



Dudick inc.

Corporate Offices
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PROTECTO-LINE 100XT/100XT AR

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

FEATURES

Low Odor
 Low Taber Abrasion
 Meets all VOC requirements
 Excellent Sulfuric Acid Resistance

RECOMMENDED APPLICATIONS

Concentrated Acid Spills	Scrubbers
Concentrated Caustic Spills	Ducts
Floors, Trenches, Curbs and Pits	
Steel and Concrete Tanks	

CHEMICAL RESISTANCE

Concentrated Inorganic Acids
 Dilute Organic Acids
 Alkali Solutions
 Solvents
 Oils
 Salts

TEMPERATURE LIMITS (METAL APPLICATIONS)

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

PHYSICAL PROPERTIES

Compressive Strength ASTM C-579	14,000 PSI
Coefficient of Expansion ASTM D-696	12-15x 10 ⁻⁶ , in./in./°F
Tensile Strength ASTM C-307	2,700 PSI
Taber Abrasion, CS-17 wheel 1000 cycles, 1000 gram load ASTM D-4060	40 mg.(G-1) 20 mg.(AR)
Flame Spread ASTM D-635	10mm
VOC ASTM D-3960	0
WVT ASTM E-96	0.0017 perm. in.

SPECIFICATIONS

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

Protecto-Line 100XT AR shall be a nominal 1/8" thick novolac 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.

THE PROTECTO-LINE 100XT SYSTEM

Protecto-Line 100XT uses several layers of amine cured, filled novolac 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 100XT**. 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 100XT 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 100XT** resin is used to wet out the reinforcement, thus providing a mechanical and chemical bond.

Topcoat: Protecto-Line 100XT 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

APPROXIMATE SQUARE FEET PER GALLON	
	CONCRETE STEEL
PRIMER 67	150-200 ft. ² 250-300 ft. ²
PRIMER 67C	100-150 ft. ² -----
Protecto-Line 100XT	
Basecoat Saturant & Topcoat	18 ft. ²
Roving Fabric	Area + 10% Overlap
G-1 Filler (Silica)	1.0 lb./ ft. ²
AR Filler (Aluminum Oxide)	0.65 lbs./ ft. ²
S-30 Liquid	150 ft. ²
S-10 Solvent	500 ft. ²

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.

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 (BY VOLUME)

Primer 67	Component A	1 gallon
Primer 67	Component B	1 gallon
Primer 67C	Component A	1 gallon
Primer 67C	Component B	29 fl. oz.

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



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Primer 67C must be roller applied. Use brush application for small touch-up or repair work only.

PRIMER 67/67C POT LIFE

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

Concrete applications of **Protecto-Line 100XT** that require spark testing must use **Primer 67C**. It can be applied by roller only. Use brush application for touch up or repair work. **Primer 67C** should not be 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.

Hardener Amount/gal. Resin.

Protecto-Line 100 XT Component A	Substrate Temperature	Protecto-Line 100 XT Component B
1 gallon	50-110°F	90 fl. oz.

BASECOAT

Add the correct amount of **Protecto-Line 100XT Component B** to **Component A**. Mix thoroughly for 2-3 minutes. Add 18-25 lbs. of **G-1 Filler** per mixed gallon. 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 100XT** 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.

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 glass protrusions and fill any voids with catalyzed saturant resin.

For **Protecto-Line 100XT**, add 18-25 lbs. **G-1 Filler** per gallon.

For **Protecto-Line 100XT AR**, add 25-30 lbs. **AR Powder** per gallon.

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.

Pot Life and Cure Cycle

TEMPERATURE	POT LIFE	CURE CYCLE
50°F	70 min.	96 hrs.
75°F	45 min.	48 hrs.
90°F	25 min.	24 hrs.

Application of **Protecto-Line 100XT** systems 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 labels 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 at 50°F-75°F, **Primer 67** and **Protecto-Line 100XT** have a six-month shelf life. **Primer 67C** has a 30-day shelf life. Storage in direct sunlight or excessive heat will reduce working time and shelf life.

SAFETY

M.S.D.S: Material Safety Data Sheets must always be read before using products. **Protecto-Line 100XT** 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 100XT** 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-Coat** 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.
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- 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 manufacture of its products by its employees or sub-contractors shall be performed in a workmanlike manner. Dudick's sole obligation under this warranty shall be to replace any material which its examination shall disclose to be 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 MERCHANTABLE 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.

3/18/10