DENSIFIER WITH SURFACE GLOSS

Technical Data

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CONCRETE'S BEST SOLUTION

1. Product:
DENSIFIER WITH SURFACE GLOSS, a Colloidal Silicate Subsurface Barrier.

2. Manufacturer:
Applied Concrete Technology, Inc.
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3. Description/Basic Use:
DENSIFIER WITH SURFACE GLOSS is a cloudy white (dries clear), non petroleum, odorless, environmentally neutral penetrant in a colloidal liquid base.

As a Densifier/Sealer:
When applied to already set portland cement concrete, DENSIFIER WITH SURFACE GLOSS integrally waterproofs, densifies and preserves concrete of any age at any point during its useful lifespan. DENSIFIER WITH SURFACE GLOSS provides concrete an effective chloride ion barrier that helps preserve its imbedded steel. DENSIFIER WITH SURFACE GLOSS also prevents contaminants from entering the concrete as well as reducing the amount of vapor that can pass through, which preserves the integrity of the treated concrete. It increases surface abrasion resistance as well as surface acid/chemical damage resistance. As DENSIFIER WITH SURFACE GLOSS penetrates deeply into concrete, it reacts with interior ingredients such as free alkali or unused calcium hydroxide residue and prolifically converts DENSIFIER WITH SURFACE GLOSS's unusually low solids colloidal liquid to a 100% solids insoluble precipitant. It instantly provides added density and becomes an integral part of the concrete by occupying its accessible porosity and other tiny voids. It forms a breathable barrier which begins in concrete's transitional porosity located between the large surface porosity and its small microporosity. The uniquely induced precipitant barrier does not generate any heat during its conversion from liquids to solids, nor expansion pressures at any time. This internally generated barrier remains resilient and contains pore sizes that are much smaller than concrete's micropores. This further diminishes concrete's void percentages while increasing impermeability, yet still allowing the concrete to retain its ability to breathe, expand and contract as it needs to. It significantly decreases the potential vapor gas transmission rate. Because the internally generated barrier has extremely small porosity, it alleviates or eliminates transmission of gases such as radon, forcing them to seek other avenues of escape rather than passing through the concrete.

DENSIFIER WITH SURFACE GLOSS halts or significantly retards internal corrosion activity. It seals, strengthens, supplements, densifies and detoxifies concrete without deleterious effect to its external appearance or physical characteristics. DENSIFIER WITH SURFACE GLOSS will not impair surface traction quality or bonding ability.

DENSIFIER WITH SURFACE GLOSS can be applied to old or new concrete, inside or out without detrimentally affecting the surface quality. It can be used to improve or enhance any concrete whether traffic bearing or not. DENSIFIER WITH SURFACE GLOSS is excellent for use on streets, highway pavement, bridges, parking garage decks, airport pavement, dams, pavers, sidewalks, driveways, basements, tunnels, etc. It will stop water leakage in concrete while it is occurring in installations such as water storage reservoirs, water treatment tanks, below grade concrete with or without hydrostatic pressure, etc. The liquid travels against the water flow when applied to the negative side, permanently arresting the flow of water, a unique feat that is much less complex and labor intensive (and more economical) than trowel on remedies.

As a Cure Method:
DENSIFIER WITH SURFACE GLOSS is an excellent alternative concrete curing method, providing a cure equal or better than water curing. It provides the usual benefits of a curing agent, plus it provides special ingredients to the yet available capillary mix water waiting to participate in the hydration reaction process in the plastic or semi-plastic concrete, reciprocating acceleration of hydration's reaction rates. This in turn generates increased volumes of cement paste or hydration product in a much shorter time. It utilizes all of the remaining capillary water and leaving none to later evaporate and create void spaces. As a result, the concrete's capillary void spaces become more segmented and smaller than usual. DENSIFIER WITH SURFACE GLOSS provides concrete a superior cure imparting extraordinary strength, surface hardness and impermeability and subsequently maximum durability.

The DENSIFIER WITH SURFACE GLOSS Cure Method provides concrete with a permanent subsurface, specially formulated colloidal liquid precipitate barrier. Its pore sizes are smaller than concrete's micropores that even further diminish permeability. It forces even gases such as radon to seek avenues of escape other than through concrete's capillary system. The DENSIFIER WITH SURFACE GLOSS Cure Method does not leave a surface residue to interfere with surface bonding quality. It produces concrete that is significantly more internally waterproofed, freeze-thaw damage resistant, dust resistant and acid/chemical resistant.

Limitations: DENSIFIER WITH SURFACE GLOSS contacting glass should be flushed with water and not allowed to dry, since it could etch. It dulls the shine on shiny aluminum, but the integrity is unaffected. Do not apply on frozen substrate or when temperature is near freezing. Protect delicate vegetation.

4. Some Advantages:
- Permanently integrally waterproofs concrete
- Provides internal humidity stability
- Preserves matrix and overall integrity
- Increases surface abrasion resistance
- Excellent coating or topping primer
- Improves thermal resistance

- Increases strength
- Zero VOC or VOS content
- Prevents water migration
- Ice removal and cleaning easier
- Improves dusting resistance
- Improves acid/chemical resistance
- Lowers internal chemical reaction potential
- Lowers creep deformation potential
- Lowers electrostatic discharge potential
- Improves past carbonation effects

5. Technical Data:
Physical: Liquid
Color: Cloudy-white (Dries clear)
Odor: None
Specific Gravity: 1.10
pH: ±12
Flammability: None
Toxicity: None
Paintability: Excellent
Cleanup Solvent: Water
Environmental Impact: None/Neutral
R-Factor Increase: Up to 20%
Surface Bond Quality: Excellent
Chloride Screen ability: Excellent
User Status: Friendly
VOC/VOS Compliant: Yes
Spill Cleanup: Dilute/flush with water
Recommended Coverage: 200 S.F./Gal

6. Installation:
Note: In hot climates, mist-wet the surface with water and remove any puddles prior to application.

a. Use medium- to high-pressure airless sprayer complete with a 24-inch wand and a .019 fan tip spray jet.

b. Hold spray tip 6 inches from surface.

c. Apply to the point of saturation at the rate of 200 square feet per gallon with an overlapping spray pattern of approximately 10% to 15%.

d. Begin applying at the lowest level elevation. For example, walls and slopes should be applied side to side, from the bottom up.

e. Wax, paint or anything else restricting access to concrete's interior must be chemically or mechanically removed for DENSIFIER WITH SURFACE GLOSS to penetrate.

g. Do not apply DENSIFIER WITH SURFACE GLOSS on frozen substrate or when temperature is near freezing.

h. DENSIFIER WITH SURFACE GLOSS may etch glass or dull shiny aluminum and can be difficult to remove from other surfaces once it dries. Protect delicate vegetation and cover surrounding surfaces or rinse immediately if sprayed.

i. DENSIFIER WITH SURFACE GLOSS is safe to use and environmentally friendly. We do recommend use of a painter's mask during application. Refer to MSDS.

7. Installation as a Cure, Hardener & Sealer:
a. Follow normal application instructions, except use a *medium*-pressure airless spray unit to avoid disturbing the top. For *broom finished* concrete that has not been allowed to harden, you may also use a non-atomizing spray apparatus such as a pump-tank sprayer.

b. Apply to the newly placed surface as soon as is practical following surface finish.

c. Apply at the rate of 150 to 200 square feet per gallon for broom finished concrete; 300 to 350 square feet per gallon on hard or steel troweled concrete.