

# S-1400 Pene-Krete® Additive™

TECHNICAL DATA SHEET

## DESCRIPTION

S-1400 Pene-Krete® Additive™ (for Portland Cement) is a non-hazardous liquid additive formulated to create a chemical reaction within Portland cement based products. The addition of S-1400 Pene-Krete Additive enhances the concrete's natural hydration process by prolonging the hydration of the cementing materials and increasing workability. The addition of this product mixed with any Portland cement-based products such as but not limited to concrete, plaster, pre-cast concrete, gunite and block will densify the substrate, increase its structural strength, and encapsulate and expel excess alkali, lime and other contaminants from with substrate to allow for concrete coating on the eighth day after application. When concrete is treated, its capillary pores are reduced in both size and number and the concrete becomes dramatically less porous. After its reaction, S-1400 Pene-Krete Additive fills all remaining pores and capillaries with long, needle-like crystals throughout the concrete mass. The resulting concrete is less permeable to the migration of water or waterborne chemicals. S-1400 Pene-Krete Additive can increase compressive strength up to 23% depending on the amount and quality of the Portland cement contained in the mix design. The addition of S-1400 Pene-Krete Additive reduces the acceleration of Portland cement-based materials and reduces curing cracks substantially. Concrete is overall improved when using S-1400 Pene-Krete Additive and it can also be used as a water reducing agent in concrete mixes.

## USES

Ready-Mix Concrete  
Structural Concrete  
Below Grade Concrete Water Tanks  
Below Grade Concrete Walls  
Any Portland Cement-Based Substrates  
Curing Agent  
Moisture Vapor Reduction

Precast Concrete  
Architectural Concrete  
Fueling Facilities  
Freezer Floors  
Parking Garages  
Radar Reduction  
Water Reduction

## ADVANTAGES

Increases compressive strength of concrete up to 23%  
Reduces moisture vapor and water transmission  
Protects reinforcing steel from rust  
Reduces radon transmissions  
Prevents intrusion of water and chemicals  
Prevents calcium chloride deterioration  
Concrete can be coated on the 8<sup>th</sup> day after application  
Internal Waterproofing Cures concrete before 28 days  
Purges excess alkali and free lime from concrete substrate  
Self-seals any hairline cracks that may occur from subsequent shrinkage/settling/ shifting

Eliminates carbonation attack  
Reduces substrate permeability  
Resists mold & mildew  
Resists freeze/thaw damage  
Contains zero VOC's  
Environmentally safe



## CSI RELATED SECTIONS

03 01 30.71 - Strengthening of Cast-In-Place Concrete  
03 01 40.72 - Strengthening of Pre-Cast Concrete  
03 05 00 - Common Work Results for Concrete  
03 31 00 - Structural Concrete

04 05 00 - Common Work Results for Masonry  
07 11 00 - Damp-proofing  
07 16 16 - Crystalline Waterproofing  
07 19 00 - Water Repellents

## GENERAL INFORMATION

S-1400 Pene-Krete Additive is formulated to create a chemical reaction when mixed with water, alkali and free-lime within a Portland cement concrete matrix. The matrix becomes extremely dense by filling the capillaries with a crystalline structure. As the crystallization process takes place, all excess chemicals and water are purged to the surface providing the matrix with an immediate, water-resistant-structure internally. After application and before coating, neutralize the concrete surface with a solution of trisodium phosphate and water.

## MOISTURE VAPOR EMISSIONS REDUCTION

S-1400 Pene-Krete Additive reduces moisture emissions in many applications, typically within standards necessary to apply flooring goods and coatings over cementitious substrates. Conducting moisture tests after S-1400 Pene-Krete Additive used is always recommended. It is the coating applicator's responsibility to conduct calcium chloride testing in compliance with ASTM F1869.

Super-Krete® Products is a Division of Arizona Polymer Flooring, Inc.

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## RECOMMENDED DOSAGE AND MIXING PROCEDURE

Use S-1400 Pene-Krete Additive full strength, as is (DO NOT DILUTE). Thoroughly agitate product or stir with a drill and paddle mixer attachment. For ready-mixed concrete, add 14 oz. of S-1400 Pene-Krete Additive per each cubic yard of pre-mixed concrete. Mix thoroughly with a mechanical mixer for approximately 5 minutes at high speed.

For best results and maximum workability, add additional water to the concrete matrix to create a flowable mix.

**Note:** Adding more than the recommended 2 oz. of S-1400 Pene-Krete Additive per bag of Portland cement will decrease set-up time and prolong working time.

The recommended dosage of to all other Portland cement mixtures is 2 oz. per each 94 lb. bag of Portland cement. Add S-1400 Pene-Krete Additive last and mix thoroughly with a mechanical mixer for a minimum of 5 minutes before placement.

### Cure Time

Pene-Krete Additive will typically gel and force all excess chemicals to the surface within a 24-hour period. Although excess chemicals are forced to the surface within 24 hours, the substrate will not reach its full increased strength for 28 days.

### Clean Up

Clean tools and equipment and flush sprayer with clean water immediately after use.

### Tools Required

Graduated container or dosing equipment  
5 Gallon Pail  
½" Drill  
Paddle Mixer

### Packaging

1 gallon bottles / 4 per case  
5 gallon pails / 36 per pallet  
55 gallon drums / 4 per pallet

### Shelf Life

2 years when properly stored.

### Storage

Store in a cool, dry place. Keep from moisture and keep from freezing.

### V.O.C. Content

<100 g / liter

### Yield

14oz. per cubic yard of concrete mix

### Appearance

Clear white liquid

### Odor

None

### CAUTION

Protect from glass and metal surfaces. Cannot be removed.

Keep away from children. Do not take internally. Always use safety gloves, appropriate eye protection, and appropriate OSHA/NIOSH approved respirator in areas with poor ventilation and when exposed to spray mist both indoors and outdoors. If ingested, seek medical attention immediately.

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## LIMITATIONS:

Super-Krete Products are to be applied only when surface temperatures are above 55°F and rising and not to exceed 100°F. Super-Krete Products are not to be applied when precipitation is expected within 24 hours following completion of application. Do not allow materials to freeze. Each Super-Krete product acts as an inherent part of a proven system. Super-Krete Products are professional, contractor grade products. Training in the use of these products is available. Consult a Super-Krete Products representative for information and assistance locating approved contractors in your area or for training class dates.

## MOISTURE VAPOR EMISSIONS PRECAUTIONS:

All concrete floors not poured over an effective moisture vapor retarder are subject to possible moisture vapor transmission that may lead to blistering and failure of the coating system. It is the coating applicator's responsibility to conduct calcium chloride testing in compliance with ASTM F1869, or relative humidity probe testing in compliance with ASTM F2170, to determine if excessive levels of vapor emissions are present before applying any coatings. Arizona Polymer Flooring offers **S-1300 Pene-Krete®** for cementitious overlay products and **VaporSolve® Moisture Remediation** systems for resinous floor coatings. Consult our technical service department. Arizona Polymer Flooring and its sales agents will not be responsible for coating failures due to undetected moisture vapor emissions.

## WARRANTY:

Arizona Polymer Flooring guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. ARIZONA POLYMER FLOORING MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. Arizona Polymer Flooring shall not be liable for damages caused by application of its products over concrete with excessive moisture vapor transmission or alkalinity. Arizona Polymer Flooring shall not be liable for any injury incurred in a slip and fall accident. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product.

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