thermal·chem®
corporation

specification

1/16” Single Broadcast Polymer Flooring System

Part 1 - GENERAL

General Provisions

A. Work to be covered by this section, under written specification or by drawing, shall comply with all provisions of the contract documents.

Work Included

A. All work to be provided in this section shall include material, labor, and equipment necessary to furnish the complete installation of a polymer resinous coating system, as specified in documents for this project and/or the finish schedules contained in the drawings; including but not limited to the following:

1. Surface preparation
2. Concrete repairs [as needed]
3. Joint Sealing [if appropriate]
4. Application of the appropriate primer
5. Installation of the polymer epoxy base coat
6. Application of the urethane finish coat

Related Sections

A. Concrete

1. Concrete shall be allowed to cure for (the minimum period required for the product specified) or for a minimum of 28 days.

2. Concrete Slab-on-grade or Below-grade construction shall be installed over an effective moisture vapor barrier beneath the finished slab. (Refer to Part 2 - Supplemental this specification.)

3. Placed concrete should be moisture cured. No curing compounds or similar surface contaminants, which would impede the adhesion of the polymer coating system to the substrate, shall be used for curing the placed concrete.

4. Concrete surfaces shall be sloped to drains according to requirements of the particular project or meet ACI 301 guidelines for placing and finishing concrete; and noted accordingly in drawings and/or specifications for this project.

Division 9

Submittals

Submit the following in accordance with the conditions listed in the Specification for this project - in Division 1, and in compliance with the project documents as outlined.

A. Submit current manufacturer's technical data and literature for the polymer resinous coating system(s) specified in this section.

B. Submit product color charts and available textured finishes for selection by Architect and/or Owner, from the manufacturer's standard selection series.

C. Submit a letter from the manufacturer certifying that the polymer resinous coating system complies with this specification.

Quality Assurance

A. Materials: The appropriate primer and base coat shall be epoxy and all epoxy materials used for the installation of the polymer base coat system shall be 100% solids. The protective topcoat shall be a two (2) component 100% solids pigmented epoxy. The same manufacturer will furnish all materials used for this installation, except the broadcast aggregate, in order to ensure optimum adhesion to the substrate and compatibility of materials. This shall include primers (if required), base coat and finish coats to complete the installation. Broadcast aggregate shall be washed and dried quartz. Size shall be determined base upon the sample as selected by the owner.

B. Installer: Enlist a contractor experienced in the installation of polymer resinous coating and approved by the manufacturer; and who can perform within the scope of work required to complete the contract for this section of the project.

Delivery, Storage and Handling

A. Deliver materials in original unopened packages and containers clearly labeled with the manufacturer's name and applicable warnings, and shall be stored in a dry location at a minimum temperature of 12.8^0 C (55^0 F).

Warranty

A. A contractor's warranty will be provided for a period of one (1) year from the date of completion of the work covering workmanship, adhesion and cure.

Part 2 - PRODUCTS

Manufacturer

A. The resinous epoxy flooring system shall be a two-coat system comprised of the following:

Base Coat:	ArmorClad Product # 735 - Applied at 120 sq. ft. per gallon.
Broadcast:	Broadcast Aggregate applied at ½ to ¾ lbs. per square feet.
Topcoat:	ArmorBond Resurfacer Product # 731 - applied at 80 sq. ft. per gallon.

Optional: A 5 mil coat of urethane may be applied if UV resistance is required.

Note: White aluminum oxide may be broadcast and backrolled into the pigmented topcoat for additional skid resistance.

As manufactured by:

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Phone: 800.635.3773
847.288.9090

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Product Characteristics

A. Colors: As selected from the manufacturer's color chart, or as otherwise determined, selected, and approved by the Architect and/or Owner.

B. Physical Properties: The epoxy resinous base coat shall meet the minimum properties indicated by the following list of technical data when tested by the methods indicated:

a.) Compressive Strength: ASTM C695	7 days	>10,250 psi
b.) Bond Strength (ACI 503)	>350	100% conc. Failure
c.) Shore 'D' Hardness (ASTM D-2240)		>75 to 85
d.) Tabor Abrasion (ASTM D-1044) CS 17 wheel		loss / 1,000 cycles = 35 – 40 mg. loss
e.) Tensile Elongation (ASTM D-638)		5% +/- 1

Supplemental

A. Where the potential for moisture vapor transmission is high, and an adequate barrier beneath the slab is 'suspect' or has NOT been installed, the floor must be tested with a calcium chloride test to determine if and to what extent, if any, that vapor transmission exist.

B. The texture of the finished epoxy floor surface shall be chosen and approved in writing by the Architect, Owner and/or his Agent prior to commencement of work; from the manufacturer's selection series or by samples submitted by the contractor.

Part 3 - EXECUTION

Examination and Inspection

A. Verification Of Conditions:

1. The Installer shall be responsible for inspecting all surfaces that will receive the polymer resinous coating system.

2. Before commencing work, Architect, Owner, and/or his Agent shall be notified of any detrimental or unsatisfactory conditions that exist which could delay the completion of this project, interfere with the execution of the contract or be the cause for a defective or faulty installation.

3. Work shall not proceed until all conditions have been satisfied, and application of any material shall signify that the surfaces have been inspected and are satisfactory for this installation.

Surface Preparation

Surface Conditions: The existing substrate surface must be clean and free of any laitance, dirt, debris, and/or any deleterious foreign substance that could impede the proper adhesion of the DecoColor Floor System to the substrate.

Create a surface profile with a steel shot blast machine and/or dust-free diamond grinder for surfaces and edges.

Verify that surface is dry and perfectly clean, free of all oil, grease, detergent film, sealers and /or curing compounds.

Thoroughly rout and vacuum all non-moving cracks and surface deviations, then fill with patching compound comprised of 100% solids epoxy and aggregate.

Key in all drains, grind or build up edges between joints to a point of equal height
Saw cut to a depth of ¼" around all areas to be patched and chip out deteriorated concrete down to clean sound concrete, prime and patch with Thermal-Chem product No. 726

Saw cut to a depth of ¼" around all areas to be patched and chip out deteriorated concrete down to clean sound concrete, prime and patch with Thermal-Chem product No. 726 ArmorPrime and Thermal-Chem Grout and Patch Sand #A-100.

Concrete Substrate: Prepare the surface by means of mechanical abrasion such as shotblasting or other methods as approved by the manufacturer, to obtain sufficient adhesion to the substrate and in accordance with the manufacturer's specifications.

Once the surface has been adequately cleaned and prepared, the following determinations shall be made and documented:

1. Ambient and surface temperatures.
2. pH values of the concrete substrate.

Installation

A. Installation of each component of the polymer resinous coating system shall be applied according to manufacturers instructions to produce a smooth/textured and monolithic surface in the mil thickness indicated by the drawings and/or specifications.

B. Primer: The primer coat shall be applied (if required) according to the manufacturer's instructions and spread rates.

C. Base Coat: Apply polymer resinous coating system at wet/dry mil thickness indicated by an appropriate method of application as directed by the manufacturer's installation guide and/or instruction.

D. Finish Coat Application: After base coat application has cured sufficiently and any excess broadcast aggregate has been removed, the top coat(s) can be applied in accordance with manufacturer's instructions and as may be necessary to achieve the desired and selected texture.

1. Texture, finish and color shall be uniform, consistent and conform to the selection and approval(s) made in writing by the Architect, the Owner and/or his Agent for this project.

2. Dry mil thickness of finished coating system shall be uniform, and will provide a homogeneous texture, smooth finish and consistent color.

Protection of Finished System

A. Installation and work areas must be kept clean and free of traffic and other trades during application procedures, and for 24 hours minimum after the finish coat has been applied, to allow for adequate/initial cure. Appropriate care must be taken by the installer to avoid and prevent contamination of the epoxy flooring system during the various stages of application.

Manufacturer

Any questions or comments regarding the contents of this *Specification or* for technical questions or assistance, and/or questions with regard to specific installation procedures, contact the manufacturer:

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