ChemProof Polymers

PERMACAST 4000HT

Polymer Concrete for Protection against Industrial Chemicals at Elevated Temperatures

DESCRIPTION

PERMACAST 4000HT is 100% solids epoxy based polymer concrete. When placed by casting in the form of sumps, trenches, pump pads or floors, PERMACAST 4000HT will exhibit excellent protection against most harsh chemicals at elevated temperatures and the physical abuses found in industry today.

APPLICATION

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

FEATURES

Chemical Resistance – PERMACAST 4000HT offers unsurpassed corrosion resistance to chemicals such as 37% HCL and 50% NaOH both in excess of 200° F., as well as many others at temperatures well in excess of ambient. For specific chemicals and temperatures please contact ChemProof Polymers, Inc. at 918.584.0364 or sales@chemproof.com.

Minimal Downtime – At 75°F at 3-inch pours PERMACAST 4000HT polymer concrete will set in 3-6 hours and can be ready for full chemical service in as little as 48 hours. Contact ChemProof Polymers for chemical service recommendations.

VOC Compliant – All PERMACAST 4000HT resins are 100% solids and essentially odor free. These systems are also USDA approved, and contain no V. O. C.'s

High Strength – Typically offering 2-4 times the strength of standard concrete, PERMACAST 4000HT will offer excellent resistance to most impact and abrasion found in today's processing environments.

PACKAGING/COVERAGE

PERMACAST 4000HT is available in the following grades and unit sizes:

Low Slump – Cast in place trenches, collection sumps and floors. Available in 2 cubic foot units.

Part A – 1 - 3.5 gal pail
Part B – 1 - 2.5 gal jug
250 lbs. Aggregate

CURING RATES

Temperature – 75° F	
Working Time (Mins.)	30
Initial Set (Hrs.)	3-4
Light Traffic (Hrs.)	12
Heavy Traffic (Hrs.)	24-48
Chemical Service (Hrs.)	48-72

TYPICAL PROPERTIES

Compressive Strength (psi) ASTM C-579	10,000
Flexural Strength (psi) ASTM D-790	3,500
Tensile Strength (psi) ASTM D-307	2,000

Absorption (%) STM D-413	<.1
Shrinkage	.10%

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 4000HT.

The concrete profile should be obtained by mechanical preparation such as shot blasting, sand blasting or scarification. Prior to placing PERMACAST 4000, all dust should be removed from the surface by vacuuming or blowing off with clean air.

After concrete preparation is complete, reinforcement should be put in place with reinforcement meeting or exceeding the standards in place for Type 1 concrete.

The working area and surfaces to which the material is to be applied must be dry before and during the installation and must remain dry until the material is set (approximately 6 hours).

PRIMING

Priming and placement of PERMACAST 4000HT should take place out of direct sunlight and with steady or falling temperatures to reduce the chance of outgassing.

Prime concrete with the PERMACAST 4000HT neat resins (Pt. A & Pt. B) or PermaCoat 3000 Primer to ensure proper wet out of the surface to be coated.

1) Mix the appropriate quantity of PERMACAST 4000HT (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 4000HT polymer concrete.

Note: Do not prime more area than can be cast within 6 hours.

MIXING AND APPLICATION

PERMACAST 4000HT is composed of three parts: blended aggregates, which is typically PermaCast Fine Blend, liquid resin (Part A) and hardener (Part B).

1) PERMACAST 4000HT 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 Fine Blend 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 4000HT has a minimum shelf life of one year.

SAFETY

PERMACAST 4000HT polymer 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 contact a physical immediately. MSDS are available for this product upon request.

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WARRANTY

ChemPoof 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.

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