



VOIDSPAN

600 Series

# PHLc70 Injection Grout

## PRODUCT DATA SHEET

### Description/ Uses

**VoidSpan PHLc70 Injection Grout** is a breathable, ultra-low shrinkage, flowable, self-consolidating fine grout for use in injection and gravity filling of cracks and defects in older masonry elements as well as for structural bonding of delaminated mass masonry leaves. Based on a pozzolanic hydraulic lime “PHLc” as per ASTM C1707, it is a low-to-moderate strength adhesive, filler and fine mortar replacement material.

Uses Include:

- Gravity feeding and fine injection filling of cracks as narrow as 1.5 mm (1/16”) in width.
- Low pressure bulk injection of cracks and voids in mass masonry construction using cavity-grouting **VoidSpan Port Anchors**.

*The **VoidSpan Port Anchor** is a stainless steel sock type anchor that spans across internal voids, tying separated leafs of masonry together while providing an integral port through which the void can be inspected, jetted, pre-wetted and then grouted. These anchors come in a wide variety of types and configurations to best meet the needs of the project, in lengths according to order. They are manufactured in Canada for VoidSpan under a licensing agreement by Cintec America, LTD.*

### Placement

**Preparation:** Flush out all loose and deleterious materials from cracks and defects that are to receive grout. Immediately prior to injection, dampen contact surfaces, but avoid leaving standing water.

**Mixing:** Add 1 part of water to 5 to 5 & ½ parts of powder (by volume). Initially hand mix and then use a helical mixing paddle at 1,000 minimum rpm for several minutes until fully blended and becomes flowable.

**Working Time:** Up to 60 minutes with proper agitation. Do not re-temper after 60 minutes.

**Placement:** **PHLc70 Injection Grout** shall be placed by gravity feeding, syringe injection or wiping.

**Clean-up:** **VoidSpan PHLc70 Injection Grout** is primarily a lime-based product and should be cleaned up in the similar manner to a lime-and-cement mortar.

## Chemical and Physical Grout Properties

<b>Cement content by weight of binder:</b>	< 15% meeting ASTM C1707 as a “PHLc”
<b>Chloride content by total cured weight:</b>	0.002%
<b>Flowability:</b>	135% per ASTM C230
<b>Dimension change after hardening:</b>	<0.10% per ASTM C1090
<b>Standard curing time (CT):</b>	120 days per ASTM C1713
<b>Water vapor transmission:</b>	1.9 g water/ sq meter/ hour per ASTM E96 (modified)
<b>Mean compressive strength:</b>	> 0.55 MPa (80 psi) at 2 days (limited by strain, not fracture) 9.74 MPa (1414 psi) at 28 days, SD= 15% (fracture) 12.94 MPa (1877 psi) at 120 days, SD= 10% (fracture)
<b>Mean tensile bond strength:</b>	0.33 MPa (48 psi) at 28 days per ASTM C952 (brick)
<b>Mean lap shear strength:</b>	1.07 MPa (156 psi) at 28 days (Indiana limestone)

## Cautions/ Limitations

- Do not inject into unclean, friable or excessively dry and/or absorbent cavities, or into cavities with standing water. Apply when masonry temperatures are between 5 degrees C (40 degrees F) and 32 degrees C (90 degrees F) prior to and for at least 7 days after placement. Do not allow the grout to freeze for at least 14 days after placement.
- Provide and maintain proper and adequate restraint of masonry to safely resist the fluid pressures of grout within the cavities. Provide for fluid pressures of grout to be calculated by the fluid weight of the grout times the height of placement, in addition to pressures from injection.
- Because of the high flowability of the injection grout, unintended leakage may occur and should be avoided.
- Grout lifts should be limited to not more than 1 m (or 36-inches) in height, with proper pressure restraint, and sequenced at intervals of not less than 20-hours. Pressure restraint must be sufficient to resist the fluid pressure of two lifts, the lower, which is stiffening (at > 20-hour maturity), and the upper which is fluid (freshly placed).
- **This product is highly alkaline and may contain small amounts of crystalline silica. Exercise care in using this product, along appropriate eye, skin and breathing protection. Consult Material Safety Data Sheet for additional information.**

## Installer Responsibility

It shall be the Installer’s sole responsibility to use good judgment and experience in installing this material and to conform to all Cautions and Limitations, and all requirements that are noted or referenced herein.

Use with *VoidSpan Port Anchors* shall only be by *VoidSpan* certified installers.