

SECTION 09 67 23: INDUSTRIAL RESINOUS FLOORING

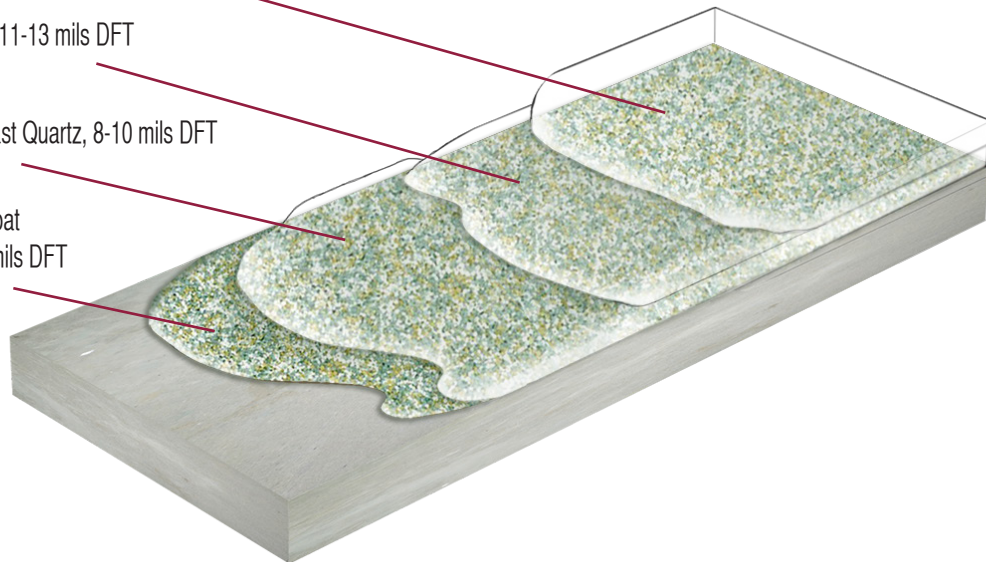
FLEXMAR Industrial Quartz Full Broadcast 1/8 Inch Four-Coat High-Build Polyaspartic Resinous Flooring

2nd Top Clear Coat HS, 5-6 mils DFT
1-2 hour return-to-service

1st Top Clear Coat HS, 11-13 mils DFT
1 hour recoat

Clear Coat HS, Broadcast Quartz, 8-10 mils DFT
1 hour recoat

Self-Prime HS, Color Coat
Broadcast Quartz, 6-7 mils DFT
1 hour recoat



This guide specification is intended to assist the specifier in developing a project specification for the use of a Flexmar all-polyaspartic coating system, featuring **virtually no odor**, with **1-hour recoat** and **1- to 2-hour return-to-service after final coat**. It is not intended to be used as a stand-alone document, nor is it to be used without appropriate modifications. This guide specification must be carefully reviewed for appropriateness for a project, and edited accordingly to comply with project-specific requirements. For questions or assistance modifying this guide specification, contact the manufacturer.

FLEXMAR Coatings, Inc.

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PART 1 GENERAL**1.1 SECTION INCLUDES**

A. Industrial quartz full broadcast 1/8 inch four-coat high build polyaspartic resinous flooring.

1.2 RELATED SECTIONS

A. Section 09 67 13.33 - Conductive Elastomeric Liquid Flooring.

B. Section 09 67 13 - Elastomeric Liquid Flooring.

1.3 REFERENCES

A. ASTM International (ASTM):

1. ASTM C 811 - Standard Practice for Surface Preparation of Concrete for Application of Chemical-Resistant Resin Monolithic Surfacing.
 2. ASTM D 412 - Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
 3. ASTM D 522 - Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
 4. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
 5. ASTM D 968 - Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
 6. ASTM D 1308 - Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
 7. ASTM D 2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.
 8. ASTM D 2240 - Standard Test Method for Rubber Property-Durometer Hardness.
 9. ASTM D 2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
 10. ASTM D 4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
 11. ASTM D 4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
 12. ASTM D 4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
 13. ASTM F 1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 14. ASTM F 2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
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B. FDA - U.S. Food and Drug Administration: Food processing environments.

C. USDA - United States Department of Agriculture: Food processing environments.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

C. USGBC LEED Submittals: For flooring products, reports indicating compliance with requirements for low-emitting materials for Credits IEQ 4.2 and IEQ 4.3.

D. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.

E. Material Certificates: For each resinous flooring component, from manufacturer.

F. Material Test Reports: For each resinous flooring system, by a qualified testing agency.

G. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

H. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.

I. Closeout Submittal: Maintenance data for resinous flooring to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.

B. Installer Qualifications: Minimum 2 year experience installing similar products.

1. An authorized representative who is trained and approved by manufacturer.

C. Mockups: Verify selections made under sample submittals, demonstrate aesthetic effects, and set quality standards for materials and execution.

1. Full-thickness mockups on 96 inches (2400 mm) square floor area selected by Architect.

- a. Include 96 inches (2400 mm) length of integral cove base with inside and outside corners.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to starting work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Handling: Handle materials to avoid damage.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: FLEXMAR Coatings, Inc., which is located at: 3058 Leechburg Rd. Suite 8; Lower Burrell, PA 15068 ; Toll Free Tel: 877-339-1442; Tel: 724-339-1442; Fax: 724-339-1465 ; Email:request info (); Web: www.flexmarpolyaspartics.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 INDUSTRIAL QUARTZ FULL BROADCAST 1/8 INCH FOUR COAT HIGH BUILD POLYASPARTIC RESINOUS FLOORING

- A. Basis of Design: Four Coat High Build Quartz Broadcast System as manufactured by
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FLEXMAR Coatings, Inc. Polyaspartic resin-based monolithic floor surfacing designed to produce a seamless floor and integral cove base. Resistant to abrasions, impacts and chemicals.

B. Performance Requirements:

1. VOC Content: 0 VOC's, virtually no odor.
2. USGBC LEED Credit Contribution: LEED V3 IEQ 4.2 and IEQ 4.3. Flooring products shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
3. Flammability: Self-extinguishing according to ASTM D 635.
4. Recoat: 1 to 2 hours between coats.
5. Walk-On-Return-to-Service: 1 to 2 hours.

C. System Characteristics:

1. Overall System Thickness: 30 to 37 mils DFT.

D. First Broadcast Coat Product: NextGen Self-Prime Colorcoat HS Polyaspartic Aliphatic Polyurea Resin.

1. Formulation Description: High solids.
2. Type: Pigmented.
3. Application Method: Roller, squeegee, or magic trowel.
4. Number of Coats: One.
5. Thickness of Coat: 6 to 7 mils DFT.
6. Broadcast: Quartz into Self-Prime Colorcoat HS.

E. Second Broadcast Coat Products: NextGen Clear Coat Polyaspartic Aliphatic Polyurea Resin.

1. Formulation Description: High solids.
2. Type: Clear.
3. Application Method: Roller, squeegee, or magic trowel.
4. Number of Coats: One.
5. Thickness of Coat: 8 to 10 mils DFT.
6. Broadcast: Quartz into Clear Coat.

F. Top Coating Product: NextGen Clearcoat HS Polyaspartic Aliphatic Polyurea Resin.

1. Formulation Description: High solids.
2. Type Finish: Clear.
3. Number of Coats: Two.
4. Thickness of Coat:
 - a. 1st Clearcoat: 11 to 13 mils DFT.
 - b. 2nd Clearcoat: 5 to 6 mils DFT.

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- G. Minimal System Property Requirements: When tested per test methods indicated:
1. Adhesion to Concrete: 300 psi (2068 kPa) concrete cohesive failure per ASTM D 4541 Elcometer.
 2. Tensile Strength: 4,500 psi (31,026 kPa) per ASTM D 412.
 3. Falling Sand Abrasion Resistance: ASTM D 968.
 - a. Self-Prime Colorcoat HS: 40 quarts (38 liters) sand/dry mil.
 - b. Clearcoat HS: 32 quarts (30 liters) sand/dry mil.
 4. Taber Abrasion: 0.34 to 0.43 grain (22 to 28 mg) weight loss per ASTM D 4060, CS 17 wheel, 35.3 oz (1,000 g) load, 1,000 rev.
 5. Flexibility Mandrel Bend: No cracking or peeling, per ASTM D 522, 1/8 in (302 mm).
 6. Impact: 160/160 in lbs Direct/Reverse, no cracking, per ASTM D 2794.
 7. Hardness: 77 Shore D per ASTM D 2240.
 8. Static Coefficient of Friction: Greater than 0.6 per ASTM D 2047.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Prepare substrates per resinous flooring manufacturer's instructions.
 1. Alkalinity and Adhesion Testing: Verify pH of substrate is within acceptable range.
 2. Perform manufacturer recommended tests.
 3. Proceed after substrates pass testing.
- B. Patching and Filling: Fill holes and depressions in substrates per manufacturer's instructions.
 1. Slope floor to drains and adjoining perimeter flooring.
 2. Treat control joints and substrate cracks to prevent cracks from propagating through resinous flooring per manufacturer's instructions.

3.3 APPLICATION

- A. Resinous Materials: Mix components and prepare materials per resinous flooring manufacturer's instructions.
- B. Apply components of resinous flooring system per manufacturer's instructions to produce a uniform, monolithic wearing surface of thickness indicated.

1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

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