

# TECHNICAL DATA- Titanium TLS Lithium Densifier CONCRETE DENSIFIER AND WATERPROOFER

## PRODUCT DESCRIPTION:

Titanium TLS is a one component water based silicate and lithium based solution designed to densify and add waterproofing characteristics to cement and concrete substrates. The densifier reacts with the cementitious ingredients to densify and add water repellency while allowing deep penetration to chemically harden and fortify the substrate. After the chemical reaction occurs, the substrate will be more abrasion resistant and help protect the surface from wear, moisture and efflorescence while remaining breathable.

## BENEFITS OF USE:

Concrete sidewalks, drives or floors:

Increases durability by improving resistance to freeze thaw effects and improves abrasion resistance and durability.  
Improves weathering, densifies and reduces efflorescence of natural stone, precast stone and cement.  
Protects and fortifies concrete as it seals against moisture damage.  
Application will reduce dusting and increase concrete life.  
Reduces water absorption into the substrate.

## VOLATILE ORGANIC CONTENT:

Water based material with no VOC's

## COLOR:

clear to very opaque color

## RECOMMENDED FILM THICKNESS:

Apply until surface is saturated without puddles. Can be applied by any suitable method such as spraying or mopping etc.

## COVERAGE PER GALLON:

When the surface is fully saturated, coverage will depend on the absorptivity of the substrate resulting in 100 to 400 square feet per gallon coverage.

## PACKAGING INFORMATION:

This product is available in 5 gallon and 50 gallon containers. (approximately 8.5 pounds/gallon)

## SHELF LIFE:

One year in unopened containers when stored between 50-80 degrees F.

## FINISH CHARACTERISTICS:

Normally, this product does not change the overall appearance of the substrate. After the material is applied and allowed to dry for 24 hours, it will not be readily apparent that the application has occurred, except the concrete will be fortified and strengthened.

## ABRASION RESISTANCE:

The application of this product will increase the abrasion resistance of most substrates. Results will vary according to substrate type.

## ADHESION:

Because this material becomes an integral part of the surface that is treated and does not form an impermeable barrier, delaminations do not occur.

## DOT CLASSIFICATION:

Not regulated

## VISCOSITY:

Less than 25 cps

## CURE SCHEDULE: (70°)

Allow the material to dry for a 24 hour period of time to obtain the maximum benefits of the application. This allows the material to react with the concrete and become an integral part of the substrate.

## APPLICATION TEMPERATURE:

55-90 degrees F. \*When properly used, this product can reduce water absorption while still maintaining greater than 50% breathability.

## PRIMER:

None required. If applying multiple coats, a wet edge should be maintained. If the Titanium TLS dries between applications, water spotting may result.

## TOPCOAT:

None required. Multiple coats of this product are compatible (see information under primer).

## LIMITATIONS:

The surface can be damp prior to application but there should be no standing water or puddles. The best application would be with a dry substrate

Remove all overspray before drying from all glass or metal surfaces as this product can etch the surface.

Under certain conditions, a precipitate may be deposited as the lithium solution dries. See application procedures on the reverse side for more details. Always apply a test patch to determine the suitability before using.

Physical properties listed on this technical data sheet are typical values and not specifications.

See reverse side for application instructions.

See reverse side for limitations of our liability and warranty.

# INSTRUCTIONS (Titanium TLS)

- 1) **PRODUCT STORAGE:** Store product in an area so as to bring the material to normal room temperature before using. Continuous storage should be between 50 and 80 degree F. Keep from freezing.
- 2) **SURFACE PREPARATION:** All dirt, oil, dust, foreign contaminants and laitance must be removed to assure a trouble free application. Under certain conditions, a precipitate may be deposited as the lithium solution dries. Substrates with a high acid level will react with the lithium solution and can cause some neutralization of the material before it is absorbed into the surface leaving a white precipitate. This white precipitate is more readily noticeable on darker concrete and substrates. A test should be made to determine that none of these conditions exist. The substrate can be damp prior to application but there should be no standing water or puddles.
- 3) **PRODUCT APPLICATION:** Stir material before using. Apply material to the horizontal surface without thinning with a brush, mop or spraying equipment. When applying the material, always maintain a wet edge as this will reduce any chance of water spotting. When spraying, this product can damage vegetation, stain or etch glass, aluminum, metal and plastic. If contamination does occur, rinse it off with water immediately. If a white precipitate should form due to high acid content, or second coating, rinsing with water and a stiff broom will usually be able to remove the spotting. Since Titanium TLS densifier does not totally seal pores, water can still evaporate from the underlying surface. However, if capillary water is traveling toward the treated face, some of it will be stopped at the depth to which the Titanium TLS has penetrated. At this point it will evaporate, passing through the treated area as water vapor. This normally will present no problem. However, if the capillary water source contains soluble salts, they will be deposited at this point within the substrate where this water evaporates. In essence, this reduces visible efflorescence but there is this danger: If capillary water deposits excessive amounts of soluble salts, their crystalline growth can develop sufficient pressure resulting in spalling. Spalling may also result from substantial pressures of water freezing behind the face of the surface before evaporation can occur. These conditions both develop from outside sources of water. This product is developed to prevent the migration of water beneath the treated surface while still allowing water vapor to escape. Applications of this material will prevent positive side absorption of water and improve the capability of the substrate to resist spalling. Although the material will strengthen the substrate, outside sources of water may cause problems if the hydrostatic pressure is sufficiently great. After the product has been in contact with the substrate to allow for penetration and reaction, excess material can be removed by water or allowed to dry.
- 4) **RECOAT OR TOPCOATING:** Normally one coat is all that is required. It is best to make a second pass when desired while the substrate is still wet. Avoid overlapping wet to dry as this can cause water spotting because the product will not be able to penetrate a dry area that was treated as well as in an area that has been treated but not yet dried.
- 5) **CLEANUP:** Use any suitable mild detergent with a neutral pH to slightly alkaline pH and water.
- 6) **FLOOR CLEANING:** Caution! Although very unlikely, some cleaners may affect the color of the treated surface. Test each cleaner in a small area, utilizing your cleaning technique. If no ill effects are noted, you can continue to clean with the product and process tested.
- 7) **RESTRICTIONS:** Restrict the use of the floor to light traffic and non-harsh chemicals 24 hours has passed. Keep the floor dry for this period (excluding the application of the product and rinsing.) Dependent on actual complete system application, surface may be slippery, especially when wet or contaminated; keep surface clean and dry.

## NOTICE TO BUYER: DISCLAIMER OF WARRANTIES AND LIMITATIONS ON OUR LIABILITY

*We warrant that our products are manufactured to strict quality assurance specifications and that the information supplied by us is accurate to the best of our knowledge. Such information supplied about our products is not a representation or a warranty. It is supplied on the condition that you shall make your own tests to determine the suitability of our product for your particular purpose. Any use or application other than recommended herein is the sole responsibility of the user. Listed physical properties are typical and should not be construed as specifications. **NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, REGARDING SUCH OTHER INFORMATION, THE DATA ON WHICH IT IS BASED, OR THE RESULTS YOU WILL OBTAIN FROM ITS USE. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, THAT OUR PRODUCT SHALL BE MERCHANTABLE OR THAT OUR PRODUCT SHALL BE FIT FOR ANY PARTICULAR PURPOSE. NO WARRANTY IS MADE THAT THE USE OF SUCH INFORMATION OR OUR PRODUCT WILL NOT INFRINGE UPON ANY PATENT.** We shall have no liability for incidental or consequential damages, direct or indirect. Our liability is limited to the net selling price of our product or the replacement of our product, at our option. Acceptance of delivery of our product means that you have accepted the terms of this warranty whether or not purchase orders or other documents state terms that vary from this warranty. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products. Our products contain chemicals that may **CAUSE SERIOUS PHYSICAL INJURY. BEFORE USING, READ THE MATERIAL SAFETY DATA SHEET AND FOLLOW ALL PRECAUTIONS TO PREVENT BODILY HARM.***