

## PERMACAST® PLUG Technical Data Sheet

**A quick setting hydraulic cement compound used to instantly stop running water or seepage leaks in masonry or concrete.**

The Permacast® Plug formulation is non shrinking, nonmetallic, and noncorrosive. Permacast® Plug requires only potable water for mixing, and achieves initial set in 1 to 3 minutes, even when applied under water.

### USES

Permacast® Plug is used above or below grade, interior or exterior, to stop seepage and flowing water leaks in most concrete and masonry walls and floors. The fast initial set, high strength, and controlled expansion, make Permacast® Plug the ideal patching material for use in manholes, wet wells, lift stations, reservoirs, water tanks, and other structures subject to leakage. Permacast® Plug will not permanently seal running water leaks that are caused by thermal or structural movement.

### COMPOSITION AND MATERIALS

Permacast® Plug is a gray hydraulic cement compound specially modified to control the expansion, initial set, and final set times.

#### NOMINAL VALUES at 72° F

ASTM C-109		
Compressive Strength	1-hour	1,850 psi
	24-hour	3,050 psi
	28-day	7,650 psi
ASTM C-78		
Flexural Strength	1-day	800 psi
	28-day	1,200 psi
ASTM C-1090		
Length Change Moist Cure 28 day		0.081%

The Physical properties contained herein were obtained under laboratory conditions at 72° F. Physical properties obtained under field conditions may vary due to environmental variables. Data are subject to reasonable deviation.

### SURFACE PREPARATION

Cut or chisel out the concrete or masonry surrounding the hole or crack, to a minimum depth and width of 3/4 inch (2 cm). Undercut the crack or hole in the shape of an inverted “V”, to make the bottom of the cut area wider than the top, and to provide mechanical bond during initial set and final cure. Flush, blow, or vacuum loose particles, dust, and other foreign materials from the prepared areas. Wet the areas to be patched with potable water before installing Permacast® Plug.

### MIXING INSTRUCTIONS

Pour potable water into a clean mixing container and gradually add Permacast® Plug. Use approximately 1 quart

of water to 8 - 9 pounds of material (3.8 – 4.3 kg/liter). Mix rapidly with a trowel to the consistency of stiff putty with no slump. Mix no more than 30 seconds. Permacast® Plug will flash set in 1 to 3 minutes. Properly mixed, Permacast® Plug can be hand formed into a ball.

### APPLICATION TECHNIQUES

Dampen area for repair with potable water immediately before application of Permacast® Plug.

**General Patching:** Force Permacast® Plug into the crack or hole by hand or with a trowel. Rapidly fill to full depth of the opening. **Patching Active Leaks:** Start at top of the crack or hole and force the Permacast® Plug to the full depth of the prepared area. Apply direct pressure to the new patch until the Permacast® Plug has taken a firm set. Mix fresh material and continue patching toward the area of the greatest pressure. When extreme water pressure is encountered, hold the mixed Permacast® Plug in the hand until it becomes warm. Then rapidly force the patch into the hole and apply continuous pressure until the Permacast® Plug has set, and the water has stopped running. Do not use a twisting motion.

**Floor-Wall Patching:** Follow above methods for the specific conditions encountered. Use a rounded tool to force the Permacast® Plug into the joint and construct a 45-degree transitional cove between the floor and wall at the same time.

### Expansion/Construction Cracks:

Permacast® Plug to stop running water leaks, but do not fill cracks completely to the surface. Allow approximately 1/2-inch (1.3 cm) depth, and fill with a flexible joint sealant.

### COVERAGE

One pound (0.45 kg) of Permacast® Plug yields approximately 17 cubic inches (171 cu cm) and will repair approximately 30 inches of 3/4 x 3/4 inch crack. (Approx. 1kg for 155 cm of 2 cm x 2 cm crack.)

### CLEAN UP INSTRUCTIONS

Clean application tools and mixing equipment with water immediately after use.

### CAUTION

Do not retemper Permacast® Plug. Do not apply Permacast® Plug to frozen or frost filled surfaces. Do not twist Permacast® Plug into the hole while plugging running water leaks. In warm weather, mix Permacast® Plug with ice water. In cold weather, mix Permacast® Plug with warm

water and use a torch to preheat the area to be patched. Do not pre-wet in cold weather.

#### **ENVIRONMENTAL AND SAFETY PRECAUTIONS**

Product contains Portland cement, which is alkaline on contact with water. Do not breathe dust. May cause delayed lung injury (Silicosis). IARC reports crystalline silica may cause cancer in humans. Irritating to eyes and skin. Avoid splashing into eyes or contact with skin. In case of eye contact, flood eyes repeatedly with potable water and call a physician. **DO NOT RUB EYES.** Wash skin thoroughly after handling and before smoking or eating. Use adequate ventilation. **CONSULT MSDS FOR DETAILS. KEEP OUT OF REACH OF CHILDREN**

#### **WARRANTY and DISCLAIMER**

The technical data herein provided is compiled from laboratory specimens in accordance with ASTM Standards. Test results from specimens made in the field may vary. Although this data is

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