

FloroEster VE Mid/Topcoat Vinyl Ester Coating System

Product Description: FloroEster VE is a multi-component, high solids, vinyl ester based secondary containment topping/lining that provides superior protection to concrete or steel surfaces subjected to a broad range of acidic and caustic solutions. The system may be used as a stand-alone coating or with the addition of silica sand or decorative colored quartz aggregate. FloroEster VE is available in Clear, Gray or Red.

Typical Uses, Applications: Ideally suited for commercial, industrial and institutional applications, such as:

- Secondary Containment
- Chemical and waste treatment plants
- Pulp and paper mills
- Textile mills
- Metal finishing shops
- Power generation facilities

Product Advantages:

- Excellent resistance to acids, alkalis, bleach
- Exceptional corrosion protection
- Incorporates FDA compliant resin

Packaging:

- FloroEster U Primer
 - 4 Gallon (15.1 L) Kit
 - 50 Gallon (189.27 L) Pail Set
- FloroEster VE Midcoat/Topcoat
 - 4 Gal (15.1 L) Kit
 - 50 Gal (189.27 L) Pail Set

Storage: All containers should be stored at 50°F to 95°F, be kept tightly sealed and out of direct sunlight.

Cured Physical Properties		
Compressive Strength	ASTM C579	8,500–9,000 psi (58.60-62.05 MPa)
Tensile Strength	ASTM 638	2,500 psi (17.0 MPa)
Adhesion Strength Concrete	ASTM D7234	Concrete Failure
Adhesion Strength Steel	ASTM D638	1,000 psi (6.89 MPa)
Service Temperature Limitations	Continuous Intermittent	140° F (60° C) 180° F (82° C)
Abrasion Resistance, Taber Abrader CS-17 Wheel, 1000 gm load, 1000 cycles	ASTM D4060	70 mg loss

Shelf Life: At storage temperature of 70° F (21° C) the shelf life from date of manufacture is:

- FloroEster VE Part A – 6 months
- FloroEster VE Hardener Part B – 12 months

Chemical Resistance: See FloroEster Chemical Resistance Chart for details.

Coverage: Varies depending on system

Special Considerations:

- REQUIRED Product Recommendation Form—Carefully complete and submit to Florock headquarters prior to product use. Failure to do so could effect warranty.
- Shelf Life—6 Months from time of manufacture
- Lead Time—5-10 Working days prior to shipping
- Returns—Because FloroEster is made-to-order, returns are not accepted

Surface Preparation:

Concrete—The concrete shall have a minimum Compressive Strength of 3,500 psi (25 N/mm²), in addition to a minimum Surface Strength of 200 psi (1.4 N/mm²) for coatings and 300 psi (2.1 N/mm²) for linings. It must be thoroughly cured and dry at the time of application. Prepare the concrete substrate in accordance with the Florock Preparation of Concrete Guide, paying special attention to mechanical prep and MVT information. Consult FloroProof System Data Sheet for details on MVT parameters and mitigation.

Carbon Steel—Abrasive blast to “White Metal”, in accordance with SSPC SP-5, NACE Specification #1 or SA 3. After blast cleaning, prime the steel surface before the formation of any rust bloom. Contact your local Florock representative for more details.

Note: FloroEster should not be applied when substrate temperature is above 90° F (90° C) or below 50° F (10° C), or when within 5° F (2.5° C) of the dew point.

Application—Thin Film, Resin Only System:

1. Important: Complete the FloroEster Product Recommendation Form attached. Submit to Florock headquarters before proceeding.

2. Primer Application: Once surface preparation is complete, apply FloroEster U Primer. In a clean, dry container, pour in 1.0 gallon (3.78 L) FloroEster U Primer Part A. Add 2.0 ounces (0.5 dL) Part B Hardener and mix thoroughly for 3 minutes using a ½” (12.7 mm) drill motor and a mixer with cross type blade or paddle whip. Carefully noting the working time limitations, transfer the mixture from the batch container to a transport container. Remix and pour entire mix from the transport container onto the floor immediately. Retaining mixture in the bucket will shorten the pot life. Using a 1/8” (3.1 mm) V-notched squeegee or 3/8” (9.5 mm) mohair type roller, apply primer at a rate of 160-200 SF/gallon (3.9-4.9 m²/L) over concrete or at a rate of 250-300 SF/gallon (6.1-7.3 m²/L) over steel. Backroll with a 3/8” (9.5 mm) nap roller immediately after spreading. Allow primer to cure before applying next coat.

Note: The cure time will vary with conditions. Allow a minimum of 2 hours and a maximum of 7 days before next step.

Blended Components FloroEster VE Thin Film, Resin Only System	
Induction Time	None
Maximum Working Time	90 min. at 50° F (10° C) 60 min. at 70° F (21° C) 30 min. at 90° F (32° C)
Recommended Spread Rate	Varies
V.O. C.	111 g/L (0.93 lbs/gal)
N.V.V.	80%*
N.V.W.	85%*
Minimum Recoat	8-12 hrs. at 50° F (10° C) 4-6 hrs. at 70° F (21° C) 2-3 hrs. at 90° F (32° C)
Maximum Recoat	7 Days
Return to Service	72 Hours at 50° F 48 Hours at 70° F 24 Hours at 90° F
Floor and Air Temperature Limitations during Installation	50° - 90° F
Clean-up Solvent	Acetone

*Vinyl Ester resin systems are subject to monomer loss and material shrinkage during application and curing. Actual percent solids will also vary depending upon fillers used, temperature, and air movement.

3. 1st Coat FloroEster VE: In a clean, dry container, pour in 1.0 gallon (3.78 L) FloroEster VE Part A. Add 2.0 ounces (0.5 dL) Part B Hardener and mix thoroughly for 3 minutes using a ½” (12.7 mm) drill motor and a mixer with cross type blade or paddle whip. Carefully noting the working time limitations, transfer the mixture from the batch container to a transport container. Remix and pour entire mix from the transport container onto floor immediately. Retaining mixture in the bucket will shorten the pot life. Using a 1/8” (3.1 mm) V-notched squeegee or 3/8” (9.5 mm) nap roller, apply coating at a rate of 120-180 SF/gallon (2.9-4.4 m²/L) to achieve 9-14 mils. Backroll with a 3/8” (9.5 mm) nap roller immediately after spreading. Allow coating to cure before applying next coat.

4. 2nd Coat FloroEster VE: Repeat Step 2 above. Allow a minimum of 24 hours cure time before opening floor to traffic.

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Application—Broadcast Flooring System, 1/6" (4.2 mm) Thick:

- 1. Primer:** Follow Steps 1-2 above.
- 2. Basecoat:** In a clean, dry container, pour in 1.0 gallon (3.78 L) FloroEster VE Part A. Add 2.0 ounces (0.5 dL) Part B Hardener and mix thoroughly for 3 minutes using a 1/2" (12.7 mm) drill motor and a mixer with cross type blade or paddle whip. Carefully noting the working time limitations, transfer the mixture from the batch container to a transport container. Remix and pour entire mix from the transport container onto floor immediately. Retaining mixture in the bucket will shorten the pot life. Using a 1/8" (3.1 mm) V-notched squeegee or 3/8" (9.5 mm) nap roller, apply coating at a rate of 66-80 SF/gallon (1.6-1.9 m²/L) to achieve 20-24 mils. Backroll with a 3/8" (9.5 mm) nap roller immediately after spreading. Allow coating to completely self-level before broadcasting.
- 3. Broadcast Aggregate:** Estimate sand usage at 1 lb/SF (4.8 kilos/m²). Wearing spiked shoes, broadcast 20-40 mesh silica sand into the still-wet basecoat. Continue broadcasting silica sand until all liquid is filled and there are no apparent wet spots. After material has cured sufficiently, vacuum or sweep off excess aggregate. Sand or screen high spots until smooth. Vacuum clean.
- 4. Grout Coat:** Repeat Step 2 "Basecoat" above in order to provide a grout coat over the exposed aggregate surface and seal the system. More or less resin can be used to achieve the desired degree of surface texture. Thicker and/or multiple broadcast layers can be applied to meet specification requirements

Application—Over a New, Fully Broadcast FloroCrete Coating:

1. Examine the FloroCrete coating to ensure that it is well-bonded to the concrete, has cured for a minimum of 24 hours and is within the recoat window.
2. Clean the entire floor thoroughly of any loose broadcasted material.
3. For either a resin-only or a broadcast application of FloroEster VE, follow all steps in the respective application section above.

Maintenance: See Florock Care and Maintenance Guide. Florock floors never need waxing.

Please read Safety Data Sheets before using product.

DISCLAIMER:

All preceding statements and recommendations are based on experience we believe to be reliable. The use or application of these products being beyond the control of the Seller or Manufacturer, neither Seller nor Manufacturer make any warranty, expressed or implied, as to results or hazard from its use. The suitability, risk and liability whatsoever of a product for an intended use shall be solely up to the User.

PRODUCT RECOMMENDATION FORM FOR CONCRETE SUBSTRATES

CUSTOMER _____ REQUESTED BY _____

PROJECT NAME _____

TELEPHONE/ EMAIL _____

DATE/ LOCATION _____

CHEMISTRY _____

(Name of chemicals, % concentration) _____

PROJECT SIZE (Surface Area, Dimensions) _____

EXPOSURE Continuous _____ Temporary Storage _____ Frequent Splash/Spill _____

Fumes _____ Occasional Intermittent _____ Thermal Shock _____

Hours Exposure _____ Weeks Exposure _____ Days Exposure _____

Other Explain _____

FREQUENCY OF CLEAN UP Immediate _____ Within # hrs _____ Within 72 hrs _____

Other _____

TEMPERATURE Normal Operating _____ Maximum Operating _____ Temperature _____

Temperature _____ °F Temperature _____ °F Spikes _____ °F

TEMPERATURE CYCLING _____ hrs. _____ day _____ month

Duration _____ min. Frequency _____ week _____ year

TYPE OF STRUCTURE Tank _____ Floor _____ Loading/Unloading _____ Secondary Containment _____

Trench _____ Sump _____ Pit _____ Vessel _____ Wall _____

Process Area _____ Storage area _____ Structural _____ Equipment _____ Overhead _____

STRUCTURE CONDITION New _____ Existing _____ Inside _____

Above Ground _____ Below Ground _____ Interior _____ Exterior _____ Outside _____

Concrete Condition Good _____ Fair _____ Poor _____ Repair Needed _____

Existing _____

Vapor Barrier _____ Existing Sealer _____ Topping _____ Existing Coating _____ Existing Lining _____

Thermal Shock _____ Abrasion _____ Joints _____ Type of Joints _____

Heavy Traffic - towmotor _____ Heavy Traffic - steel wheel _____ Medium Traffic - rubber wheel _____ Medium Traffic - heavy foot traffic _____

Light Traffic - light carts _____ Light Traffic - foot traffic _____ Pallets - Wooden or plastic _____ Pallets - Steel _____

OTHER CONDITIONS Crack-Bridging Required _____ Slip-Resistance Required _____ Cleanability Required _____ Hot Water Contact _____

COMMENTS & DETAILS _____

(Use back side for additional notes.) _____