

DUDICK, INC.
 Corporate Offices
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PROTECTO-LINE 1130/1130AR

**TROWEL APPLIED, 100% SOLIDS,
 MULTI-FUNCTIONAL, REINFORCED
 EPOXY LINING AND FLOOR TOPPING,
 1/8" (3.17 mm)**

FEATURES

Meets all VOC Requirements
 Low Temperature Cure
 Excellent Solvent Resistance
 Low Odor

	ASTM D-696	
Tensile Strength		4,000 - 5,000 PSI
	ASTM C-307	
VOC		0
	ASTM D-3960	

RECOMMENDED APPLICATIONS

Secondary Containment Areas
 Concrete Waste Sumps
 Floors, Trenches, Curbs and Pits
 Steel and Concrete Tanks
 Solvent Storage Areas

SPECIFICATIONS

Protecto-Line 1130 shall be a nominal 1/8" thick, 100% solids, silica filled, multifunctional epoxy lining consisting of a penetrating primer, a 1/16" basecoat, woven fiberglass roving and a 1/16" topcoat as manufactured by Dudick, Inc. Material shall be applied in accordance with the manufacturer's recommended practices.

CHEMICAL RESISTANCE

Inorganic Acids	Oils
Alkali Solutions	Salts
Solvents (Including Methylene Chloride and Ethylene Dichloride)	

Protecto-Line 1130AR shall be a nominal 1/8" thick 100% solids, multifunctional epoxy lining consisting of a penetrating primer, a 1/16" silica filled basecoat, woven fiberglass roving and a 1/16" aluminum oxide filled topcoat. Inert aluminum oxide fillers are used to significantly increase resistance to abrasion, fluorides, and strong caustics. A synthetic fabric can be substituted for the glass woven roving for strong fluoride and caustic solutions.

**TEMPERATURE LIMITS
 (METAL APPLICATIONS)**

Immersion up to 180°F
 Dry - 200°F Continuous
 - 250°F Intermittent

THE PROTECTO-LINE 1130 SYSTEM

PHYSICAL PROPERTIES

Compressive Strength	6,000 - 7,000 PSI
ASTM C-579	
Coefficient of Expansion	12-15 x 10 ⁻⁶
in./in./°F	

Protecto-Line 1130 uses several layers of amine cured, filled epoxy resin to build up the protection that metal and concrete need in chemical manufacturing or processing operations. When fully cured, the separate

elements lose their individual identity and become a single, monolithic lining.

Primer 67 is designed to prevent abrasive blasted steel from developing rust bloom prior to the application of the **Protecto-Line 1130**. For maximum performance, all metal surfaces should be primed. Concrete must be primed to aid in the “wetting out” required for good bonding.

Primer 67C is designed for applications on concrete where spark testing is required or specified.

Basecoat: Protecto-Line 1130 resins are filled with graded silica to reduce the coefficient of expansion and provide a thixotropic base on which to embed the reinforcement.

Reinforcement: A woven fiberglass roving or synthetic fabric is used to help bridge small surface cracks and provides additional strength to resist thermal shock. It is applied to the wet basecoat and becomes an integral part of it, acting much the same as a reinforcing bar does in concrete.

Saturant: Catalyzed **Protecto-Line 1130** resin is used to wet out the reinforcement, thus providing a mechanical and chemical bond.

Topcoat: Protecto-Line 1130 silica filled resin provides an abrasion and chemical resistant barrier. Inert aluminum oxide fillers can be substituted in this layer to significantly improve abrasion and chemical resistance.

ESTIMATING QUANTITIES AND ORDER BILL OF MATERIAL

SQUARE FEET PER GALLON		
	CONCRETE	STEEL
PRIMER 67	150-200	250-300
Primer 67C	100-150	-----
Protecto-Line 1130		
Basecoat		
Saturant & Topcoat	18	
Roving / Fabric	Area + 10%	
G-1 Filler (Silica)	1.0 lb./sq. ft.	
AR Filler (Aluminum Oxide)	0.65 lbs./sq. ft.	
S-30 Liquid	150	
S-10 Solvent	500	

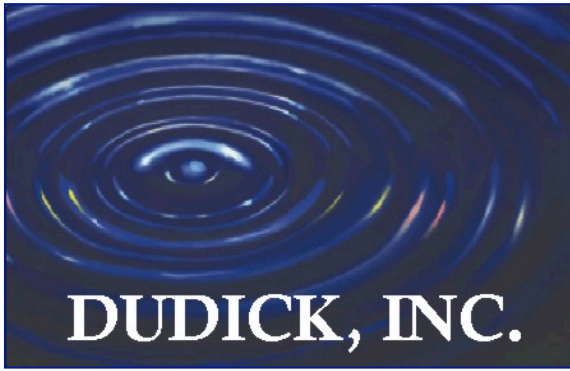
Quantities shown are for estimating purposes only. Actual field usage may vary.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Metal: Abrasive blast to a white metal finish according to SSPC SP5 or NACE # 1 and a 3.0 mil minimum profile.

Concrete: Concrete must be mechanically prepared to remove surface laitance. Oils, grease or other contaminant must be removed prior to surface preparation. Concrete must be free of curing compounds and form release agents. Surface texture should be similar to 40-60-grit sandpaper or the visual standard, CSP-5 from the International Concrete Repair Institute **with exposed pea gravel**. The prepared surface should have a nominal tensile strength of 250 PSI per ASTM D-4541.



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All concrete substrates must be checked for moisture prior to product application using the Plastic Sheet Test, ASTM D-4263.

Additional surface preparation will be required if a 40-60 grit texture **with exposed pea gravel** is not achieved and the surface laitance not completely removed with the first mechanical preparation procedure.

Mechanical preparation removes laitance, exposing honeycombs or voids beneath the surface which must be filled with **Scratch Coat 300**. (Refer to separate product bulletin)

APPLICATION SPECIFICATIONS

Substrate temperature for both concrete and metal must be between 50°F and 110°F.

Relative humidity must not exceed 90%.

Substrate temperature must be 5°F above the Dew Point.

PRIMER 67/67C MIX RATIOS

Primer 67 Component A	1 gal.
Primer 67 Component B	1gal.
Primer 67C Component A	1 gal.
Primer 67C Component B	35 fl. oz.

Important: Primer 67C Component A must be mechanically mixed for 1-2 minutes prior to adding the correct amount of **Component B**.

PRIMER 67/67C POT LIFE

TEMPERATURE	PRIMER 67	PRIMER 67C
50°F	90 min.	110 min.
75°F	60 min.	70 min.
90°F	30 min.	50 min.

PRIMING

Metal: Mix **Primer 67 Component A** with **Component B** for 2-3 minutes and apply with a roller, brush or spray at 3-4 mils WFT.

Concrete: Concrete must always be primed to aid in the “wetting out” required for good bonding. Mix **Primer 67 or 67C Component A with Component B** for 2-3 minutes and apply with a brush, roller or spray. We recommend the basecoat be applied over tacky primer; do not allow the primer to puddle. If application is not expected over tacky primer a light sand broadcast will provide better troweling properties.

Use **Primer 67C** when spark testing is specified. Apply using a roller. Brush application is acceptable for touch-up or repair work only.

Primer 67C should not be sand seeded.

Important - with all epoxies after priming and before each additional coat, examine the surface for amine blush (oily film). If present, remove by washing with warm water and detergent.

Pot life of the mixed **Protecto-Line 1130** will depend on the temperature. To prevent material waste and avoid damage to equipment, do not mix more material than can be used according to the corresponding tables:

IMPORTANT! Please note that Basecoat and Topcoat mix ratios and pot life are dramatically different. Be certain to read and understand the corresponding tables prior to mixing any materials.

Protecto-Line 1130 Basecoat	
Component A	1 gallon
Component B	82 fl. ozs.

TEMPERATURE	POT LIFE
50°F	70 min.
75°F	45 min.
90°F	25 min.

Cure Cycles for Protecto-Line 1130 Basecoat

TEMPERATURE	RECOAT TIME MIN. MAX.	CURE TIME
50°F	24 hrs. 120 hrs.	96 hrs.
75°F	12 hrs. 96 hrs.	72 hrs.
90°F	8 hrs. 72 hrs.	48 hrs.

If these recoat times are exceeded, consult a Dudick representative; sanding or abrasive blasting may be required before the next coat. Recoat times are dramatically reduced when the lining is exposed to direct sunlight.

BASECOAT

Add the correct amount of **Component B** to **Component A**. Mix thoroughly for 2-3 minutes. Add 18-25 lbs. of **G-1 Filler**/ gal. Mix well and apply a 1/16” thick basecoat, using a plasterer’s trowel. Apply to an even finish.

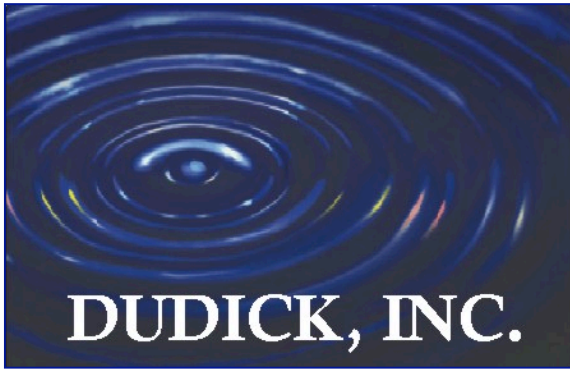
REINFORCEMENT AND SATURANT

Press the reinforcement into the wet basecoat. Lap all edges by 1 inch. Saturate the reinforcement with catalyzed **Protecto-Line 1130** resin using a short nap paint roller. Roll vigorously until the reinforcement has lost its white color and turns translucent. Use enough resin to “wet out” the reinforcement but do not allow the saturant to drip or puddle. It is highly recommended, for good adhesion, that a clean, dry sand be lightly broadcast into the wet saturant.

Protecto-Line 1130	
Component A	1 gallon
Component B	24 fl. ozs.

Temperature	Pot Life	Cure Cycle
50°F	20 min.	96 hrs.
75°F	15 min.	72 hrs.
90°F	10 min.	48 hrs.

In view of the short pot life it is recommended that the material be cooled, either by refrigeration or icing, down to 50°F. Protecto-Line 1130 Topcoat will cure in 72 hrs. at 38°F.



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If cooling is not possible, small batches of mixed material must be used to work within the pot life limitations.

Mixed Topcoat resin develops high exotherm when in mass. It is recommended that a pail of water be accessible to put residual mixed material into if not totally used.

Catalyzed material must never be left unattended!

Do not attempt to store mixed material. Residual material should be properly disposed of at the end of each work period.

TOPCOAT

Before applying the topcoat, examine the surfaces for amine blush (oily film). If present, wash with a warm water detergent solution to remove it. Also, examine the overall application and grind any sharp protrusions and fill any voids with catalyzed saturant resin.

Add the correct amount of **Component B** to **Component A**. Mix thoroughly for 2-3 minutes. For **Protecto-Line 1130**, add 18-25 lbs. **G-1 Filler**/gal.

For **Protecto-Line 1130AR**, add 25-30 lbs. **AR Filler**/gal.

Mix well and apply a 1/16" thick topcoat, using a plasterer's trowel. Apply to an even finish.

SMOOTHING

Immediately after the trowel application and before the topcoat has cured, dampen a natural bristle brush (thick bristle 4" wide) or roller with **S-30 Smoothing Liquid**. Lightly brush or roll the wet topcoat to remove trowel marks and pinholes. Never allow **S-30 Smoothing Liquid** to puddle on the topcoat.

Application of **Protecto-Line 1130** in direct sunlight may lead to blistering, pinholes, or wrinkling due to outgassing of air in the concrete and high substrate temperatures. Double priming, shading, or evening application may be required. Consult a Dudick representative.

TESTING

Metal: Allow the total system to cure. Spark test the lining with a 20,000 Volt AC spark tester. Mark and repair all pinholes using the topcoat material. Retest only the repairs.

Concrete: Allow the total system to cure overnight, then visually inspect the topcoat for any pinholes and repair them. The lining can be spark tested at 20,000 volts provided **Primer 67C** was used to prime the concrete.

CLEANING

Use **S-10 Cleaning Solvent** to clean tools and equipment.

SHIPPING

Refer to Material Safety Data Sheets.

STORAGE

Warning: All Dudick products classified by DOT with either white, yellow or red must not be mixed or stored together as an explosive reaction may occur.

All products should be stored in a cool, dry area away from open flames, sparks or other hazards. When properly stored in their original, unopened containers, the **Primers 67/67C** and **Protecto-Line 1130 Basecoat** Components have a one-year shelf life.

The shelf life of the 1130 Topcoat Component A, stored beyond 6 weeks 75°F is not predictable. This material is best stored @ 50°F or lower. Storage in direct sunlight or excessive heat will reduce working time, and is not recommended! Self-Polymerization can quickly occur at temperatures as low as 100°F.

SAFETY

M.S.D.S: Material Safety Data Sheets must always be read before using products. **Protecto-Line 1130** systems are intended for application by experienced, professional personnel. Dudick, Inc. can supply supervision to help determine that the surface has been properly prepared, the ingredients correctly mixed, and the materials properly and safely applied.

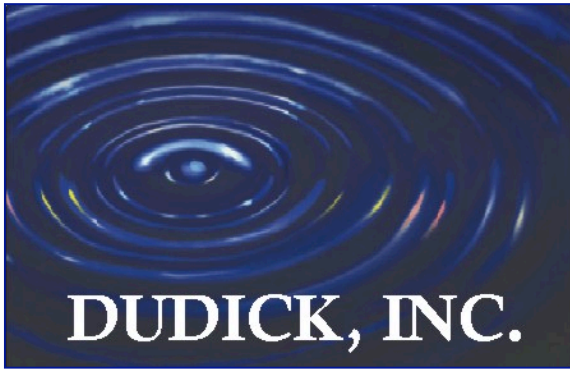
If **Protecto-Line 1130** materials are to be applied by your own personnel or by a third party contractor, please be sure that they are aware of the following safety precautions:

- Exposure to resins and hardeners through direct skin contact and/or inhalation may cause severe dermatitis reactions in some people. Cleanliness of the skin and clothing

is critical and must be of paramount concern.

- Fumes are flammable and heavier than air. Proper ventilation should be maintained to minimize breathing of concentrated fumes.
- Suitable respirators should be used during application.
- Safety glasses, gloves, and suitable protective clothing must be worn at all times during application.
- If contact with hardeners occurs, remove any clothing involved and flush the skin with flowing water. Discard the clothing. Do not attempt to wash and reuse it. **Protecto-Line 1130** liquid can be removed with S-10 Cleaning Solvent, MEK, or lacquer thinner.
- Keep open flames and sparks away from the area where materials are being mixed and applied.
- If a rash occurs, remove the individual from the work area and seek a physician's care for dermatitis.
- In case of eye contact, flush with water for at least 15 minutes and consult a physician.
- If swallowed, do not induce vomiting; call a physician immediately.

NOTE: Dudick, Inc. ("Dudick") warrants all goods of its manufacture to be as represented in its catalogs and that the application of its products by its employees or sub-contractors shall be performed in a workmanlike manner. Dudick's obligation under this warranty shall be the repair to and replacement of any applications which its examination shall disclose to be



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defective. Dudick makes no warranty concerning the suitability of its product for application to any surface, it being understood that the goods have been selected and the application ordered by the purchaser.

DUDICK, INC. MAKES NO WARRANTY EXPRESS OR IMPLIED, THAT THE GOODS SHALL BE MERCHANTABILITY OR THAT THE GOODS ARE FIT FOR ANY PARTICULAR PURPOSE. THE WARRANTY OF REPAIR OR REPLACEMENT SET FORTH HEREIN IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES ARISING BY LAW OR OTHERWISE; AND DUDICK, INC. SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, DOWN TIME, DAMAGES TO PROPERTY OF THE PURCHASER OR OTHER PERSONS, OR DAMAGES FOR WHICH THE PURCHASER MAY BE LIABLE TO OTHER PERSONS, WHETHER OR NOT OCCASIONED BY DUDICK'S NEGLIGENCE. This warranty shall not be extended, altered or varied except by written instrument signed by Dudick and Purchaser.

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