



Resin Systems
Decking
Flooring
Coatings

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SPEC SECTION 09700 SPECIAL FLOORING

(This spec is for Tera-Lite's Standard Pigmented System, call if other system specification is needed)

PART 1 - GENERAL

1.01 Work Included

- A. This specification covers surface preparation and application of special duty and heavy-duty flooring.

1.02 Related Work

- A. Cast-In-Place Concrete, Section 03300

1.03 Quality Assurance

- A. Manufacturer's qualifications: Obtain materials only from a manufacturer who has been in business for more than 5 years
- B. Materials for each system shall be those of a single manufacturer.
- C. Applicator's qualifications: Firm and installation crew with a minimum of 5 consecutive years experience in the application of the specified systems on projects similar in size, material, design, and complexity of this project, and whose work has results in applications with a record of successful in-service performance.
- D. Applicator must be an authorized, certified, licensed, or otherwise qualified by the coating manufacturer with the necessary experience, staff, and training to install manufacturers products shall install specified coatings.

1.04 Submittals

- A. Product Data: Submit Manufacturer's product data sheets fully describing each product.
- B. Colors: Submit color charts for color selection and when requested by the Architect/Engineer, provide actual samples of the required color and texture on 2" X 4" hardboard.
- C. Provide copies of manufacturers written instructions for recommended maintenance practices.

1.05 Safety

- A. Submit current manufacturer's Material Safety Data Sheets. Also have these documents available to your employees at the jobsite.

PART 2 - PRODUCTS

2.01 Acceptable Manufacturers

- A. Specified products are those manufactured by Revolan Systems, DBA Tera-Lite Inc and are specified as the standard of quality.
- B. Equivalent materials of other manufacturers may be substituted only by approval of the architect. Requests for substitution shall include manufacturer's literature for each product

2.02 Materials

Tera-Gem III Industrial Flooring System (IFS) with pigmented seal coats.

2.03 Material Preparation

- A. Mix materials according to manufacturer's latest printed instructions.

PART 3 - EXECUTION

3.01 Pre-Work Inspection

- A. Examine surfaces to be coated and report conditions that would adversely affect appearance or performance of systems and which cannot be put into an acceptable condition by preparatory work.
- B. Calcium Chloride Testing
Prior to the start of any work on the concrete, perform a calcium chloride test at the rate of 1 per 1,000 sq ft. For direct application of the epoxy floor system to concrete, readings must be less than 10 lbs per 24 hours per 1,000 sq ft. Readings of more than 10 lbs will be noted and those areas must be treated with a vapor barrier as recommended by the supplier of the epoxy system, AquaFin Vaportight Coat SG3.

3.02 Surface Preparation

- A. Concrete, Terrazzo, Ceramic or Quarry Tile surfaces must be free from surface contaminants, laitance, curing compounds, oils, greases, dirt, chemical contaminants, unbounded coatings, etc. The surface must be sound, without delaminations. Concrete compressive strength must be a minimum of 3000 psi. New concrete should be cured for a minimum of 28 days. Wet curing is the preferred method. User must notify manufacturer for different conditions.

To properly clean concrete surfaces, the concrete may be sandblasted, steel shot-blasted, scarified, water blasted, or other approved technique. Steel surfaces must be sandblasted to a minimum gray-metal finish prior to application.

OR

- A. **Wood** surfaces must be free from mastic, surface contaminants, oils, greases, dirt, chemical contaminants, etc. The surface must be sound, secured and screwed down tight.
- B. Prep of wood surface - Install fiberglass tape along joints OR over entire surface, embedded in primer coat of epoxy.

3.03 Surface Application

PRIMER:

Use Tera-Gem III IFS liquid components as primer. Use a clean bucket and mix 2 parts of A to 1 part of B by volume. Stir with a mechanical agitator for 1-2 minutes. Distribute mixed material evenly over the floor surface using rollers, squeegees or spray. Spread rate will vary from 70 to 150 sq ft per gallon. Do not apply over standing water or let primer set before applying next coat.

BASECOAT APPLICATION:

Use a clean container and mix Tera-Gem III IFS liquid components at a ration to 2 parts A to 1 part B by volume. To one weight equivalents of mixed liquid components add approximately 7-weight equivalent of aggregate. Mix all components using an electrical drill motor agitator or a plaster mixer. Mix all components for 2-3 minutes or until uniformly wetted. Transfer to installation area and trowel to a thickness of 1/4".

SEALER/ANTI-SKID:

To seal the epoxy/aggregate composite for easier cleaning and to assure non-skid property, apply two seal coats using the base coat liquid components. Sand between coats. Apply the first seal coat. Let the surface set. Mix and place the second seal coat similarly to the first coat, application rate is approx 125 sq ft per gallon. During the second seal coat process broadcast a graded silica aggregate for anti-skid and backroll. A "Roll-Seed-Roll" texture can be achieved by heavily broadcasting silica between the first and second seal coats.

When placed by trained applicators, Tera-Gem III IFS will provide long service life even in the most demanding of environments.

SUGGESTED USES

Suitable for process areas, warehouses, forklift traffic areas, food process plants, beet and beverage plants, distilleries, dairies, electronics plants, clean rooms, hospitals, commercial and restaurant kitchens, sanitary facilities and areas that need skid resistance and excellent resistance to industrial chemicals.

APPLICATION PROPERTIES

Mix Ratio 2A: 1B by Volume
Pot Life (Minutes) 30-40 @ 77 deg F
Application Temp, (F. Min) 50 deg F

PHYSICAL PROPERTIES-SYSTEM CURED 7 DAYS

Compressive Strength	(ASTM C-579)	11,500 psi
Flexural Strength	(ASTM C-580)	4,500 psi
Tensile Strength	(ASTM C-30)	2,500 psi
Flammability	(ASTM 635)	Self Extinguishing
Fungus/bacteria Resistance	(Mil-F-52505 Sec 4.4.2.11)	None per TT-P-34
Impact Resistance	(Mil D-3134F Sec 4.7.3)	No cracking or delamination at 16/ft/lbs
Water Absorption	(ASTM C-413)	0.25 %
Bond Strength, Primer	(ASTM 4541) psi	>400

PHYSICAL PROPERTIES-BINDER CURED 7 DAYS

Tensile Strength	(ASTM D 638) psi	6000 psi
Flexural Strength	(ASTM D 790) psi	9,400 psi
Flexural Modulus	(ASTM D 790) psi	3.05 X 10 ⁵
Hardness	(ASTM 2240) Shore D	83
Abrasion Resistance	(ASTM 4060)	CS10 Wheel
	1000 cycles, wt loss (gm)	.034 gm
Water Spot Resistance at 72 deg F, 8 Hr Cure		PASS

CHEMICAL RESISTANCE:

Reagent	Method	Film Integrity
30% Nitric Acid	ASTM-D-1308	No Effect
30% Phosphoric Acid	ASTM-D-1308	No Effect

20% Hydrochloric Acid	ASTM-D-1308	No Effect
70% Sulfuric Acid	ASTM-D-1308	No Effect
10% Acetic Acid	ASTM-D-1308	No Effect
50% Sodium Hydroxide	ASTM-D-1308	No Effect
Urine	ASTM-D-1308	No Effect
Household Cleaner (Non-Dye Containing)	ASTM-D-1308	No Effect
Beer/Wine	ASTM-D-1308	No Effect
Rubbing Alcohol	ASTM-D-1308	No Effect
Bleach	ASTM-D-1308	No Effect

NOTE: The customer/user needs to supply information regarding chemical concentrations, service temperatures and cleaning procedures to verify correct use of product. Review chemical resistance charts for additional chemical information. Contact our technical department for information regarding specific applications.

MATERIAL HANDLING:

Epoxy resins and curing agents have certain handling hazards. Users should become familiar with the information contained in the MSDS sheets for each formulated systems. Observe warning indications on the for each component

PACKAGING:

Tera-Gem III IFS epoxy system is available in pre-measured gallon, 3 gallons, 15 gallons units and 165 gallon units. Aggregate and Anti-skid Silica is supplied in 50 and 100 lb bags.

The technical data furnished is true and accurate to the best of our knowledge. However, no guarantee of accuracy is given or implied. We suggest that the user evaluate these recommendations and suggestions in conjunction with their specific application. Tera-Lite Inc/Revolan Systems warrants its products to be free from manufacturing defects conforming to their most recent material specifications. In the even of liability will be limited to the replacement of material of the material value only at the sole discretion of Tera-Lite Inc/Revolan Systems. We assume no responsibility for coverage, suitability of application, performance, or injuries resulting from use.

NOTE: TERA-LITE INC IS THE PARENT COMPANY. REVOLAN SYSTEMS IS THE FORMULATING DIVISION OF TERA-LITE.