

Division 0900-4000
Floor Resurfacing 4000
Flooring Specification

SECTION 1 – GENERAL

1.1 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data, installation instructions and general recommendation for each resinous flooring material required. Include certification indicating compliance of materials with requirements.
- B. Samples: Submit, for verification purposes, 4-inch square samples of each type of resinous flooring required, applied to a rigid backing, in color and finish indicated.

1.2 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain primary resinous flooring materials including primers, resins, hardening agents, finish or sealing coats from a single manufacturer/installer (no subcontractors) with not less than twenty years of successful experience in manufacturing and installing principal materials described in this section. Manufacturer and installer must furnish certified documentation regarding the successful completion of at least 15 projects of similar size and complexity.
- B. Pre-Installation Conference
 - 1. General contractor shall arrange a meeting not less than thirty days prior to starting work.
 - 2. Attendance
 - a. General Contractor
 - b. Architect/Owner's Representative
 - c. Manufacturer/Installer

1.3 MATERIAL DELIVERY, STORAGE AND HANDLING

- A. Material shall be delivered to job site and be checked by flooring installer for completeness and shipping damage prior to job start.
- B. Material shall be stored in a dry enclosed area, protected from exposure to moisture. Temperature of storage area shall be maintained between 60 and 85°F (16 and 30° C).

1.4 PROJECT CONDITIONS

- A. Concrete substrate shall be properly cured for a minimum of 30 days. A vapor barrier should be present for concrete subfloors on or below grade. Otherwise, contact the Engine Bay Floors Technical Department prior to the installation of the resinous flooring.
- B. Utilities, including electric, water, heat (air temperature between 60 and 85°F (16 and 30° C) and finished lighting to be supplied by the owner.
- C. Job area to be free of other trades during, and for a period of 24 hours, after floor installation.
- D. Protection of finished floor from damage by subsequent trades shall be the responsibility of the General Contractor.

SECTION 2 – PRODUCTS

2.1 MANUFACTURERS

- A. The products of Engine Bay Floors (800-573-9198) are identified below as the basis of design, or equal.

2.2 RESINOUS FLOORING SYSTEM

Floor Resurfacing 4000 Primer - a two component, greater than 95% solids, lower than 50 g/l VOC, epoxy primer cured with modified cycloaliphatic amine hardener with additive offering enhanced adhesion to concrete substrates.

Floor Resurfacing 4000 Mortar - a three component (epoxy resin, modified cycloaliphatic amine, silica sand mortar) with greater than 95% solids, lower than 50 g/l VOC, cementitious modified silica aggregate offering enhanced coefficient of thermal expansion resulting in better adhesion to concrete.

Floor Resurfacing 4000 Grout Coat - a three component (epoxy resin, modified cycloaliphatic amine, colorant) with greater than 95% solids, lower than 50 g/l VOC. The coating should be fast curing to minimize outgassing typically less than 6-7 hours and modified with adhesion promoters.

Floor Resurfacing 4000 Topcoat - a dimer aliphatic isocyanate urethane coating with UV blockers with greater than 92% solids, lower than 100 g/l VOC. Urethane cannot contain any extenders or diluents that are not reactive or do not come out of the film.

2.3 **SYSTEM CHARACTERISTICS**

- A. Color and Pattern: As selected by engineer/architect/owners agent from manufacturer's standard colors. A minimum of three colors will be used.
- B. Wearing Surface: Textured for slip resistance per engineer/architect/owner's agent from manufacturer's full range.
- C. Integral Cove Base: 6 inches high with 1-1/2 inch radius.
- D. Striping: Striping guide lines must be included. Striping shall be four inches in width. Color selected for these guide lines shall be one of three to be used. Exact location shall be confirmed by the engineer architect or owner.
- E. Physical Strength Qualification: Flooring system must be durable enough to resist the constant loads of heavy engines and apparatus. The floor must be capable of dissipating high temperatures from hot tires and guaranteed to stay bonded and resistant to delamination. The contractor, in conjunction with the manufacturer, is responsible for gathering the data in regards to engine weights, load points, and temperature exposure required to guarantee this qualification.

2.3 **SYSTEM COMPONENTS**

- A. Primer: Type recommended by manufacturer for substrate and body coat(s) indicated.
- B. Body Coat(s):
 - 1. Resin: Epoxy
 - 2. Application method: troweled
- C. Pigmented Grout Coating
 - 1. Resin: Epoxy
 - 2. Application method: squeegee/back roll
- D. Pigmented Top Coating
 - 1. Resin: Epoxy aliphatic polyester polyurethane
 - 2. Application method: squeegee/back roll

2.5 **ACCESSORY MATERIALS**

- A. Patching and Fill Material: Resinous product of resinous flooring manufacturer.

- B. Joint Sealant: Type produced by manufacturer or resinous flooring system for type of service and joint condition indicated.

SECTION 3 – EXECUTION

3.1 INSPECTION

- A. Ensure area is clean and dry with adequate heat, light and ventilation. The surface must be clean and dry, physically sound, and free of contamination. Surfaces must be free of holes, voids or defects. Cracks and abrupt changes in the surface profile must be corrected. Area shall be free of other trades to allow smooth flow of installation process to ensure optimum installation.

3.2 SURFACE PREPARATION

- A. Prepare surface utilizing mechanical means where possible (i.e. self-contained Blastrac, scarifiers, scabblers, etc.)
- B. Saw cut and chase perimeter edges to provide a “key-in” of material.
- C. Ensure all static (non-moving) cracks are filled as recommended by manufacturer/installer.
- D. Identify and mark all active (moving) joints.
- E. Enlarged cracks and spalled areas shall be filled and leveled with an epoxy fill material before coatings are applied (Engine Bay Floor’s fine crack fill).
- F. Pre-fill all divots/holes in the concrete surface that are larger than 2” with Engine Bay Floor’s epoxy patching compound.
- G. Existing coatings greater than 4 mils must be removed by the PrepMaster diamond grinding process. No other method of removal will be accepted.

3.3 INSTALLATION

- A. General: Apply components of flooring system according to manufacturer’s written 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.
 - 2. Cure resinous flooring components according to manufacturer’s written instructions. Prevent contamination during application and

- curing process.
3. At substrate expansion and isolation joints, provide joint in flooring to comply with flooring manufacturer's written recommendations.
- B. Installation
1. Saw cut and chase perimeter edges to provide a "key-in" of material.
 2. Prepare surface utilizing mechanical means where possible (i.e. self-contained Blastrac, scarifiers, scabblers, etc.).
 3. Notched rake apply hybrid epoxy mortar overlayment at ¼" minimum thickness.
 4. Grind based after initial cure to ensure smooth appearance.
 5. Apply pigmented 100% solids epoxy grout coat.
 6. Broadcast for texture, (if desired).
 7. Apply pigmented aliphatic polyester polyurethane topcoat.
- C. Application
- System Installation – Epoxy mortar system to be installed at a minimum total thickness of 250 mils. Finish coat to achieve even color consistency and non-slip texture as specified by owner.

3.4 FIELD QUALITY CONTROL

- A. The right is reserved to invoke the following material testing procedure at any time, and any number of times during period of floor application.
- B. If test results show material being used do not comply with specific requirements, Contractor may be directed by Owner to stop work; remove non-complying materials; pay for testing; reapply flooring materials to properly prepared surfaces which had previously been coated with unacceptable materials.

3.5 CURING, PROTECTION AND CLEANING

- A. Cure resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 24 hours.
- B. Protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective materials and method of application. General Contractor is responsible for protection and cleaning of surfaces after final coats.

- C. Cleaning: Remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous flooring manufacturer.

SECTION 4 – WARRANTY

4.0 WARRANTY

- A. Guarantee and Warranty: Warranty shall be from a single source manufacturer/polymer systems applicator. The polymer system shall be warranted against defects in materials and workmanship for a period of ten years. Repair or replace any or all portions of the work that fail under normal conditions or use during the warranty period, promptly and at no cost to the customer and by using methods and materials specified for the initial construction.