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**APM**  
The trenchless solutions company

## **APPLY QUICKLY, SET RAPIDLY, RETURN TO SERVICE FASTER.**

### **HOW CAN PL-8000D BENEFIT YOU?**

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- ✔ QUICK SETTING, STRUCTURAL CEMENTITIOUS LINER REPAIR MATERIAL WITH LOW REBOUND DURING APPLICATION
- ✔ QUICK SETTING PROPERTIES FOR FAST RETURN TO SERVICE AND MINIMAL FIELD TIME
- ✔ APPLICATION DISTANCES UP TO 1,000 FEET FROM A SINGLE ACCESS POINT
- ✔ HIGH EARLY COMPRESSIVE STRENGTH OF 3,000 PSI IN ONE HOUR AND 28 DAY COMPRESSIVE STRENGTH OF 11,000 PSI
- ✔ STRUCTURAL, NATURAL, AND SYNTHETIC MIX FIBER REINFORCED FOR HIGH BUILD THICKNESS AND HIGH FLEXURAL STRENGTH
- ✔ STRUCTURAL REHABILITATION AND WATERPROOFING OF EXISTING STRUCTURES IDEAL FOR VERTICAL AND OVERHEAD APPLICATIONS





## Technical Data Sheet PERMACAST® PL-8,000 D

**Cementitious Structural Fiber Reinforced, rapid hardening, early entry concrete liner for dry-gun applications.**

### DESCRIPTION

**PL-8000D** is a natural and synthetic fiber-reinforced, rapid hardening, cementitious ready-to-use material designed by using the highest structural and safety considerations for dry-gunning method. Only water should be added to achieve desirable results. Material could be sprayed on at 1/4 inch (6.4 mm) and up to 10 inch (254 mm) thick in a single application providing unparalleled flexural, adhesive properties for structural support and impermeable protection. It is designed to provide high strength and reliable stabilization of a variety of vertical and horizontal surfaces in a high range of environmental conditions. PL-8000D reaches 3,000 psi in one hour after placement. PL-8000D is extremely durable and uses a mix of fibers with properties that are equal to or exceed glass fibers properties but are very stable in alkali cement environments, PL-8000D may be used anywhere there is potential for strata deterioration that would require extra structural support of installed liners.

### ADVANTAGES

- Quick setting, water-based, structural repair material with low rebound and dust during application
- Saves days of work time due to rapid initial and final set
- Convey up to 1,000 feet with standard gunite equipment
- High early compressive strength of 3,000 psi in one hour

- High final compressive strength of 11,000 psi in 28 days
- Structural, natural, and synthetic mix fiber reinforced for high build thickness and high flexural strength
- Waterproof existing structures
- Perfect for vertical and overhead applications

### APPLICATIONS

- Rehabilitation of concrete bridges, dams, reservoirs, subway tunnels, marine structures and parking ramps.
- Lining and rehabilitation of sanitary and storm sewers.
- New construction including slope stabilization, soil-nailing, shaft and tunnel linings, pools, and other concrete structures.

### PHYSICAL PROPERTIES

| Test Data Based on 7.0 pints (3.31 L) water<br>Set Time at 70°F (21°C) (ASTM C-266) |                        |
|---|------------------------|
| Initial Set   | 7-10 min               |
| Final Set   | 10-15 min              |
| Compressive Strength (ASTM C-109)   |                        |
| 1 hour  | 3,000 psi (20.68 MPa)  |
| 3 hours   | 4,200 psi (28.96 MPa)  |
| 1 day   | 6,000 psi (41.37 MPa)  |
| 7 days  | 8,400 psi (57.92 MPa)  |
| 28 days   | 11,000 psi (75.84 MPa) |
| Bond Strength (ASTM C-882 modified)   |                        |

|                                |                           |
|--------------------------------|---------------------------|
| 14 days                        | 2,700 psi (18.62 MPa)     |
| Flexural Strength (ASTM C-293) |                           |
| 1 day                          | 1,350 psi (9.31 MPa)      |
| 28 days                        | 1,900 psi (13.1 MPa)      |
| Yield                          |                           |
| Yield Per 50 LB Bag            | .42 cu. Ft. (.011 cu. m.) |

**PROCEDURES SURFACE PREPARATION:**

All surfaces to be in contact with PL-8000D must be free from dust, oil, grease or any other foreign substances that may interfere with the bond of the material. Remove all loose or delaminated rock. Clean the area with potable water, leaving the substrate saturated but free of standing water (SSD).

ConShield®, a liquid concrete additive produced by ConShield Technologies, Inc., can be added to the mix water when used in environments producing microbial-induced corrosion, such as sanitary sewers.

**APPLICATION**

Apply PL-8000D in accordance with the ACI 506 “Guide to Shotcrete” publication.

**CURING**

Good curing conditions are beneficial to optimizing the physical properties of PL-8000D. Although the high relative humidity commonly found in underground environments provides for good curing conditions, additional curing is often appropriate and should be performed in accordance with ACI 308 “Guide to Curing Concrete”.

**STORAGE AND SHELF LIFE**

Material should be stored in a dry covered area protected from the elements. Unopened bags have a shelf life of 12 months. Physical properties of PL-8000D may be adversely affected if material is stored in temperatures below 0°C (32°F). Material stored below these temperatures should be allowed to warm to ambient

underground temperatures before applying.

**Caution:** Contains Portland cement and sand. Cement will cause irritation. Avoid contact. A dust respirator, safety goggles, and rubber gloves are recommended. Avoid prolonged contact with clothing. In case of contact with eyes, immediately flush with water for at least 15 minutes. Get prompt medical attention. Do not wear contact lenses when working with this product. DO NOT take it internally. Keep out of reach of children. Avoid hazards by following all precautions found in the Material Safety Data Sheet (MSDS), product labels, and technical literature. Please read this information before using the product.

**INHERENT RISK**

Purchaser assumes all risk associated with the use or application of the product.

**QUALITY ASSURANCE & ACCEPTANCE**

All work shall be performed by factory-certified applicators only. Mortar cube test samples for material strengths may be taken randomly as directed by the inspector for testing at the owner’s expense. Thickness can be verified with a wet gauge at any random point of the new interior surface. Any areas found to be thinner than minimum tolerances shall immediately receive additional material. Visual inspection should verify a leak-free, uniform appearance.

**SAFETY**

Observe OSHA standards for confined space entry.

**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 believed to



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