

PIP VE-GP/VE-Conductive

Conductive Vinyl Ester System



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

DESCRIPTION:

PIP VE-Conductive coating is a 10-15 mils thick epoxy novalac vinyl ester resin top coat system designed to facilitate electrostatic control while exhibiting excellent resistance to both aliphatic and aromatic organic and inorganic acids.

PIP VE-GP is a vinyl ester conductive ground plane primer designed to be used in conjunction with PIP VE-Conductive top coat to achieve electrostatic control properties.

USES:

PIP VE-Conductive can be installed in many environments where the damaging effects of electrostatic discharge (ESD) cannot be tolerated. It is designed to be used in areas that are exposed to frequent spills or continued chemical exposure in industries such as *Electronic Assembly, Data Processing, Military/Aerospace, Hazardous Industries (dust or explosion hazards)*. This coating provides excellent resistance to hydrofluoric acid.

Typical Uses

- Tanks & steel structures.
- Trenches & pits.
- Vaults & dikes.
- Secondary containment.
- Floors.

Advantages

- Very simple and easy to apply
- Non fibrous, no fibers to line up.
- Outstanding chemical resistance.
- Used on floors where electrical conductivity is needed.
- Quick turn around for service.

Chemical Resistance

Information on the chemical resistance properties will be furnished on request.

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

Higher temperatures 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.

Packaging

VE-Conductive (Part A)	4 gal
VE-PR-B (Hardener)	10 oz
CPU Colorpack	1 quart
PIP VE-Curing Aid	Add 6 fl. oz / 4 gallons on final coat.

PIP VE-Curing Aid supplied in 1 gallon cans separately.

VE-GP (Part A)	4 gal
VE-PR-B (Hardener)	10 oz

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 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, retest until dry.

SYSTEM APPLICATION

Priming

Prime concrete with 6 wet mils (265 SF/gal.) of **PIP VE-CR** or **PIP VE-PR Flex**.

Conductive Priming

Apply **PIP VE-GP** at 6 wet mils (265 SF/gal.) with a 3/8" nap roller.

ESD Top Coat

Apply **PIP VE-Conductive** between 10 and 15 mils (100-160 SF/gal.) with a 3/8" nap roller.

Always add 6 fl. oz of PIP VE-Curing Aid to the FINAL COAT of the 4 gallon kit size of PIP VE-Conductive.

This represents 1.5 fl. oz. VE-Curing Aid /gallon.

Handling Properties (PIP VE-GP and PIP VE-Conductive)

Working Time

Temperature	
50°F (10° C)	45 min
70°F (21° C)	25 min
90°F (32° C)	12 min

Recoat Window between PIP VE-GP and PIP VE-Conductive

Temperature	Minimum Time	Maximum Time <i>(When not in direct sunlight)</i>
50°F (10° C)	6 hrs	2-3 days
70°F (21° C)	2 hrs	2 days
90°F (32° C)	1 hr	18 hours

Time to Place in Service

50°F (10°C)	48 hrs
70°F (21°C)	24 hrs
90°F (32°C)	16 hrs

Technical and Physical Data

	Test standard	Unit	Value
Generic Type			Vinyl Ester
Weight		lbs/gal	8.7
Color			Black
VOC	EPA Method 24	lb/gal	2.0
Adhesion (Concrete)	ASTM D4512	psi	>300
Viscosity		cps	400-600
Temperature Resistance		°F (°C)	210 (99) dry heat
Solids content (reactive)		%	100

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Flash Point	Pensky Martens Closed Cup	°F (°C)	>83 (28)
Electrical Properties* ANSI/ESD S20.20-2007	Reading Ohms		25,000 to 1 million ohms
Shelf Life**		Months	3@70°F(21C)
VOC	EPA Method 24	lbs/gal (g/l)	1.88 (225.6)
Flash Point	Pensky Martens Closed Cup	°F (°C)	89°F (32°C)

Safety

PIP VE-GP and **PIP VE-Conductive** contains vinyl ester resins and cumene peroxide 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 insure product safety.

During application of **PIP VE** 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. 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.

Cleanup

DO NOT USE ACETONE FOR CLEANING UP TOOLS OR WIPING SPILLS!

Maintenance

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

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 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, 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.

ESD-CONTROL COATING WARRANTY ADDENDUM: The properly installed ESD coating will retain static control properties for a period of five years from the date of installation under normal and ordinary wear conditions. This warranty is null and void if the ESD-control coating are no longer intact or said coating has been coated with waxes, finishes or other coatings. This warranty will be null and void in any area where the ESD control coating has been damaged. PIP will, under this limited warranty, provide replacement material for reinstallation of the ESD coating System. In no event shall PIP be liable for any consequential damages or additional cost and shall only be responsible for the cost of the material. Any original or replacement coatings must be installed by PIP or a recognized PIP installer. **This warranty only applies to materials paid for in full.** No other representations or ESD related warranties are made with respect to said product.