AMERICAN COATINGS

SPECIFICATION

For applying a one hundred percent solids reinforced fiberglass laminate with optional finish gel coats.

Recommended for application to internal tank bottoms, tank shells, and exterior cone or floating roofs.

Tank-Lok System #1 — Epoxy Fiberglass Laminate with TL-1 Blue Gel Coat
Tank-Lok System #2 — Epoxy Fiberglass Laminate with TL-47 White Gel Coat
Tank-Lok System #3 — Epoxy Fiberglass Laminate with EP-8505 Green Epoxy Phenolic Gel Coat

1. **SCOPE**
This specification includes the surface preparation, materials, and application of a fiberglass reinforced, one hundred percent solids, epoxy coating system for protection and/or repair of steel surfaces on interior or exterior steel surfaces of floating or cone roof storage tanks, operating at ambient conditions.

2. **REFERENCES**
The Contractor shall comply with the latest issue of the following standards:

STEEL STRUCTURES PAINTING COUNCIL (SSPC)
PA-1 Shop, Field, and Maintenance Painting
SP-1 Solvent Cleaning
SP-3 Power Tool Cleaning
SP-7 Brush-Off Blast Cleaning
SP-5 White Metal Blast Cleaning
SP-10 Near White Blast Cleaning
SP-6 Commercial Blast Cleaning

3. **REQUIREMENTS TO BE COMPLETED BEFORE APPLICATION OF THE FIBERGLASS LINING SYSTEM**

3.1 Riveted tanks shall have the following mechanical repairs made prior to coating the tank bottom:

1. All butt joints in the bottom curb angle shall be welded solid to provide a continuous curb angle.

2. Install an adequate water stop in all vertical lap or butt joints in the bottom shell course.

3. All welding flux, weld spatter, sharp metal projections, and laminations shall be ground smooth prior to solvent and blast cleaning.

3.2 Steel plates to be installed under support bases.

3.2.1 Pre-cut ¼" thick steel plates 18-24 inches square to be precoated and installed under all roof support legs, vacuum breakers, and other equipment projecting below the roof deck which could possibly come in contact with the tank roof when in the down position.

3.2.2 Blast clean SSPC-SP-5 and coat one side of the plate and apply hand lay-up application of fiberglass and 100% volume solids epoxy leaving a four-inch-wide strip the entire perimeter of each plate uncoated.

3.2.3 Blast clean per SSPC-SP-5 the entire underside of the coated plate and a corresponding area on the tank bottom. Mix American TC-7 epoxy caulk and spread a coat of the epoxy caulk to the two blast-cleaned surfaces. Place plate over the designated area and feather edge the sides of the plate with TC-7 epoxy adhesive in order to provide a smooth transition. See Figure 3.

4. COATING AND REINFORCING MATERIALS

The coating materials specified shall be applied only when the ambient and substrate temperature exceeds 50° F and the relative humidity is below 85 percent.

4.1 Delivery and handling of materials.

All coatings and fiberglass materials shall be delivered to the job in original, unopened containers, bearing the name, trademark and batch number of the manufacturer. All fiberglass must be dry at all times.

4.2 Physical properties.

Consult manufacturer literature.

5. SURFACE PREPARATION (STEEL SURFACES)

5.1 All oil, grease and other foreign matter shall be removed prior to blast cleaning by chemical cleaning per SSPC-SP-1 if needed.

5.2 Surfaces to be fiberglass coated shall be blast cleaned to a white metal sandblast per SSPC-SP-5 standard. Tank bottom blasting shall be done to extend at least 6 to 8 inches above the coating height.

5.3 Inspection

The surface preparation is subject to inspection and approval by customer representative before the primer coat is applied.

6. PRIMER, SPOT REPAIRS, AND CAULKING

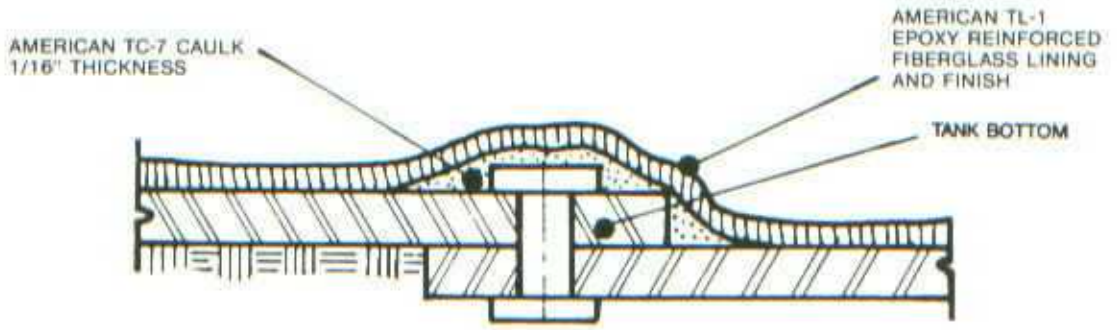
6.1 Remove dust from all blast-cleaned surfaces prior to prime coating. Apply primer to a dry film thickness of ½ to 1 mil only, using American EX 8300 primer.

6.2 The prime coat is applied only as a sandblast "holding primer". If oxidation occurs before the laminating operation, reblast the areas in accordance with 5.2.

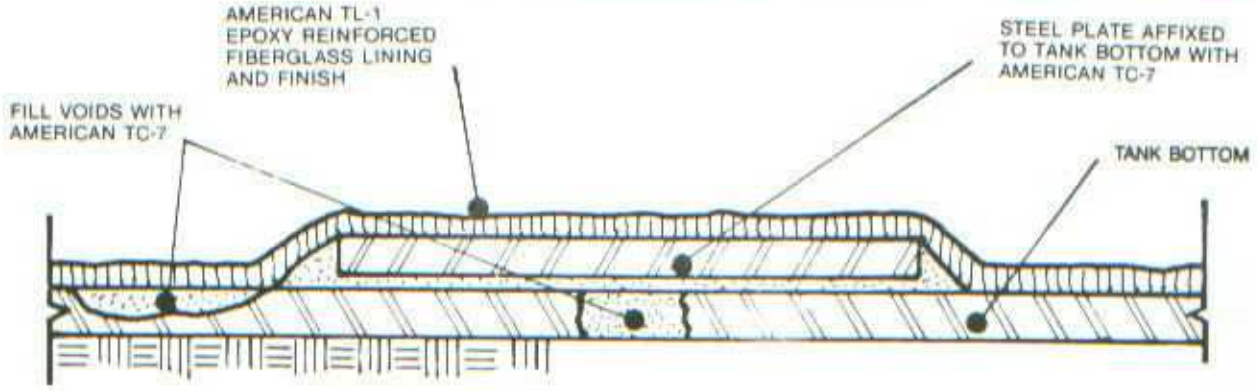
6.3 Any holes or penetrations of the steel bottom shall be patched with ¼" steel plate extending 4 inches beyond the penetration in all directions. The plates shall be attached with American TC-7 epoxy caulk and have the edges feathered to provide a smooth transition for fiberglass operation. See Figure 2.

6.4 Deep pits shall be squeeged full with American TC-7 to provide a smooth surface to the same height as tank bottom.

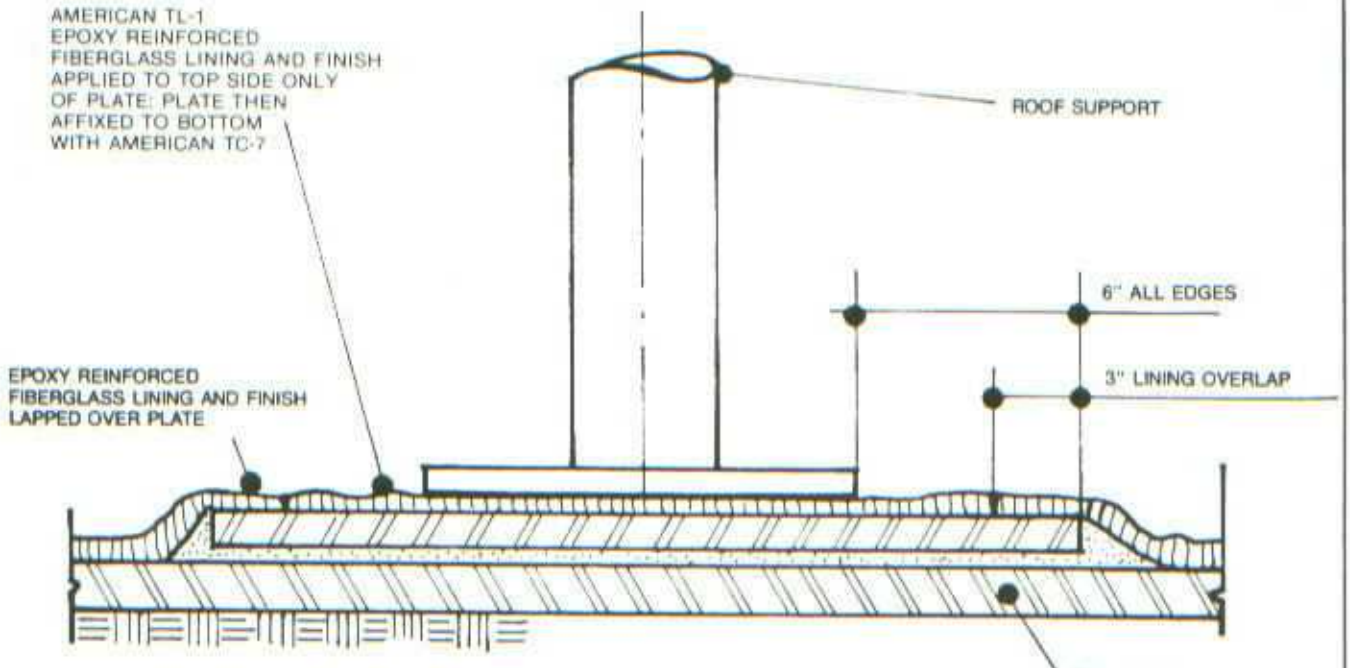
6.5 Spray apply American TC-7 to all weld seams, lap joints, attached appurtenances, and the curb angle joint to provide a smooth transition for the fiberglass coat. See Figure 1 and 4.



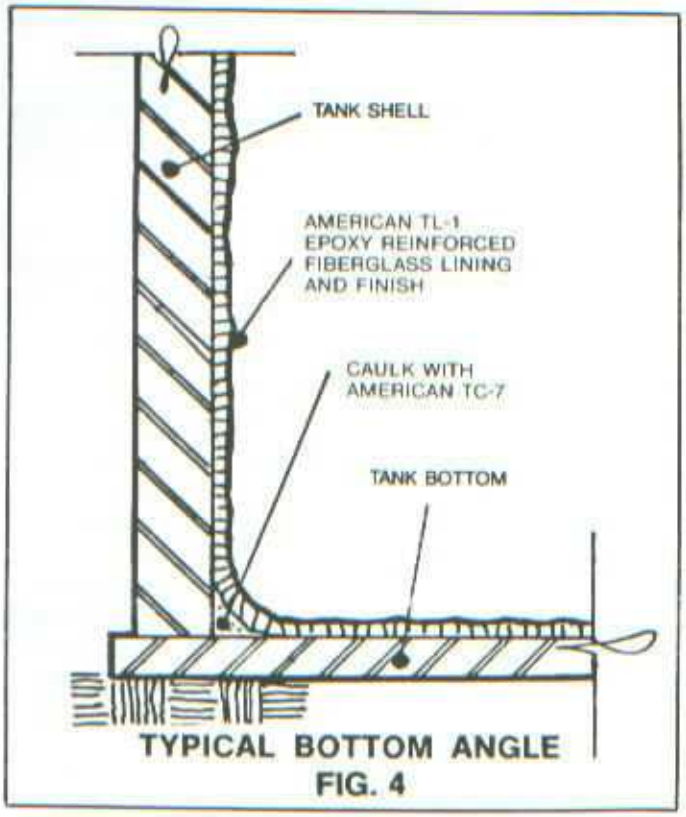
RIVET AND SEAM CAULKING
FIG. 1



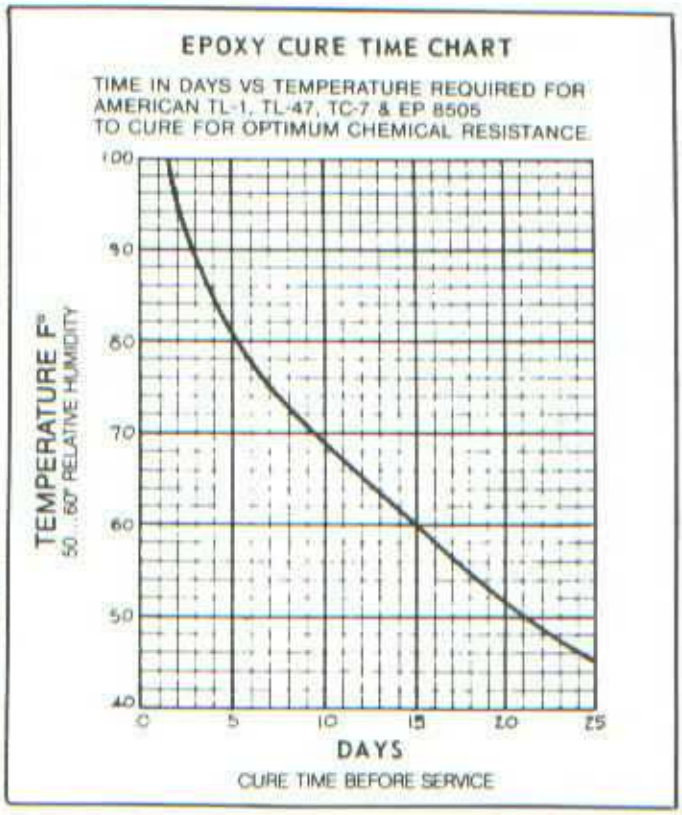
STEEL PLATE PATCHING
FIG. 2



ROOF SUPPORT DETAIL
FIG. 3



TYPICAL BOTTOM ANGLE
FIG. 4



7. APPLICATION OF THE FIBERGLASS REINFORCED EPOXY COATING SYSTEM

7.1 Interior tank bottom and shell

Apply American TL-1 Blue epoxy incorporating 1½ ounce per square foot of chopped continuous glass roving to the entire tank bottom, and 4 inches over each side of the leg protector plates. Extend the system up the shell a minimum of 18 inches. All surfaces shall be rolled immediately in order to thoroughly wet out the chopped glass roving and to form a 50-55 mil glass laminate. Wet film readings should be taken during this application.

7.2 Exterior Roof

Same as 7.1 above but 100% solids epoxy laminating material is American TL-47 white.

7.3 Glass roving shall be Owens corning 447 BA-211 or equal.

7.4 Any projecting glass strands visible after the laminate has cured shall be sanded flush with the adjoining fiberglass surface.

8. GEL COAT APPLICATION

8.1 Tank-Lok system #1 — American TL-1 Blue epoxy fiberglass laminate

8.1.1 A 10 mil resin-rich gel coat of American TL-1 shall be applied within 24 hours of the 50-55 mil fiberglass operation. If 24 hour recoat is not possible, brush blast per SSPC-SP-7 and apply 10 mil TL-1 Blue gel coat.

8.2 Tank-Lok system #2 — American TL-47 white epoxy fiberglass laminate.

8.2.1 A 10 mil resin-rich gel coat of American TI-47 shall be applied within 24 hours of the 50-55 mil fiberglass operation. If 24 hour recoat is not possible, brush blast per SSPC-SP-7 and apply 10 mil TL-47 white gel coat.

8.3 Tank-Lok system #3 — American TL-1 Blue glass coat with EP 8505 green epoxy phenolic gel coat.

8.3.1 A 10 mil resin rich coat of American EP 8505 epoxy phenolic shall be applied within 24 hours of the 50-55 mil TL-1 and fiberglass operation. If 24 hour recoat is not possible, brush blast per SSPC-SP-7 and apply 10 mil EP 8505 green gel coat.

9. INSPECTION

The coating shall be inspected with a high-voltage holiday detector set at a minimum of 100 volts per mil.

10. MATERIALS

Primer	American Coatings	EX 8300
Caulk	American Coatings	TC-7 Blue
Laminating Epoxy	American Coatings	TL-1 Blue
Laminating Epoxy	American Coatings	TL-47 White
Gel Coat	American Coatings	TL-1 Blue
Gel Coat	American Coatings	TL-47 White
Gel Coat	American Coatings	EP 8505 Green

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