Recommended No. Of Coats	2
Tensile Strength (ASTM D63) 75 °F	13,200 psi
Flexural Strength	13,400 psi
Flexural Modulus (ASTM D790)	9.8 x 10 ⁵ psi
Tensile Adhesion to Blasted Steel (SSPC-SP10)	2800-3000 psi
Water Absorption (ASTM D570) 30 days 90 °C	0.09%
Water Vapor Permeability (7 days @ 90 °C)	0.0000 gr/sq. ft./in
Hardness	75-78 Barcol
Impact Resistance (ASTM D2486)	130 in/lb.
Ultraviolet Light/Sunlight Resistance	Resistant
Taber Abrasion Index (1000 g; CS-17 wheel)	4-12 mg
Elongation at 75°F	6-8%

PACKAGING & STORAGE

TL-292 is a two-component material consisting of pre-measured Part A (resin) and Part B (catalyst). TL-292 is packaged in 1 gallon, 5 gallon units. 1 gallon units are mainly used for stripe coating and touch up work. Proper storage of these materials is critical to handling characteristics and performance. Store all components in unopened containers in a dry place, at 70-90 °F, out of direct sunlight, and protect from the elements. Keep away from heat and flame. This product has a shelf life of 12 months when properly stored.

BID SPECIFICATION GUIDE

Use TL-292 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. Do not apply when the substrate temperature is greater than 90 °F. Monitor weather conditions and dew point. Stop the application if the temperature falls within 5 °F of the dew point (and is falling). Use dehumidification and/or temperature control if necessary to meet this requirement.

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 70-90 °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 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 lined must be abrasive blasted to at least a near white metal finish (NACE #2, SSPC SP10) with a 3-4-mil sharp anchor profile. Mask all areas that are not to be lined.

Concrete: Can be used on concrete. Contact Blome for additional information.

MIXING

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

Material is supplied in two parts as a unit. Always mix a complete unit in the proportions supplied.

1) Thoroughly mix the contents of Part A with a power agitator until uniform consistency and color is obtained. Be sure that any solids that may have settled during storage have been completely stirred into the mix. Filter through 60 mesh screen to remove any lumps.

2) While continuing to mix Part A, slowly combine the contents of the catalyst (Part B).

3) Thoroughly mix the two parts until a uniform consistency and color is obtained (at least 2-3 minutes). Be sure to mix the sides and bottom of the container. Do not whip air into the mix.

Pot life of the mixture is 30-45 minutes at 75° F

SINGLE COMPONENT SPRAYING

Airless spray equipment can be used to apply TL-292.

Use equipment with minimum 45:1 pump ratio @ 80-100 lbs. to achieve 2400-3000 psi tip pressure. Reverse-A-Clean tip .019 to .023, with 3/8" fluid hose; 3/16" by 6' whip hose, with a maximum of 100 linear feet.

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

Do NOT apply more than 9 mils in a single coat.

CURING

Consult Blome International for ambient curing instructions and curing schedules.

TL-292 may be force cured for enhanced properties and faster turnaround times. These instructions need to be carefully followed in order to achieve a lining with full adhesion and resistance properties. Contact Blome International if additional guidance or clarity is required.

First Coat ("A" Stage/"B" Stage)

Apply base coat of 7-8 mils wet and allow to "B" stage overnight. B Stage is reached when the coating is firm to the touch and has just lost its tackiness (i.e., coating is soluble when exposed to solvent.) At this stage, solvent has evaporated from the lining.

The B Stage can be accelerated by blowing warm air across the coating surface at 90-100 ° F for approximately 2-5 hours. Before accelerating B Stage, allow the solvent to flash from the coating for 1-2 hours.

The "B" Stage has been reached when the coating is firm to the touch and has lost its tackiness (but still solvent soluble); at this stage the solvent has evaporated from the coating and is ready for the second coat or final cure.

NOTE: Do not overheat coating during B Stage operations. This will adversely affect adhesion of subsequent coats. If the first coat achieves a full cure, it must be sanded or roughened before applying a second coat.

Second Coat and Final Curing

After the first coat has reached the "B" stage, apply a second coat as instructed above.

Cure Schedule

The size of heating equipment and number of heaters is dependent on the size and configuration of the coated item to be cured. (Consult a heating contractor for more information). Direct or indirect forced air heating or inductive heating is acceptable. Use only propane or methane (natural gas) for direct heating. **Note: Clean, dry process air can also be used to achieve final cure.**

NOTE: Do not use kerosene, diesel fuel or heating oils for this purpose. They can leave soot on the surface and affect its quality.

After driving the solvent out of the second coat, spark test the B Staged topcoat at 3000 volts, repair pinholes and proceed to final cure. Do not use wet sponge-type holiday testers. Increase the substrate temperature by 50°F (28°C) per hour until the final cure (soak) temperature is reached. Hold at the specified temperature – usually 250°F (121°C), 300°F (149°C) or 350°F (177°C) - for six (6) hours.

NOTE: A coating that is not properly cured will not provide the desired corrosion protection. Once the coating is fully cured, it is ready to be placed into chemical service.

NOTE: All cure temperatures are substrate temperatures.

INSPECTING FOR PINHOLES

It is not necessary to spark test the coating after curing if the holidays were detected and repaired while the topcoat was in the B Stage.

TOUCH-UP OR RECOATING

Repair of Mechanical Damage to B-Staged Coating

Defects and pinholes identified by spark testing of B Staged topcoat can be repaired prior to heat curing with minimum surface preparation.

“Open” the pinholes by hand using a small diameter drill bit (about 3/32" diameter). It is not necessary to enlarge pinholes such that bare substrate is exposed. Roughen surrounding coating out about 1" from the repair area. Wipe with a clean cloth slightly dampened with clean solvent (acetone). Apply coating using a small, clean, stiff bristle brush. Work coating into the opened pinhole using the end of the brush in a twisting and dabbing motion. Lightly brush material over pinhole and a minimum of 1" around the repair site. Coating should be applied thick but not so thick that it sags or runs are produced.

Blow warm air over repair area (with a heat gun) until repair feels dry to touch. Do not over heat the repair, as this might cause interference with the subsequent coat. Spark test patched areas at 1,000 -2,000 volts after the repair has firmed up. If pinholes are found, follow touch-up procedures.

Repairs to Heat-cured coating

Open pinholes by hand using a small diameter drill bit (about 3/32" diameter). It is not necessary to enlarge pinhole such that bare substrate is exposed. Clean area to be touched-up with a clean cloth slightly dampened with clean solvent. Roughen area at least 1 - 2" (2.5 - 5.0 cm) around pinhole by hand using 50 - 80 grit paper. Heat the area to be repaired with a hot air gun for 2 - 3 minutes. Apply coating using a small, clean, stiff bristle brush. Work coating into the opened pinhole using the end of the brush in a twisting and dabbing motion. Lightly brush material over pinhole and a minimum of 1" around the repair site. Coating should be applied thick but not so thick that sags or runs are produced.

Heat patched area with hot air gun until coating is hard and has changed colors. Spark test at 1,000 - 2,000 volts to confirm pinhole has been properly repaired.

CLEANUP

Clean tools and equipment with toluene, xylene, acetone or MEK before material begins to set.

SAFETY PRECAUTIONS

The various components of TL-292 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, 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.

Printed: July 14, 2014
Supersedes all previous literature