

## SELECTION & SPECIFICATION DATA

<b>Generic Type</b>	Trowel-applied, reinforced, novolac vinyl ester lining & floor topping
<b>Description</b>	Protecto-Glass 960 uses several layers of filled, thermosetting novolac vinyl ester resin to build up the protection that steel and concrete need in chemical manufacturing or processing operations. When fully cured, the separate elements lose their individual identity and become a single, monolithic topping.
<b>Features</b>	<ul style="list-style-type: none"> <li>• Excellent Chemical Resistance</li> <li>• Bridges Small Concrete Cracks</li> <li>• Can be seeded for Anti-Skid</li> </ul>
<b>Typical Uses</b>	<ul style="list-style-type: none"> <li>• Secondary Containment Areas</li> <li>• Concrete Dike Areas</li> <li>• Concentrated Acid Spills</li> <li>• Floors (Splash &amp; Spillage)</li> <li>• Acid Neutralization</li> </ul>
<b>Color</b>	Unmatched Grey
<b>Primer</b>	<p>All metal surfaces should be primed with Dudick Primer 27.</p> <p>Concrete <b>must</b> be primed to aid in the "wetting out" required for good bonding. Use Primer 27 series or other primer recommended by Dudick or Carboline technical service.</p>
<b>Dry Film Thickness</b>	70 - 90 mils (1778 - 2286 microns) DFT
<b>Solids Content</b>	By Volume 85%
<b>Theoretical Coverage Rate</b>	<p>1363 ft<sup>2</sup>/gal at 1.0 mils (33.5 m<sup>2</sup>/l at 25 microns)</p> <p>19 ft<sup>2</sup>/gal at 70.0 mils (0.5 m<sup>2</sup>/l at 1750 microns)</p> <p>15 ft<sup>2</sup>/gal at 90.0 mils (0.4 m<sup>2</sup>/l at 2250 microns)</p> <p>Allow for loss in mixing and application.</p>
<b>VOC Values</b>	<b>As Supplied</b> : 87 g/L
<b>Dry Temp. Resistance</b>	<p>Continuous: 200°F (93°C)</p> <p>Non-Continuous: 250°F (121°C)</p>
<b>Chemical Resistance</b>	<ul style="list-style-type: none"> <li>• Organic Acids</li> <li>• Salts</li> <li>• Inorganic Acids</li> <li>• Oils</li> <li>• Solvents</li> <li>• Alkali Solutions</li> </ul>
<b>Topcoats</b>	Protecto-Coat 900 series

# Protecto-Glass 960

## PRODUCT DATA SHEET



### SUBSTRATES & SURFACE PREPARATION

#### Concrete

Concrete must be prepared mechanically 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 pea gravel exposed. Additional surface preparation will be required if 40-60 grit texture with exposed pea gravel is not achieved and the surface laitance not completely removed with the first mechanical preparation procedure. The prepared surface shall have a tensile strength of 250 PSI per ASTM D7234.

All concrete substrates must be checked for moisture prior to product application using the Plastic Sheet Test, ASTM D4263.

#### Ferrous Metal

**Primer 27 is recommended to be used to promote better adhesion or as a holding primer in immersion service.**

Immersion and heavy spillage service: White Metal, SSPC SP 5 or NACE No.1, minimum 3.0 mil profile.

Heavy non-immersion service (i.e. fumes and spillage): Near white, SSPC SP 10 or NACE No.2, minimum 2.0 mil profile.

Atmospheric service: Commercial SSPC SP 6 or NACE No.3, minimum 2.0 mil profile

#### Non-Ferrous Metals

**Must be primed with Primer 27 for immersion service.**

Prepare by abrasive blasting to SSPC-SP 17 Thorough Abrasive Blast to a minimum of 3 mils (75 microns) dense angular anchor profile.

### PERFORMANCE DATA

All test data was generated under laboratory conditions. Field testing results may vary.

Test Method	Results
Coefficient of Expansion (ASTM D696)	12-15 x10 <sup>-6</sup> in./in./°F
Compressive Strength (ASTM C579)	12,500 PSI (86.2 MPa)
Flexural Strength (ASTM C580)	8,600 PSI (59.3 MPa)
Shore D Hardness (ASTM D2240)	75-80
Tensile Strength (ASTM C307)	2,400 PSI (16.5 MPa)

### MIXING & THINNING

#### Mixing

**Basecoat:** Add the correct amount of PH-1 Hardener for each gallon of Protecto-Glass 960 and mix thoroughly for 1-2 minutes. Add 18-25 lbs. of G-1 Filler to achieve a mortar-like consistency. Using a plasterer's trowel, apply a 1/16" thick basecoat to a smooth, even finish.

**Saturant:** Add the correct amount of PH-1 Hardener for each gallon of Protecto-Glass 960 and mix thoroughly until a uniform color is achieved.

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

#### Ratio

**PH-1 Hardener Ratio:**

3-4 oz/gal of PH-1 @ 60°F-70°F (15°C-21°C)

2-3 oz/gal of PH-1 @ 70°F-90°F (21°C-32°C)

#### Pot Life

40-50 minutes @ 50°F-70°F (10°C-21°C)

20-30 minutes @ 70°F-90°F (21°C-32°C)

## APPLICATION PROCEDURES

Trowel	After mixing the Part A, Part B, and G-1 filler per the mixing instructions, apply approximately 1/16" (~60 mils) thick basecoat to a smooth, even finish using a trowel.
	<b>Adding reinforcement and saturant:</b> Before the basecoat begins to cure, press one layer of 1 oz glass mat into the wet basecoat. Overlap all edges by 1 inch. Use a stiff, natural bristle brush or short nap roller and press the mat firmly into the basecoat, using a technique similar to hanging wallpaper, to remove all air pockets and wrinkles. Saturate the reinforcement by mixing Part A and B only, do not add the filler, to make a neat resin mixture. Using a short nap roller, roll vigorously until the mat has lost its white color and turns translucent, paying special attention to overlaps and corners. Use enough resin to wet out the mat, but do not allow the saturant to puddle. If needed, roll the wet reinforcement with a ribbed roller to remove any trapped air or wrinkles. Allow the basecoat and reinforcement application to dry.
	<b>Topcoat Application:</b> Before applying the topcoat, the troweled basecoat, fiberglass mat, and saturant layers must dry thoroughly to allow for the surface to be ground to provide profile for successive coats and remove any high spots or protrusions. Grinding must draw dust. Use caution not to grind through the reinforcing layer, then solvent wipe the entire surface. Examine the reinforcement for any air bubbles or blisters. If these are present, they must be cut out and repaired, using the procedure above. Rough overlaps and protruding reinforcement strands must be abraded and smoothed. The topcoat will emphasize any imperfections in the reinforcement. Excessive blistering of the basecoat reinforcement may indicate inadequate rolling or too little saturant. Apply topcoat according to the corresponding product data sheet.

## APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	60°F (16°C)	60°F (16°C)	60°F (16°C)	0%
Maximum	80°F (27°C)	110°F (43°C)	110°F (43°C)	90%

Substrate temperature must be 5°F (3°C) above the dew point.

## CURING SCHEDULE

Surface Temp.	Minimum Recoat Time	Maximum Recoat Time	Final Cure
50°F (10°C)	12 Hours	120 Hours	7 Days
75°F (24°C)	4 Hours	96 Hours	5 Days
90°F (32°C)	3 Hours	72 Hours	90 Hours

Basecoat must be recoated within 6 hours when exposed to direct sunlight.

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 coating is exposed to direct sunlight.

Application 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.

## CLEANUP & SAFETY

Cleanup	Use S-10 Cleaning Solvent, Carboline Thinner 76 or Carboline Thinner 2 to clean tools and equipment.
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# Protecto-Glass 960

## PRODUCT DATA SHEET



## CLEANUP & SAFETY

<b>Safety</b>	Read and follow all caution statements on this product data sheet and on the SDS. Employ normal safety precautions. Keep container closed when not in use.
<b>Ventilation</b>	Ventilation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. Use MSHA/NIOSH approved air respirators as needed.

## PACKAGING, HANDLING & STORAGE

<b>Packaging</b>	<b>5 Gallon Kits:</b> Part A: 4.85 Gallons (in a 5 gal pail) PH-1 Hardener: 16 oz (in a plastic bottle)  <b>G-1 Filler is sold separately in a 50 lb. bag.</b>
<b>Shelf Life</b>	Part A: 3 months at 50°F-75°F (10°C-24°C)* PH-1 Hardener: 6 months at 50°F-75°F (10°C-24°C)  When properly stored in their original, unopened containers. *2 months at temperatures above 75°F (24°C)
<b>Storage</b>	<b>Warning:</b> All Dudick products classified by DOT with 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. Exposure to direct sunlight or excessive heat may reduce working time.
<b>Shipping Weight (Approximate)</b>	1 gallon kit: 14.6 lbs. 5 gallon kit: 50.5 lbs.

## WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.