



**Founded, Based and  
MADE IN THE U.S.A.**

Cement Based Vertical and Horizontal  
Repair Mortar

## DESCRIPTION:

Perma Cement is a single component, cement based, fiber reinforced repair mortar designed for vertical and overhead applications. Perma Cement can be built up to 4" on vertical applications. Perma Cement is designed to repair vertical and horizontal concrete and can be used on Bridge columns, parking structures, columns, spandrels beams, concrete ceilings, tunnels, pipes, pilings and any other vertical or overhead concrete repair application.

Perma Cement is a light concrete grey color and can be sculpted after initial set.

## PRODUCT FEATURES:

- Rapid setting
- Single component - Easy to use
- Shrinkage compensated
- Formulated with corrosion inhibitor
- Exceptional compressive and flexural strength
- Freeze thaw stable
- Light grey in color to match existing concrete
- Excellent adhesion
- PolyBond can be used to improve freeze thaw resistance and bond strength

## SUBSTRATE PREPARATION:

All surfaces must be sound, clean, free of loose or damaged concrete, dust, dirt and other contaminants that will interfere with bond.

Abrade the concrete to obtain a rough surface thereby promoting adhesion. The area should be saturated surface dry (SSD) with no standing water. The use of a vigorously scrubbed in no slump bond coat of Perma Cement or a bonding agent like PolyBond is recommended. This should be applied to all surfaces coming into contact with the patch. Do not allow bond coat to dry prior to the placement of Perma Cement.

### **Steel Exposure and Rebar:**

Completely expose and clean all reinforcing steel, ensuring a minimum clearance of 3/4" behind reinforcing steel. Perform reinforcing steel preparation in accordance with ICRI Technical Guidelines No. 03730. For best results patch area edges should be saw cut to a depth of 1/4".

## MIXING:

### **Standard Mixing:**

Mix close to repair area. Approximate initial set is 10-15 minutes at 70 degrees. Only mix what can be placed before initial set. Always mix by adding the dry product to the water. For each 50 lb. bag of Perma Cement add 3.75 - 4.245 quarts of clean potable water (Roughly 1 part water to 5 parts powder). Use a low speed mortar mixer or a 1/2" drill with mixing paddle. Mix for a minimum of 90 seconds in order to obtain a uniform consistency. Do not re-temper.

### **Enhanced Mix:**

Mix close to repair area. Approximate initial set is 10-15 minutes at 70 degrees. Only mix what can be placed before initial set. Always mix by adding the dry product to the liquid. Add 1 gallon of PolyBond per 50 lb. bag of Perma Cement (Roughly 1 part PolyBond to 5 parts powder). Use a low speed mortar mixer or a 1/2" drill with mixing paddle. Mix for a minimum of 90 seconds in order to obtain a uniform consistency. Do not re-temper.

## APPLICATION:

Immediately apply the fresh mortar to the surface, force Perma Cement firmly into the properly prepared area insuring full contact with all bonding surfaces. Overfill the area and after initial set, using a steel trowel, sculpt Perma Cement to the desired final profile, shaving from the center towards the bond edge at the existing surfaces. A water mist may help with final shaping.

In deep areas additional lifts can be made after the original patch has reached initial set (approximately 15 minutes). Score and roughen the original lift layer to improve bond between applications. Perma Cement, used

**03 01 00**

Maintenance of Concrete

**3**

**03 50 00**

Concrete Repair

**9**

### **PACKAGING:**

50 lb. bag : 48 per pallet  
10 lb. pail : 160 per pallet

### **COLOR:**

Concrete Grey

### **SHELF LIFE:**

6 Months

### **WATER REQUIREMENTS (50 LBS):**

Standard Mixing:  
3.75—4.25 quarts per 50 lb. bag  
(1 Part Water to 5 Parts Powder)

### Enhanced Mix:

1 gallon of PolyBond per 50 lb. bag  
(1 Part PolyBond to 5 Parts Powder)

### **REQUIRED APPLICATION TOOLS:**

Mixing bucket  
Measuring pail  
Margin or steel trowel  
Mixing drill  
Mixing paddle

### **APPROX. COVERAGE: 50 LB. BAG**

.46 cubic ft.  
1/4" covers 22 ft<sup>2</sup>

### **INSTALLATION THICKNESS:**

Horizontal and Vertical Repairs:  
4" Single Lift

### **INSTALLED WEIGHT (PER SQ. FT.)**

2.2 lbs. @ 1/4"

### **APPLICATION TEMPERATURE**

#### **RANGE:**

50°F - 95°F

### **SET: ASTM C-191 (70°F - 50% RH)**

Working Time: 12 - 15 Minutes  
Final Set: 30 Minutes

# Perma Cement

neat, can be placed in lifts up to 4" on vertical applications by holding the mortar in place until initial set takes place.

After initial set a damp sponge can be used to smooth to desired finish.

## CURING:

Cure in accordance with American Concrete Institute Procedure No. 308. Keep Perma Cement moist and protected from high temperature, high wind, low humidity and direct sun causing rapid drying, by covering with wet burlap or plastic for up to 24 hours. A water based curing can be used.

## IMPORTANT APPLICATION NOTES AND LIMITATIONS:

1. It is the responsibility of the contractor to review the complete technical datasheets of CMP products referenced above as more detailed information may be required. The information provided above acts only as a general guideline and may vary based on jobsite conditions.
2. Keep from freezing during and 24 hours after application
3. Do not add accelerators, admixtures or foreign chemicals
4. On new concrete always test for Cure and Seals which inhibit bond. If Cure and Seals are present they must be removed by mechanical means prior to applying Perma Cement.
5. Cooler temperatures, inadequate ventilation and higher humidity can extend drying times.

## **COMPRESSIVE STRENGTH:**

### **(ASTM C-109)**

1 Day	3300 psi	22.7 MPa
7 Day	4500 psi	31.0 MPa
28 Days	6000 psi	41.3 MPa

## **FLEXURAL STRENGTH:**

### **(ASTM C348)**

28 Days	>1000 psi	6.9 MPa
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## **SLANT SHEER BOND:**

### **(ASTM C 882)**

28 Days	>1500 psi	10.3 MPa
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## **EXPANSION / SHRINKAGE:**

### **(ASTM C 157 Modified Per C 928)**

	Air Cure	Water Cure
28 Days	-.08%	+.005%

## **FREEZE THAW RESISTANCE:**

### **(ASTM C 666)**

28 Days	98.5% (300 Cycles)
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## **Eligible LEED credits : 5**

Regional Materials (MR 5.1 & 5.2)  
2 Points

Low Emitting Materials (EQ 4.1)  
1 Point

## **STORAGE:**

Store in cool dry place. Tightly seal package and do not expose to sun.

## **FLAMMABILITY: (ASTM E-84)**

Flame Spread: -0-

Fuel Contribution: -0-

Smoke Development: -0-

## **VOLATILE ORGANIC COMPOUNDS**

0 g/l

## **CLEAN UP:**

Clean tools with water immediately after use or by mechanical means once dry.

## **HEALTH AND SAFETY:**

Always refer to the Safety Data Sheet (SDS) prior to using this product for full Health, Safety and Handling guidelines. SDS sheets are available by calling 267.522.8000 or you can visit [www.cmpsp.com](http://www.cmpsp.com)

For Professional Use Only

**KEEP OUT OF REACH OF CHILDREN**

