

PIP VE-CR 70 Flake

Vinyl Ester Flake Glass Lining



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

DESCRIPTION:

PIP VE-CR 70 Flake is a catalyzed, vinyl ester resin for heavy duty protection of steel substrates. It is a highly chemical resistant resin that provides excellent resistance to alkalis, acids and a broad range of chemicals. It is used for steel tank linings in immersion service

Typical uses

Process Tanks	Storage Tanks
Stacks / Scrubbers	Refineries
Pulp/Paper	Metal Finishing
Pharmaceutical	Petrochemical

Advantages

- Excellent chemical resistance
- Very low vapor transmission rate
- Long service life vs. common coatings
- 100% reactive material
- FDA compliant (CFR 175.300)

Chemical Resistance

In addition to strong chemicals, this system is resistant to most acids, and alkalis. This system has a higher operating temperature than traditional coatings and is excellent for immersion service. 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**. A minimum surface profile of 3.0 mils is required. The substrate must be primed.

Priming- Use PIP VE-PR-Flex for or PIP VE-CR for priming. **DO NOT USE AN EPOXY PRIMER FOR PRIMING BENEATH ANY VINYL ESTER COATING.**

Concrete:

Not for concrete application

Mixing

Mix using drill motor and Jiffy type or similar paddle.

Mechanically mix **VE-CR 70 Flake-A** and **VE-B** hardener approximately 3-4 minutes.

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

Mixing Ratio - By Volume (varies depending on surface temperature)

VE-CR 70 Flake-A Resin	1 gal
VE-B Hardener	1-1/2 oz to 3 oz

Contrasting Tint to Differentiate Basecoat from Topcoat

To assure proper coverage of the second coat atop the first coat, a small amount of CPU colorpack may be added to the basecoat rendering it a slightly different shade.

Handling Properties

50°F (10° C)
70°F (21° C)
90°F (32° C)

Working Time

50 min
30 min
15 min

Application

Must be applied over primed surface.

Primed surface must be dry and free of foreign matter at time of lining application. Test primer by wiping with cloth dampened with styrene. The primer must become tacky. Apply using 10"-12" steel trowel, followed by lightly rolling with a short nap 9" roller dampened with styrene to orientate flakes and smooth the surface.

Food Contact

PIP VE-CR 70 Flake should be post cured at 140°F or higher for 8 hours. The surface should be washed with a biodegradable soap and rinsed.

Time to Recoat

	<i>when not in direct sunlight</i>	
	Min. time	max. time
50°F (10° C)	8 hrs	1-2 weeks
70°F (21° C)	4 hrs	7 days
90°F (32° C)	2 hrs	4 days

Optional resin topcoats available.

Coverage

Steel substrate **Two - 35-40 mil/coats totaling 70 – 80 wet mils** will yield theoretical coverage of approximately **16 – 18 ft² /gallon.**

Color as supplied

off-white

Packaging

The following standard packages are available

PIP VE-CR 70 Flake	4 gal units 29 gal units
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Technical and Physical Data

	Test standard	Unit	Value
Generic Type			Vinyl Ester
Weight		lbs/gal	11.0
Color			off-white
Adhesion (steel)	ASTM D4541	psi	>1200
Tensile strength	ASTM C-307	psi	3800
Elongation	ASTM C-307	psi	.6-.9%
Temperature Resistance			180°F (83°C)
Solids content	Theoretical Calculation	%	100 (reactive)
VOC	Theoretical Calculation	g/L	29

Safety

Do not use acetone for cleaning purposes.

PIP VE-CR 70 Flake 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. Use respirators when necessary. During application of **PIP VE-Flake Systems**, 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. 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.

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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.

Maintenance

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

Environmental conditions during application

Substrate temperature must be between 50°F and 100°F
Surface temperature must be 5°F above dew point and relative humidity below 90%

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)	4 months
@ 86+°F (30°C)	3 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.

TECHNICAL SUPPORT: For application questions, please contact your salesman or PIP technical service at 440-327-0015.

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 MOSITURE, 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, NEGLIGENT 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.