

GREENUMBRELLA® HYDROSHIELD

RESISTING WATER & FILLING THE VOIDS

DEEP SUBSURFACE / WATER RESISTANT DENSIFIER / HIGHLY ABRASION RESISTANT



ARCHITECTURAL APPLICATIONS

Green Umbrella® HydroShield™ is part of our CrossOver™ concrete treatments meeting Architectural Concrete design professionals' versatile product demands. HydroShield basic use is a *Penetrating Completely Reactive Hydrophobic Insoluble Nano Densifier*. Formulated after our flagship densifier DryShield™ for use in applications where basic densifiers and hardeners are specified but where a breathable but moderate liquid resistance is desired.



HOSPITALS GARAGES FOOD SERVICE OPERATIONS
WAREHOUSE/DISTRIBUTION CENTERS SHOWROOMS
RETAIL STORES LIGHT ASSEMBLY PLANTS
AIRPORTS PARKING DECKS





DEEP SUBSURFACE / WATER RESISTANT DENSIFIER/ HIGHLY ABRASION RESISTANT

GREEN UMBRELLA®
HYDROSHIELD

RESISTS WATER AND FILLS THE VOIDS

Green Umbrella® HydroShield™ is a hydrophobic concrete hardener and densifier reaching deep into the subsurface, creating more than a conventional shell surface. The unique formulation is resistant to surface moisture and breathable, insoluble, and fully reactive—resulting in a bond within the concrete that is stronger, denser, and less porous while repelling water. A clear, odorless solution with a natural appearance that is environmentally formulated to be a CrossOver™ densifier designed for application @EarlyAge™, @Profile&Polish™, or @MatureAge™ concrete. Unlike conventional hardeners, HydroShield™ is a single S.O.L.O™ application treatment that requires no scrubbing or mopping and is packaged R.T.U.² HydroShield™ produces a substrate that will stain less and wear longer, reducing maintenance frequency and extending the concrete's life cycle. Use of Green Umbrella® Treatments saves considerable time and expense while eliminating hazardous waste disposal concerns, significantly cutting the environmental impact.

CUTSHEET



CUT TO THE CHASE
GREEN UMBRELLA®



WATER RESISTANT



FEATURES & BENEFITS OF THE INDUSTRY'S MOST VERSATILE NON-FILM FORMING WATER RESISTANT CrossOver™ DENSIFIER @EarlyAge™ @Profile@Polish™ AND @MatureAge™ • INSOLUBLE, PRODUCT PERMANENCE-WILL NOT WASH OUT • DEEPEST SUBSURFACE PENETRATION, 10X DEEPER THAN CONVENTIONAL HARDENERS • NATURAL SILICA FORMULATION, ENVIRONMENTALLY RESPONSIBLE • UNIQUE NANO TECHNOLOGY, SUPERIOR PERFORMANCE • SUPERIOR STAND-ALONE CONCRETE HARDENER, 2X HARDNESS OF CONVENTIONAL HARDENERS • PREVENTS DANGEROUS OFF-DUSTING, SAFER FOR BUILDING OCCUPANTS • RESISTS PENETRATION OF OILS, CHEMICALS AND STAIN-CAUSING MATERIALS *(LOW VISCOSITY HIGH DETERGENT AND CHLORINATED OILS REQUIRE MAXDEFENSE™) • PH NEUTRAL, NON-HAZARDOUS • 100 PERCENT REACTIVE, CREATES MORE THAN A SHELL SURFACE • 100 PERCENT ABSORBED, CUTS WASTE



ADDITIONAL BENEFITS

@EarlyAge™

- No 7-28 Day Application Restriction - Less Downtime
- Protects Surfaces & Resists Liquids During Construction
- Not A Desiccant - Will Not Damage Surface Cure Absorbing Water Of Convenience
- Does Not Require Calcium Hydroxide Reaction - May Apply Same Day As Pour
- Will Not Gel On Surface - No Swelling in Pores that Creates Craze Cracking

CONVENTIONAL
HARDNER

28
DAYS

1
DAY

HYDROSHIELD

MO
VERSA
CROSS
DENS

ADDITIONAL BENEFITS

@Profile&Polish™

- Designed For Wet Profile, Hone and Polish Process - No Slab Whitening
- Special Formulation - Increased Concrete Colorant Retention
- No Concrete Sweating After Application - Prevents Long Downtime for Slab Recovery
- Deeply Subsurface - Is Not Cut Off During Profiling, Honing & Polishing Stages

WET CUT

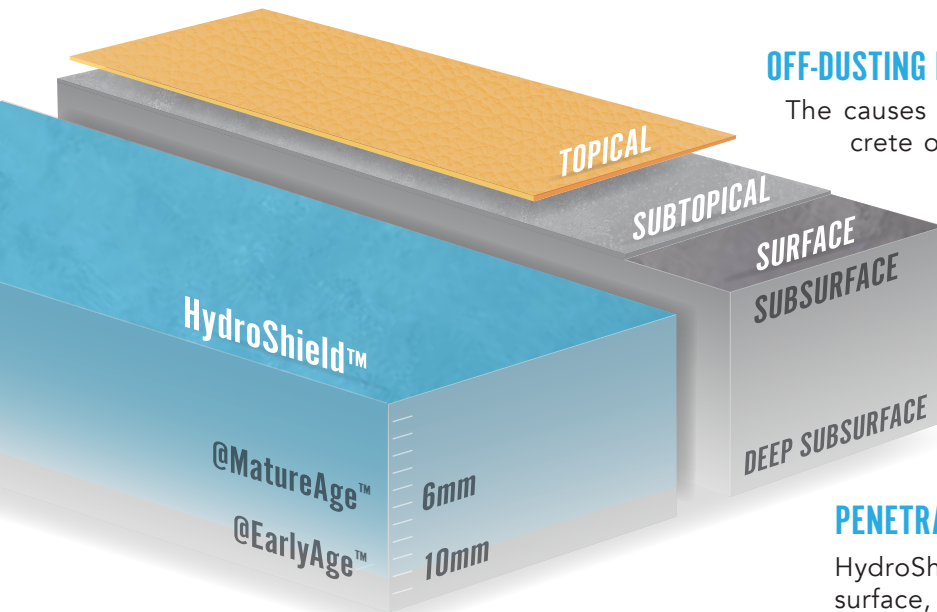
Green Umbrella promotes an environmentally responsible concrete process that implements mechanical action with wet abrasion to craft a specified concrete profile. The use of water and a liquid cutting agent for surface profiling, results in a superior wear surface and avoids airborne silicosis issues during construction and occupancy without sacrificing durability or increasing future maintenance costs.



ST ATILE COVER™ IFIER

LOW SOLIDS FORMULATION, **DEEPER PENETRATION** • REDUCES POROSITY, **INCREASED LIFE-CYCLE** • CREATES A BREATHABLE SURFACE, **NO FLAKE OR PEEL** • NATURAL APPEARANCE, **REDUCES CLEANING SCHEDULE** • REQUIRES NO RINSING & DISPOSAL, **CUTS LABOR** • SIMPLY AIR DRY, **CUTS LABOR** • HIGHLY ABRASION RESISTANT TO FOOT & WHEELED TRAFFIC, **INCREASES LIFE CYCLE** • SOLO APPLICATION & BRIEF DWELL TIME, **CUTS DOWNTIME** • NON-SODIUM, **DOES NOT CONTRIBUTE TO ALKALI-SILICA REACTION** • NO EFFLORESCENCE & WHITENING COMMON WITH CONVENTIONAL HARDENERS, **CUTS DOWNTIME** • NO VOC'S, **ENVIRONMENTALLY RESPONSIBLE** • NON-RESINOUS POLYMER FORMULATION, **PREVENTS YELLOWING & TIRE MARKING** • 2-3X GREATER COVERAGE RATE OF CONVENTIONAL HARDENERS, **CUTS LABOR**

SUBSTRATE INDEX



OFF-DUSTING PREVENTION & PROTECTION

The causes of the surface weakening of concrete vary. Concrete off-dusting happens when fine particles of crystalline silica are abraded from the surface and released into the air we breathe. The detrimental effects of concrete off-dusting are well documented. Arguably, the primary reason concrete treatments are applied is to prevent off-dusting. Green Umbrella HydroShield is "Filling the Voids" to eliminate weak porosities and produce an umbrella of protection for environmental protection and increased life-cycle.

PENETRATION

HydroShield is "Resisting Water & Filling the Voids" at the surface, penetrating and filling the deep subsurface due to its nano design and low solid content. All concrete matrices are not the same; thus, the depth of penetration will vary. Often, HydroShield penetrates 2x-3x deeper than conventional products, penetrating and reacting as deep as 10 mm below the surface. This allows for abrasive profiling without the densifier being cut off shortly after application, featuring HydroShield as a true @CrossOver densifier option @Profile&Polish.

NOT A CANDY SHELL

Concrete treatments are designed for surface protection. Many conventional hardeners create a shallow, thin shell of hardness at the sub-surface. When this "candy shell" is breached by abrasion, a softer than original surface may be exposed; this may be exaggerated when these products are introduced @EarlyAge™. HydroShield does not react as a desiccant — absorbing water of convenience @EarlyAge™ creating this phenomenon. HydroShield provides industry-leading surface and sub-surface protection without scavenging water @EarlyAge™ or washing out during routine maintenance.

INCREASED HARDNESS

A superior stand-alone densifier. In its natural state, the active ingredients in HydroShield yield 2x the hardness of conventional formulations. While abrasion resistance figures are frequently exaggerated and concrete matrices vary, often HydroShield often provides a 40-80% increase in hardness. In a double-blind test following ASTM C779-05, HydroShield outperformed three conventional hardeners. The surface, sub-surface and deep sub-surface will be harder and more durable with HydroShield due to its unique ability for "Resisting Water & Filling the Voids".

S.O.L.O. APPLICATION AND DWELL TIME

Green Umbrella HydroShield is applied once and does not require a lengthy 24-48 hour set time after application, like many hardeners. A Spray-On Leave-On treatment, with only one surface application needed. There is no scrubbing, gelling, or re-wetting of the surface. The initial 30 minute dwell time is all that is required. Once dried, the reaction is permanent within the surface and may be open to all traffic.

LIQUID RESISTANCE & BREATHABLE

HydroShield is not a water-proofer. It is formulated to fill the concrete voids by creating c-s-h (calcium silicate hydrate) through a permanent chemical reaction in the substrate with silica. The unique formulation is resistant to surface water and waterborne containments. Yet after it has cured it is insoluble, completely reacted. HydroShield increases the abrasion-resistance of the concrete while still allowing the passage of moisture through the slab @Early-Age when this protection is critical early in construction or where there are moisture issues that necessitate a breathable surface. HydroShield is an economical S.O.L.O. densifier treatment solution compared to higher performance floor options.

APPLY SAME DAY AS POUR

No calcium-hydroxide reaction is required. HydroShield can be applied the same day concrete is finished as a densifier (not a cure & seal); no conventional 28-day downtime. A CrossOver densifier option @EarlyAge, saving construction time that can be devoted to other trades while protecting the surface during the most abusive time of its life cycle.

ESTIMATING



Spray and Go

Coverage Rates: Green Umbrella HydroShield has an average coverage rate of 400 SF per gallon. On PHP floors, the coverage rate may be increased to a max of 600 SF per gallon only when used with Green Umbrella GreenCut™ cutting agent as part of a Green Umbrella Architectural Concrete System. Under normal conditions, only one application is necessary. Coverage depends on the porosity of the concrete substrate, time, temperature, and humidity. Container Sizes: 5, 55, and 275 gallons. Each container is labeled with information, including the product name, description, and application instructions.

EASY TO APPLY - SIMPLE TO MAINTAIN



HydroShield is shipped R.T.U. Easily apply S.O.L.O. with a GU recommended sprayer for coverage of 400-600 SF per gallon, in some applications spread with GU exploded-tip broom or T-Bar. To maintain, simply damp mop, auto scrub, and periodically burnish using Green Umbrella LifeCycle™ maintenance system treatments.

ENVIRONMENTALLY RESPONSIBLE PRODUCT



Uses natural silica to fill the voids.

Green Umbrella chose to formulate a product that uses natural silica to fill the voids not using inexpensive resinous polymers that have a greater, negative impact on the environment. HydroShield is not a wax on wax off maintenance treatment. As a pH neutral treatment does not contribute to hazardous downstream water impact or material disposal. As a result of the reduction of porosity, the life-cycle of the surface is greatly increased. As a part of a system design approach, our process and products require less labor and downtime while lowering environmental impact.



STANDARDS & TESTING

ASTM C779-05 Standard Test Method for Abrasion Resistance of Horizontal Concrete

ASTM C1583 Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)

ASTM 1308 Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes (Aviation Fluid Resistance with Green Umbrella Max Defense System)

ACI Standard 302 Guide for Concrete Floor and Slab Construction

USDA Compliant

FDA Approved

MOHS Scale of Mineral Hardness



“MAKING YOUR VISION A REALITY.”

CONSULT

SPECIFY

SUPPORT

“Green Umbrella® directs our clients toward an architectural concrete design that is Versatile, Sustainable, and Economical. A **GOAL** without a plan is simply a dream. Planning with proven products and methods enables our clients to design and build to highlight the versatile and sustainable features of architectural concrete floors. Our **GOAL** is to become our client’s source for architectural concrete consulting for every project, from start to finish. Green Umbrella is ready to support by providing a plan, or specification, for the owner and design professional that makes your vision a reality.”

