

PIP CD-LS3

Lithium Silicate

DESCRIPTION:

PIP CD-LS3 is a clear Lithium Silicate concrete hardener and densifier that is designed to penetrate and react with calcium hydroxide (free lime) to form calcium silicate hydrate which increases the hardness and density of the concrete. The concrete permeability is reduced thereby increasing the chemical resistance which in turn increases the service life of the concrete.

PIP CD-LS3 becomes a permanent and integral part of the concrete and therefore won't scratch or peel off. Concrete treated with **PIP CD-LS3** can be diamond polished with a buffing machine in order to achieve a high sheen, glassy look.

USES:

PIP CD-LS3 can be used on warehouse floors, concrete walls, concrete storage tanks, roadways, driveways, runways, industrial plants, food-processing plants, and hospitals.

The use of **PIP CD-LS3** will also help protect concrete from damage caused by freeze-thaw cycles, and retards the rusting or corroding of imbedded steel.

ADVANTAGES:

- Does not require pre-wetting of the concrete prior to application
- Small particle size for superior penetration
- Does not require aggressive scrubbing to aid penetration
- Easy to handle and apply; does not require flooding application
- Low PH- does not raise pH of concrete
- Does not require rinsing after application
- Excess residue easily removed via sweeping
- Forms insoluble silicates within the concrete
- Will not contribute to map cracking or crazing.
- Will not contribute to ASR
- Excellent harder prior to diamond polishing
- Improves past carbonation issues
- Zero VOC/VOS content
- Increases Surface hardness and density
- Improves chemical resistance

MATERIAL PROPERTIES:

VOC:	Zero
Solids as packaged:	11.5%
Odor:	None
Toxicity:	None
Flammability:	None
Flash Point:	None
Waste disposal:	Non-hazardous
Physical:	Clear Liquid
Freeze:	Allowed
Freeze Temperature:	32°F/0°C
Weight per gallon:	9.2 lbs/4.16kg
pH :	10.5

PRODUCT COVERAGE:

Coverage will vary greatly depending on density of the concrete. On dense steel troweled concrete, coverage can be as much as 500 SF/ gal. On lesser quality concrete coverage may be 250 SF/gal.

LIMITATIONS /JOB CONDITIONS:

- A 28 day cure is preferred to obtain the maximum effectiveness of the **PIP CD-LS3**. However **PIP CD-LS3** can be applied to concrete as soon as 7 days. **PIP CD-LS3** may be applied to clean concrete at any later time.
- Do not apply **PIP CD-LS3** when air and/or substrate temperatures are less than 37F. Be sure that once applied the temperature does not fall below 37F for a minimum of 6 hours after application.
- **PIP CD-LS3** should not be applied to concrete that has already been treated with materials which would hinder penetration that interfere with the desired chemical reaction. Carbonated concrete must be abraded.
 - Contact with glass, stainless steel or aluminum should be avoided and immediately flushed with water if contacted
 - Do not dilute with water or add any other material without consulting Protective Industrial Polymers
 - Surfaces must not exceed 90°F during installation

Caution! Refer to SDS and follow all precautions and instructions prior to and during installation.

SUBSTRATE PREPARATION:

Before any concrete is treated, the area must be thoroughly cleaned. Often it may only be necessary to sweep the floor with a stiff bristle broom to remove any loose dirt. Although not necessary, depending on the type and severity of the dirt, the installer may decide that best cleaning results could be achieved via the use of a mechanical floor scrubber using soap and water. If so, remove all soap residue and run a cycle of clean rinse water. Allow floor to dry before application of **PIP CD-LS3**.

APPLICATION INSTRUCTIONS for established cured concrete:

The desirable depth is about 1/4 inch (6mm) with a minimum of about 1/8 inch (3 mm). The quality of the concrete will also be a major factor in the depth of penetration obtained.

1. Application on inclined or pitched surfaces should begin at the lowest elevation and proceed to highest.
2. Apply with a pump-up sprayer with a 0.5 gallons per minute spray tip. Apply sufficient material to wet the surface without producing puddles. Use a soft-bristle push broom to spread product evenly and ensure uniform wetting. Surface should remain wet for 5–10 minutes. If material immediately soaks immediately or is surface dry with this time frame apply additional material.
3. Coverage will vary greatly depending on density of the concrete. On dense steel troweled concrete, coverage can be as much as 500 SF/ gal. On lesser quality concrete coverage may be 250 SF/gal.
4. After the first application has dried, at least one more application is recommended. The final application is determined by the saturation of the substrate; this may require up to 3 applications depending on concrete density.
5. Once dry, it is recommended to aggressively sweep the floor with a stiff bristle broom or scrubber brush to remove fine dust. Failure to remove residual silicate may act as a bond breaker for topical coatings

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CLEAN-UP & SAFETY: *Read and follow SDS instructions.* Post notice that treated surfaces may be slippery until completely penetrated. No special clothing, breathing apparatus, goggles or gloves are necessary in open areas but appropriate respirator s in enclosed areas is recommended to avoid possible irritation due to breathing. Clean up with water and mild soap.

SHELF LIFE: Indefinite for unopened containers.

PACKAGING: PIP CD-LS3 is available in 5 gallon pails and 55 gallon plastic drums.

MAINTENANCE: Special maintenance of treated area is not required.

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

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 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.