

TECHNICAL DATA & PRODUCTION DESCRIPTION

SECTION 1: PRODUCT NAME

EFFLORESCENCE REDUCER



SECTION 2: MANUFACTURED BY

ACON PRODUCTS

www.aconproducts.com

Braselton, Ga. 30517

770-380-6594

706-658-2727

706-824-0031



SECTION 3: PRODUCT DESCRIPTION

EFFLORESCENCE REDUCER is a cloudy-white, odorless, non-toxic, zero VOC / VOS, user friendly, environmentally neutral colloidal silicate liquid.

SECTION 4: BASIC USE

EFFLORESCENCE REDUCER added to portland cement concrete's mix water will convert conventional mix designs to high-performance ones, generating production of concrete that is extraordinarily hard, dense and impermeable.

EFFLORESCENCE REDUCER causes concrete enhancement in several various ways, beginning with improvement of hydrolysis' actions and reactions, by significantly favorably enhancing hydration by product quality, i.e., calcium hydroxide, while also significantly increasing already-included Portland cement utilization. The resultant concrete permeability / durability values become tremendously improved while **EFFLORESCENCE REDUCER** causes the production of very fine-textured, extremely homogeneous, aggregate zone paste and bulk paste, finally creating smaller more uniform capillary and gel pore sizes, with virtually no plastic particle separation. **EFFLORESCENCE REDUCER** utilization in batching portland cement concrete significantly reduces concrete total air-void content as it greatly improves its workability, and significantly lowers excess bleed water volumes, etc.

EFFLORESCENCE REDUCER in a concrete mix provides the mix with ability to initially introduce portland cement to mix water without the usual abruptly violent actions and reactions which creates a cement potency loss, normally ascribable to water dilution and hydrolysis, which will create poor quality early produced cement paste, paste which initially coats concrete aggregates. **EFFLORESCENCE REDUCER** utilization works to ensure early, initially-produced cement paste (aggregate zone paste), immediately coating the concrete aggregates, is of the utmost attainable quality, ultimately and significantly improving concrete paste-aggregate zone and paste-to-aggregate bond quality, virtually eliminating potential for micro cracks. Also, ultimately increasing concrete flexural strength, etc. .

EFFLORESCENCE REDUCER enhanced, hydration by-products', i.e., calcium hydroxide quality, also sets the stage for concrete to receive a significantly greater, more efficient, calcium lamination of C-S-H silicate polymer particles, strands, and/or chains, an action also causing reduction in ultimate volume of unutilized calcium hydroxide, left in concrete, which may later interfere with concrete ability to retain its integrity, due to potential detrimental internal chemical reactions, such as delayed ettringite formation, etc...

EFFLORESCENCE REDUCER ingredients prompt prolific formation, extension, and branching of silicate polymer particles, strands, and/or chains, vital constituents in C-S-H tobermorite gel component, concrete main strength component. Utilization of **EFFLORESCENCE REDUCER** in a concrete mix results in production of significantly less permeable, more

durable concrete, which are some major factors that are major factors that are normally associated with the extension of concrete useful lifespan. Also, importantly, **EFFLORESCENCE REDUCER** utilization will create, to some varying degree (6-12%), an increased utilization of each portland cement particle, in the mix. this attribute in turn causes a significantly greater reduction in the sizes of left-over particle cores of each portland cement particle, ultimately left in the concrete, to act as aggregates. The various smaller than normal particle core sizes make these unique particles an extremely valuable filler aggregate, sized somewhere between sand and normal cement particle sizes, which ultimately and integrally will provide excellent filler benefits, benefits similar to those of silica fume, resulting in denser, more impermeable, and significantly more durable concrete, that has greater resistance to pollutant / contaminate ingress, freeze-thaw cycle damage, steel corrosion, etc. **EFFLORESCENCE REDUCER** requires no special safety gear, handling, storage, finishing, or curing.

SECTION 4: PRECAUTIONS

1. CONCENTRATED ADD 50 GALLONS OF WATER
2. Undiluted ER may etch glass or dull shiny aluminum and can be difficult to remove from other surfaces once it dries.

SECTION 5: TECHNICAL DATA

Physical: Liquid

pH: +/- 11.5

Toxicity: None

Pollants: None

Flammability: None

Flash Point: None

Hazardous Vapors: None

Odor: None

VOC / VOS Content: none

Specific Gravity: 1.10

Spill Clean-up: Water Flush (Sewer Safe)

Environmental Impact: None/Neutral

User Status: Friendly

Color: Cloudy white

SECTION 6: SOME ADVANTAGES

- Converts normal mix designs to high performance ones
- Quicker and Easier Concrete Placement
- Adds Workability by Increased Lubricity
- Stronger Bond of Concrete to Steel
- Decreases Cementitious Material Waste
- Greater Density and Less Permeability
- Reduces Bleed Water Volume
- Reduced Shrinkage and Cracking
- Reduced Honeycombing and Laitance
- Reduced Leaching and Efflorescence
- Reduced Slab Curl Potential
- Reduced Internal/External Dusting Potential
- Reduced Rate of Absorption
- Greater Freeze-Thaw Resistance
- Increased Flexural Strength
- Increased Compressive Strength
- Increased Acid / Chemical Resistance
- Lowers Internal Chemical Reaction Potential
- Lowers Chloride Induced Corrosion Potential
- Greatly Improves Durability
- Improves Surface Abrasion Resistance