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E-100 SERIES FLOOR COATING • E-100 SERIES VERTICAL
Application Instructions

EASY TO APPLY BUT PLEASE READ CAREFULLY:

While StaticWorx Concrete Protection Systems (CPS) products are easier to use than competitive products, it is very important to follow procedures exactly as they are described in order achieve the desired results. Read this bulletin carefully, and have all equipment and workers on hand before you begin. ***Do not hesitate to call our Technical Service Department if you have any questions.*** Your satisfaction with the results is our objective.

VIDEO AVAILABLE:

As an extra helpful tool, we offer an educational VHS-format video to supplement (but not to replace) these instructions. Your copy is available through StaticWorx Customer Service Department.

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TECHNICAL SERVICES:

StaticWorx Inc.
617.923.2000
8am-5pm Eastern Time
Monday thru Friday

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CAUTION

Hydrostatic Pressure and/or Water Vapor Transfer (Rising Moisture) in the concrete: The lack of proper sub-grade drainage (or absence of a vapor barrier under the slab-on-grade construction) may affect topping adhesion, due to rising moisture (which may not be visible.) This procedure will determine if you can put monolithic non-porous toppings on the surface. If there is any doubt about rising moisture, this simple test should be performed. ***NOTE: visible moisture is not always rising moisture, and rising moisture is the problem addressed here.***

CAUTION

RISING TEMPERATURES DURING APPLICATION: Besides assuring a proper temperature range during application, it is also recommended that application of StaticWorx products be done during times of decreasing temperatures. When temperatures rise (e.g. early morning, or radiant heat inside a building), concrete outgasses as air and water vapor in its pores expands. This can create bubbling in the wet material, which will be quite evident in a smooth flooring system, but can be a problem in a non-slip application as well. This is a potential problem with all non-porous systems, and not just StaticWorx products.

FOR BEST RESULTS, APPLY WHILE TEMPERATURES ARE STABLE OR DROPPING.

SECTION 1: STATICWORX CPS E-100 COATINGS PRE-APPLICATION PROCEDURES

1.1 PRODUCT DESCRIPTION: StaticWorx E-100 Coatings are designed for protection of concrete surface in smooth or anti-skid textures. These systems are moderate-duty versions of StaticWorx Overkote Series Toppings, they have similar qualities of chemical resistance, adhesion, and toughness. StaticWorx E-100 Coatings are formulated for thin application -- 16 to 50 mils and as glaze coats over the Overkote Series HD products. When using white or yellow, minimum recommended thickness is 32 mils, for best hiding characteristics.

These coatings are recommended for foot and rubber covered wheel traffic. Due to their application thickness, these materials are not recommended where hard mechanical abuse or continuous chemical exposure is encountered unless being used as a glaze coat over our 1/4" toppings. Finish may be smooth, anti-skid, or orange peel. For a smooth or anti-skid finish, Overkrete E-100 S or Overkrete Xtra E-100 S may be used. For an orange peel finish use Overkrete E-100 OP or Overkrete Xtra E-100 OP.

1.2 COATING KIT PACKAGING and COVERAGE RATES: All E-100 products are available in 1 gallon and 3 gallon kits. Except for Overkrete E-100 S • Overkrete E-100 OP • Overkrete E-100 V which are available in 1 gallon and 4 gallon kits.

These kits yield the following approximate square foot (sf) coverages:

Smooth Finish Overkrete E-100 S and Overkrete Xtra E-100 S 100 sf per gallon 16 mils.

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Section 1.2 KIT PACKAGING and COVERAGE RATES … cont.

Anti-Skid Finish 16 mils, broadcast to rejection with 16 mils glaze coat for 45-50 mil anti-skid finish.

NOTE: Silica for non-slip finish is not included with these kits, since its use is optional. Silica sand may be purchased from StaticWorx, Inc.. 480 Wedron or 2.8 - 3.0 US Silica is suitable for most applications. Plan on 50 lbs of sand for each gallon of base coat. 10 - 15% overage on silica is recommended.

The orange peel finish products are Overkrete E-100 OP or Overkrete Xtra E-100 OP. Coverage is approximately 100-130 sf / gallon, at 12-16 mils, accomplished in 2 steps. Sand is not required and should not be used with this material.

All kits have two parts. Part "A" is the resin, Part "B" is the hardener. All are pre-measured, and volume mixing ratios are shown on product labels.

1.3 RISING MOISTURE (Hydrostatic Pressure)

IN THE CONCRETE: Non-porous toppings should not be applied to any concrete structure subject to osmotic pressure, hydrostatic pressure or excessive water vapor emission. A visibly dry surface may still have this problem, particularly if slab-on-grade. See page 1 for further explanation.

1.4 MIXER REQUIREMENTS, and OTHER EQUIPMENT: The best mixing results can be obtained by using a 3" jiffler or Birdcage mixer attached to a 500-700 RPM drill. NOTE: HAND MIXING IS NOT ADEQUATE.

In addition to a mixer, there are other items needed for a successful application. Refer to the last page of this bulletin for a complete list of needed equipment. You should have all items ready before starting.

1.5 CHECKING FOR CONTAMINATES BEFORE CONCRETE PREP: Before starting concrete preparation, check for oil, grease, or sealers that may inhibit bonding. Sealers can be removed by mechanical means such as shotblasting, but this method will not work for oil or grease.

For degreasing, scrub the concrete with a cleaner/degreaser solution and thoroughly flush with fresh water. One scrubbing may not be sufficient. To test the surface, apply a 1 to 1 ratio of muriatic acid and water. A vigorous, uniform haze of bubbles indicates degreasing is complete. Lack of bubbling shows remaining grease or oil, requiring a further scrubbing. Repeat as necessary until degreasing is complete.

1.6 PREPARING FOR APPLICATION CONDITIONS: Before beginning surface preparation, plan ahead for temperature conditions needed during application. The material, site, and surface should be ready when you are, so schedule ahead for ambient or weather considerations.

For most E-100 Coating systems (except OVERKRETE 45/65 E-100 and OVERKRETE KOLD E-100), temperatures at application time are required to be 65°-90° F. This applies to the air, the concrete surface, and all the material. The surface must be visibly dry. (See page 1 for further explanation of visible moisture and hydrostatic pressure.)

For 45/65 E-100 and KOLD E-100: Temperatures at application should be 45°-65° F (for 45/65) and 32°-45° F (for KOLD).

When possible, store Parts "A" and "B" in the upper half of their temperature range (55°-65° F for 45/65, and 40°-45° F for KOLD). If working in the 45-50° F range, it is strongly suggested that 45/65 be used rather than Kold. Lower cost and longer pot life.

Store silica, if used, at warmer temperatures, above the range if possible. This will accelerate curing after broadcast.

These steps assure a good working mixture and a reasonable cure time. Materials should be stored while the concrete preparation is being done.

NOTE: Avoid applying material in direct sunlight or when temperatures are above the recommended range. In order to avoid the possibility of bubbling caused by outgassing of the concrete slab, schedule work for a period of steady or decreasing temperatures. See page 1 for further explanation.

1.7 CONCRETE PREPARATION (after Degreasing, if required): A properly prepared concrete surface is essential for a successful application. The desired result is a surface free of contaminants, with an abraded texture similar to 60 grit sandpaper. There can be no contamination or slick spots which will inhibit bonding of the StaticWorx flooring material.

There are three methods of preparing the concrete surface: acid etching, abrasive blasting and mechanical prep. If the acid etch method is chosen, see the next section. For abrasive blasting, follow equipment operating instructions.

New concrete must be properly cured for at least 10 days (at 70° F), with 3500 psi compressive strength and 200 psi tensile strength. Laitance must be removed by acid etching, abrasive blasting or mechanical means. If the concrete has a "burned-in" finish, where the surface has been steel troweled, it may not accept acid etching. In this case, abrasive blasting or mechanical scarifying will be required.

Existing concrete must be sound, with old coatings and toppings removed. The surface must be clean and free of oil, wax, paint, and other contaminants.

1.8 ACID ETCHING (if chosen as the prep. method): After checking the surface for contamination (Section 6), you should:

• Wash the surface with a high pressure washer (2500 psi

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Section 1.7 CONCRETE PREPARATION … cont.

or greater) and fresh water to remove surface dirt.

- Apply a solution of 1:1 muriatic acid and water, using a plastic garden sprinkle can or a plastic spray can. Coverage should be about 2 gallons of solution per 100 sf.
- Leave the solution undisturbed for 2 to 3 minutes, allowing it to react with the concrete. Bubbling will be evident.
- Use a stiff broom or mechanical scrubber to agitate acid solution and help remove surface laitance.
- Finally, thoroughly flush the surface by power washing using a power washer (2500 psi or greater).

Remember to comply with your local environmental requirements for disposal of the spent acid.

IMPORTANT: Acid solution must not be allowed to dry on the concrete surface. All acid must be rinsed and flushed with fresh water. If the acid dries, apply more acid solution before flushing.

1.9 REPAIR OF SEVERELY ERODED AREAS (if required): If a cementitious grout has been chosen for repair, follow manufacturer's instructions. After the grout has set, its surface will have to be prepared using the procedures in Section 1.7 and 1.8. If Overdrive is used to fill in the damaged areas, use the procedure in the Crack & Erosion Repair Application Instructions bulletin; surface prep after the Overdrive is not necessary, if recoated within 24 hours.

SECTION 2: PRIMING

2.1 PRIMING: Priming with Prime & Seal Primer is highly recommended to reduce risk of outgassing bubble formation and improve the final appearance of the floor coating.

SECTION 3: STATICWORX E-100 COATINGS APPLICATION

3.1 MIXING: ***CAUTION: If you have not yet read and understood the rest of this bulletin, do not begin mixing.*** Once mixing has begun, you will have to work quickly, as mixed pot life may be as short as 20 minutes. It is imperative that all equipment is on hand, and that all workers understand the procedures before starting. You will not have time to learn as you go.

REMEMBER:
The air, concrete, and material temperatures should must be 65° - 90° F for satisfactory application (45° - 65° F for OVERKRETE 45/65 E-100, and 32° - 45° F for OVERKRETE KOLD E-100). For temperatures outside the proper range, consult StaticWorx Technical Service Department.

REMEMBER:
Avoid applying material in direct sunlight or in temperatures above the recommended range. When possible, schedule work for a period of steady or decreasing temperatures. This will help prevent bubbling.

The pigment (color) of this product is in the Part "A", and will settle in shipment and storage. Part "A" must be thoroughly mixed to disperse pigment into resin (approximately 30 seconds). Make sure the pigment is thoroughly and evenly mixed before proceeding. Failure to do so will result in inconsistent color from batch to batch, or even within the same batch.

Note: Mixing of Parts "A" and "B" should not proceed until all equipment is ready for use, otherwise premature thickening will occur.

After Part "A" has been thoroughly mixed, add Part "B" and mix for an additional 1 to 3 minutes. IMMEDIATELY pour mixture on the floor to prevent premature thickening. DO NOT work out of a paint pan or bucket, as the heat buildup will shorten mixed pot life and work time. Paint pans may be used for vertical coatings.

3.2 ALL APPLICATIONS: See sections (3.2a) for Anti-Skid procedures and (3.2b) for Smooth Surface procedures, and (3.2c) for orange peel surface procedures. (3.2d) covers vertical procedures. ***NOTE:*** *Only Overkrete Xtra E-100 S or Overkrete E-100 S should be used for smooth surfaces.*

3.2a. ANTI-SKID SURFACE APPLICATION: After the base coat material is poured out on the floor, squeegee and/or roll it out to a thickness of 16 mils (100 sf per gallon).

The material should be easily workable for about 20 minutes. Within 20 minutes of applying the base coat, broadcast the silica sand, totally saturating the coated surface. Use approximately 50 lbs of sand per gallon of material on the floor. Leave a 12"-14" wet edge where another batch will be blended in. If necessary to walk on the wet surface, use spiked shoes. See clean-up procedures (section 3.3) while waiting to apply the second coat.

The base coat will be suited for foot traffic in 6-8 hours. At that time, sweep off the excess silica, and apply the second coat in the same manner as the the first. The second coat anchors the silica, improves appearance, yet leaves anti-skid surface.

NOTE: *Coverage rate for the second coat will vary depending on how aggressive the anti-skid surface is to be. Typical coverage is approximately 100 sq. ft/gal.*

3.2b. SMOOTH SURFACE APPLICATION (OVERKRETE E-100 S and OVERKRETE XTRA E-100 Only):
1st Coat - Over the properly prepared concrete, pour a 4"-6" ribbon on the floor using a flat blade rubber squeegee to uniformly spread the coating. Draw material to maximum coverage which will be 200-320sf per gallon depending on surface porosity. Then backroll with a short nap phenolic core roller. NOTE this coat must be allowed

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Section 3.2b SMOOTH SURFACE APPLICATION … cont.

to dry to touch. At 75° F, this will take about 6 hours. The first coat procedure will yield 5-8 mils of coating.

2nd Coat - Following procedure listed above, squeegee and backroll the second coat at rate of 135-200sf per gallon.

Coverage rate - Total material needed for both coats, is 1 gallon per 100 square feet for 16 mils per gallon.

NOTE: The coverage rates listed above are flexible and depend on surface porosity and desired finish appearance.

When continuing with another batch of base or 2nd coating, pour the new material just over the edge (about 6") of the previously applied batch, and apply it in the same manner as already described. Plan work so that batch tie-in is 15 minutes or less.

3.2c. ORANGE PEEL FINISH PROCEDURES/ (Overkrete E-100 OP or Xtra E-100 OP: Over the properly prepared concrete, squeegee a 6-8 mil coat (200-250 sf/gal), and backroll with a high quality 3/8" nap synthetic mohair roller. Apply a second coat (same thickness) when the first is tack free, but less than 24 hours after initial application.

3.2d. VERTICAL SURFACE APPLICATION: Complete all vertical work before beginning the adjacent flooring, so that any spills/drips will be covered by the subsequent floor application.

1. Work from a paint pan using a 3/8" nap synthetic roller.
2. If the wall texture is to match that of the non-slip floor coating, the silica sand broadcast method may be used (see section 3.2a).

3.3 CLEAN-UP: Equipment can be cleaned with Xylene IPA or 3599 Cleaner Degreaser, if done immediately.
If material has hardened on equipment, soak it overnight in methylene chloride. It is always advisable to have more than one roller per worker, so that use and cleaning can be frequently rotated during application.

3.4 FLOOR USE TIME: A non-skid floor can support foot traffic (and can be swept) in 6 to 8 hours after the second coat, and is ready for full use (traffic) in 24 hours. A smooth or orange peel floor will require 24 hours before foot traffic. Full chemical resistance of both will be achieved in four days. These times are based on curing temperatures of 65° - 90° F (45° - 65° F for 45/65 E-100, and 30° - 50° F for KOLD E-100). Curing is faster in warmer temperatures, and slower in colder temperatures.

3.5 SAFETY: These products contain amine curing agents and epoxy resins. Avoid skin contact. In case of eye contact or ingestion, contact a physician immediately. Some people are skin sensitive to these materials and should wear proper personal protective equipment. Refer to product label for further health information. Consult Material Safety Data Sheets (MSDS) available from StaticWorx, Inc.

SECTION 4: EQUIPMENT & SUPPLIES FOR STATICWORX E-100 COATING INSTALLATIONS

4.1 Equipment - re-usable (Usage/Notes):

- **Plastic garden sprinkler can or plastic spray can** (Acid solution application [acid etch])
- **Broom, with stiff bristles** (Acid etching, and sweep off excess sand if used)
- **Vacuum, wet/dry** (Acid and sand removal)
- **Water hose, 3/4"** (Acid washing, equipment cleanup)
- **Safety goggles, respirators or dust mask** (Acid or blasting surface prep)
- **Power washer (2500 psi minimum) (** Acid prep washdown)
- **Flexible rubber squeegee** (Water removal, Application tool)
- **Circular saw with diamond or masonite blade** (Keying in where application area ends)
- **Chipping hammer** (Chipping or repair of substrate)
- **Disc grinder - 4" or 7" diamond cup wheel, single segment** (Grinding/shaping of keyways)
- **Scarifier - Hand held** (Hard-to-get-to prep work)
- **Drill motor, 500-700 rpm, w/jiffler attachment** (Mixing)
- **Extension cords, heavy duty** (As required)
- **Wheelbarrow(s)** (Plastic preferred over steel)
- **Shovel(s)** (As required)
- **Paint roller, w/handle. Short nap roller (1/4" or 3/8"), phenolic core** (Roll out of material, application of Vertical)
- **Spiked shoes** (Wear for broadcast of silica, if used)

4.2 Supplies (expendable):

- R-O/Cleaner Degreaser 3599
- Xylene, IPA
- Duct tape
- Muriatic acid (HCl)
- Rubber and cotton gloves, knee pads
- Equipment cleaning, surface degreaser
- Equipment clean - up
- Masking
- Suggest 1 gal / 100s.f. average
- Applicator protection, comfort