

# Excel-Coat F/S

## Application Guide

### Fire System - Heavy Duty Pedestrian Traffic Membrane ICC-ES Evaluation Report #ESR-2505

## MATERIALS & TOOLS

### MATERIALS

- Excel-Coat #1
- Excel-Coat #200
- Excel-Coat #300
- Excel-Crete
- Excel-Crete Clear Additive
- Excel-Coat Patching Compound
- 0.75 ounce Fiberglass Mat
- Urethane Sealant
- Galvanized Roofing Nails
- Galvanized Staples
- Galvanized Metal Lath
- Excel-Crete K/D and Tinted Additive (alternate texture for increased skid resistance and durability)
- Excel-Crete Retarder (as needed for Excel-Crete Texture)

### TOOLS

- Fiberglass Roller
- Hammer
- Razor Knife
- Wallboard Scraper
- Roller Sleeves
- Roller Frame
- Staple Gun
- Drill Motor
- Drill Mixing Attachment
- 4" Paint Brush
- Air Compressor (Recommended)
- Hopper Gun (Recommended)
- Caulking Gun
- Caulking Knife
- Steel Finishing Trowels

## PREPARATION

### PLYWOOD

1. All plywood shall be a minimum of 5/8" thick, exterior exposure 1, CDX or better, plugged and filled.
2. Check all joints. All edges must be supported on framing and blocked or tongue in groove. Plywood shall be fastened with deck screws or nailed with ring shank or equivalent non-backing nails in accordance with Local Building Code.
3. Check for proper slope: 1/4" per foot.

4. Check for imperfections and damage to the substrate, perimeter building materials, and substrate joists and beams.

**Note:** If the plywood will be exposed for extended periods of weathering, it is recommended that the plywood surfaces be initially treated with a coat of Excel-Coat #1. This will help to prevent delamination, deterioration or warping.

**Note:** Oriented Strand Board (OSB) is not acceptable for use with Excel-Coat Waterproofing Systems.

### EXISTING SYSTEMS

Excel-Coat Waterproofing Systems can be installed over other waterproofing systems. Contact an Excellent Coatings International representative to find out what options are available for your particular application.

### METAL FLASHING

1. Metal flashing shall be galvanized or have a bonderized finish (galvanized and etched) and be a minimum 26 gauge.
2. It is recommended that a bead of caulk be placed on the plywood and the metal flashing sealed into the caulk.
3. Metal flashing shall be fastened three inches on center in a W pattern with galvanized flashing nails. Flashing must be nailed down flat with no buckling.
4. All metal flashing must have a minimum 3" overlap at the connecting seams. Corners must be tight and the entire perimeter must be flashed. Overlaps may be treated with a 4" strip of fiberglass saturated with Excel-Coat #1. Soldering of overlap is also acceptable.
5. All joints and seams shall be caulked with a urethane sealant. Remove all excess sealant from the plywood and flashing.
6. Low rise drip edge flashing is recommended for outside edge flashing.

### STAIR NOSING

Stair nosing is recommended on all stairs and landings to minimize wear. The stair nosing should be installed according to a specific sequence of application. Contact Excellent Coatings International for instruction.

For proper drainage, the nosing should be 1"-2" shorter than the step, and centered, allowing a gap on either side of nosing to allow water to drain off the stair.

## APPLICATION

### METAL LATH

The entire deck surface should be covered with the 2.5 galvanized metal lath. Lath shall be installed over horizontal edge of all metal flashing. All seams in the lath shall be tight, with no gaps or overlap.

#### PREPARATION:

1. Pull sheets of metal lath off the bundle in the same direction and lay side by side.
2. Seams in the metal lath must be a minimum of 3" away from a parallel joint in the plywood.
3. Using a few galvanized roofing nails, fasten the lath in place to prevent the metal lath from moving while stapling.

#### APPLICATION:

1. Using a 16 gauge, minimum 1" crown and minimum 5/8" leg galvanized staple, begin to staple in the middle of the sheet and work toward the edges.
2. Staple in a checker pattern using approximately 20-25 staples per square foot.
3. Adjust next sheet and repeat process.
4. After all sheets have been fastened, staple all seams at a rate of one staple per linear inch. Use galvanized roofing nails in any areas where the staple gun will not reach. If flat drip edge flashing is used instead of low rise drip edge flashing, hold the metal lath back 1/2" from outside edge and slope to the edge with Excel-Crete.

**Note:** Do not use staples longer than the thickness of the plywood substrate. Thickness of substrate may require change in length of staple leg (e.g. thicker plywood means a longer staple leg).

### EXCEL-CRETE UNDERLAYMENT

#### MIXING:

1. With a drill motor and mixing attachment, mix 1 bag of Excel-Crete (half bag at a time) with 1 gallon of Excel-Crete Additive.
2. Continue mixing until both parts are thoroughly combined and a uniform consistency is achieved (approximately 2 minutes).
3. You may add up to 1/2 gallon of additional additive for easier troweling.
4. To prevent aerating the mixture, do not take the mixing attachment out of the material until the blade has completely stopped.

**Note:** Always put liquid into bucket first, adding powder to liquid.

#### APPLICATION:

1. Starting at the perimeter of the deck, apply Excel-Crete over the metal lath with a steel-finishing trowel.
2. Apply uniformly at 1/4" thickness. One bag of Excel-Crete should cover approximately 20-25 square feet.
3. Do not squeegee or float Excel-Crete. Use a trowel only.
4. All material to cure approximately 24 hours. Dry times may vary.

**Note:** Do not extend Excel-Crete to the mouth of drains. Leave enough exposed metal to allow the Excel-Coat to bond to the metal.

**Hint:** If trowel marks appear, sprinkle a little Excel-Crete Additive with a brush over the area, rinse off trowel, then smooth the area.

### WATER TEST

1. Once the Fire System underlayment (lath and Excel-Crete) has been installed, the deck surface needs to be checked to ensure water slopes to drain. Any additional fill or sloping that is necessary shall be done before the application of the membrane, texture and top coats have been applied.
2. Additional fill or sloping may be achieved using Excel-Crete. Refer to the Excel-Crete Data Sheet and Application Guide for additional information.

### EXCEL-COAT #1

#### PREPARATION:

1. With a grinder, level out any imperfections or trowel marks in the Excel-Crete surface.
2. Patch any minor imperfections with Excel-Coat Patching Compound.
3. Excel-Coat hides only small imperfections, so care must be taken to assure the surface is completely clean, free from all dirt, oil, grease, old coatings, and debris.
4. It is recommended that where possible run the fiberglass up the vertical flashing or down the fascia, use a separate 4"-6" strip of fiberglass for the 90° turn. A strip of fiberglass is easier to work with and will mold/adhere better to the wall-to-deck interface. When this strip is cured, lay out the horizontal fiberglass and laminate as usual.
5. A bead of caulk can be used at the wall-to-deck interface to soften the angle.

#### APPLICATION:

To ensure proper adhesion, surface must be dust free and clean of debris, wax, dirt and oil.

1. Cover deck surface with fiberglass mat.
2. Butt the edges of the fiberglass together, but do not overlap.
3. Fiberglass should cover the edge of the flashing terminating 1/2" from outside edge. If necessary, fiberglass may be turned up the metal flashing or down the fascia edge for extra protection.
4. With a 4" brush generously apply the material around the perimeter of the deck. It is essential that the material cover all the flashing at the walls and doorjamb.
5. Saturate the fiberglass mat with Excel-Coat #1.
6. Fiberglass should be laminated into the mouths of all drains. Cut an X into wet fiberglass at drain mouth; let fiberglass fall into drain.

**Note:** Do not cut in entire deck edge at one time. For best results, cut fiberglass 5'-6' at a time, making sure that you roll out the center immediately, always going wet into wet. This

**process will eliminate wrinkles in the fiberglass as you apply the Excel-Coat #1.**

7. With a 3/4" nap roller, apply Excel-Coat #1 at a rate of 50 square feet per gallon.
8. Laminate center of section by pouring approximately 1/2 gallon of Excel-Coat #1 on top of fiberglass.
9. Using moderate pressure, work puddle of Excel-Coat #1 into fiberglass mat until thoroughly saturated. Excel-Coat #1 must penetrate through mat and into substrate.
10. Roll puddle toward you.
11. Before moving to the next section of the deck, go over the wet laminated area with a metal fiberglass roller to smooth out fibers, roll down bubbles and wrinkles, and bring resin to top of glass for pinhole-free membrane.
12. Allow material to dry approximately 6-8 hours. Dry times may vary.

**Hint:** Be conscious of the amount of material you are using. Excel-Coat #1 is a low viscosity material, and it will have a tendency to run. Be generous with this material, and be sure to apply enough pressure on the roller to force the material through the fiberglass mat. However, do not over roll. Continually rolling back and forth will cause the fiberglass mat to stretch and break apart.

#### **Tips & Tricks:**

##### **Do Not Dry Roll:**

Dry rolling is dipping roller into pail and rolling out instead of pouring material onto deck. Resin will not penetrate fiberglass or bond to surface of deck. Dry rolling causes pinholes and air bubbles.

##### **Bubbles:**

While wet, if there is foreign matter under fiberglass causing a bubble, cut fiberglass open and remove it. Brush or roll the strands back down.

##### **Wrinkles:**

While wet, wrinkles can be repaired by using a utility knife, cutting directly across top of wrinkle, and brushing or rolling area back down.

**These repairs should be done with a metal fiberglass roller.**

#### **DECK DRAINS & SCUPPERS:**

Deck drains and scuppers shall be set in caulk and securely anchored. Copper drains shall be anchored with copper nails only. Metal lath shall be held back 1/2-3/4 inches from outside edge of copper drain to avoid contact of dissimilar metals.

Apply the Excel-Crete so that it slopes down to the edge of the drain or scupper to create a gradual slope to the drain or scupper. Apply the Excel-Coat membrane into throat of the drain or scupper. For proper drainage, the drain, scupper and grate should be lower than deck surface.

**Do not use plastic drains or scuppers.**

#### **DETAILING FIBERGLASS:**

After fiberglass mat has been laminated and allowed to dry, surface must be detailed before proceeding with texture

application. Use Excel-Coat Patching Compound to patch seams, feather down edges of fiberglass and correct any other defects on laminated surface.

1. **Hollow Spots and Bubbles:** Suspect areas will usually have a large number of pinholes in the area of the bubble. Coating may even appear to be raised.
2. **Small Bubbles:** Bubbles no larger than a half a dollar can be cut out, patched and feathered out with two thin coats of Excel-Coat Patching Compound.
3. **Large Bubbles:** Large, unbonded areas should be completely removed and re-fiberglassed.
  - a. Lay a piece of fiberglass mat over area to be removed. The piece should be a little larger than what is being removed.
  - b. Double cut through both pieces of the fiberglass.
  - c. Replace bad piece with new piece of fiberglass mat. It should fit perfectly.
  - d. Laminate patched piece with paintbrush. Let dry.
  - e. Patch and feather-repair with Excel-Coat Patching Compound.
4. **Wrinkles:** After Excel-Coat #1 has dried, wrinkles can be repaired by shaving down top of wrinkle until it is flush with deck surface. This can be achieved by using a 4" wide razor scraper. Fill in and feather with two thin coats of Excel-Coat Patching Compound.
5. **Patching Seams:** Fill gap between the two pieces of fiberglass by applying two thin coats of Excel-Coat Patching Compound with Patching Spreader (a.k.a. "Bondo Spreader"). Squeeze each coat on. Avoid creating a hump over seams.
6. **Edges:** On decks with flashing on the outer edges, fiberglass should stop 3/8"-1/2" back from outside edges. Feather all edges of fiberglass to edge of deck with Excel-Coat Patching Compound.

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#### **EXCEL-COAT # 200 (Texture)**

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##### **PREPARATION:**

1. Use a blower to clean the deck surface of any dirt or debris.

##### **MIXING #200 TEXTURE:**

1. Drill motor mix Excel-Coat #200 prior to applying to ensure color consistency.

##### **APPLICATION OF #200 TEXTURE (w / HOPPER):**

1. With tape and paper, mask off walls, railings, sliding doors, etc.
2. Set the air pressure in the hopper gun between 8-15 pounds per square inch (the higher the pressure, the smaller the texture).
3. Starting with the perimeter of the deck, begin to apply Excel-Coat #200 at a rate of 75 square feet per gallon. Move the pattern pistol as evenly as possible to create a uniform spray and texture. Avoid spraying thick and thin spots.
4. Allow material to dry approximately 6-8 hours. Dry times may vary.

##### **APPLICATION OF #200 TEXTURE (w / ROLLER):**

1. With a 4" brush, apply Excel-Coat #200 Rollable Grade around the perimeter of the deck and drains. It is

essential that the material covers flashing at the wall and doorjamb, but do not take it over the fascia edge.

2. With a 1" nap roller, apply Excel-Coat #200 Rollable Grade at a rate of 75 square feet per gallon.
3. Pre-moisten roller cover with water. Spin out any excess water. This will help prevent roller cover from drawing moisture out of coating and will keep coating from clumping on roller.
4. Pour small amounts of Excel-Coat #200 onto deck surface and roll out.
5. To remove clumps of coating, move roller in a circular motion over clump, using moderate pressure.
6. Allow material to dry approximately 6 to 8 hours. Dry times may vary.

**Note:** Standard Excel-Coat #200 is thick for use with a hopper gun. In order to achieve a uniform appearance when rolling, you may add up to 1 gallon of Excel-Coat #300 to 5 gallons of #200 texture or request "Rollable Grade" when ordering product. This will help make rolling easier. When rolling #200, we recommend that you roll the product evenly over the deck surface, the back roll in the same direction.

**CAUTION:** When rolling Excel-Coat #200 on hot days or hot surfaces, material will begin to cure quickly. Apply the material and then leave alone. "Touch ups" should be completed after the material has dried.

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### EXCEL-CRETE K/D & TINTED ADDITIVE (Alternate Texture for increased skid resistance and durability)

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#### MIXING OF EXCEL-CRETE K/D & TINTED ADDITIVE TEXTURE:

1. With a drill motor and a mixing attachment, mix 1 bag of Excel-Crete K/D (half bag at a time) with 1½- 2 gallons of Excel-Crete Tinted Additive and 1 packet of Excel-Coat Retarder.
2. Continue mixing until both parts are thoroughly combined and a uniform consistency is achieved (approximately 3-4 minutes).
- 3.

**Note:** Smaller batches may be mixed following the same mix ratios.

#### APPLICATION OF EXCEL-CRETE K/D & TINTED ADDITIVE (w/ HOPPER):

1. With tape and paper, mask off walls, railings, sliding doors, etc.
2. Set the air pressure on the hopper gun between 6-15 pounds per square inch (the higher the pressure, the smaller the texture).
3. Starting with the perimeter of the deck, apply Excel-Crete K/D texture at a rate of approximately 300 square feet per batch. Move the pattern pistol as evenly as possible to create a uniform spray and texture.
4. Allow 24 hours to dry. Dry times may vary.

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### EXCEL-COAT # 300 (Top Coat)

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#### PREPARATION:

1. With a wallboard razor, lightly scrape off any irregularities in the texture.
2. Use a blower to clean the deck area of any remaining dirt or debris

#### APPLICATION:

1. With a 4" brush, apply Excel-Coat #300 around the perimeter of the deck and drains. The material should cover all flashing at the walls, doorjamb and fascia edges.
2. Apply two thin coats of Excel-Coat #300 by roller or airless sprayer at the rate of 250 square feet per gallon per coat, for a net yield of 125 square feet per gallon total coverage.
3. Allow material 6-8 hours to dry. Dry times may vary.
4. Allow completed system to cure 24 hours before heavy foot traffic is permitted and an additional 72 hours before heavy objects are placed on the surface.

**Note:** Cold or inclement weather will effect the cure time of all Excel-Coat F/S products. Do not install over wet substrate, in the rain or if the threat of rain exists within 24 hours.

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## DECORATIVE OPTIONS

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### EXCEL-COAT TWO-TONE FINISH

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This finish is achieved by first rolling Excel-Coat #300 over the fiberglass reinforced membrane and then using a hopper gun to "shoot" two different colors of texture. The texture material can be Excel-Coat #200, which is an acrylic base with fibrous aggregate, or you can use Excel-Crete K/D and Tinted Additive to your desired colors and sprayed over the deck. The system is completed with two coats of an Excel-Coat clear sealer.

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### EXCEL-COAT K/D & K/D II SYSTEMS

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The Excel-Coat K/D & K/D II Systems are polymerized cement products that can be used to create durable, attractive patterns and textures as a finish on-grade or as a finish to the Excel-Coat Waterproofing Systems.

The Excel-Coat K/D & K/D II trowel applied systems may be used in conjunction with the Pedestrian Traffic Membrane (over concrete) or the Fire System (over plywood). See Excel-Coat K/D & K/D II System Spec Data Sheets and Application Guides for application options and instructions.

**Note:** To apply trowelled K/D (Knock Down) or K/D II decorative finishes over plywood, the Excel-Coat Fire System must be installed first.

**Note:** To insure uniformity of color, drill-mix all materials before using.