



## APPLICATION INSTRUCTIONS: CastorCrete® Bio Floor HDF

### Moisture Vapor Emissions/Alkalinity Precautions

All interior concrete floors not poured over an effective moisture vapor retarder meeting ASTM E 1745 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs and ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials are subject to possible excessive moisture vapor transmission (above 10 lbs.) and excessive relative humidity (above 85%) that may lead to blistering and failure of the coating system. It is the polyurethane cement mortar applicator's responsibility to conduct either or both ASTM F 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride or ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes to determine if excessive levels of moisture are present before applying any cementitious polyurethane mortars. Arizona Polymer Flooring and its sales agents will not be responsible for cementitious polyurethane mortar failures due to undetected excessive moisture vapor emissions or excessive relative humidity. Consult APF for information on moisture remediation products.

### Surface Preparation

Concrete surfaces must be clean, dry, and structurally sound.

1. Mechanically abrade concrete substrate via shot blasting or scarification. Termination, transition, penetrations and other confined concrete surfaces must be diamond ground with a coarse #12 to #16 disk and meet the International Concrete Repair Institute ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers Coatings and Polymer Overlays CSP 3 to CSP 5.
2. Keyways must be cut at 1/4 inch (6.35 mm) deep by 3/16 (4.8 mm) wide, 6 inch (15.2 cm) from all perimeter walls, machinery pedestals, and both sides of all control joints and at regular intervals spaced 10 feet (3 meters) to 12 feet (3.7 meters) apart throughout the flooring system.
3. All floor drains, penetrations, transitions and termination points must have a 1/4 inch (6.35 mm) deep by 1/4 inch (6.35 mm) wide keyway.
4. **Never feather edge CastorCrete SL, always turn it into a keyway.**
5. Priming of concrete substrates is not usually required under typical circumstances. However, due to variations in concrete quality, surface conditions, surface preparation and ambient conditions, reference test areas are recommended to determine whether priming is required to prevent the possibility of blisters, pinholes and other aesthetic variations.
6. If priming is required, use APF Epoxy 100 applied at the rate of 200 to 250 square feet (18.6 to 23.2 square meters) per gallon (3.79 liters). Proceed with CastorCrete SL when primed surface has become tack-free.

### Mixing Instructions

Pour entire contents of parts A, B and C into mixing container and mix for 30 seconds, while mixing slowly add part D (aggregate) over a period of about 15 seconds. Once all of the components are incorporated, mix for an additional 30 seconds. Mixing should be done with a twin mixer (Collomix CX 44 Duo Set with MKD 140 HF) or a Kol type mixer or any other mixer designed to mix heavy mortars. Mixed material should be placed immediately. It is recommended that multiple mixing containers be used to insure an adequate supply of fresh material.



## APPLICATION RECOMMENDATIONS

Under normal circumstances, CastorCrete SL-CQ is applied directly to the concrete without a primer. However, if the concrete is badly damaged or excessively porous, the use of APF Epoxy 100 as a primer can reduce outgassing, pinholes or blisters. A test area is recommended to determine if a primer should be used. For small areas, CastorCrete SL-CQ can be metered out and finished with a steel trowel. Once the mortar is raked with a cam-gauge rake to the desired thickness, use a finishing trowel to compact and smooth out the rake marks. As soon as the mortar is relatively closed, immediately roll the surface with a looped roller or spike roller to remove trowel marks and bring the resin to the top. When placing the cementitious polyurethane mortar it is very important to keep a wet edge between mixes, therefore each batch must be placed within working time of the prior one. Failure to do this could result in a visible tie-in line. Excessive troweling or rolling can bring more resin to the top and reduce slip resistance.

After cure, the CastorCrete SL without the colored quartz aggregate can be accessed by other trades.

## BROADCASTING OF COLORED QUARTZ AGGREGATE

CastorCrete Bio Floor HDF is designed to have the color chips added as a topping several days after the CastorCrete SL product is cure and been accessed by others. This allows other trades to have access to the building before finishing the floor by applying the decorative colored quartz aggregate. The delay and subsequent abuse that may occur to the CastorCrete SL substrate surface will require that the surface be prepared by grinding to expose a clean non-contaminated profile before applying the colored quartz products.

The broadcast of color chips is 0.12 to 0.15 pound per square foot (0.092 square meters) per broadcast coat.

1. First color chip broadcast with Epoxy 400. Place APF Epoxy 400 at 100 square feet (9.29 square meters) per gallon (3.79 liters) and broadcast colored quartz to refusal into the liquid epoxy. After the Epoxy 400 Clear and color chips cure remove the excess (non-bonded) color chip with a broom. Use a floor razor scrapped to cut off color chips "edge projections", remove debris and use oil free compressed air blow the surface free of remaining color chip debris. Grout coat and top coat the color chips with Epoxy 400 Clear at 100 square feet (9.29 square meters) per gallon (3.79 liters). Place additional Epoxy 400 Clear to obtain a smoother finished floor. Optional finish coats: APF Polyurethane 100 Clear or Satin, or Polyurethane 501 Clear or Satin at 250 to 300 square feet (23.2 to 27.9 square meters) per gallon (3.79 liters).



**Coverage per kit of CastorCrete SL only is as follows:**

**Floor Thickness**

1/8 inch (3.18 mm)  
3/16 inch (4.8 mm)  
1/4 inch (6.35 mm)

**Coverage Per 42 lbs. (19.05 kg) Kit**

32 square feet (3.0 square meters)  
24 square feet (2.2 square meters)  
16 square feet (1.5 square meters)

**Thickness of CastorCrete Bio Floor HDF System is as follows:**

**Floor Thickness**

3/16 inch (4.8 mm)  
1/4 inch (6.35 mm)  
3/8 inch (9.5 mm)

**Coverage**

24 square feet (2.2 square meters)  
16 square feet (1.5 square meters)  
12 square feet (1.1 square meters)