

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



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 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

- Rapid Hardening
- One component just add water
- Structural natural and synthetic mix fibers reinforced
- High flexural Strength
- High early Strength
- Excellent adhesion to variety of substrates
- Easy to apply
- No rebound during application
- Waterproofs existing structures
- Contains no harmful chemicals
- Temperature of application 40 to 85°F (4.4 to 29.44°C)
- Applied free of dust at nozzle
- Quality Control every batch

### APPLICATIONS

- Rehabilitation of concrete bridges, dams, reservoirs, subway tunnels, marine structures and parking ramps.
- Lining and rehabilitation of sewers and water mains.
- 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	
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).

Con<sup>mic</sup>Shield®, 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 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 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 prior to 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 gage 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**

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