Eco-HPS® 100

100 g/L, VOC-Compliant, Gloss Urethane Topcoat

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Division 9

Section 09965 - Abrasion Resistant Coatings

PART 1 - GENERAL

1.01 Summary

A. A high performance coating system that consists of a two-component epoxy primer and a proprietary two-component, aliphatic, moisture-cure urethane for protecting interior concrete floors. Low VOC (99 g/L). (Complies with SCAQMD VOC regulations. LEED credits available.)

1.02 Performance Requirements

A. See manufacturer's technical data bulletin for specific material, cured coatings and a complete list of chemical resistant properties.

1. Chemical Resistance: Excellent chemical resistance to Jet Fuel (JP-4), Xylene, Brake Fluid, Skydrol® 500B and Skydrol® LD4 with no adverse effects, based on 7-day spot testing on concrete.

1.03 Submittals

A. Product Data: Submit manufacturer's product data, including physical properties, chemical resistance, surface preparation and application instructions.

B. Submit list of five projects similar in nature, which have been installed by applicator during the last five years, identified with project name, location, name of owner's representative, their phone number and date.

C. Submit manufacturer's standard warranty and applicator's warranty.

1.04 Quality Assurance

A. Applicator Qualifications:

1. A minimum of three years' experience in the application of coatings or resurfacers to concrete floors.
2. A minimum of ten jobs or 1,000,000 square feet (92,903 m^2) of successful applications.

B. Pre-Application Meeting: Convene a pre-application meeting 2 weeks before the start of application of floor coating system. Require attendance of parties directly affecting work of this section, including the Contractor, Architect, Applicator and Manufacturer's Representative. Review the surface preparation, application, cleaning, protection and coordination with other work.

1.05 Delivery, Storage and Handling

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Store materials in accordance with manufacturer's instructions.

1. Store materials in dry, enclosed area with adequate protection from moisture.
2. Keep containers sealed until ready for use.
3. Storage Temperature: 65°F (18°C) and 90°F (32°C).

1.06 Warranty

A. Written manufacturer's warranty covering materials only. Applicator to provide application warranty.

PART 2 - PRODUCTS

2.01 Materials

A. Primer: Tennant Eco-CEP™. A two-component epoxy.
Note: Other Tennant 100% solids epoxies may be used when appropriate. See product bulletin for specific material properties.
   1. Percent Solids, ASTM D2369
      1. Part A - 99.65%
      2. Part B - 100%
   2. Volatile Organic Compound (VOC), ASTM D3960
      1. 0.07 lb/gal or 9 g/L

B. Coating: Tennant Eco-HPS 100 - 100 g/L, VOC-Compliant, Gloss Urethane Topcoat. A two-component, aliphatic, moisture-cure urethane.
   1. Percent Solids, ASTM D2369
      1. Part A - 99.35%
      2. Part B - 59.23%
      3. Mixed - 91.3%
   2. Volatile Organic Compound (VOC), ASTM D3960
      1. 0.83 lb/gal or 99 g/L
   3. Abrasion Resistance, ASTM D4060
      1. 18.8 mg loss
   4. Tensile Strength, ASTM D2370
      1. 6,250 psi or 43.092 MPa
   5. Percent Elongation, ASTM D2370
      1. 6

C. Options:
   1. Colorants: All 100 Series Colorants may be added to Eco-HPS 100. 100 Series colorants must be used if VOC of the mix needs to be <100 g/L. Standard colorants can also be used in Eco-HPS 100.
   2. Traction Grit: To improve traction in slip hazard areas, use Tennant 291 Grit (60 mesh) – white aluminum oxide. See 291 Grit Product Bulletin.

D. Cleaners and Related Products:
   1. Industrial Grease Remover: Tennant Detergent
      1. Tennant detergents are available in a range of formulations which remove a variety of soilage.
   2. Cleaner/Remover: Tennant 9960.
      1. Some curing membranes may be removed with Tennant 9960.
   3. Cleaner/Etchant: Tennant 409 Pre-Kote Cleaner or equivalent Tennant etchant for use by Tennant Authorized Contractor.
      1. Blend of buffered acids and emulsifiers.

PART 3 - EXECUTION

A. Examine concrete surface to receive floor coating system. Notify the Architect if surface is not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

B. Allow concrete substrate to cure a minimum of 30 days.

C. **CHECK THE TEMPERATURE AND HUMIDITY:** Floor temperature and materials should be between 65°F (18°C) and 90°F (32°C). Humidity must be less than 80%. **DO NOT** coat unless floor temperature is more than five degrees over the dew point.

D. **CHECK FOR MOISTURE:** Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. Calcium chloride testing or in-situ relative humidity testing is recommended. Readings must be below 3 pounds per 1,000 square feet (1.5 kg per 150m^2) over a 24-hour period on the calcium chloride test or below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see ASTM F1869 or F2170, respectively or follow instructions from the suppliers of these tests.

NOTE: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination from oils, chemical spills or excessive salts.

3.02 Preparation

A. Prepare surface in accordance with manufacturer's instructions.
    1. Cleaning: Scrub with Tennant detergent and rinse with clean water to remove surface dirt, grease and oil.
    2. Remove coating or membrane for existing concrete with one of the following methods:
        1. Shotblast.
        2. Diamond Grind.
        3. Scarify.
    3. Vacuum or sweep concrete surface.
    4. For thin mil system application (<10 mils, <254 microns) on bare concrete, the floor can be chemically prepped.
        1. Apply Tennant 409 Pre-Kote Cleaner and ensure solution reacts with the concrete in a general and equal fashion over all areas.
        2. Do not use unbuffered muriatic acid to condition the concrete.

3.03 Application

A. Apply floor coating system in accordance with manufacturer's instructions.
    1. Assemble squeegees and rollers; clean rollers to remove residual lint.
    2. Primer Coat (thin mil systems <10 mils, <254 microns): Use Eco-CEP or other Tennant 100% solids epoxy when appropriate (see product bulletin for specific application instructions).
        1. Mix components together.
        2. Mix only enough material which can be applied within 20 minutes.
        3. Apply Eco-CEP at the rate of 321-535 ft^2/gal. (7.9-13.1 m^2/L).
        4. Allow primer to cure 8 hours at 75°F (24°C) and 50% relative humidity.
    3. Optional Build Coat (system application >10 mils, >254 microns): Use Eco-CEP or other Tennant 100% solids epoxy when appropriate (see product bulletin for specific application instructions).
        1. Mix components together.
        2. Mix only enough material which can be applied within 25 minutes.
        3. Apply Eco-CEP at the rate of 53-160 ft^2/gal (1.3-3.9 m^2/L) after the prime coat has set and within 24 hours.
        4. Allow coating to cure 16 hours at 75°F (24°C) and 50% relative humidity.
    4. Coating: Eco-HPS 100 - 100 g/L, VOC-Compliant, Gloss Urethane Topcoat.
        1. **NOTE:** *Epoxy must be thoroughly sanded and cleaned prior to application of Eco-HPS 100.*
        2. Open and mix only enough material which can be applied in a 2-hour period.
        3. Apply Eco-HPS 100 at the rate of 500 ft^2/gal. (12.3 m^2/L).
        4. Allow coating to dry 24 hours at 75°F (24°C) and 50% relative humidity.

3.04 Protection

A. Close job site to traffic for a period of 24 hours after coating application

END OF SECTION