

1.0 - Moisture Vapor Emissions/Alkalinity Precautions

- 1.1 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 and excessive relative humidity (above 85%) that may lead to blistering and failure of the coating system. It is the applicator's responsibility to conduct 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.
- 1.2 Polyaspartic 7500 products must be applied to visibly dry concrete, which is defined as:
 - 1.2.1 No reflective film of water
 - 1.2.2 No darkening or discoloration
 - 1.2.3 Passes the 'paper' test: A piece of normal white composition paper is pressed into the surface of the concrete with the heel of the hand. A five (5) second press into the concrete surface shall demonstrate no moisture absorbed onto the paper when the paper is observed under adequate lighting.

2.0 – Surface Preparation

- 2.1 Concrete surfaces must be clean, dry, and structurally sound.
 - 2.1.1 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 4.

3.0 – Crack Repair

- 3.1 After the initial preparation has been accomplished, inspect the surface for indentations and holes. These must be filled prior to application using Epoxy 300 Flex Paste. A flexible knife or trowel works best for this procedure. Patching may be done while the concrete is damp.
- 3.2 Generally on interior applications, cracks and control joints should be filled with Epoxy 300 Flex Paste and would have a low probability of re-cracking. Expansion joints should be filled with Epoxy 300 Flex Paste, and the system applied over the joint. After final cure, recut the joint and fill with a two-component urethane caulk. For exterior applications where more movement is anticipated, cracks and control joints are usually not filled, or if filled, would be expected to re-crack. Bull nose joints in garage floor applications and in all exterior applications are not normally filled. Exterior felt expansion joints are normally coated well with Epoxy 300 Flex before priming. Expansion joints without felt should be honored and treated in the same manner as interior expansion joints. Interior felt joints should be coated with latex paint before priming. This reduces the porosity of the felt and helps the chips cover better.

4.0 – BLENDING OF COLOR CHIPS

- 4.1 Pre-blended chips are available from the factory to match the APF samples. Custom blending is also available. Determine the total pounds of chips needed for the installation. If you want the entire surface to be covered with chips, a "broad cast to refusal" is required. To determine the pounds of chips necessary to have on hand for your installation, multiply the total square feet by 0.12. If using the 1/8" chips, use a factor of 0.15. Of this total amount 10-12% will be recovered and can be used on a future job. If both used chips and new chips are to be used on a job, they must be blended together to achieve uniformity. Use household screen to remove most of the powder from the mix before using. If the chips are to be distributed sparingly on the job, the factor to determine the pounds needed could range from 0.04 – 0.09. It is better to have too many chips on the job than not enough.

4.2 If the contractor chooses to purchase single color chips and do his own blending processing, use the following procedure: Mix all the color chips thoroughly and put them through 1/8, 1/4, or 5/8 inch hardware mesh for sizing. Most of the powder generated from blending must be removed using regular household screen.

5.0 – Priming

5.1 Apply Polyaspartic 7500 reduced with MEK. Coverage rates for the primer should be 300-350 sq. ft. per gallon. As soon as the primer is tack-free (one to three hours), you may proceed with the application of the color chips.

5.1.1 Proper proportioning and homogenization are critical for success. Mixing ratio is 1 part A : 1 part B by volume. Premix both components for 3 minutes using a drill with a jiffy style blade at low speed.

5.1.2 Add the part B to the part A and mix for 1 minute, then add 8 fluid ounces of MEK per mixed gallon and mix at low speed for another 2 minutes.

5.2 Easy application is accomplished by pouring the freshly mixed product on the substrate, spreading to the desired coverage rate with a rubber squeegee, and finish rolling immediately with an 18-inch roller. The mechanic rolling the material should wear spiked shoes to walk on the wet material. Due to the material curing quickly, change roller covers every hour, or less at elevated temperatures.

6.0 – Application of Color Chips

6.1 The base coat for the system is Polyaspartic 7500. Any vertical areas, such as coves or perimeter slab edges, must be chipped first. Brush a liberal coat of the Polyaspartic 7500 onto the vertical areas, stopping the material approximately one inch onto the horizontal surface. Throw the chips by hand into the fresh material until the area is uniformly covered. After completing all of the vertical areas, sweep up any excess chips from the horizontal surface.

6.2 Apply the Polyaspartic 7500 to the horizontal surface with a 3/8 inch nap roller out of a 5-gallon pail. Use the dip and roll method. Do not pour the material onto the substrate. Overlap slightly any vertical areas previously chipped. Apply a liberal coat by do not allow to puddle. The application rate should not exceed 160 square feet per gallon. The application rate is important. Do not “stretch” the material. It is important to place the chips as soon as possible into the wet material. If the mechanic rolling the base coat gets too far ahead of the mechanic sprinkling the chips, the material will dry and the chips will not adhere.

6.2.1 Product applied at greater than 10 mils (>160 ft²/gal) will generate excessive CO₂ and result in surface defects.

6.3 Transfer the chips from the box into 5-gallon pails. The mechanic sprinkling chips must walk onto the wet material wearing spiked shoes. Sprinkle the chips through the fingers with the palm turned upward. For larger areas, have two mechanics sprinkling the chips. It is advisable to practice sprinkling the chips on the dry primer to “get a feel” for sprinkling before you begin the actual process.

6.4 For the best finished appearance, an even distribution of color chips is essential. The easiest way to achieve this is broadcast casting the chips to refusal. This means getting enough chips on the coated surface to obtain a completely covered, even appearance. Broadcast enough chips to achieve this without using an excessive amount. If a lighter distribution of chips is desired, it must be very carefully done to keep the look even. This takes practice and a keen eye. Focus on a 10-12 sq. ft. area and achieve the desired distribution in that area before moving to another. Avoid getting a heavy concentration of chips in any one area. Achieve the desired distribution gradually. Do not sprinkle chips on any part of the substrate not yet base coated. Leave a 1-2 foot space of basecoat unchipped to allow the roller to tie in. Do not use the chips from the last inch of the pail. These chips will be smaller and contain more powder than the rest of the blend. These chips can be blended in with the next full pail used.

7.0 – Application of the Glaze / Topcoat

7.1 After the base coat has dried (usually 1-3 hours), sweep up the chips that have not adhered with a clean stiff bristled broom. Save these chips for future use. After sweeping, scrape the surface lightly but thoroughly with a drywall scraper. Scrape both directions, both vertically and horizontally. After scraping, sweep, blow or vacuum the surface clean.

7.2 Apply a finish coat of Polyaspartic 7500 at the rate of 200-250 sq. ft. per gallon for a full broadcast and 250-300 sq. ft. per gallon for a light broadcast.