



Guide to Evaporation Retardants

What are Evaporation Retardants

Evaporation Retardants are monomolecular film forming agents that were originally developed to reduce water evaporation from reservoirs in the 1930's. A long chain organic material such as cetyl alcohol which, when spread on a water film surface, slows the evaporation of water.

This technology was adopted for use in the construction trade to retard the loss of bleed water during the concrete placement and finishing process. This is especially helpful in adverse weather conditions that accelerate moisture loss, and when dealing with low w/c mix designs.

Monomolecular

Composed of single molecules; specifically, films that are one molecule thick; denotes a thickness equal to one molecule, for example, certain chemical compounds develop a “monomolecular film” over bleeding water at the surface of freshly placed concrete or mortar as a means of reducing the rate of evaporation.”

**ACI Cement & Concrete terminology [CCT]*

When to use?

Evaporation retarders are typically applied after the screeding process. When drying conditions are severe, evaporation retarders may be reapplied between finishing operations.

- Windy or breezy
- Low humidity
- Direct sunlight
- Using a low w/c concrete
- Placing dry-shake hardeners
- Placing concrete with silica fume/micro silica

Standards & Specifications

ACI recognizes Evaporation Retardants as an initial or intermediate curing method.

- ACI 302 “Guide to Concrete Floor and Slab Construction”
- ACI 308 “Guide to External Curing of Concrete”
- ACI 345 “Guide for Concrete Highway Bridge Deck Construction”
- FHWA-HRT-05-038; *Guide for Curing of Portland Cement Concrete Pavements*,

Note:

- These products are not to be confused with concrete surface retarders that slow the set of Portland at the near surface for exposed aggregate finishes.
- Evaporation retarders are not to be used in the final finishing operations, nor worked into the surface of the concrete.

Dayton Superior Evaporation Retardants:

AquaFilm Concentrate J74 concentrate

- Diluted with potable water at a 9 to 1 ratio, V.O.C. compliant and contains a blue fugitive dye for ease of visual inspection during application.
- **MAS Certified Green**

AquaFilm™ J74RTU

- Ready to use V.O.C. compliant and contains a yellow fugitive dye for ease of visual inspection during application.
- **MAS Certified Green**