

# PERMACAST E

And

# PERMACAST 3000

EPOXY POLYMER CONCRETE

## DESCRIPTION

PERMACAST E and PERMACAST 3000 are a 100% solids epoxy polymer concrete designed for placement in forms or by casting in corrosion resistant applications such as pump pads, curbing, trench linings, piers, sumps, floors, etc.

The PERMACAST E and PERMACAST 3000 systems consist of three components, resin, hardener and graded aggregates as needed for the specific application.

## FUNCTION

PERMACAST E and PERMACAST 3000 exhibit excellent chemical resistance to 40% sulfuric acid, concentrated hydrochloric acid, 50% sodium hydroxide and a wide range of other acids, alkalis and solvents.

Typical applications include foods processing plants, breweries, chemical processing plants, waste disposal facilities, pulp and paper mills, refineries, mines, chemical storage areas and other industrial processing areas where chemicals are used.

## TYPICAL APPLICATIONS

- Trenches
- Collection Sumps
- Pump Pads
- Tank Bases
- Process Floors
- Curbs

## FEATURES

PERMACAST E and PERMACAST 3000 are 100% solids systems which exhibit virtually no shrinkage while maintaining superior impact and abrasion resistance.

PERMACAST E and PERMACAST 3000 can be cast on horizontal floor areas or it may be poured into forms for vertical areas or part casting. It is recommended to vibrate vertical forms to reduce any air entrapment

The physical properties of the PERMACAST E and PERMACAST 3000 systems are 3-4 times that of standard Portland cement concrete

Other features include:

- 100% non-porous
- Oder free
- Non-skid safety finish (optional)

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## TYPICAL PROPERTIES

Solids, by Value	100%
Compressive Strength ASTM C579-82	11,000 psi
Flexural Strength ASTM C580-85	3,500 psi
Tensile Strength ASTM C307-83	2,000 psi
Taber Abrasion ASTM C501-80	25 mg loss/1000 cycles w/1000 gms. CS-17 Wheel
Water Absorption ASTM C-413-83	+0.10% Maximum

## PACKAGING/COVERAGE

The PERMACAST E and PERMACAST 3000 systems are packaged in 2 cubic foot units. Each unit consists of pre measured components, Part A (Resin) and Part B (Hardener) and graded aggregate. (250 Lbs – 5- 50 lb bags)

PERMACAST 3000 is available in Light Gray, Gray or Black.

## CURE TIME

The cure time of PERMACAST E and PERMACAST 3000, as with most resinous systems, is dependent upon the temperature. The higher the temperature the shorter the working time and set time.

Temperature	75° F
Working Time	35 min.
Initial Set	4 hours
Final Cure	48 hours

## SURFACE PREPARATION

**EXISTING CONCRETE** -The concrete should be well cured for a minimum of 10 days, per ACI 308-81, (R-1986), clean, dust free and free of all contaminants. A minimum tensile strength of 200 psi is required of the prepared surface.

Concrete should be free of any chemical contaminates or oils prior to placing PERMACAST E or PERMACAST 3000.

The concrete profile should be obtained by mechanical preparation such as shot blasting, sand blasting or scarification.

Prior to placing PERMACAST E or PERMACAST 3000, all dust should be removed from the surface by vacuuming or blowing off with clean air.

## PRIMING

Priming and placement of PERMACAST E or PERMACAST 3000 should take place out of direct sunlight and with steady or falling temperatures to reduce any outgassing.

Prime concrete with the PERMACAST E, PERMACAST 3000 neat resins (Pt. A & Pt. B) or PermaCoat 3000 Primer to ensure proper wet out of the surface to be coated.

- 1) Mix the appropriated quantity of PERMACAST E (Pt. A & Pt. B) or PermaCoat 3000 Primer thoroughly (appx. 1-2 minutes).
- 2) Apply to the substrate and allow to cure to a tacky state (appx. 2-3 hrs.) prior to applying the PERMACAST E polymer concrete.

Note: Do not prime more area than can be cast within 8 hours.

## MIXING AND APPLICATION

PERMACAST E and PERMACAST 3000 are composed of three parts; blended aggregates, liquid resin (Part A) and hardener (Part B).

- 1) PERMACAST polymer concretes are mixed in a clean, dry, mortar type paddle mixer. The mixer should be capable of holding up to 3 cubic feet of mixed material.
- 2) Pt. A and Pt. B should be pre-mixed in a clean and dry mixing container for 1-2 minutes prior to pouring into the mortar mixer.
- 3) Pour this mixed material into the mortar mixer and add the desired amount of the PERMACAST aggregate. Mix an additional 2-3 minutes until uniform and all of the aggregate is completely “wetted out”.
- 4) Immediately pour the mixed polymer concrete directly onto the floor or into the forms.
- 5) Finish the surface of the casting using a steel trowel to remove any air pockets or voids.

- 6) Protect installation from water, weather and light traffic for at least 12 hours after placement.
- 7) In areas subject to severe vibration and mechanical abuse, allow 72 hours before putting into service.

## 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 MSDS for handling considerations.

## STORAGE and SHELF LIFE

PERMACAST E and PERMACAST 3000 should be stored at 50-90 degrees F out of direct sunlight. All containers should remain unopened until ready for use. If stored as set out above, PERMACAST E and PERMACAST 3000 has a minimum shelf life of one year.

## SAFETY

PERMACAST polymers concretes contain 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 contract a physician immediately. MSDS are available for this product upon request.

## WARRANTY

ChemProof Polymers, Inc. warrants that at the time of shipment, its products are free of defects in material and workmanship. 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. ChemProof Polymers, Inc. makes no warranty concerning the suitability of its product for application to any surface, it being understood that the goods have been selected and the application ordered by the Owner/End User or Purchaser. CHEMPROOF POLYMERS, INC. MAKES NO WARRANTY, EXPRESS OR IMPLIED, THAT THE GOODS SHALL BE MERCHANTABLE OR THAT THE GOODS ARE FIT FOR ANY PARTICULAR PURPOSE. THE WARRANTY OF REFUND OR REPLACEMENT SET FORTH HEREIN IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES ARISING BY LAW OR OTHERWISE; AND CHEMPROOF POLYMERS, INC. SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, DOWN TIME, DAMAGES TO PROPERTY OF THE OWNER/END USER, PURCHASER

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