TS210 Heavy Duty Oil & Stain Protector for Concrete Surfaces

Low VOC, Water Based Oil & Stain Protector for Smooth Troweled Concrete

Product Description

TS210 is an environmentally friendly, two component, water based, odorless, low VOC, high performance proprietary acrylic modified aliphatic polyurethane. It is ideal for most smooth troweled porous cementitious surfaces where oil repellence, stain resistance and cleanability are needed. It was developed using the latest advances in polyurethane polymer nanotechnology and also incorporates a new generation of polyacrylate dispersions. This state of the art formulation provides for a highly crosslinked coating that allows for both maximum penetration and superior chemical adhesion to minimally profiled cementitious surfaces. Unlike more traditional coatings, this sealer when properly applied, is not susceptible to lifting, peeling, or delaminating due to the very strong covalent bonds it forms with surfaces. The low molecular weight of the TS210 also results in an ultra-thin protective coating that is breathable but, at the same time, provides an extremely hard, durable, and abrasion resistant surface. The product is also resistant to hot tire pickup. The product offers exceptional 24-hour chemical and stain resistance to most common contaminants including oil, grease, water, salts and deicing chemicals, and most common food items. The product can also help reduce dirt build up, mold and mildew, dusting, efflorescence, freeze/ thaw damage, and scaling and spalling. The TS210 is UV resistant and will not break down or yellow in the presence of UV rays. The TS210 is available in either a matte or high gloss finish. The matte finish offers a natural look and the high gloss finish yields an attractive high sheen. The matte finish is ideal for floors subject to significant use including wheel traffic due to its improved concealment of dirt, wear, and imperfections. The high gloss finish is ideal for interior floors where a high sheen is desired without the need for concrete burnishing or polishing. The high gloss finish also offers excellent color enhancement on concrete colored with an acid stain or color dye. With the thin application rates and high coverage rates for this product, the sealer makes for a very cost effective solution when compared to more costly high build coating alternatives like epoxies, epoxy/ urethane combinations, polyureas, and polyaspartics. The TS210 also serves as a more durable alternative to traditional acrylic sealers.

Recommended Uses

TS210 was originally developed for commercial and industrial applications and is widely used throughout North America to this day for those applications. Concrete Sealers USA is now also making this professional grade sealer available to the residential market so small contractors, applicators, and do-it-yourselfers can enjoy the same superior benefits that architects, engineers, and large contractors have enjoyed for years. TS210 is recommended for interior hand troweled, machine troweled, burnished, polished, and stained or colored concrete substrates. It is ideal for use in parking garages, warehouses, distribution centers, factories, convention centers, public buildings, grocery stores, retail stores, restaurants, food preparation areas, office buildings, automotive garages, workshops, storage buildings, pole barns and sheds, and residential garages. The TS210 is acceptable for use on floors and surfaces subject to USDA and FDA inspections and regulations.

Performance Characteristics

Abrasion Resistance ASTM D4060 CS-17 1000 Cycles:	25 mg loss
VOC ASTM D3960:	<50 g/L
Pendulum Hardness ASTM D4366:	1 Day 38 sec
Pendulum Hardness ASTM D4366:	5 Day 154 sec
Pendulum Hardness ASTM D4366:	7 Day 162 sec
Tensile Strength ASTM D638:	4400 psi
Artifical Weathering ASTM D4587:	None
Tear Strength ASTM D624:	150-300 pli
Wet DCOF ANSI/ NFSI B101.3:	.65 for matte and .45 for high-gloss (>.42 is Considered Desirable)

Continues on next page

TS210 Heavy Duty Oil & Stain Protector for Concrete Surfaces

Low VOC, Water Based Oil & Stain Protector for Smooth Troweled Concrete

Chemical Resistance

Testing was conducted on a smooth machine troweled surface that was then sanded with a diamond grit sanding pad with 220 grit. Surface was treated with 3 applications of the TS210 with an approximate coverage rate of 800 square feet per gallon. Treated surface was then allowed to dry and cure at room temperature for 14 days prior to testing. Contaminants were then introduced and allowed to dwell on surface for 24 hours. All contaminants were then cleaned up with a wet rag with the exception of yellow mustard which was cleaned up with a mild bleach solution.

Cola	No Effect	**Gasoline**	No Effect
Mustard	No Effect	**Brake Fluid**	No Effect
Ketchup	No Effect	**Motor Oil**	No Effect
Coffee	No Effect	**Transimission Fluid**	No Effect
Red Wine	No Effect	**Anti-Freeze**	No Effect
Vinegar	No Effect	**Power Steering Fluid**	No Effect
Vegetable Oil	No Effect	**Skydrol**	No Effect
Mayonaise	No Effect	**Mineral Spirits**	No Effect
Lemon Juice	No Effect	**Sodium Chloride**	No Effect
Olive Oil	No Effect	**Calcium Chloride**	No Effect
Isopropyl Alcohol	No Effect	**Acetic Acid**	No Effect
Blood	No Effect	**Sulfuric Acid**	No Effect
Urine	No Effect	**Hydrochloric Acid 10%**	No Effect
Bleach	No Effect	**Sodium Hydroxide 50%**	No Effect
Water	No Effect	**Ammonium Hydroxide 30%**	No Effect

Note: Test results were obtained in a controlled laboratory setting. Reasonable variations can be expected due to type and porosity of surface, number of applications, nature of contaminant, actual dwell time, environmental conditions, etc.

Color

TS210 has a milky appearance when parts A and B are mixed together. The appearance of the Part A and Part B by themselves is milky and clear, respectively. Upon proper application, the substrate will yield either a high gloss or matte finish when dry depending on the version used.

Ordering & Shipping Information

Packaging: 1 quart kit
1 gallon kit
4 gallon kit

Shipping: Normal package delivery and trucking

Coverage Rates and Drying Times

Typical coverage rate is 800-1,000 square feet per gallon for smooth troweled surfaces and over 1,200-1,500 square feet per gallon for burnished or polished surfaces. Coverage rates are approximate and for estimating purposed only. Actual coverage rates vary according to the density, porosity, and texture of the substrate. Approximate drying times are 3-5 hours for dry to touch, 5-7 hours for light foot traffic, 7-10 hours for heavy foot traffic, and 24-48 hours for vehicular traffic. Standard recoat window is typically 24-48 hours. Drying times are for estimating purposes only. Actual drying times are based on temperature, humidity, and air flow.

Surface Preparation

The surface should be structurally sound. Any surface defects, cracks, voids, and joints must be properly sealed or filled. Substrates should be a minimum of 28 days old and/ or be fully cured. Surfaces must be clean and porous enough to allow penetration and adhesion. Substrates should be free of surface laitance, dust, dirt, debris, mildew, oil, grease, previous sealers, curing agents, paint or other surface coatings, and other contaminants. If acid or other cleaning compound is used for cleaning or etching the surface, neutralize the surface completely before application of TS210. The surface must also be dry and free of moisture as well as have a low moisture-vapor transmission rate (6 lb./ 1000 square feet/ 24 hours or 15 g/ square meter/ 24 hours). For best results, surface should have an equivalent of 150-220 grit resin bond diamonds and be able to fully absorb a few small drops of water within 3-5 minutes.

Continues on next page

TS210 Heavy Duty Oil & Stain Protector for Concrete Surfaces

Low VOC, Water Based Oil & Stain Protector for Smooth Troweled Concrete

Application

Always test for compatibility, porosity, adhesion, and appearance prior to full application. Do not apply below 60°F or above 90°F during the application and drying period. Ideal temperature for application and drying is above 70°F. Do not apply to damp or wet surfaces or substrates with a medium to high moisture-vapor transmission rate. Surface should be COMPLETELY dry for proper penetration and adhesion of sealer. Avoid exposure to water, moisture, or rain during application and for 48 hours after application. This product is a two component system and requires proper mixing of Parts A and B prior to use. The correct mixing ratio is 7 Parts A to 1 Part B (7A:1B). Stir Part A to ensure component is evenly dispersed. Pour Part A into a mixing container and gradually add in Part B. The two components should be mixed slowly with a drill/ paddle type mixer for 3-5 minutes until the material is thoroughly uniform and homogeneous. Product needs to be mixed well for adequate cure and streak free finish. The usable pot life of the mixed material is approximately 2 hours. Only mix enough material that can all be used within 2 hours of mixing. Continue to mix material during application to maintain the uniformity and consistency of the product. Avoid contamination with air and moisture and reseal partially used containers completely after each use.

For very dense, hard, smooth surfaces (ex. burnished or polished concrete) that are greater than the equivalent of 150-220 grit resin bond diamonds, a priming coat will be necessary. Dilute the mixture (7A:1B) of the TS210 with clean water in a ratio of 1:1. Apply a thin application and allow primer coat to dry tack free which could take 3-5 hours prior to proceeding with first full application.

Product can be applied with a high quality low pressure pump up sprayer (w/ conical tip that sprays at .05 to .15 gpm at 40 psi) in conjunction with a low nap (1/4") shed resistant roller, T-bar applicator, or flat microfiber floor pad. Product can also be applied without the use of a sprayer and just the use of a roller, T-bar applicator, or microfiber floor pad. Roller, T-bar applicator, or microfiber floor pad should be lightly pre-moistened with warm water leaving the applicator damp prior to application of material. Fill sprayer with product or pour product into paint tray. Fully saturate roller, T-bar applicator, or microfiber floor pad with product using the the sprayer or by dipping into the paint tray. Due to fast drying nature of the product, apply product in smaller areas by spraying or spreading the material onto the surface. Once the material is sufficiently on the surface, it will start out milky white. Work out product with little or no pressure to achieve a clear wet sheen while avoiding any puddles and maintaining a wet edge.

Material should be applied thinly, uniformly, and evenly to avoid micro bubbling, hazing, lines or streaking. Stop spreading the product once the milky white color goes away and the product begins drying. Do not over apply this product as this could lead to adhesion or finish issues. Normally two thin applications are required to achieve maximum performance. Additional applications need to be applied within 48 hours of the previous application. Allow the first application to dry tack free which may take 3-5 hours. Once tack free, a second application can be attempted. A third application may be needed for very porous or textured concrete surfaces. Reapplication of the product outside of the 24-48 hour recoat window may require thorough cleaning and/ or mechanically abrading the surface using an auto scrubber fitted with a black or green scrubbing pad. This is required to ensure no dust or dirt has accumulated and to promote good intercoat adhesion. After final application, allow product to dry for a full 5-7 hours for light foot traffic, 7-10 hours for heavy foot traffic, and 24-48 hours for vehicular traffic. Actual drying times depend on temperature, humidity, and air flow.

Clean application materials with warm water or mineral spirits. Clean drips and over spray with mineral spirits while still wet. If not cleaned immediately, the sealer may leave behind a hardened residue. Once cured, the product will require mechanical removal, sharp tool, or the use of a commercial chemical stripper.

Sweep the surface periodically to minimize scratches from dirt and "grit" buildup. Periodic maintenance cleaning should be done with a neutral floor cleaning product or plain water. Cleaning solution should be tested before full scale cleaning to ensure compatibility with the TS210 sealer. Do not perform regular maintenance with aggressive pads such as diamond impregnated polishing pads. The use of aggressive polish pads may be harmful to the sealer and cause loss of finish and stain protection. Occasional dry buffing with a white pad can restore finish and often times repair minor scratches and scuff marks.

Continues on next page

TS210 Heavy Duty Oil & Stain Protector for Concrete Surfaces

Low VOC, Water Based Oil & Stain Protector for Smooth Troweled Concrete

Limitations

TS210 is designed mainly to work on porous smooth troweled concrete substrates. It is not intended to be used on surfaces sealed with topical coatings such as acrylics, epoxies, polyurethanes, polyureas, and polyaspartics. It is also not suitable for wood, metal or non porous concrete, brick, or stone. Protect all surfaces that are not intended to receive the product. Product should only be applied in thin applications. Do not over apply. The coefficient of friction of the surface may decline with each sealer application. This can be offset by applying an anti skid compound (ex. fine micronized polymer) after first application when sealer is still wet and prior to it drying. Not intended for use on surfaces exposed to pooling, ponding, or standing water. The use harsh cleaners or detergents can cause irreparable damage to TS210. This may require reapplication to the restore sealer and stain protection. Product is intended to give a reasonable opportunity for cleanup of spills. Although the TS210 provides stain protection, all spills should be wiped up immediately. In some cases, the product will act as sacrificial protection and will require reapplication. Do not allow the product to freeze as the product could be damaged if frozen. Not intended to seal cracks or for use where severe hydrostatic pressure is present. Will not remediate structurally unsound surfaces with defects. The Company does not warranty specific performance results or compatibility with products manufactured by others. The Company shall bear no liability, other than replacement of defective product. A small test must be conducted prior to application. Based upon this test, the purchaser shall determine for themselves the suitability of this product for the intended use.

Environmental & Regulatory

TS210 complies with all Federal and State VOC requirements and contains only 50 g/L Volatile Organic Compounds (VOC). This product is considered a non-hazardous chemical under OSHA Hazard Communication Standard (29CFR 1910.1200). Contact may cause skin or eye irritation. Using with adequate air ventilation, eye protection, and gloves is recommended.

Safety & First Aid Precautions

Eyes:	Flush with water for at least 15 minutes.
Skin:	Wash thoroughly with soap and water.
Inhalation:	Move subject to fresh air.
Digestion:	Consult physician immediately.