

# PERMATEC 4000

For Protection Against Industrial Chemicals

## DESCRIPTION

PERMATEC 4000 is a 100% solids modified epoxy lining system, ideally suited for concrete applications. It is a self-leveling system and can be applied as a slurry/broadcast and/or reinforced coating system. PERMATEC 4000 is specifically designed to withstand attack from highly concentrated acids, as well as most other organic chemicals and many solvents. Along with the outstanding chemical resistance, resistance to mechanical abuses is second to none.

The vertical formulation of PERMATEC 4000 is trowel applied at 1/8 inches (125 mils).

## TYPICAL APPLICATIONS

- Process floors
- Containment basins
- Trenches
- Sumps
- Tank bases
- Any area in general where harsh chemicals are used

## FEATURES

PERMATEC 4000 allows for a fast application where outstanding chemical and wear resistance are required. PERMATEC 4000 can be installed over most sound floors including old or new concrete and most types of repair mortars. At varying thicknesses up to 1/4 inches, the PERMATEC 4000 system provides long term chemical resistance for splash and spill, or immersion in a wide range of chemicals. (For specific recommendations refer to the "Chemical Resistance Guide" and your local distributor.)

PERMATEC 4000 is similar to PERMATEC 3000 & 5000 but provides chemical resistance between the two. As with all PERMATEC systems, PERMATEC 4000 provides excellent physical protection even in the harshest industrial settings.

## OTHER FEATURES INCLUDE:

- Rapid cure resulting in minimal downtime
- 100% non-porous
- Odor free
- Non-skid safety finish
- Can be applied over damp concrete
- 100% Solid by volume
- 0 VOC as supplied by manufacturer

## TYPICAL PROPERTIES

|                                              |                                                                 |
|----------------------------------------------|-----------------------------------------------------------------|
| Solids, by Volume                            | 100 %                                                           |
| Compressive Strength<br>ASTM C579            | 14,000 psi                                                      |
| Flexural Strength<br>ASTM D790               | 5,500 psi                                                       |
| Tensile Strength<br>ASTM D307                | 2,200 psi                                                       |
| Bond Strength to<br>Concrete ASTM D4541      | Exceeds tensile strength<br>of concrete.<br>Failure in concrete |
| Taber Abrasion<br>ASTM D4060<br>CS 17 Wheels | Loss/1000<br>cycles = 25 mg                                     |
| Water Absorption<br>ASTM D413                | 0.10%<br>Maximum                                                |

## PACKAGING AND COVERAGE

PERMATEC 4000 is available in 20 square foot patch kits, 100 square foot kits (both based on 1/4 inches) and 5 gallon units.

## CURE TIME

The cure time of PERMATEC 4000 and other resinous systems are very dependent upon the temperature of the substrate. The ambient temperature may not be the same as the substrate temperature. For example, during winter concrete may be colder than the surrounding ambient temperature. As temperatures during the day may increase, large masses of concrete will be much slower to react. During summer days direct sunlight will increase the concrete temperature over that of ambient air. The substrate temperature should be monitored and remain at or above 60° F.

| Service (hours) | 60°F | 75°F | 90°F |
|-----------------|------|------|------|
| Foot Traffic    | 12   | 8    | 6    |
| Light Chemical  | 12   | 10   | 10   |
| Forklift        | 36   | 24   | 12   |

*\*Where heavy chemical abuses are anticipated, longer cure times may be required. Contact ChemProof Polymers or the local distributor for specific recommendations. These times are after the final coat has been applied.*

## SURFACE PREPARATION

**NEW CONCRETE** – The concrete should be well cured for a minimum of 10 (ten) days, per ACI 308-81, (R-1986), clean, dust-free and free of all contaminants. Mechanical methods such as sandblasting, scarifying or shot blasting should be employed to remove the weak layer of surface laitance. A minimum tensile strength of 200 psi is required of the prepared surface. Acid etching with muriatic acid is acceptable but less desirable. Care must be taken to completely remove all residual acid prior to the application of PERMATEC 4000.

**EXISTING CONCRETE** – Concrete must be structurally sound and free of all contaminants. Weak or contaminated concrete must be removed until sound concrete is realized. Old coatings, toppings, waxes, oils, etc. must be removed prior to the application of PERMATEC 4000.

## MIXING

Prior to application, the PERMATEC 4000 (Resin, Hardener and Silica) and the substrate should be between 60 and 90° F.

Premix the Part A (Resin) for appx. 30 seconds with a Jiffler type mixer prior to adding the Part B (Hardener). After adding Part B mix for an additional 1 minute before pouring onto the substrate.

## APPLICATION METHODS

### Basic Broadcast

In order to achieve a 60 mil system, apply a 22 mil (73 sq ft/gal) basecoat and for a 125 mil system, apply a 48 mil (34 sf/gal) basecoat. Within 20 minutes of the basecoat being applied broadcast to excess using a 20/40 mesh silica. Once the basecoat is cured, apply a 10-16 mil topcoat utilizing squeegees and short nap paint rollers.

### Basic Broadcast Reinforced

A 1.5 oz chopped or a fiberglass scrim cloth can be added to the basecoat of the 125 mil system prior to the silica broadcast.

### Slurry Broadcast

Split the mixed Pt A and Pt B into two 5 gallon buckets or add entire unit into a 3 cf mortar mixer. Slowly mix in a 2:1 by weight ratio of silica to liquid (appx 1-50 lb. bag per 2.5 gallons). Apply to substrate to appx. 1/8 or 3/16 inch and within 15 minutes broadcast silica to excess.

### Slurry Broadcast Reinforced

Apply a basecoat of 35 mils and embed the fiberglass of choice. Allow to cure and commence the desired slurry broadcast system.

**Note:** The above systems have their “vertical rolling or troweling) counterparts.

## STORAGE and SHELF LIFE

PERMATEC 4000 should be stored at 50-90° F out of direct sunlight. All containers should remain unopened until ready for use. If stored as set out above, PERMATEC 4000 has a minimum shelf life of one year.

## WHERE PERMATEC 4000 SHOULD NOT BE INSTALLED

PERMATEC 4000 should not be applied over substrates:

- subject to extreme hydrostatic pressure
- which are unsound
- which are contaminated and cannot be cleaned.
- at temperatures below 65 degrees F (Consult ChemProof Polymers).

## SAFETY

Read Safety Data Sheets ("SDS") before using. PERMATEC 4000 contains blended Epoxies as the resin and blended Amines as the hardener. Protective clothing and gloves are recommended to prevent sensitization to these materials. In case of ingestion or eye contact, it is advisable to contact a physician immediately. SDS are available for this product upon request.

## WARRANTY

ChemProof Polymers, Inc. warrants our products to be free of manufacturing defects in accord with applicable ChemProof quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by ChemProof Polymers, Inc. No other warranty or guarantee of any kind is made by ChemProof Polymers, expressed or implied, statutory, by operation of law or otherwise, including merchantability and fitness for a particular purpose.

The full product warranty is available at [www.chemproof.com](http://www.chemproof.com).

## CLEAN-UP

All mixing and application equipment should be cleaned immediately after use. If this is done, soap and water or biodegradable cleaners can be used. If the material has begun to set, more aggressive solvents will be necessary. Before using solvents, refer to their respective SDS for handling considerations.

## RELATED & ANCILLARY PRODUCTS

PERMATEC 3000  
Epoxy Floor Coating/Topping

PERMATEC 5000  
Modified Epoxy Floor Coating/ Topping

PERMAGROUT E  
Epoxy Grout/Resurfacer

PERMAFLEX 1100  
Flexible Epoxy Underlayment

Related Vertical Products

## CONTACT INFORMATION

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