

**SeamTek® Type 1
Reinforced N² (Reinforced Flake)
Section 09700**

Part 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplemental Conditions and Division 1 Specification sections apply to work of this section.

1.02 WORK INCLUDED

- A. Provide materials, labor and equipment required to prepare designated floor area and install flooring as shown on the drawings.
- B. Related Work:
 - 1. Section 03300: Concrete Work, for concrete substrate.
 - 2. Section : Plumbing, drains.
 - 3. Section 07000: Sealants, silicone sanitary and USDA sealants.

1.03 QUALITY ASSURANCE

- A. Manufacturer: Obtain all flooring materials required for this Section from a single source.
- B. Contractor: Shall have a minimum of 5 years experience in the installation of seamless flooring and be approved in writing by the specified manufacturer.

1.04 SUBMITTALS

- A. Manufacturer's data for flooring system, including the following:
 - 1. Physical Properties
 - 2. Performance Properties
 - 3. Specified Tests
 - 4. Material Safety Data Sheets
- B. Manufacturer's standard single source warranty in accordance with Section 1.06 WARRANTY.
- C. Manufacturer's standard color charts for color selection.
- D. Submit three 12" X 12" system samples with the bid for purposes of chemical resistance testing. Be advised that the end user has the option to conduct on site chemical resistance testing "in their hands" to assure that the submitted system is acceptable for use in their environment. The end user reserves the right to refuse any bidder whose samples do not meet with their approvals as a result of these tests.

1.05 JOB SITE MOCK-UP:

A 10' X 10' minimum job site mock-up must be installed to establish a standard for site installation quality. The same crew shall install the mock up and the floor job installation. Mock up shall be installed and finished with application of topcoats and skid resistance, for approval by architect and/or owner's representative.

1.06 WARRANTY

Furnish manufacturer's written warranty on seamless flooring for period of two years after installation, warranting against loss of bond and wear through to concrete substrate (through normal wear and use) exclusive of substrate moisture related problems. Warranty shall be single source from the manufacturer, including material and labor.

1.07 DELIVERY, HANDLING AND STORAGE

- A. Deliver materials in manufacturer's unopened, undamaged containers, clearly marked with the following:
 - 1. Product Name
 - 2. Manufacturer's Name
 - 3. Resin or Hardener Designation
 - 4. Mix Ratio of Resin and Hardener
- B. Handle materials in a safe and proper manner to avoid damage or spill.
- C. Inspect direct jobsite deliveries to verify correct material and quantities are received in good condition.
- D. Replace, at no cost to the owner, materials that are found to be defective in manufacturing or damaged in transit, handling or storage.
- E. Store materials per manufacturer's instructions and as follows:
 - 1. Seals and labels shall be intact and legible.
 - 2. Temperature of job site storage area shall be maintained between 65°F and 80°F.
 - 3. Do not use materials which have been stored for a longer period of time than the manufacturer's maximum recommended shelf life.

1.08 JOB SITE CONDITIONS

- A. Pre-Installation conference shall be required with General Contractor, Owners Representative, Flooring Contractor and/or Manufacturer's Representative to review the following:
 - 1. Evaluate slab conditions and extent of repairs necessary for Contractor to begin normal preparation and installation of seamless flooring.
 - 2. Evaluate detail conditions at all penetrations, terminations, perimeter and drain locations. Detail problems shall be documented and resolved prior to floor installation.
 - 3. Test concrete sub-floors using the Calcium Chloride test method to verify that slab moisture vapor transmission rate does not exceed manufacturer's recommendations.
 - 4. The Flooring Contractor shall provide an add option cost as part of the bid for the treatment of substrate moisture vapor transmission in the event the

substrate exceeds manufacturers recommendations. Any slab developing readings of 3 pounds of water per 24 hours per 1000 square feet or greater shall receive Integral Concrete Waterproofing which shall be compatible with flooring and approved by the Flooring Manufacturer. Waterproofing shall be installed by a contractor that is certified by the manufacturer of the waterproofing material. The waterproofing system must have a materials and labor warranty of at least 5 years against the loss of bond due to substrate moisture vapor transmission if initial readings are above 3 pounds.

5. The moisture proofing product shall be certified as compatible with the flooring material manufacturer.
 6. Review job site conditions, including temperature, power, and lighting. Such problems shall be documented and resolved prior to floor installation.
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- B. Protect surrounding substrate and surfaces as well as in place equipment from damage during surface preparation and system installation.
 - C. All drains must be working and set at the proper elevation.
 - D. Job area shall be free of other trades during floor installation.
 - E. General Contractor shall provide adequate ventilation by use of fans or other devices.
 - F. General Contractor shall maintain lighting at final end use levels during the installation.
 - G. General contractor shall ensure that leaks from pipes and other sources are corrected prior to floor installation.
 - H. General Contractor shall provide minimum substrate temperature of 60°F ambient temperatures between 65 and 80° F with relative humidity below 70% during floor installation and until final acceptance.

1.09 CURING, CLEAN UP AND PROTECTION

- A. Cure final floor system in accordance with manufacturer's recommendations including UV technology if required.
- B. Clean up work area, removing all equipment, materials and trash.
- C. General contractor shall provide temporary protection from construction traffic and other trades prior to final acceptance by the owner.

Part 2 - MATERIALS

2.01 Materials

A. System Overview:

For purposes of comparison, LSP Performance Resins's Reinforced N² Type 1 Composite Flooring, Full Flake series is used as a basis. The floor system shall include a composite of fiberglass epoxy, urethane and vinyl ester resins and consist of primer, body coats, and pigmented intermediate coat(s), decorative flakes and clear chemical resistant seal coat with an integral cove base having a 1" radius at the floor. The seal coat resin shall be third party verified as being no-VOC and no-HAP and the entire system shall be LEED compliant. The system shall be dense and non-porous so as to allow no water wicking into or through the system. Overall system thickness shall be a nominal 1/8". Conventional aggregate flooring systems are not acceptable.

Seamless resinous flooring shall have the following minimum physical properties:

Tensile Strength	ASTM D-638	13,000 psi
Flexural Strength	ASTM D-790	25,000 psi
Compressive Strength	ASTM D-695	17,000 psi
Bond Strength	ASTM D-4541	425 psi (100% concrete failure)
Flammability	ASTM D-635	Self Extinguishing
Indentation	MIL D-3134F	None
Impact Resistance	MIL D-D-2794	16 ft-lbs without cracking chipping or delaminating

C. Integral Concrete Waterproofing (ICW):

In accordance with Job Site Conditions Section 1.08, A, 3) test all concrete slabs scheduled to receive seamless flooring using the Calcium Chloride test method (ASTM F 1869-98) to determine if moisture vapor transmission rates are within limits acceptable to the manufacturer and provide a separate ADD line item in the bid.

Part 3 - EXECUTION

3.01 Surface Preparation

For New or Exposed Concrete Slabs: Prepare concrete to “open” surface pores by means of vacuum-blasting, removing contaminants and bond breaking substances, including but not limited to dust, latex, curing compounds, coatings, sealers, oil and grease. In circumstances approved by the manufacturer, mechanical abrasion by means such as terrazzo grinding which follows LSP Performance Resins Guidelines will be acceptable. Oil and grease not removed by mechanical means shall be chemically removed. Mechanically remove delaminated or deteriorated concrete by scabbing or chipping hammers. Areas to be patched shall be saw cut to minimum 1/2” depth at perimeters and keyed to existing concrete. (For thorough instructions regarding preparation of concrete and non-concrete substrate, consult LSP Performance Resins “Instruction for Surface Preparations”.)

-or-

For Renovation Projects Where an Original Resinous Floor Remains: Assure that the existing floor is bonded tightly to the substrate and that the substrate and existing floor are dry and exhibit no signs of previous moisture problems. Remove loose, wet and deteriorating flooring to expose sound substrate and patch back to original elevation prior to prep of the remaining surface. Thoroughly prepare the remaining floor using terrazzo grinding or another prep procedure approved by the manufacturer.

3.02 APPLICATION

- A. Pour apply neat epoxy resin to the floor area and and backroll even. Apply fiberglass mat to the wetted floor area in a tight butt joint method. Assure that the resin displaces all air from the mat and roll out excess resin. Resin should wet the mat completely but not create large puddles of neat cured resin above the mat. Small accumulations are acceptable.

- B. Allow the base resin to cure then sand or grind out major imperfections that have occurred during the mat installation process if needed. Vacuum free of dust.
- C. Apply the color coat resin (color selected by contractor) to the prepared mat at a spread rate of approximately 22 mils or approximately 71 square feet per gallon. Backroll the resin immediately after it is applied and broadcast flakes to excess.
- D. Repeat step C above.
- E. Allow the color coat to cure and remove excess flakes and brush the surface. Apply a tight roll coat of sealer resin (tie coat) to lock in the flakes.
- F. Apply the UV cure resin and cure the flooring as per manufacturers' recommendations.

3.03 CLEANING AND PROTECTION

- A. Cleaning: Remove all debris resulting from the flooring installation during the progress of the work.
- B. Protection: General contractor shall provide protection from other trades prior to final acceptance by owner.