

096700 – FLUID-APPLIED FLOORING

Specifications for Lümiere – Metallic epoxy flooring system

PART 1 - GENERAL

1.01 SUMMARY

Furnish all necessary materials, labor and equipment required to prepare substrate and install Lümiere flooring system.

1.02 RELATED WORK

All drawings and general provisions of contract including General and Special Conditions.

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications

1. Obtain primary Lümiere - metallic flooring system materials including primers, resins, hardening agents, and finish coats from a single manufacturer providing materials of the type specified in this section. Provide solvents and other secondary materials from a source recommended by the manufacturer of primary materials.
2. Installer to verify locations of all joints requiring a soft sealant and/or epoxy joint material. Follow recommendations of material manufacture for treatment of all joints, expansion joints, and cracks.
3. Portable mock-up: Prior to starting application of coating system, provide full scale portable mock-up to establish acceptable quality, durability, and appearance. Mock-up size must not be less than 4 square feet.
 1. Acceptable mock-up to be standard of quality for installed work.
 2. Unacceptable installed work to be removed and replaced until acceptable. Aesthetically unacceptable but well bonded work may be recoated per Manufacturer's instructions if thickness clearances permit.
4. Installer must be acceptable to architect, manufacturer, and owner.

B. Applicator Qualifications

Installation shall be performed by an applicator with not less than three years of satisfactory experience in the application of the type of system as specified in this section, and shall be approved by the manufacturer of the Lümiere Metallic Floring System.

1.04 WARRANTY

- A. Contractor to guarantee work under this Section to be free from defects of material and installation for the duration of the warranty period. Defects occurring during warranty period shall be repaired, in a manner satisfactory to the Owner and the Architect, at no additional cost to the Owner.
 1. Warranty Period: One (1) Year.

1.05 SUBMITTALS

A. Product Data

Submit manufacturer's specifications on specific products of the Lumière Metallic Flooring System and an overall system description, with installation instructions. Manufacturer's standard color charts shall also be submitted. Furnish three (3) sets of this information.

- B. The applicator shall submit a 6" x 6" system sample for verification purposes and finish texture approval and color.

1.06 MATERIAL DELIVERY, HANDLING AND STORAGE

- A. Primary system materials shall be delivered in the manufacturer's undamaged, unopened containers. Each container shall be clearly marked with the following:

1. Product name
2. Manufacturer's name
3. Component designation (A or B, etc.)
4. Mixing ratio of component mixture

- B. Provide equipment and personnel to handle the materials by methods which prevent damage.

- C. The applicator shall promptly inspect all direct job site deliveries to assure that quantities are correct and that materials comply with requirements and are not damaged.

- D. Store materials in accordance with manufacturer's instructions, with seals and labels intact and legible. Maintain temperatures within the required range. Do not use materials that have been stored for a longer period of time than the manufacturer's maximum recommended shelf life.

1.07 PROJECT CONDITIONS

- A. Maintain the ambient room and the floor temperatures at 60 degrees Fahrenheit, or above, for a period extending from 72 hours before, during and after floor installation. Concrete to receive surfacing shall have cured for at least 28 days and shall have been free of water for at least 7 days.

- B. Dew Point: Substrate temperature must be minimum of 5 degrees above dew point prior to, during or up to 24 hours after application of flooring system.

- C. Illumination: Apply flooring system only where a minimum of 30 footcandles exist when measured 3 feet from surface.

- D. Advise other trades of fixtures and fittings not to be installed until flooring is cured and protected.

1.08 PROTECTION

- A. Protect adjacent surfaces not scheduled to receive the flooring by masking, or by other means, to maintain these surfaces free of the flooring material.

- B. Provide adequate ventilation and fire protection at all mixing and placing operations. Prohibit smoking or use of spark or flame producing devices within 50 feet of any mixing or placing operation.

- C. Provide polyethylene or rubber gloves or protective creams for all workmen engaged in applying products containing epoxy.

PART 2 - PRODUCTS

2.01 MATERIALS

A. System Overview

1. The flooring system shall be **Lümiere** - Metallic Epoxy Flooring System using Perdüre E02, 100% solids epoxy primer, Lümiere, 100% solids epoxy body coat and Perdüre U50 (HS) or Perdüre U50, Polyurethane top coat. This system shall be applied over a clean, vacuum blasted substrate.
2. Prior to system application, all control joints and cracks are to be treated with semi-rigid epoxy joint filler and rigid epoxy crack filler respectively as described in the execution section.
3. The finished floor system shall be a minimum 25 - 35 mils in thickness, dense, nonporous and have a gloss finish with optional light non-skid texture matching approved sample.

B. The rigid epoxy to be used for crack treatment shall be Perdüre ECF or other epoxy approved by Manufacturer. The semi-rigid epoxy to be used for control joint filler shall be Perdüre EKF.

C. Manufacturer: Düraamen Engineered Products Inc., 457 Frelinghuysen Avenue, Newark, NJ 07114 USA | t: 973.230.1301 | f: 973.241.7830 | www.duraamen.com

PART 3 - EXECUTION

3.01 PREPARATION

A. Obtain Architect's approval of mock-up before installing flooring; see QUALITY ASSURANCE in **PART 1**.

B. Preparation of Surface:

- 1) Inspect surfaces to receive flooring and verify that condition is smooth and free from conditions that will adversely affect execution, permanence, or quality of work.
 - a) Remove all projections, all debris detrimental to flooring system, and dirt, oil contaminates, grease, and surface coatings affecting bond.
- 2) Notify Architect in writing prior to commencing work of any conditions deemed unsatisfactory for the installation; installation of flooring materials is understood as acceptance of the substrate as satisfactory.
- 3) Concrete: The General Contractor shall be responsible for hiring an independent testing service to test for moisture content and moisture vapor emission rate; install no flooring over concrete until the concrete has been cured and is sufficiently dry to achieve permanent bond with flooring as determined by material manufacturer's recommended bond and moisture tests.
 - a) Effectively remove concrete laitance by steel shot blasting or other method approved by flooring manufacturer.
 - b) Concrete slab shall have an efficient puncture-resistant reinforced moisture vapor barrier 15 mils thick minimum directly under the concrete slab (for slab on grade). Do not use vapor barrier manufactured with recycled material. Testing must be done to verify that the moisture vapor emission rate of the slab does not exceed that as recommended by the manufacturer at time of installation of the flooring or at any future date. Moisture vapor emission and moisture content testing must conform with the requirements of ASTM F-1869-98 (Calcium

Chloride Test) and/or ASTM F-2170-02 (Relative Humidity Probe Test). If test results show excessive levels of moisture content or vapor emission rate, apply manufacturer's recommended moisture vapor emission control material.

- c) Cracks greater than 1/32" and non-expansion joints shall be routed and filled with Perdüre ECF and Perdüre EJV respectively.

3.02 APPLICATION

A. General

Apply each component of the Lumière Metallic Flooring System in compliance with manufacturer's installation instructions including mixing and application methods, recoat windows, cure times and environmental restrictions. The system is to be applied directly over all non-expansion joints and cracks that have been treated as previously described. Material applied over expansion or control joint material is subject to cracking due to movement in the joint.

B. Cracks and Non-Expansion Joints

1. Cracks less than 1/32" wide after surface preparation shall be filled with neat, rigid epoxy Perdüre E02 or other resin approved by Manufacturer, mixed and applied as recommended by the manufacturer's printed instructions. All treated cracks are to be sanded prior to applying primer. Non-Expansion Joints shall be routed and filled with semi-rigid epoxy Perdüre EJV.
2. Those cracks larger than 1/32" wide shall be routed and filled with rigid epoxy Perdüre ECF or other resin approved by Manufacturer, mixed and applied as recommended by the manufacturer's printed instructions.

C. Epoxy Primer

Apply epoxy primer Perdüre E02 by squeegee and back roll at the rate of 250 square feet per gallon to thoroughly wet the surface, but taking care not to "pond" the material.

D. Coating Application

1. Apply 2 coats of Lumière body coat at a minimum total thickness of 12-16 mils per coat. 100 square feet per gallon is required coverage for 100% solids epoxy to achieve 16 mils thickness. Follow instructions for curing and recoat times.
2. Follow manufacturer's instructions for mixing and application techniques.

E. Polyurethane Top Coat

Apply clear aliphatic polyurethane top coat Perdüre U50 (HS) (or Perdüre U50 as a substitute) to yield desired finish texture. Approximate coverage should be 400-450 square feet per gallon to yield 3 dry mils. Add non-skid grit (fine grade) to polyurethane coating application to provide required textured finish if specified. Cure to manufacturer's recommendations.

- F. Obtain architect/engineer's approval of the system just after completion of the final coat, prior to completion of curing.

3.03 CURING AND PROTECTION

A. Cure Lumière metallic epoxy flooring system components in compliance with manufacturer's directions, taking care to prevent contamination during stages of the application and prior to completion of the curing process.

- B. Apply temporary protection until floor is fully cured. The General Contractor shall protect the finished floor from the time that the sub-contractor completes the work..

END OF SECTION