



HIGH PERFORMANCE
CONCRETE ADMIXTURE

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Product Data Sheet

Manufacturer:

Barrier-1 Inc
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Product Description:

Barrier-1 is a very unique, complex formula that is free of all volatile organic compounds (VOC). It is specifically designed to have a natural chemical reaction with pre-existing elements inside the concrete to eliminate the route of moisture vapor emission through concrete by closing down the integral capillary system. The chemical reaction forms a permanent barrier (capillary break) which will become integral to the concrete and irremovable.

Barrier-1 is a high performance concrete admixture. As such, it is integral to the concrete and will not interfere with the bonding of adhesives, resinous coatings or cementitious underlayments or levelers.

Advantages:

By closing down the capillary system, hydration is uniform resulting in: higher density, higher strength, abrasion resistance, reduced slab warping, and concrete that is virtually impermeable.

Technical Data:

Appearance: Colorless
Odor: None
Toxicity: None
Flammability: None
Ph: 11.3
Specific gravity: 1.17
Shelf Life: Indefinite
Weight: 11.2 lbs per gallon
Freeze Temp: 32°F
Storage Temp: above 36°F
Solvent: Water
Acid Resistance: Excellent
Hazardous Vapors: None
Capillary Break: Calcium Silicate Hydrate
Installation: All concrete

Environmental Considerations:

Barrier-1 is environmentally safe and contains no VOCs. Further, Barrier-1 contains an anti-microbial biocide to inhibit mold and bacteria growth.

Dispensing:

Barrier-1 is added at a rate of 14oz per 100 lbs. of total cementitious materials, at the tail end of the load and should be dosed within plus or minus 3%. Additional dosage may be required based on the mix design. Due to ease and accuracy of dosing, it is recommended that Barrier-1 be added at the batch plant; however, it can be added directly at the jobsite. If this is done, let drum rotate for 7 minutes before discharge.

Concrete Performance:

- Barrier-1 High Performance Concrete Admixture is not an accelerator or a retarder
- It has little to no impact on set times
- It has minimal impact on slump (not more than 0.5" loss)
- May be used with all other admixtures with the exception of shrink reducing admixes (SRA) provided that such admixtures are added separately and the combination has no deleterious effect on the concrete
- A water-to-cementitious material ratio (w/cm) of 0.42 to 0.52 is critical and it is imperative to comply with the mix design
- Barrier-1 is used in lieu of that portion of the mix water, not in addition to the mix water (1 for 1 replacement)
- Use of water reducing admixes is recommended to achieve slumps greater than 4"
- With Barrier-1 there is reduced bleed water, creating a richer, creamier, undiluted paste and therefore facilitating finishing operations

Curing:

For slabs to receive moisture sensitive flooring, Barrier-1 concurs with the recommendation of ACI 302.2R; "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 Barrier-1 dosed slab requires only 24 hours of curing by this method. Curing compounds may be used (with an understanding of their potential affect on subsequent flooring) and have no deleterious effects on the performance of Barrier-1

Additional Requirements:

A representative or agent of Barrier-1 manufacturer must be present at the jobsite during placement of all treated concrete. Do not proceed without this representative being present for certification. **An Agent Of Barrier-1 Shall, In Most Instances, Be An Independent Concrete Inspection Company. This Inspection Company Will Provide Barrier-1 With Cylinders From Every Placement Of Concrete For Hydraulic Conductivity/Coefficient of Permeability Testing. These Tests are for Barrier-1's Internal Quality Control and Warranty Purposes.**

By conducting such rigorous testing on every day of placement, Barrier-1 is in full compliance with ASTM F710 mandate of testing every slab for moisture.

Warranty:

Barrier-1 is formulated to eliminate the route of moisture vapor emission through concrete and meets or exceeds all guidelines pertaining to moisture emission as established by the flooring industry. This admixture carries a standard manufacturer's warranty for ten (10) years against moisture vapor emission flooring failures, including all finish floor materials and labor. Contact manufacturer for more information on warranty condition, duration and remedies.

Technical Services:

For technical assistance, contact your Barrier-1 Regional Manager indicating your state when you call.
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