

# LOW-P™ SHOTCRETE

Low Permeability Dry Process Shotcrete



## PRODUCT DATASHEET

**DESCRIPTION:** Rapid Set® LOW-P™ SHOTCRETE is a low permeability, corrosion resistant, low-alkali, fast-setting shotcrete formulation based on polymer-modified cement technology. LOW-P SHOTCRETE produces shotcrete mixtures with unparalleled performance and ease of use without the need for an accelerator. Finished LOW-P SHOTCRETE exhibits exceptional durability in harsh freeze-thaw environments.

**APPLICATION:** LOW-P SHOTCRETE is ideal for tunnel interiors, underneath bridge decks, and other vertical and overhead shotcrete applications where low chloride ion permeability, corrosion resistance, and fast strength gain are desired. LOW-P SHOTCRETE sets fast without an accelerator. LOW-P SHOTCRETE can be applied anywhere conventional shotcrete is used.

### ADVANTAGES:

- Low Permeability: Improved resistance to attack from chlorides and de-icing salts
- Convenient: Single-component, pre-blended formula
- Fast: Sets quickly to minimize dropout and gain strength with no accelerator
- Safe: Hydraulic cement based formula contains 0 g/L of VOCs
- Excellent freeze-thaw resistance
- Provides corrosion protection
- High sulfate resistance
- Green: Contains up to 10% recycled materials, smaller carbon footprint than conventional shotcrete

**ENVIRONMENTAL ADVANTAGES:** Use LOW-P SHOTCRETE to reduce your carbon footprint and lower your environmental impact. Production of Rapid Set cement emits far less CO<sub>2</sub> than portland cement. Contact your CTS representative for EPD, LEED values and other sustainability information.

**FIELD TESTING:** Conduct field test panels at the jobsite using the prepared bonding surface and the Low-P Shotcrete to determine actual field performance and suitability for intended use.

**SURFACE PREPARATION:** Concrete bonding surfaces must be clean, sound, and free from any materials that may inhibit bond such as oil, asphalt, curing compounds, acids, dirt and loose debris. Surface should be prepared in accordance with ICRI Guidelines for surface preparation and project specifications.

Before placement of LOW-P SHOTCRETE, the repair surface should be thoroughly saturated with water just before placement.

**PACKAGING:** LOW-P SHOTCRETE is packaged in 55-lb. 3-ply polyethylene lined bags, 50 per pallet.

**SHELF LIFE:** LOW-P SHOTCRETE has a shelf life of 12 months when stored properly in a dry location, protected from moisture, out of direct sunlight, and in an undamaged package.

## OVERVIEW

### Highlights:

Low permeability

Corrosion protection

High early strength for fast and durable shotcrete applications

### MasterFormat® 2016

03 37 13 Shotcrete

### Manufacturer:

CTS Cement Manufacturing Corp.  
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**USER RESPONSIBILITY:** Before using CTS products, read current technical data sheets, bulletins, product labels and safety data sheets at [www.CTScement.com](http://www.CTScement.com). It is the user's responsibility to review instructions and warnings for any CTS products prior to use.

**WARNING: DO NOT BREATHE DUST. AVOID CONTACT WITH SKIN AND EYES.** Use material in well-ventilated areas only. Exposure to cement dust may irritate eyes, nose, throat, and the upper respiratory system/lungs. Silica exposure by inhalation may result in the development of lung injuries and pulmonary diseases, including silicosis and lung cancer. Seek medical treatment if you experience difficulty breathing while using this product. The use of a NIOSH/MSHA-approved respirator (P-, N- or R-95) is recommended to minimize inhalation of cement dust. Eat and drink only in dust-free areas to avoid ingesting cement dust. Skin contact with dry material or wet mixtures may result in bodily injury ranging from moderate irritation and thickening/cracking of skin to severe skin damage from chemical burns. If irritation or burning occurs, seek medical treatment. Protect eyes with goggles or safety glasses with side shields. Cover skin with protective clothing. Use chemical resistant gloves and waterproof boots. In case of skin contact with cement dust, immediately wash off dust with soap and water to avoid skin damage. In case of skin contact with wet cement, wash exposed skin areas with cold running water as soon as possible. In case of eye contact with cement dust, flush immediately and repeatedly with clean water, and consult a physician. If wet cement splashes into eyes, rinse eyes with clean water for at least 15 minutes and go to the hospital for further treatment.

Please refer to the SDS and [www.CTScement.com](http://www.CTScement.com) for additional safety information regarding this material.

**LIMITED WARRANTY:** CTS CEMENT MANUFACTURING CORP. (CTS) warrants its materials to be of good quality and, at its option, will replace or refund the purchase price of any material proven to be defective within one (1) year from date of purchase. The above remedies shall be the limit of CTS' responsibility. Except for the foregoing, all warranties expressed or implied, including merchantability and fitness for a particular purpose, are excluded. CTS shall not be liable for any consequential, incidental, or special damages arising directly or indirectly from the use of the materials.

**⚠ WARNING**  
CANCER and REPRODUCTIVE HARM - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## TYPICAL PHYSICAL DATA

### Compressive Strength, ASTM C1604, C39

1 hour*	1500 psi (10.3 MPa)
3 hours	2500 psi (17.2 MPa)
24 hours	4000 psi (27.5 MPa)
28 days	5000 psi (34.5 MPa)

### Approx.

Yield	0.5 cu.ft. per bag
Set time	30 minutes
Working time	15 minutes

### Hang Thickness

Up to 10 inches	Varies with water content
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### Slant-Shear Bond Strength, ASTM C882

28 days	750 psi (5.17 MPa)
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### Rapid Chloride Ion Penetration, ASTM C1202 / AASHTO T-277

28 days	<500 Coulombs
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### Freeze-Thaw Resistance, ASTM C666

Durability factor	> 90 after 300 cycles
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\*After final set  
All data produced at 72°F (22°C)



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