

DECOESSENCE™ – DECORATIVE METALLIC FLOOR COATING

Part 1 – General

1.01 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 **DecoEssence**™ 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/patching [as needed]
3. Joint filling/sealing [if applicable]
4. Installation of the **DecoEssence**™ floor coating system

1.02 Related Work

A. New Concrete (If Applicable)

1. Normal weight concrete shall be allowed to cure (the minimum period required for the product specified) 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).
3. Placed concrete should be moisture cured.
4. 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.
5. 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.

B. Old Concrete with Coating (If Applicable)

1. The preferred method of placing a **DecoEssence**™ System is directly to clean concrete; however, in some instances it may not be practical or cost effect for the end user.
2. If the election is to go over an existing coating, the contractor shall perform ACI 503 Adhesion test or a Simple Cup test method over the prepared surface to insure proper adhesion of the existing coating to the concrete and the new coating to the existing coating. If the new coating is not removed, the warranty will be adjusted.

1.03 Quality Assurance

A. All component/material(s) used for the installation of this **DecoEssence**™ System must be furnished by the same manufacturer (Thermal-Chem Corporation 2550 Edgington St. Franklin Park, IL 60131) in order to ensure optimum adhesion to the substrate and compatibility of the

integral components. This shall include all patching and vapor barrier resins (if required), base coat, and topcoat resins.

B. Enlist a contractor experienced in the installation of a **DecoEssence™** 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.

1.04 Warranty

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 must 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.

1.05 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 **DecoEssence™** 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 system color as approved by the Architect or Owner.

1.06 Material Delivery, Handling and Storage

A. Primary system materials shall be delivered in the manufacturers undamaged and unopened containers. Each container shall be clearly marked with the following:

Product name(s) and number
Manufacturer's name
Component designation (A, B, etc.)
Product Mix Ratio
Health and Safety Information

B. The contractor shall promptly inspect direct jobsite material deliveries to assure that quantities are correct, comply with requirements and are not damaged.

C. All materials shall be stored in a dry location at a minimum temperature of 65 degrees F (12.8 degrees C).

1.07 Job Conditions

- A. The contractor shall visit the jobsite prior to system installation of the **DecoEssence™** System to evaluate substrate condition, including substrate vapor/moisture transmission, quality and severity of cracking and the extent of repairs needed. Substrate imperfections should be repaired only after mechanical preparation of the substrate. Surface preparation reveals most imperfections requiring repair. Concrete substrates shall be tested to verify that the moisture of the substrate does not exceed the manufacturers' recommendations. Cost associated with repair, joint filling, and remediation of the concrete slab to produce a smooth surface are within the scope of this specification and will be the responsibility of the installing contractor.
- B. If there is an existing coating system on the floor, it shall be removed down to clean, sound concrete, unless there is an agreement among the contractor, manufacturer and end user to apply the new coating over the existing coating.
- C. The contractor should exercise care during surface preparation and system installation to protect surrounding substrates and surfaces, as well as in-place equipment. The contractor shall prepare the surface by removing all existing coatings down to clean sound concrete.
- D. System must be protected by the General Contractor or, as a separate bid item, by the installing contractor until it is inspected and turned over to the owner.
- E. The minimum slab temperature must be conditioned to 55 degrees F before starting installation, during installation, and for at least 72 hours after installation is complete. Use an IR (Infrared) surface reading thermometer to measure floor temperature.
- F. Maintain lighting at a minimum uniform level of 50 or more foot candles in areas where the **DecoEssence™** System is being installed.
- G. Leaks from pipes and other sources must be corrected prior to the installation of the coating system.

Part 2 – Products

2.01 Materials

System Overview

- A. The **DecoEssence™** System shall consists of:
 - 1. Pigmented Primer – Product No. 726 **ArmorPrime** applied at 160-180 sq. ft. per gallon.
 - 2. **DecoEssence™** Coat – Product No. 787 **DecoEssence™** applied at 80 sq. ft. per gallon
 - 3. Wear Coat/Top Coat – Product No. 1061 DecoFinish E81 (81 % solids no odor urethane) applied at 300 sq. ft. per gallon.
- B. Physical Properties:

Color	To be Selected
Solids	100% Epoxies / 81% Urethane
VOC	0 grams per liter / Epoxy; 210 grams per liter / Urethane
Cure Time @ 72° F	Recoat: Epoxy 6 - 8 hours Urethane: 5 – 8 hours Foot Traffic: >24 hours
Hardness, Shore D ASTM D 2240	76 – 82
Elongation ASTM D 638	5% - 6%
Tensile Strength	2,500 psi min

ASTM D 638	
Compressive Strength ASTM D 695	7,800 psi
Adhesion ACI 503R	250 psi (100% concrete failure)
Abrasion Resistance ASTM D 4060, CS – 17 Wheel, 1000 cycles	18 mgs loss (Total system loss)
Flammability	Self-extinguishing over concrete

ASTM D = Resin only

Part 3 – Execution

3.01 Surface Preparation

- A. Create a surface profile with a steel shot blast machine and/or dust-free diamond grinder for surfaces and edges.
- B. Verify that surface is dry and perfectly clean, free of all oil, grease, detergent film, sealers and /or curing compounds.
- C. Thoroughly rout and vacuum all non-moving cracks and surface deviations, then fill with patching compound comprised of 100% solids epoxy and aggregate.
- D. Key in all drains, grind or build up edges between joints to a point of equal height
- E. 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.

3.02 Installation

- A. Apply each component of the **DecoEssence™** System in accordance with manufacturer’s written installation instructions and strictly adhere to mixing and installation methods, recoat windows, cure times and environmental restrictions.
- B. Prime Coat: Apply the prime coat of #726 ArmorPrime epoxy resin at 160-180 sq. ft. per gallon.
- C. **DecoEssence™**: Apply #787 **DecoEssence™** at 80 sq. ft. per gallon.
- B. Wear Coat/Top Coat – Product No. 1061 DecoFinish E81 (81 % solids no odor urethane) applied at 300 sq. ft. per gallon.

3.03 Curing, Cleaning and Protection

- A. Cure the **DecoEssence™** 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 **DecoEssence™** 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 **DecoEssence™** System just prior to final inspection, using materials and procedure 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.