



# BARRIER ONE

POROSITY INHIBITING ADMIXTURE

"An Affiliate of Concrete Moisture Solutions, Inc."



CONCRETE MOISTURE SOLUTIONS, INC.

A CONCRETE ENHANCEMENT TECHNOLOGY COMPANY

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**Product Data Sheet (information contained herein is as accurate as possible, however, the information posted on our website takes precedence to this publication).**

#### Manufacturer:

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#### Product Description:

**BOI Admixture, a porosity inhibiting admixture (PIA) developed by flooring, chemical and concrete experts to enable project teams to maintain demanding project schedules and to remain on budget. As an admixture, it is integral to the concrete, *not surface applied*, and its use will not interfere with the bonding of adhesives, resinous coatings or cementitious underlayments. In short...if it sticks to low porosity concrete, it sticks to BOI Admix dosed concrete!**

BOI Admixture, a permeability inhibiting admixture (PIA), is a very unique, VOC free formulation specifically designed to reduce overall slab permeability. It combines with pre-existing elements inside the mix and initiates a natural chemical reaction that disrupts the integral slab pore structure and capillary system; which is the route of moisture vapor emission into and out of the concrete. This chemical reaction creates abundant C-S-H (calcium silicate hydrate) which forms a permanent barrier (capillary break) that is insoluble and irremovable.

#### Advantages:

By closing the capillary system, BOI Admixture facilitates suspended hydrating moisture that is irremovable yet available for sustained cement particle hydration. Therefore, the use of BOI Admixture results in concrete that is denser, stronger, with increased abrasion resistance, reduced slab warping, and significantly reduced shrinkage and permeability.

#### Technical Data:

Appearance: Colorless	Odor: None
Toxicity: None	Flammability: None
Ph: 11.3	Specific gravity: 1.30
Shelf Life: One Year	Weight: 10.3 lbs/gal (net)
Freeze Temp: 32°F	Storage Temp: above 36°F
Solvent: Water	Acid Resistance: Excellent
Hazardous Vapors: None	Installation: All concrete
Capillary Break: Calcium Silicate Hydrate	

**Minimum slab thickness for use with BOI Admixture is three (3") inches.**

#### Dispensing:

- BOI Admixture must review ALL mix designs;
- BOI Admixture is compatible with both normal and lightweight mix designs
- Dosage rate is 14oz per 100 lbs. of total cementitious materials; dose within plus or minus 3%
- BOI Admix is used in a one-for-one replacement of mix water
- Standard water-cementitious material ratio (w/cm) is 0.31 to 0.52; below or above may require adjustment by BOI Admixture\*
- **\*Additional dosage may be required based on approved mix**
- For accuracy and reporting, BOI Admix recommends dosing at the batch plant; however, dosing onsite is of course acceptable; if this is done, let drum rotate for 7 minutes before discharge

- BOI Admix should be added separately from other admixes at the tail-end of the load.

#### Concrete Performance:

- BOI Admix is not an accelerator or a retarder
- It has little to no impact on set times per ASTM C494 testing
- It has minimal impact on slump (not more than 0.5" loss)
- May be used with all other admixtures provided that such admixtures are added separately and the combination has no deleterious effect on the concrete. with the exception of shrink reducing admixes (SRA) and crystalline growth admixes.
- Use of water reducing admixes is recommended to achieve slumps greater than 4"
- With BOI Admix there is reduced bleed water, creating a richer, creamier, undiluted paste and therefore facilitating finishing operations

#### Curing:

For slabs to receive moisture sensitive flooring BOI Admixture concurs with the recommendation of ACI 302.2R-06, p. 38; "such slabs should be cured by being covered with waterproof paper, plastic sheets, or a combination of the two for 3 to 7 days". However, a BOI Admixture dosed slab requires only 24 hours of curing by this method (although leaving the plastic/waterproof paper down longer is acceptable). Curing compounds have no deleterious effects on the performance of BOI Admixture.

However, if a curing compound is used and that slab is to be covered, the manufacturer's guidelines of that material must be followed.

#### Additional Requirements:

A contracted independent third party of Barrier One, Inc. must be present at the jobsite during placement of all BOI Admixture treated concrete. Do not proceed without this representative being present. **The contracted Independent Third Party, In Most Instances, Will Be An Independent Concrete Inspection Company. This Inspection Company Will Provide BOI Admixture With Cylinders From Every Day Of Placement Of BOI Admix Dosed Concrete For Hydraulic Conductivity/Coefficient of Permeability Testing. These Tests are for BOI Admixture's Internal Quality Control and Warranty Purposes.**

For all slabs on ground, the use of an ASTM E 1745 vapor retarder, installed following ASTM E 1643, ACI 302.2R and ASTM F 710 guidelines is required; not required for suspended concrete slabs.

#### \*Warranty:

BOI Admixture is formulated to eliminate the route of moisture vapor emission through concrete **and warrants up to 25 pounds of moisture per ASTM F1869 or 100% RH per ASTM F2170.** Our admixture...our process...carries an available manufacturer's warranty for the life of the concrete\* against moisture vapor emission flooring failures, including removal of failed flooring, topical remediation of failed area and all finish floor materials and labor like the original for the affected area(s). A project specific bond adhesion warranty to match the adhesive manufacturer's warranty is also available.

\*A "life of the concrete" moisture related flooring failure warranty and/or bond adhesion warranty, complete with a comprehensive concrete testing protocol, must be required in Section 2 of the project 03 Division specifications or addendum in order for Barrier One to convey its "life of the concrete" warranty.

#### Technical Services:

For technical assistance, contact your BOI Admixture Regional Manager. Or contact us directly at - P: 877.224.5850; F: 866.594.3490  
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