DATA SHEET FOR GROUNDWORX ULTRA ESD EPOXY PRIMER

PRODUCT DESCRIPTION AND USE

GroundWorx Ultra ESD epoxy primer is a two-component 100% solids epoxy resin coating system that can be applied as a clear or pigmented floor coating or primer. GroundWorx Ultra primer is supplied with specific curing agents to achieve the appropriate cure rates, chemical resistance requirements, and final aesthetics. This product produces a glossy finish. GroundWorx Ultra can be installed as a vapor retardant primer. Contact a StaticWorx representative for details.

TECHNICAL DATA

Physical Properties

- Flash Point (ASTM D3278) ..... ≥ 215°F (102°C)
- Solids Content (ASTM D2369) 100%
- Mixed Viscosity (D2196) ..... 400-700 cPs
- Volatile Organic Compounds ..... < 0 g/l
- Dry Time @ 75°F (ASTM D5895):
  - ◊ Dry to touch, tack free: 4-6 hours
  - ◊ Fully dry: 6-10 hours
  - ◊ Full Cure: 7 days

Performance Properties

- Abrasion Resistance (ASTM D4060) ..... 75 mg
- Coefficient of Friction (ASTM D2047, James Test) ..... 0.55 – 0.65
- Tensile Strength (ASTM D2370) ..... 12,000 PSI
- Adhesion to concrete (ASTM D4541) ..... 350 PSI concrete failure
- Impact (ASTM D2794) ..... 40 in/lbs, direct & reverse
- Hardness (ASTM D3363) 2H
- Thickness ..... 10 mils

*Properties and results are based on laboratory testing at 72°F (22°C) and 50% RH, theoretical calculations, and estimates. Typical properties, as stated, are to be considered as representative of current production and should not be treated as specifications.

GENERAL INFORMATION

Storage

Materials should be stored in original un-opened containers indoors between 65°F (18°C) and 90°F (32°C) and at or below 50% RH.

Shelf Life

1 year from date of manufacture (un-opened)

Substrate

The substrate must be free of curing membranes, silicate surface hardener, paint, or sealer and be structurally sound. If the concrete has been treated or sealed, proceed with complete removal process. Contact StaticWorx for further instruction if silicate hardeners or membranes have been utilized.

Limitations

If contaminates of oils, silicones, mold release agents, and/or others are present, GroundWorx Ultra ESD primer may fisheye or delaminate from the surface. Surface contaminates should be removed with a suitable detergent prior to application. Solvent cleaning of silicone contaminates may make the situation worse and is not recommended. Contact StaticWorx for additional recommendations. NOTE: GroundWorx Ultra ESD primer may amber over time from UV exposure unless coated with GroundWorx Ultra ESD top coat.

Moisture

Moisture and vapor transmission rates are dynamic in nature and may change over time. Initial testing does not guarantee future results. StaticWorx requires that all concrete slabs are tested using in-situ probes per ASTM F-2170 and with calcium chloride tests per ASTM F-1869. If the relative humidity of the concrete substrate is over 75% (per ASTM F-2170) or 3lbs/1,000ft^2/24 hours (ASTM F-1869), contact StaticWorx for a moisture mitigation recommendation prior to product use.

Vapor/Contamination

If there is no known vapor barrier or the vapor barrier is inadequate, there is an elevated risk of bond failure. Other factors including the migration of oils, chemicals, excessive salts or Alkali Silica Reaction (ASR) from the concrete may also elevate the risk of adhesion difficulties. Contact StaticWorx for approved mitigation treatments.

Temperature & Humidity

During the application and curing of the coating, the substrate temperature, material temperature, and room conditions must be maintained between 65°F (18°C) and 90°F (32°C). Relative Humidity (RH) should be limited to 30- 80%. DO NOT apply coatings unless the surface temperature is more than five degrees over the dew point.

Equipment

- Protective equipment and clothing
- Jiffy mixer blade, model ES
- Clean container for mixing
- Low speed high torque drill motor
- High quality short nap roller covers (1/4 - 3/8 in nap)
- Squeegee

Surface Preparation

Surface dirt, grease, oil, and contaminates must be removed by detergent scrubbing and rinsing with clean water. Shot blasting or grinding the surface to a profile of CSP 2 - CSP 3 is the preferred method of preparation. The success of industrial diamond grinding as a concrete preparation method will vary depending on technique and the hardness of the concrete.

NOTE: Concrete is inherently porous and permeable. It can absorb and release water, vapor, and air due to naturally occurring conditions. Concrete substrates contain a network of voids, capillaries, microscopic air pockets, and stress cracks

where air, moisture, and contaminants can become trapped during the curing process. Shot blasting or grinding a sealed concrete slab opens up the surface and can allow for transmission of trapped air and gasses for an undetermined period of time. It is always best practice to test for outgassing before applying a primer. Bubbles, pinholes, and other deformations may occur in GroundWorx Ultra ESD epoxy primer when applied over an outgassing concrete slab.

Joint Treatment

All control joints can be filled with a rigid or semi-rigid joint compound. Construction joints may be filled with semi-rigid joint filler and might need to be re-built and re-cut depending on conditions.

Mixing Instructions

Mix ratio is 2 Parts A to 1 part B by volume. A pint of coloring agent is recommended per every 3 gallon mix. The color pack should be added and mixed in homogenously prior to adding the Part B hardener. Mix all components together for 2-3 minutes with a Jiffy® ES mix blade attached to a slow speed drill. Mix only enough material at one time that can be applied without exceeding the pot life. Note: Once this material is mixed, it can't be resealed for later use.

Application Instructions

Apply GroundWorx Ultra ESD primer at a rate of 10 mils (500ft^2 per pail) to the flooring surface using a notched or flat squeegee depending on the desired thickness. Allowing the material to sit in the pail for longer than 5 minutes will result in an increase of viscosity and reduced leveling properties. Back roll and evenly spread the wet coating using a 1/4 - 3/16 inch nap non-shed roller. Care should be taken to overlap and cross lap, but not over roll the coating introducing air to the surface.

GroundWorx Ultra ESD primer must be top coated within 24 hours (at 70-75°F, 30% RH) in order to avoid sanding. If the re-coat window has expired, the prior cured coating surface must be sanded with 100 grit sand paper or sanding screen installed on a swing-type floor buffer. Sand to a uniform dulled surface. Remove all sanding debris with a vacuum and damp mop. Scrub with detergent and rinse with clean water. Surface must be dry before coating.

Spreading

When GroundWorx Ultra ESD primer is applied, surface irregularities and porosity in the concrete may affect the coverage rate. Be sure to plan accordingly as there may be a need for extra material to provide proper coverage. Material applied too heavily may blister or can remain soft during curing. Too little material may produce dry spots and a non-uniform look. The best practice is to measure and grid the floor to be sure of proper application rate.

Cure Time

Unless top coating, allow GroundWorx Ultra primer to dry for a minimum of 24 hours after application at 75°F (24°C) and 50% RH before opening the floor to light traffic, allow more time for low temperatures and higher humidity or for heavier traffic. Full coating properties may take up to 7 days to develop.

Handling Precautions

Use only with adequate ventilation. Appropriate cartridge-type respirator should be used during application in confined areas. Avoid contact with skin; wear protective gloves. Read Material Safety Data Sheet before using.

Disposal

Dispose in accordance with federal, state, and local regulations.

Maintenance Guidelines

Allow floor coating to cure for at least 7 days before cleaning by mechanical means (i.e. sweeper, scrubber, disc buffer). Increased life of the floor will be seen with proper maintenance and will help maintain a fresh appearance. Regularly sweep to avoid retention of dirt and grime which can quickly dull the finish, decreasing the life of the coating. Spills should be removed as quickly as possible as certain chemicals may stain and can permanently damage the finish. Only soft nylon brushes or white pads should be used on your new floor coating. Premature loss of gloss can be caused by hard abrasive bristle Polypropylene (Tynex®) brushes.

Damages & Repairs

Heavy objects dragged across the surface will scratch any floor coating. Avoid gouging or scratching the surface. StaticWorx recommends protecting the floor with plywood, Masonite, or Ram boards whenever heavy equipment is being moved in or out of the space. Pointed items or heavy items dropped on the floor may cause chipping or concrete chip damage. Plasticizer migration from rubber tires can permanently stain the floor coating. If a rubber tire is planned to set on the floor for a long period of time, place a piece of acrylic sheet between the tire and the floor to prevent tire staining. Rubber burns from quick stops and starts from forklifts and lift trucks can heat the coating to its softening point, causing permanent damage and marking. Repair gouges, chips, and scratches as soon as possible to prevent moisture and chemical under cutting and permanent damage to the floor coating.

Usage

Installation of all products purchased must be by professional coatings installers. Unapproved modification to any StaticWorx product voids the warranty. The installer shall maintain a written record of field conditions (including, without limitation, surface and atmospheric conditions, usage rates, and lot numbers of products installed). StaticWorx reserves the right to inspect any installed product, installation, and/or maintenance records and records of field conditions and may conduct additional testing as is reasonably required to investigate any warranty claims. Warranty shall only apply for products or materials that have been paid for in full.

Moisture Vapor Transmission (MVT) and ASR (Alkali Silica Reaction) Disclaimer and Exclusion: Although rare, some floors at or below grade level are sometimes subjected to saturation by moisture from beneath the concrete floor slab. This moisture can travel through the concrete and collect between floor coatings, creating the potential for delaminating from hydrostatic pressure and or ASR. Conditions contributing to this include heavy rainfall, broken pipes, excess hydration within fresh concrete, and other factors or defective and old concrete. These factors are difficult, if not impossible, to predict. StaticWorx recommends testing for moisture and/or the presence of ASR in the concrete substrate prior to applying any polymer floor topping as detailed above. ASR can be predicted by a higher than normal pH within the concrete. If high pH should be detected, it is recommended that an independent lab test for ASR. If and when delamination of the floor occurs because of a moisture condition that exists beneath or in the concrete slab beyond the capacity of the individual product installed, or if a failure occurs due to ASR, the StaticWorx limited warranty will not apply.