



THERMALCRETE 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 Thermal-Chem Corp ThermalCrete Flooring 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 filling/sealing [if applicable]
 4. Moisture vapor barrier coating [if necessary]
 5. Application of an appropriate primer [if necessary]
 6. Installation of the Industrial Kitchen Flooring System
 7. Installation of an integral base cove (if required)
 8. Pitch the floor to the drain (if required)

Related Sections

- A. Concrete (If Applicable)
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 slab (refer to Part 2 - Supplemental of this section). Placed concrete should be moisture cured.
 3. No curing compounds or similar surface contaminants, which would impede the adhesion of the resinous flooring system to the substrate, shall be used for curing the placed concrete.
 4. Concrete shall be sloped to drains according to the requirements of the specific project or shall meet ACI-301 guidelines for placing and finishing concrete, and noted in drawings and/or specifications.

Submittals

Submit the following in accordance with the provisions and conditions listed in Division 1 and/or in compliance with other documents or conditions as outlined in the specifications for this project.

- A. Submit current manufacturer's technical data and literature for a ThermalCrete Flooring System as specified in this section.
- B. Submit the color chart for the specified product/system and/or a cured physical sample of the selected color as approved by the Architect, Owner, and/or their agent, from the manufacturer's standard selection series.
- C. Submit a letter from the manufacturer certifying that the ThermalCrete Flooring System complies with this specification.

Quality Assurance

- A. Component Materials: All component/material(s) used for the installation of this ThermalCrete Flooring System must be furnished by the same manufacturer (Thermal-Chem 2120 Roberts Drive, Broadview, IL 60155 U.S.A.) in order to ensure optimum adhesion to the substrate and compatibility of the integral components. This shall include the prime coat, vapor barrier coating (if required), all resins and aggregate.
- B. Enlist a contractor experienced in the installation of an ThermalCrete Flooring System, approved in writing 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. Materials shall be delivered in the manufactures original undamaged and unopened containers. Each container shall be clearly marked with the following:
 - Product Name and Number
 - Manufacture's Name
 - Component designation (A, B, etc)
 - Product Mix Ratio
 - Health and Safety information
- B. All materials (including the aggregate) shall be stored in a dry location at a minimum temperature of 55^o F (12.8^o C).
- C. The contractor shall promptly inspect the delivered materials to assure that quantities are correct, comply with the requirements and are not damaged.

Warranty

- A. A joint written warranty shall be provided for this project for a period of one (1) year from the date of completion of the floor installation. The written warranty shall cover the material(s) as provided by the manufacturer to install the floor system and the contractor shall warranty the workmanship

and labor to install the floor system. The labor and material guarantee shall include loss of bond and wear-through to the concrete substrate from normal use.

- B. Not included in the warranty are damage due to structural design deficiencies including but not limited to slab cracking from lateral, vertical or rotational movement, and gouging or other damage due to fork lifts, other equipment, delamination caused by vapor transmission, Acts of God, or other elements beyond the scope of protection of this system nor causes not related to the system materials. Thermal-Chem and the contractor shall have no other liability with respect there to, including without limitation, liability for incidental or consequential damages.
- C. In case of a warranty claim, the owner will notify the manufacturer and contractor in writing within 30 days of the first appearance of problems covered under this warranty. The owner will provide free and unencumbered access to the area during normal working hours for warranty claim repairs. Property protection is also the owner' responsibility. Remedy is limited to the direct repair of the ThermalCrete Flooring System.

Part 2 - PRODUCTS

Materials

The ThermalCrete Flooring System shall consist of:

Base Coat – Thermal-Crete Product # 1030 mixed with 54 lbs of A-111 Crete Slurry #8

Broadcast – Thermal-Chem A -107 # 7 Aggregate to refusal.

Top Coat – Thermal-Crete Product # 1030 mixed with 12 lbs of A-113 Crete Top Coat # 10

Special Note: If pitching to the drain is required use:

ArmorPrime Product # 726 and Thermal-Chem A –100 # 2 Grout and Patch Aggregate.

Product Characteristics

- A. Color: Shall be selected from the manufacturer's standard color chart, or as otherwise determined, and approved by the Architect and/or Owner.
- B. Components: All materials furnished for this project, shall all be specifically formulated for this type of application at an installation temperature (ambient & substrate) of not less than 50^o F.
- C. Physical Properties:
 - 1. Compression Strength (ASTM C-579) 6,800 psi
 - 2. Adhesion (ACI-503) >350 psi
100 % concrete failure
 - 3. Density (ASTM C-905) 130 lbs
(CS-17 wheel)(1000 cycles)
 - 6. Tensile Strength (ASTM D-638) 1040 psi

Supplemental

- A. When applicable, a drawing of the finished floor layout (drawn to scale) and/or a room finish schedule shall be provided by the Architect, to the installer prior to the commencement of work.
- B. Where the potential for moisture vapor transmission is high, and/or an adequate barrier beneath the slab is suspect or verification that a vapor barrier has NOT been installed, the Thermal-Chem's VaporGard Product # 211 coating system can be applied prior to installation of the ThermalCrete Flooring System.

Part 3 - EXECUTION

Examination and Inspection

- A. Verification Of Conditions:
 - 1. The Installer shall be responsible for inspecting all substrate surfaces that will receive the ThermalCrete Flooring System.
 - 2. Before commencing the installation, the contractor shall notify the Architect and/or Owner of any detrimental or unsatisfactory conditions, which exist, and would 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 and/or layout modifications have been satisfied and approved by the Architect and/or Owner. Application of any material(s) shall signify that the surfaces, conditions or changes have been inspected and satisfied, and have been accepted by the installation contractor.

Surface Preparation

- A. Verify that surface is dry and perfectly clean, free of all oil, grease, detergent film, sealers and /or curing compounds.
- B. Thoroughly rout and vacuum all non-moving cracks and surface deviations, then fill with patching compound comprised of 100% solids epoxy and aggregate.
- C. Key in all drains, grind or build up edges between joints to a point of equal height
- D. Saw cut to a depth of 1/4" 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.
- E. New concrete should be cured a minimum of 28 days. The substrate must be dry, clean, and sound. Proper surface preparation is essential for proper adhesion. Scarify at 1/16" to 1/8" in two directions **OR** abrasive blast the surface to remove all laitance and surface contaminants and saw-cut 1/8" deep grooves every 12" over the entire surface. Pre-fill all small voids that may trap air and cause bubbles. Refer to the Thermal-Chem Surface Preparation Guide # 2001-G for additional surface preparation information.

Installation

- A. Apply each component of the ThermalCrete Flooring System in accordance with manufacturer's written System Installation Guide and strictly adhere to mixing and installation methods, recoat windows, cure times and environmental restrictions.

Protection of Finished System

- A. Cure the ThermalCrete Flooring System materials in accordance with manufacturer's directions taking care to prevent contamination during stages of the installation and prior to completion of the curing process
- B. Protect the ThermalCrete Flooring System from damage and wear during other phases of the construction operation, using temporary coverings if required. Remove temporary covering just prior to final inspection.
- C. Clean the ThermalCrete Flooring System just prior to final inspection, using material procedures acceptable to the system manufacturer.
- D. Some cleaners will affect the color, gloss or texture of your polymer floor surfaces. To determine how the cleaner will perform, first test each cleaner in a small area, utilizing your cleaning technique. If no deleterious effects are observed, continue with the procedure. For recommendations regarding types of cleaners, contact the system manufacturer.

Manufacturer

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

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