



VOIDSPAN

1100 Series

**EXTEND**<sup>TM</sup> Aggregate

## PRODUCT DATA SHEET

### Description/ Uses

**#1100 Series VoidSpan EXTEND Aggregate** is a vacuum pre-saturated expanded shale to be used as an economical extender for our #500 series **PHLc Gravity Feed Grout**, which is our standard, ultra-low-shrinkage, flowable self-consolidating grout for gravity feeding of deep cracks and voids in older masonry structures.

**VoidSpan EXTEND Aggregate** can be mixed volumetrically on a 1:1.5 grout to aggregate ratio to create an aggregated, flowable grout, or up to a 1:2 grout to aggregate ratio to create an ultra-low shrinkage PHLc Concrete. With approximately the same specific gravity as our grout, our expanded shale will float in suspension to allow the combined material to flow freely without segregation or over-buoyancy. When made into a concrete, the resulting material can be lightly tamped or vibrated into place. Because of its inherent moisture, our pre-saturated aggregate promotes Internal Curing of the PHLc grout, resulting in a more rapid strength gain.

**VoidSpan EXTEND Aggregate** meets ASTM C330 "Standard Specification for Lightweight Aggregates for Structural Concrete" and is available in 5 gallon pails and 3,000 lb. "Super Sacks".

### Mixing, Preparation and Placement

**Mixing:** Combine #500 Series **PHLc Gravity Feed Grout** with of potable water at 5.5 parts PHLc to 1 part water by volume, initially hand mixing and then with a helical mixing paddle for several minutes until fully blended and becomes flowable.

Lightly spray the **EXTEND Aggregate** with a fine mist of water, shaking off excess water with a sieve and then blending with the **Gravity Feed Grout**. Mix until the aggregate is uniformly distributed and then pour or scoop into the pre-damped cavities being filled.

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

**Lift Height:** Each lift of Extended **VoidSpan PHLc Graviy Feed Grout** will stiffen sufficiently to support the fluid weight of two successive 1 m (or 36-inch) lifts above it after properly curing for 40 hours.

**Clean up:** **VoidSpan PHLc Gravity Feed 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 Properties

### Deleterious Substances:

Test	Test Method	Test Result	C330 Requirement
Organic Impurities	ASTM C40	Lighter than Standard	Lighter Than Standard
Staining	ASTM C641	Stain Index of 20	Stain Index of Less Than 60
Loss on Ignition	CI 14	0.99 Percent	Less than 5 Percent

### Physical Tests:

Test	Test Method	Test Result	C330 Requirement
Clay Lumps and Friable Particles	ASTM C142	0.07 Percent	Less than 2 Percent
Bulk Density Dry Loose Condition	ASTM C29	54.9 PCF	55 PCF Maximum
Bulk Density Saturated Loose Condition	ASTM C29	65.8 PCF	No Requirement

### Gradation:

Sieve Analysis (Test Method ASTM C136)		
3/4" (19mm)	100	100
1/2"(12.5mm)	100	100
3/8" (9.5 mm)	94	80-100
No. 4 (4.75 mm)	11	5-40
No.8(2.36mm)	2	0-20
No.16(1.18mm)	1	0-10

## Cautions/ Limitations

- Do not use in unclean, friable, or excessively dry and/or absorbent cavities or in standing water. Apply when air 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 mortar to freeze for at least 28 (PHL) or 14 days (PHLc) after placement.
- **This combined product is highly alkaline and may contain very small amounts of crystalline silica as inhalable dust. Exercise care in using this product, along with appropriate eye, skin and breathing protection. Consult the 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.