UPC 5500 Premium Epoxy

Universal Polymer Coatings

Product Description

UPC 5500 Premium Epoxy is a two component, cycloaliphatic concrete floor coating. Its chemistry provides excellent bonding characteristics. It can be applied as a 8 to 50 mil coating system or a finish coat over UPC 2500 WB Epoxy or UPC 5200 Moisture Lock. Color Chips, Colored Quartz or Silica Sand can be broadcast into UPC 5500 to create a custom look. UPC 5500 can also be applied direct to prepped concrete. Its design features provide for the highest industrial and commercial demands.

ADVANTAGES:

- Essentially odorless
- VOC Compliant
- High gloss
- No amine blush
- Self-priming
- High color stability
- Chemically resistant
- Seamless flooring system
- Withstands medium traffic as thin as 8 mil

Applications

- Pharmaceutical
- Garage Floors
- Kitchens
- Aisle ways
- Automotive showrooms
- Laboratories
- Food Preparation
- Restrooms
- Manufacturing
- Clean rooms
- Schools

Colors

UPC 5500 is available in Clear and the following standard premixed colors. Custom colors are available at an additional charge. By broadcasting Color Chips, Colored Quartz or Silica Sand, endless color and texture combinations can be created. (* extra cost may apply)

UPC standard colors are:

- Smoke
- Black
- White
- Light Gray
- Medium Gray
- Dark Gray
- Light Beige
- Sand Beige
- Safety Red*
- Tile Red
- Blue
- Safety Yellow*
- Green*

Packaging

UPC 5500 kits consist of UPC 5500 Part A Resin and UPC 5500 Part B Premium Hardener.

	Part A	Part B
Unit 1 Kit	Premeasured	Premeasured
3 Gallon Kit	2 Gallons	1 Gallon
Bulk 15-Gallon Kit	10 gallon	5 gallon

Testing

All surfaces are not the same. It is recommended that a sample area be done before the start of the project. The test should be done on-site, using the proposed method by the assigned applicator to insure proper adhesion and color. A sample area should also be done on any existing coatings to determine if any contaminants exist or if delaminating will occur.

Physical Properties

PROPERTY	VALUE	REFERENCE
Compressive Strength	7,800 psi	ASTM C 579
Flexural Strength	3,700 psi	ASTM D 790
Tensile Strength	3,900 psi	ASTM D 638
Bond to Concrete	350psi	ASTM D 4541
	Concrete fails at this point	
Taber Abrasion	75-80 Mgs	ASTM D 4060
Flammability	Self-extinguishing	
Hardness, Shore D	84	ASTM D 2240
Flash Point	>200°F	

Product Data

Volumetric Ratio:	2 to 1
Solids:	100% (+ or - 1%)
Coverage:	75 - 200 SF
Application temperature:	65-90°F
Thinning:	Not required
Pot life:	10-15 minutes
Working time on floor:	20-30 minutes
Cure time:	6-8 hours (walking)
	24 hours (traffic)
Critical recoat time:	24 hours
Shelf life:	12 months
USDA Food & Beverage:	Meets requirements

Concrete Preparation

Before coating is applied, concrete must be:

- Dry – No wet areas
- Clean – Contaminants removed
- Profiled – Surface etched
- Sound – All cracks and spalled areas repaired

Mechanical preparation is the preferred method of preparing concrete for coating application. Shot-blasting, diamond grinding, scarifying and scabbling are all acceptable methods.

Patching

Voids, cracks and imperfections will be seen in finished coating if the concrete is not patched correctly. Patch concrete with UPC 777 Perfect Patch. After the patching material is cured, diamond grind patch. If a non-UPC patching material is used, contact a UPC technical representative for a compatible and approved alternative.

Technical Data Sheet

Revision 1/8/20

Universal Polymer Coatings

Mixing

The ratio of UPC 5500 Premium Epoxy is 2 to 1. That is, two parts A (resin) to one part B (hardener). Generally, three mixed gallons of UPC 5500 at a time is ideal for application. Mix the following with a drill and mixing paddle. Note: If using a drill mixer, use a low speed (not to exceed 300 rpm) to prevent air entrapment.

1. The Unit 1 kit allows the UPC 5500 Part A container to be used as the complete mixing container. Add entire contents of UPC 5500 pre-measured Part B and mix for 2-3 minutes.
2. If using the Bulk 15-Gallon Kit, premix UPC 5500 Part A for 30-45 seconds. Pour out 2 gallons into an empty 5-gallon bucket, which then becomes the mixing bucket.
3. Or If using 3-Gallon kit, Premix the 2 gallons Part A in its 3.5 Gallon pail.
4. Add 1 gallon of UPC 5500 Part B into the premixed 2 gallons of Part A and mix for another 2-3 minutes.
5. UPC 5500 is designed to be immediately poured on the floor. Leaving mixed product in the container will greatly reduce working time. Once poured out on the floor, 20-30 minutes of working time can generally be expected.

Application Instructions

Application of UPC 5500 for a solid color coat system is applied in two coats or in one pass as a top coat over UPC 2500 or UPC 5200. For estimation purposes, use 150-200 SF per gallon in either case.

1. Always apply in descending temperatures. Concrete is porous and traps air. In ascending temperatures (generally mornings) the air expands and can cause out gassing in the coating. It is safer to apply coatings in the late afternoon, especially for exterior applications.
2. Optimum ambient temperature should be between 65-90°F during application.
3. Mix three gallons of resin using above mixing instructions.
4. Apply approximately 150-200 SF per gallon (applying UPC 5500 thicker will produce higher gloss level) by immediately pouring out on surface in a ribbon, while walking and pouring at the same time until bucket is empty.
5. Using a window squeegee on a pole, pull UPC 5500 over substrate. As a first coat over bare concrete, pull resin as thin as possible while still wetting out concrete and uniformly covering surface. This allows trapped air to escape more easily. To apply in a single coat over a UPC 2500 or 5200 system, pull at about 150-200 SF per gallon.
6. Using a 3/8" non-shedding phenolic (plastic) core paint roller, roll coating forwards and backwards.
7. Lastly, back roll in the opposite direction as step 6.
8. Apply second coat by repeating steps 1-7 the next day. **This step can be eliminated for coating over UPC 2500 or 5200.

Colored Quartz Broadcast Instructions

Application of UPC 5500 Clear for a nominal 45-50 mil (single broadcast) system is applied as follows:

1. Always apply in descending temperatures. Concrete is porous and traps air. In ascending temperatures (generally mornings), the air expands and can cause out gassing in the coating. It is safer to apply coatings in the late afternoon, especially for exterior applications.
2. Optimum ambient temperature should be between 65-90°F during application.
3. Mix three gallons of resin using above mixing instructions.
4. Apply approximately 150 S/F per gallon and spread by using a squeegee on a pole pulling UPC 5500 over substrate. Lastly, using a 3/8" non-shedding paint roller, roll coating forward and backward. Then roll from left to right. Allow to self-level for approximately 5-10 minutes.
5. Broadcast the colored quartz by gently throwing it up into the air, allowing it to fall without lumping in one spot or moving the resin. Do this until the floor is totally saturated with the colored quartz and the resin will not accept any more. This generally requires 1/2 to 1 lb. per S/F. Allow to dry for 6-8 hours.

Colored Quartz Broadcast Instructions (Continued)

6. Sweep floor and sand any high spots.
7. Apply seal coat at approximately 150 S/F per gallon. Use the same procedure as in Step 4, but without broadcasting.
8. For a 100-125 mil double broadcast system, repeat above steps.
9. If additional chemical and abrasion protection is required, install another coat, using UPC 7005 Polyaspartc or UPC 2700 WB Urethane at approximately 200-300 S/F per gallon (5-8 mil).

Chip/Silica Sand Broadcast Instructions

1. Chip Broadcast: After Following Steps 1-4 from Quartz broadcast, Next Broadcast Color Chips/Micro Chips (150-200 SF per 25 lb. box) by tossing them into the air and allowing them to gently rain down into the wet resin.
2. For a random broadcast, use 1 lb. of chips per 100 S/F.
3. Allow to cure. Then scrape the basecoat with a drywall scraper in all directions. Or lightly sand chips using a floor mantainer machine. (sanding will result in smoother finish) Vacuum small pieces and dust well. (Not vacuuming well enough can cause coating to not bond correctly.)
4. Silica Sand Broadcast: Following Step 6 above, gently throw the silica sand up into the air, allowing it to fall without lumping in one spot or moving the resin. Do this until the floor is totally saturated with the silica sand and the resin will not accept any more. This generally requires 1/2 to 3/4 lbs. per S/F. Allow to dry for 6-8 hours.
5. Sweep floor and sand any high spots.
6. Following either method, apply final top coat 7005 Premium Polyaspartic at approx. 150-200SF per gallon. Or apply 2 coats of UPC 2700 WB Urethane at 175-200 SF per gallon.

Product Limitations

Ground level concrete slabs emit invisible moisture vapor. The allowable moisture emissions for concrete are 3 lbs. / 1,000 SF over a 24-hour period based on a Calcium Chloride test. Also, a Relative Humidity (RH) test can be performed to test for moisture vapor. RH testing results should be below 85% per ASTM F2170. If moisture is above this level, then blistering and de-lamination of coating may occur. A calcium chloride or Relative Humidity test should be performed to determine concrete moisture levels. If moisture levels exceed the 85% for RH test or 3 lbs. for Calcium Chloride, then a concrete moisture vapor control system should be used first before applying coating system. Recommended system for cases of moisture above acceptable levels is UPC 5200. UPC 5200 Moisture Lock passes F3010 spec based on E96 testing results. Please contact UPC representative for additional details.

Coating systems are susceptible to cracking if the concrete moves or separates below the coating. Hence, joint and crack treatment should be reviewed prior to coating application. As a general rule, control joints (saw cuts) and random cracks should be saw-cut or chased first then filled with UPC 777 Perfect Patch. Construction/cold joints (two slabs which meet and hence move) should be treated. After the coating has been applied and cured, saw cut through the coating over construction joints and apply an elastomeric caulking.

Warranty

Universal Polymer Coatings products are warranted for one year after date of application. Please refer to the UPC Limited Material warranty for additional clarification.

Safety

Consult UPC 5500 Safety Data Sheet. Avoid UPC 5500 contact with skin. Some individuals may be allergic to epoxy resin. Protective gloves and clothing are recommended.

Technical Data Sheet