

Protect VE-FR Resin



Fire-Resistant Vinyl Ester System

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440-327-0015 440-353-0549 - FAX

DESCRIPTION:

Protect VE-FR is a fire-retardant, brominated, bisphenol-A epoxy vinyl ester resin. This product provides corrosion-control to a wide variety of acids and alkalis. It can be used to produce glass-reinforced laminates with excellent impact and stress resistance. **Protect VE-FR** is ideal for environments that require resistance to flame spread, thermal cycling and corrosion.

Advantages

- Very good high temperature stability
- Resistant to wide variety of corrosives
- Produces durable stress-fatigue resistant laminates
- Premium brominated epoxy vinyl ester polymer
- ASTM E-84 Class A (25 flame spread) with 3% post addition of antimony pentoxide (optional).

Chemical Resistance

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 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, free of oils, curing solutions and mold release agents, dust and must be dry at time of application. Use ASTM D 4263 (plastic sheet test method) to ensure concrete is moisture free. If moisture is detected, retest until dry.

Mixing Ratio by Volume

Protect VE-FR-A Resin 1 gal
Protect VE-B Hardener 2.0-3.0 oz

Priming

Prime surfaces with 5.0 to 7.0 wet mils of **Protect VE-CR** or **Protect VE-PR-Flex**.

Mixing

Mechanically premix **Protect VE-FR-A** resin for 2 minutes prior to adding hardener. After initial mixing, add 2-3 oz. of **Protect VE-B** Hardener per gallon of **Protect VE-FR-A** resin and mix three additional minutes.

Depending on cure temperature and atmospheric conditions, the resin surface could remain tacky. This is caused by air inhibition. To eliminate this possibility, and always on the top coat, add 2.0 to 3.0 oz./per gallon of VE-FR of VE-Curing Aid additive.

Application

Apply **Protect VE-FR** resin and hardener at 10-15 mils as a neat coating with a solvent resistant 3/8" roller. Roll evenly and grid the floor according to area and thickness. (10 mils equals 160 SF/gallon) As a mat saturant, consumption is typically 60-80 mils of resin to sufficiently saturate a 1.5 oz. random stranded fiberglass mat.

Thinning

None required. DO NOT THIN.

Spray Application Equipment

Areas may be coated by roller as below or spraying. Spraying is accomplished by using the following equipment:

1. Airless Spray System (Grayco Bull Pump) with a 30-1 ratio. An airless Vari-Tip nozzle is preferred with a 0.021-0.031 tip. Use a 5/16" airless material hose.

Handling Properties

Working Time	Protect VE-FR
50°F (10°C)	60 min
70°F (21°C)	45 min
90°F (32°C)	20 min
Recoat	Protect VE-FR
50°F (10°C)	36 hrs
70°F (21°C)	24 hrs
90°F (32°C)	8 hrs

Protect VE-FR coating must be recoated within 7 days when shaded from sunlight. If the coating is applied in sunlight (even on cloudy days) it must be recoated within 12 hours to obtain proper intercoat adhesion.

Time to Place in Service

50°F (10°C)	72 hrs
70°F (21°C)	48 hrs
90°F (32°C)	24 hrs

Coverage

Protect VE-FR
Coating applied at 10 mils= 160 ft²/gal
Coating applied at 60 mils mat saturant 26 ft²/gal

Packaging

Protect VE-FR Part A is available in 5 gallon Pail (4 gallons Volume) and 55 gallon drums (50 gallons volume). The VE-B Part B is available in 1 gallon bottles as well as 4 gallon pails.

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

Technical and Physical Data

	Unit	Value	
Viscosity	cps	400-500	
Viscosity RVF#2 @20rpm	cps	300-500	
Gel Time	Min	30-45	
Spec. Gravity		1.12-1.17	
Flash Point (Seta Closed Cup)		90°F	
Tensile Strength	psi	11,000	ASTM D 638-02
Tensile Modulus x10 ⁵	psi	5.2	ASTM D 638-02
Tensile Elongation	%	3.5-4.5	ASTM D 638-02
Flexural Strength	psi	22,100	ASTM D 790-02
Flexural Modulus x10 ⁵	psi	5.2	ASTM D 790-02

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Heat Deflection Temp °C/°F 110/230 ASTM D 648

Flame Spread (clear) 30(Class B)ASTM E 84

Flame Spread (3% Antimony Pentoxide) 25(Class A)ASTM E 84

Safety

Protect VE-FR contains vinyl ester resins and cumene hydroperoxide catalyst. The product's components have been formulated to optimize physical characteristics such as filling capacity, abrasion, moisture 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-FR** materials, always wear gloves and appropriate work clothing to minimize contact. Ventilation is required with special consideration for enclosed or confined areas. Air movement must be designed to insure turnover at all locations in work area and adjacent areas to avoid buildup of heavy vapors. Wear respirator when necessary. 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 ignitions.

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.

TECHNICAL SUPPORT: For application questions, please contact your salesman or PIP technical service at 440-243-4560.

Maintenance

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

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

WARRANTY AND CONDITIONS OF USAGE

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