

# Protect VE-PR Flex

## Flexibilized Vinyl Ester Primer



7875 Bliss Parkway North Ridgeville, OH 44039  
440-327-0015 440-353-0549 - FAX

### DESCRIPTION:

**Protect VE-PR Flex** is a flexibilized vinyl ester elastomer-modified primer resin designed to offer superior resistance to abrasion and mechanical stress. This resin offers increased adhesive strength while providing greater toughness and elongation.

### Typical uses

- Primer for steel, aluminum and concrete substrates prior to placing polyester/vinyl ester linings, coatings or flooring systems.

### Advantages

- Excellent bonding/adhesion for PIP systems
- Holds the blast on steel substrates

### Chemical Resistance

Resistant to most acids, alkalis and organic chemicals. Specific information on the chemical resistance properties will be furnished on request.

### Surface Preparation

**Metal** - For immersion or intermittent splash and spillage conditions, abrasive blast to "White Metal" in accordance with Steel Structures Painting Council Specifications **SP-5** or **NACE Specification #1**. For fumes and dry environments, abrasive blast surface to "Near White" in accordance with **SP-10** or **NACE #2**. A minimum surface profile of 3.0 mils is required.

### Concrete:

Abrasive blasting or scarification to remove laitance and surface contaminants is recommended. Concrete must be thoroughly cured and dry, free of dust, oil, curing solutions and mold release agents at time of application. Use ASTM D 4263 (plastic sheet test method) to ensure concrete is moisture free. If moisture is detected, re-test until dry.

### Mixing

Mechanically premix **Protect VE-PR Flex-A** resin (i.e. Part A) individually prior to adding hardener. After initial mixing, add **Protect VE-B** hardener and mix one minute.

### Mixing Ratio - By Volume

<b>Protect VE-PR Flex-A Resin</b>	1 gal
<b>Protect VE-B Hardener</b>	2.0 oz. – 3.0 oz.

**Thinner**—None required. DO NOT THIN.

### Application

Primed surface must be dry and free of foreign matter at time of lining, coating or flooring application. Apply catalyzed **Protect VE-PR Flex** at 6 to 10 wet mils using a short nap roller. The appearance of **Protect VE-PR Flex**, when applied by roller, should be translucent. The metal substrate should be visible. The color of the application will be varied due to overlaps and slight thickness variation. Overlap areas should also be translucent.

### Handling Properties

#### Working Time

Temperature	
50°F (10°C)	1 hr
70°F (21°C)	30 min
90°F (32°C)	15 min

### Time to Recoat

Temperature	Minimum Time	Maximum Time
50°F (10°C)	6 hrs	2 weeks
70°F (21°C)	3 hrs	1 week
90°F (32°C)	1 hr	72 hours

Surfaces should be top-coated within one week when exposed to direct sunlight. For longer exposure confirm recoat ability by wiping with Styrene monomer. If surface becomes "tacky" adhesion is acceptable. If not softened by Styrene, surface must be sandblasted or mechanically abraded to provide a non-glossy, abraded surface.

### Coverage

Concrete*	160-200 ft <sup>2</sup> /gallon
Steel	250-300 ft <sup>2</sup> /gallon

### Packaging

The following standard packages are available

<b>Protect VE-PR Flex</b>	4 gal units
<b>Protect VE-PR Flex-A</b>	50 Gal Bulk Drum

### Storage and Shelf Life

Store material in a cool, dry and covered location [50°-90° F (10° - 32° C)], away from fire hazards and direct sunlight. Shelf life is from date of manufacture (DOM).

@ 40-60°F (4-16°C)	6 months
@ 61-85°F (18-29°C)	3 months
@ 86+°F (30°C)	2 months

Higher temperature will shorten the shelf life of these products. The packing drums are to be kept tightly sealed and are to be resealed each time materials have been removed. All liquid products are to be stored in a frost-free place.

### Safety

**Protect VE-PR Flex** contains vinyl ester resins and cumene peroxide catalyst. The product's components have been formulated to optimize physical characteristics such as strength and chemical resistance while minimizing hazardous physical and health factors encountered during application. A concerted effort is made to be aware of the latest chemical toxicological information and to apply this knowledge in a responsible manner to ensure product safety.

During application of **Protect VE-PR Flex**, always wear gloves and appropriate work clothing to minimize contact. Ventilation is required with special consideration for enclosed or confined areas. Use respirator when necessary. Air movement must be designed to ensure turnover at all locations in work area and adjacent areas to avoid buildup of heavy vapors. Use caution when handling flammable liquids, eliminate sources of ignition from work area and containers with residues. Observe safe storage practices by separating resins from hardeners, by keeping solvents in a cool area, free of sources of ignition.

Product Material Safety Data Sheets are available and should be consulted when handling products. These products are for industrial and professional use only; application directions must be followed.

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### Maintenance

Periodically inspect the applied material and repair localized areas as needed. Consult your Protective Industrial Polymers representative for additional information.

### Technical and Physical Data

	Test standard	Unit	Value
Generic Type			Vinyl Ester
Weight		lbs/gal	8.7
Color			Amber
VOC	EPA Method 24	lb/gal	2.0
Adhesion to Concrete	ASTM D4512	psi	>300
Viscosity		cps	700-800
Temperature Resistance		°F (°C)	250 (121)
Solids content		%	100 (reactive)
Flash Point	Pensky Martens	°F (°C)	>83 (28)
	Closed Cup		
Tensile Strength	ASTM D638	psi	11,000 psi
Tensile Modulus	ASTM D638	kpsi	420 kpsi
Flexural Strength	ASTM D790	psi	19,000 psi
Flexural Modulus	ASTM D790	kpsi	480 kpsi
Barcol Hardness	ASTM D2583		30

**TECHNICAL SUPPORT:** For application questions, please contact your salesman or PIP technical service at 440-243-4560. After business hours, please contact 1-800-974-1323.

**READ MATERIAL SAFETY DATA SHEET (MSDS) FOR SAFETY AND PRECAUTIONS. KEEP OUT OF REACH OF CHILDREN.**

### WARRANTY AND CONDITIONS OF USAGE

**WARRANTY AND LIMITATION OF LIABILITY:** Protective Industrial Polymers Inc. ("PIP") warrants that its products shall conform to the manufacturer's written specifications and shall be free from defects for one (1) year from the date of purchase. PIP MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES AND DISCLAIMS THE SAME, INCLUDING, WITHOUT LIMITATION, FAILURE OF THE PRODUCT DUE TO ACTS OF GOD, FLOODING, EXTREME OR ABNORMAL TEMPERATURES, HUMIDITY AND MOISTURE, STRUCTURAL CONDITIONS, SITE PREPARATION AND CONDITIONS, ACCIDENTS, DAMAGE CAUSED BY INSTALLATION OF MACHINERY, EQUIPMENT OR FIXTURES WITHOUT ADEQUATE FLOOR PROTECTION OR WITHOUT ADEQUATE TIME FOR CURING, FAILURE TO COMPLY WITH CONDITIONS OF USAGE (SPECIFIED BELOW), VANDALISM, NEGLIGENCE OR INTENTIONAL ACTS OF THIRD PARTIES OR OTHER CASUALTIES. If any PIP product fails to conform to this warranty, PIP shall either replace the product at no cost to Buyer or refund the cost of the product, in PIP's sole discretion. Replacement of any product or a refund of the cost of any product shall be the sole and exclusive remedy available to buyer, and buyer shall have no claim for incidental, special or consequential damages, including, without limitation, business interruption damages. Any warranty claim must be made within one (1) year from the date of delivery of products. PIP does not authorize anyone on its behalf to make any written or oral statements which in any way alter PIP's warranty or installation and storage information or instructions in its product literature or on its packaging labels. Any installation of PIP products which fails to conform to such installation information or instructions or the "Conditions of Usage" (specified below) shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of PIP's products for the Buyer's intended purposes.

**CONDITIONS OF USAGE:** Installation of all products purchased must be by professional installers periodically published by PIP or otherwise approved by PIP in writing. Modification to any of PIP's products voids the warranty. The installer shall maintain a written contemporaneous record of field conditions (including, without limitation, surface and atmospheric conditions, usage rates, and lot numbers of products installed). PIP reserves the right of inspection of any installed product, installation and maintenance records and records of field conditions and may conduct additional testing as is reasonably required to investigate any warranty claims. Warranty shall only apply for products or materials that have been paid for in full. Moisture Vapor Transmission (MVT) and ASR (Alkali Silica Reaction) Disclaimer and Exclusion: Although rare, some floors at or below grade level are sometimes subjected to saturation by moisture from beneath the concrete floor slab. This moisture can travel through the concrete and collect between floor toppings creating the potential for delaminating from hydrostatic pressure and or ASR. Conditions contributing to this include heavy rainfall, broken pipes, excess hydration within fresh concrete, and other factors or defective and old concrete. These factors are difficult, if not impossible to predict. PIP recommends testing for MVT and/or the presence of ASR in the concrete substrate prior to applying any polymer floor topping. The recommended test method for MVT is ASTM F 2170-11. ASR can be predicted by a higher than normal pH within the concrete. If high pH should be detected, it is recommended a lab test for ASR. If and when delamination of the floor occurs because of a moisture condition that exists beneath or in the concrete slab beyond the capacity of the individual product installed or failure of the concrete due to ASR, this Limited Warranty does not extend to such delaminating or topping failure. This writing constitutes the sole and only agreement of warranty relating to PIP products.