EUCLID CHEMICAL
Guide Specification

The Euclid Chemical Company
19215 Redwood Road
Cleveland, OH 44110-2799
Phone: 800-321-7628
Fax: 216-531-9399
www.euclidchemical.com

EUCOPOXY TUFCOAT DBS.

EUCOPOXY TUFCOAT DBS provides an attractive seamless floor that is chemical and abrasion resistant. Utilizing a 100% solids epoxy and colored quartz aggregate, it can be applied to provide positive footing or a smooth, high gloss appearance. The colored quartz aggregate may be blended to produce an aesthetic tile like pattern.

Broadcast Aggregate Floor: (System fortified with 20/40 mesh silica sand) 1/16" to 1/8" thick (Note these systems may be applied utilizing a clear resin and colored quartz aggregates)

> ***Step 1 Primer:*** *This is a 100% solids, low viscosity, penetrating epoxy.*
>
> ***Step 2 Base Coat with Aggregate Broadcast:*** *This is the intended resinous floor coating applied at full coverage. While material is still wet clean dry aggregate is broadcast into the resin to excess. Once the resin has fully cured the excess aggregate is removed. This step is repeated until the desired thickness is achieved. Most systems typically consist of a single or double broadcast system.*
>
> ***Step 3 Seal Coat:*** *A seal coat of the intended resinous floor coating is then applied. In areas subject to sunlight or high intensity artificial light color stability can be improved by applying a seal coat of one of Euclid Chemical's high quality urethane coatings in a color to match the base coat*

{Note to Specifier: The paragraphs below are meant to be incorporated into Parts 2 and 3 of a standard CSI 3 Part Format specification, project's General Structural Notes or directly onto the plans. They must be carefully reviewed by a qualified design professional and edited to meet the particular requirements of the project at hand, assure compliance with any governing building codes, and coordinate with other specification sections and drawings. In no case shall these Guide Specifications be considered to be Contract Documents or serve as installation instructions for the product being discussed. In any cases of discrepancy the manufacturer's most recently published data sheet shall take precedent.}

PART 1 GENERAL

{Note to Specifier: Euclid Chemical recommends that the following language be added to Part 1 of your specification section discussing Resinous Flooring.}

A. Obtain primary resinous flooring materials, including primers, from resinous flooring manufacturer. Obtain secondary materials including aggregates, sheet flashings, joint sealants, and substrate repair materials of type and from source recommended by resinous flooring manufacturer.

1. Resinous flooring manufacturer shall have ISO 9001 Quality Certification.

B. Resinous Flooring Mock-Up:

1. Prior to commencing resinous flooring application, prepare a minimum **<<insert size>>** full scale, reference mock-up of each type, **[and][color][and][texture]** of resinous flooring surface for approval by Owner. Said reference mock-up shall be

constructed in location designated by owner/architect, using the same equipment, tools and methods for installing all materials as will be used for the remaining work to be performed.

2. Once accepted by owner or owner's representative, mock-up is to remain, and is to be protected from damage. It shall become the standard for acceptance of color and texture for resinous flooring applications.
3. When Architect determines that mockup does not meet requirements, demolish and remove it from the site and cast another until the mockup is accepted.

1.01 PROJECT CONDITIONS

A. Environmental Limitations: Apply resinous flooring within the range of ambient and substrate temperatures recommended in writing by manufacturer. Do not apply resinous flooring to damp or wet substrates, when temperatures are below 50 deg F (5 deg C), when relative humidity exceeds 70 percent, or when temperatures are less than 5 deg F (-15 deg C) above dew point.

1. Coordinate flooring work with other trades to ensure adequate illumination, ventilation, and dust free environment during application and curing of flooring.

B. Conditions for Concrete

{Note to Specifier: New concrete slabs on grade to to receive resinous floor coating should be poured over heavy duty, uninterrupted, properly installed, vapor barrier.}

{Note to Specifier: : Moisture retaining cover cure is to be removed after seven days to allow the concrete to air dry prior to flooring installation.}

1. New concrete shall be cured a minimum of 7 days, and in place a minimum 28 days before proceeding.
2. Any cementitious repair mortars must have a full 7-day cure prior to coating.
3. Do not apply resinous floor coatings if there is excessive moisture in the concrete or if the moisture vapor emission rate (MVER) is high.

a. Prior to application of resinous coating, perform either of these tests: ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In-Situ Probes, or ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. If the relative humidity is 70% or greater, or the MVER is 3 lbs/1000 ft2 /24 hrs or greater notify Architect in writing and contact manufacturer for recommendations.

PART 2.0 PRODUCT

2.__ RESINOUS FLOOR SYSTEM

A. Resinous Floor System Primer: (2) component, 100% solids epoxy primer exhibiting the following characteristics;

1. Mixed viscosity of 300 to 400 cps @ 75 deg F.

2. Tack free time: 3 to 4 hours at 75 deg F. 50% RH
3. Product:
   a) Euclid Chemical Company (The); Dural Epoxy Primer

{Note to Specifier: All of the material properties shown in the sub paragraphs below are not typically applicable on every project. They are listed here in order to allow the design professional to review and edit the information according to the particular project parameters for which the product will be used.}

B. Resinous Floor System Base Coat: (2) component, 100% solids, chemically and abrasion resistant epoxy capable of the following:

1. Compressive Strength: Minimum 6,000 psi at 1 day and 10,000 psi at 28 days per ASTM C 109
2. Max. VOC Content: 72 g/l
3. Tensile Strength 5,000 psi per ASTM D 638
4. Bond Strength min 2,000 psi per ASTM C 882
5. Abrasion Resistance: Maximum 48 mg loss Taber Abrader with CS-17 Calibreese wheel with 1,000 mg 500 cycles
6. Product:
   a) Euclid Chemical Company (The); Tufcoat DBS Resin (Clear) www.euclidchemical.com
      1). Part C (colored quartz aggregate). **[black] [blue] [blue gray][buff] [camel brown][light beige][light rose][chocolate][green][gray] [red][tan][teak][teal][white][yellow][OSHA][yellow][peach][plum] [smoke][walnut]**

{Note to Specifier: The paragraphs below discuss the resinous floor system seal coat. This can be an application of resinous floor system base coat. In areas subject to sunlight or high intensity artificial light color stability can be improved by applying a seal coat of one of Euclid Chemical's high quality urethane coatings in a color to match the base coat.

The specifier should choose one of the following paragraphs}

[C. Resinous Floor System Seal Coat: Utilize resinous floor system base coat resin applied neat.]

[C. Resinous Floor System Seal Coat: Utilize urethane coating recommended by resinous floor system base coat manufacturer.]

{Note to Specifier: Choose fortification media from paragraphs below. Note that trowel down system will also utilize the 20/40 mesh silica sand specified under the broadcast aggregates. If this system is chosen two paragraphs will be required.}

[D. Broadcast Aggregates to be used in resinous floor system shall be prepackaged factory graded, oven dried, 20/40 mesh silica sand.]

[D. Decorative Broadcast Aggregate to be used in resinous floor system shall be prepackaged, clean, dry, colored quartz aggregate approved by manufacturer of resinous floor system.

1. **Color shall be as selected by owner's representative.]**

{Note to Specifier: Often minor surface repairs are required prior to application of the resinous floor system. Such repairs can typically be handled by having the contractor make a mortar mix of the 100% solids floor resin and aggregate. Larger repairs can be performed utilizing DuralFlex Fast Patch 100% solids fast setting epoxy repair mortar or VersaSpeed fast setting cementitious repair mortar designed to take Euclid epoxy coatings in 4 hours.}

PART 3.0 EXECUTION

3.___ SURFACE PREPARATION

A. Clean and mechanically prepare substrates according to manufacturer's written recommendations to produce clean, sound, dust-free, dry, absorptive substrate free of grease, oils, curing compounds and other contaminants which may interfere with bond of resinous flooring. Surface profile should be equal to CSP 2 to 5 in accordance with ICRI Guideline 310.2. Steel surfaces should be blasted in accordance with SSPC-SP10 or NACE #2 to a "NEAR WHITE" using clean dry blasting media.

1. Following surface preparation the cleaned concrete floor shall be tested for compliance with the following:
   a) Minimum surface tensile strength of 200 psi when tested with a "Elcometer" or similar pull tester per ASTM D 4541.
   b) No vapor drive condition present when tested in accordance with ASTM F 1869 "Calcium Chloride Test"
2. Begin resinous flooring application only after minimum concrete curing and drying period recommended by resinous flooring manufacturer has passed, after unsatisfactory conditions have been corrected, and after surfaces are dry

B. Prepare vertical and horizontal surfaces at terminations and penetrations through resinous flooring and at expansion joints, drains, and sleeves according to manufacturer's written recommendations

C. Mask adjoining surfaces not receiving resinous flooring, drains, and other substrate penetrations to prevent spillage, leaking, and migration of coatings.

{Note to Specifier: Retain the following paragraph if a seamless flooring system is desired. It should be noted that on newly poured concrete slabs, and on concrete surfaces that will be undergoing dramatic temperature swings, there may be significant movement taking place at the control joints. Such movement may not be able to be accommodated by the epoxy flooring system. This can result in cracking through the resinous flooring. Another option is to have control joints and dynamically moving cracks brought up through the coating and sealed with an elastomeric joint sealant such as Eucolastic in a matching color. }

[C. Static Cracks and Non-Moving Joints shall be routed to a minimum with of ¼" and a minimum depth of ½" and filled with a semi-rigid epoxy joint filler approved by resinous flooring manufacture or a detail coat of specified resinous floor coating.]

3.___ RESINOUS FLOOR SYSTEM APPLICATION:

A. Resinous Floor System Fortified with Aggregate Broadcast Application:

1. Mechanical Mixing- Coating and primers shall be thoroughly mixed with a mechanical drill with a manufacturer approved mixing blade. Premix individual components separately per manufacturer's recommendations then combine materials and mix per manufacturers recommendations. Bottom and sides of container may be scraped during mixing but shall not be scraped once mixing has ceased. Do not aerate material.
2. Primer Application: Apply a uniform application of properly mixed, clear, resinous floor system primer to properly prepared substrate per manufacturer's recommendations. Allow 6 to 8 hours to, but no longer than 24 hours before proceeding.
3. Resinous Floor System Base Coat Application: Apply uniform application of properly mixed resinous floor system base coat to floor per manufacturer's written recommendations.
   a) While material is still wet broadcast specified aggregate into resin at rate of 0.50 lbs to 1.0 lbs. per square foot. Allow resin to cure. Sweep or vacuum excess aggregate.
   [b) Repeat this process a second time to produce a double broadcast floor.]
4. Resinous Floor System Seal Coat Application: Apply uniform application of properly mixed resinous floor system seal coat per manufacturer's written recommendations at manufacturer's recommended coverage rate.

{Note to Specifier: To provide a seamless integral floor at the floor to wall transition, a cove base of 2 to 6 inches (5 to 15 cm) in height may be required. The intended resinous floor coating mixed with aggregate can be used as a cove base. Retain paragraph below to provide cove base.}

[D. Cove Base shall consist of mixture of resinous floor system base coat resin and finely graded, clean dry, trowelable aggregates troweled to properly prepared vertical surface to a height of <<insert number>> in order to create coved, seamless, integral transition at joint between wall and floor.]

{Note to Specifier: Depending on the specific project, correct implementation of other application details, such as floor terminations, floor/drain detail, etc. may be required. For further information contact Euclid Chemical Technical Support at (800) 321-7628.}

3.__ CURING AND PROTECTING

A. Prevent contamination and damage during application and curing stages.

B. Protect resinous flooring from damage and wear during remainder of construction period.