



### DESCRIPTION

Amorfa is a ready-to-use liquid mineral additive for enhancing the fresh and hardened properties of concrete by optimizing design water usage and benefit, providing workability advantages, and using the natural pozzolanic reaction in the capillary and pore space to significantly reduce the permeability of the hardened concrete. Amorfa meets the criteria given in ASTM C494 for a Type S admixture and ACI 212.3R-16 for finely divided solid material as a Permeability Reducing Admixture (PRA).

### ABOUT THE PRODUCT

Spray-Lock Concrete Protection (SCP) technology was developed in the late 1970s to solve concrete permeability issues in some of the harshest conditions possible. Decades later, the term Permeability Reducing Admixture (PRA) entered into ACI 212 to address the long-standing benefits obtained from preventing moisture movement in concrete, something SCP has known to be true for over 40 years.

### BENEFITS OF USE IN CONCRETE

**Reduced permeability —**  
Measured through hydrostatic pressure via EN 12390-8 (see chart A, below).

**Reduced chloride ion ingress —**  
Measured through forced migration via NT 492 (see chart B, below) or through absorption from ponding only via ASTM C1556.

### OTHER METHODS OF EVALUATION

- » Freeze-thaw resistance
- » Absorption change
- » Change in bleeding
- » Volume change
- » Resistance to scaling from de-icing materials

Chart A: Hydrostatic Pressure Penetration (EN 12390-8)

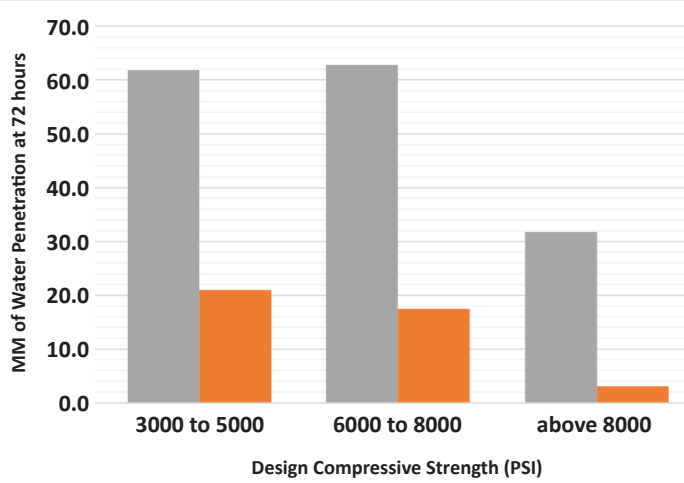
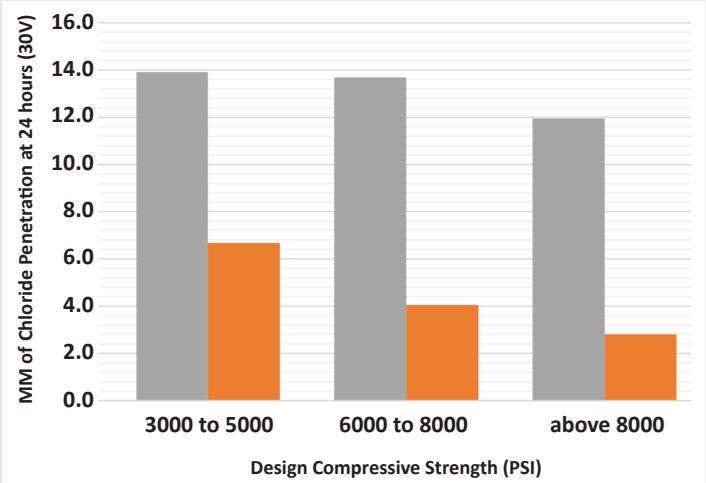


Chart B: Chloride Migration (NT 492)



CONTROL AVERAGE
  AMORFA AVERAGE

## PERFORMANCE GAINS

### Fresh Concrete —

- » Improved workability & reduced pump pressures
- » Little to no impact on fresh properties, requires minimal mix adjustments
- » Safer delivery method & fewer negative mixture impacts for use of amorphous silica/silicon dioxide
- » Handling and dosage is done through typical admixture systems

### Hardened Concrete —

- » Increased life cycle
- » Reduced efflorescence
- » Reduced permeability and disconnection of capillary system
- » Increased protection from environmental attack
- » Improved durability and corrosion resistance
- » Improved resistance to freeze-thaw deterioration

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## DIRECTIONS FOR USE

Amorfa is normally added to the mixing water at a rate of 0.25 gallon to 1.0 gallon per cubic yard (1.24 liters to 4.96 liters per cubic meter). Pretesting is recommended to determine the optimum addition rate to achieve suitable performance for the expected service conditions.

Amorfa should be added into the initial batch water and introduced into the mixer before any admixtures or other constituents. After Amorfa has been introduced into the mixer with the initial batch water, normal concrete batching processes can be followed. Amorfa does not contain any added chlorides. Amorfa may be used with chemical admixtures as long as they meet their respective requirements of ASTM, are free from contaminants, and are added to the mixture separately from Amorfa. If an ASTM C260 Air Entrainment Chemical is used, it must be dispensed separately from Amorfa.

Consult Spray-Lock Concrete Protection for assistance in determining the appropriate dosage and use of Amorfa and/or SCP products for your project.

## PACKAGING, STORAGE, & HANDLING OF PRODUCT

Amorfa is available in bulk in some areas. Amorfa is available and can be shipped globally packaged in either 330-gallon or 275-gallon totes, 55-gallon drums, or 5-gallon pails.

Product shall ideally be stored in a location that is dry and between 35°F and 100°F (1.7°C and 37.8°C) ambient temperature. Protect from freezing and exposure to direct sunlight. Product should not be used if it becomes frozen. Amorfa has a 5-year shelf life under proper storage conditions.

For safe handling information on this product, see the Safety Data Sheet (SDS).

## LIMITED WARRANTY

Spray-Lock Concrete Protection, LLC (SCP) warrants this product for five years (5) from date of purchase to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life and stored according to guidelines on product packaging. SCP'S SOLE LIABILITY SHALL BE LIMITED TO THE PURCHASE PRICE PAID BY THE CUSTOMER FOR SCP PRODUCT FOR THE QUANTITY OF DEFECTIVE MATERIAL EXCLUSIVE OF LABOR OR COST OF LABOR.

To the greatest extent permitted by law, this Limited Warranty is in lieu of all other warranties, expressed or implied. Seller disclaims all other warranties, expressed or implied, oral or written, including without limitation, the implied warranties of merchantability and fitness for a particular purpose. SCP shall not be liable under any legal theory for special or consequential damages. SCP SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS. User determines suitability of product for intended use and assumes all risk.

Pre-testing concrete mixes to determine the fitness of products for a particular use are the responsibility of the user. In-house and independent testing supports the instructions and claims made on this document.

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## APPLICATIONS

- » Precast concrete
- » Low-slump concrete
- » Concrete paving
- » Shotcrete
- » Manufactured concrete products
- » Reinforced concrete
- » High performance concrete
- » High strength concrete
- » Lightweight
- » Pervious
- » Roller compacted concrete