



# Desco Mosaic Flooring Specifications

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## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

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A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Sections, apply to work of this Section.

### 1.2 SUMMARY

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A. This Section includes the following:

1. Decorative industrial densified flooring consisting of 100% solids epoxy resin blended with selected mineral aggregates.
2. Coved seamless wall base with metal top cap strip. (OPTIONAL)

### 1.3 QUALITY ASSURANCE

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- A. All materials must be recommended and manufactured by a single supplier to insure compatibility and proper chemical and mechanical bond.
- B. Surfacing shall be applied by a surfacing applicator approved by the Architect, with a minimum of seven (7) years experience installing the brand of surfacing in similar size and function projects. A list of ten (10) completed projects using the specified materials must be submitted proving seven (7) years experience by the lead mechanic.
- C. Surfacing applicator shall provide to the architect a completed list of jobs including the names of the Architect, General Contractor, Owner, telephone numbers of all concerned, materials used, quantity installed and date completed on similar projects.
- D. Surfacing applicator must provide a written guarantee for materials and workmanship between applicator and surfacing manufacturer for one (1) year.
- E. Surfacing applicator or manufacturer seeking approval of products other than what is specified must supply samples, full product information, technical data with specifications, certification from an independent testing laboratory that the product being submitted for approval meets all requirements of the performance properties specified within this specification, installation instructions and comply with the above quality assurances in writing fourteen (14) days before bid letting. Omission of any item will result in an automatic rejection.
- F. Bidders will be notified by addendum of substitute surfacing materials, if approved.

Kansas City & Arkansas:  
19890 W 156th Street  
Olathe, KS 66062  
800-426-4164

St. Louis:  
9587 Dielman Rock Island  
Industrial Drive  
Olivette, MO 63132  
800-373-8128

[www.descocoatings.com](http://www.descocoatings.com)

[info@descocoatings.com](mailto:info@descocoatings.com)

<b>1.4 SUBMITTALS</b>	<p>A. Surfacing applicator shall submit samples of color and textures for Architect's approval.</p> <p>B. Prior to commencing work, at architects discretion, applicator shall install a 100 square foot sample on the job of desired color and texture and when approved, this will serve as the standard for the entire project.</p>
<b>1.5 PRODUCT STORAGE AND ENVIRONMENTAL CONDITIONS</b>	<p>A. Material temperatures shall be a minimum of 55oF before use.</p> <p>B. Work on seamless flooring shall not commence until the building can be maintained at a minimum temperature of 55oF for 48 hours before, during and 48 hours after application. Areas shall also be broom clean and reasonably dust free and shall have adequately controlled ventilation with bright, uniform lighting.</p>
<b>1.6 PROJECT CONDITIONS</b>	<p>A. Before commencing work, ensure environmental and site conditions are suitable for application and curing.</p> <p>B. Surfaces shall be acceptable in accordance with flooring manufacturer's recommendations.</p> <p>C. Notify Architect and Contractor in writing of unsuitable surfaces and conditions. Commencement of work shall imply acceptance of surfaces and working conditions.</p> <p>D. Recommended Moisture Vapor Transmission Considerations:</p> <ol style="list-style-type: none"> <li>1. Placement of on-grade slabs over a Class A vapor retarder as defined by ASTM E-145.</li> <li>2. A water cement ratio of 0.45 and 0.5.</li> <li>3. Curing by ASTM C-171 sheet materials for curing concrete.</li> <li>4. A slump in the range of 3 to 4 inches which can be increased by the use of super plasticizers.</li> </ol> <p>E. Substrate requirements (See Appendix A).</p>
<b>1.7 PROTECTION</b>	<p>A. Protect adjacent surfaces from damage resulting from work of this trade. If necessary, mask and/or cover adjacent surfaces, fixtures, cabinet work, equipment, etc. by suitable means.</p>
<b>1.8 WARRANTY</b>	<p>A. Applicator shall notify manufacturer of project requirements before bidding. An officer of the manufacturing company shall provide written statement before bidding; to the Architect, that they accept single source warranty for entire installation including labor for one year. By agreeing to sign warranty and supply product, manufacturer waives all rights of sellers' liability of warranty and limitation. Warranty shall include removal and replacement if proven defective. Defective items are, but not limited to debonding, regionalized discoloration, excessive wear and staining by bodily fluids. Non-acceptance of above by manufacturer is grounds for rejection of product.</p>

## Part Two - Products

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### 2.1 MATERIALS

A. Decorative industrial epoxy flooring shall be densified Desco Mosaic in mosaic-like color patterns selected from standard range manufactured by Desco Coatings, Inc. 1-800-426-4164.

B. Provide 4" high turned up coved base with 1" radius cove as indicated on drawings. (OPTIONAL)

C. Aggregates shall be a premixed blend of selected minerals with a minimum Moh's hardness of 6.

D. Finish coat shall be a two-component high solids epoxy or chemical resistant finish coats as enumerated below.

E. Cementitious patching compound (OPTIONAL): Cemtex/cement.

F. Elastomeric membrane (OPTIONAL): Flexible Desco 570 membrane by Desco Coatings.

G. The decorative industrial epoxy floor will conform to the following physical properties:

TEST	METHOD	RESULTS
Compressive Strength	ASTM D-579	10,700 psi
Flexural Strength	ASTM C-580	3,520 psi
Impact Resistance	Gardner Impact Tester	Passes 160 in/lbs. with no cracking, spalling, chipping or loss of adhesion.
Impact Strength	MIL-D-3134F	Passes 16 ft/lb impact with no chipping, cracking or delamination.
Taber Abrasion	ASTM 1044 - CS17 Wheels w/ 2,000 gm load -1,000 cycles	72 mg loss
Washability	Gardner Straight Line Method	No effect after 5,000 cycles.
Fire Resistance	ASTM D-635	Self Extinguishing
Heat Resistance	ASTM C-484	160oF to 200oF – intermittently

2.1 MATERIALS  
(continued)

H. Chemical Resistance:

REAGENT	FILM INTEGRITY
Coca Cola (Conc. Syrup)	Unaffected
Milk	Unaffected
Urine	Unaffected
Chromic Acid 40%	Unaffected
Citric Acid 40%	Unaffected
Lactic Acid 10%	Unaffected*
Nitric Acid 15%	Unaffected
Phosphoric Acid 20%	Unaffected
Sulfuric Acid 20%	Unaffected
Alcohol-Denatured	Unaffected
Gasoline	Unaffected
Jet Fuel (Skydrol A500)	Unaffected
Methyl Ethyl Ketone	Unaffected
Mineral Spirits	Unaffected
Xylol	Unaffected
Ammonium Hydroxide 20%	Unaffected
Potassium Hydroxide 25%	Unaffected
Sodium Hydroxide 25%	Unaffected
Urea 10%	Unaffected
Calcium Chloride 10%	Unaffected
Sodium Carbonate 10%	Unaffected
Sodium Chloride 50%	Unaffected
*denoted very slight blistering.	

If chemicals and reagents that end user will have in contact for floor are not listed or is on the list but above ambient temperature, a chemical resistant finish system should be specified. Consult your Desco representative for specific recommendations based on needs.

## PART 3 - EXECUTION

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### 3.2 FLOORING APPLICATION

- A. Surface must be clean, sound and dry.
  - B. Effectively remove concrete laitance on accessible floor surfaces by mechanical recirculating shot blast.
  - C. Areas where flooring is existing must be cleaned to remove all floor material, grease or any residue that might retard interfacial adhesion between substrate and surfacing.
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### 3.2 FLOORING APPLICATION

- A. Apply flooring in accordance with manufacturer's printed instructions, employing lead mechanic qualified under the quality assurance portion of this specification, using equipment specifically designed for this purpose.
  - B. Apply surfacing at an approximate thickness of \_\_\_". Surfacing shall be tightly compacted, trowel applied.
  - C. Install OPTIONAL integral cove base to height of 4" with 1" radius cove and zinc metal termination strip. (OPTIONAL as designated in the finish schedule.)
    - 1. Trowel apply vertical cove base.
    - 2. Hand sand cove base.
    - 3. Apply three coats of resin to assure a smooth surface and cove.
    - 4. Do not allow resin to puddle in cove.
  - D. Install OPTIONAL waterproof Neo-V II to a wet mil thickness of 40 mils. (OPTIONAL as designated in the finish schedule.)
  - E. Finished work shall match approved samples; be uniform in thickness, sheen, color, pattern, and texture; and be free from defects detrimental to performance.
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### 3.3 PROTECTION

- A. After completion of flooring the General Contractor/Owner shall protect flooring from damage by other trades.

**CONCRETE -- Section 03300**

1. Concrete should have been designed and installed to minimize random cracking and slab deflections; provide sufficient control joints and isolation joints.
2. Placement of on-grade slabs over a Class A vapor retarder as defined by ASTM E-1745.
3. A water cement ratio of 0.45 and 0.5.
4. Curing by ASTM C-171 sheet materials for curing concrete.
5. A slump in the range of 3 to 4 inches which can be increased by the use of super plasticizers.
6. Variation in plane shall be determined by the specifier and be in accordance with ACI 302, Guide for Concrete Floor and Slab, as well as ASTM E 1155-87, Determining floor Flatness and Levelness Using the F Number System.
7. Proper slope to drain(s) must be maintained.
8. Steel trowel finish, but not burnished to a high sheen
9. Concrete to be clean, crack free, sound and durable (minimum compressive strength of 3,000 psi) and dry (3% maximum moisture content by mass.)
10. Concrete must be free of hydrostatic and/or capillary moisture pressure and should not be in direct contact with the ground. An effective vapor barrier and properly engineered soil are required.
11. Allow concrete to cure 28 days minimum before applying floor system.
12. Concrete after surface preparation is to be free from sealers or membrane curing agents.
13. Light weight and insulating concrete not recommended under flooring system.  
(See applicator and manufacturer for alternate recommendations.)

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**APPENDIX A**  
**(Continued)**

**CONTROL JOINTS -- Section 03250**

1. Install control and expansion joints in accordance with standard practice per ACI-501.
2. The floor contractor may fill non-moving control joint(s) with approved elastomeric sealant or full depth semi-rigid two-component epoxy joint filler, designed specifically for this purpose (use full depth joint filler when reinforcement of the joint edges is desirable), or two-component epoxy and filler (epoxy to be same material as flooring). Movement may crack surfacing unless proper detailing has been done.
3. Filling of moving isolation joints or expansion joints is not recommended.
4. Filling of non-moving isolation joints with elastomeric caulking and sealants or with a semi-rigid epoxy joint filler or two-component epoxy and filler is acceptable. Movement may crack surfacing unless proper detailing has been done.
5. Joint identified by owner/designer or general contractor as moving joints shall be treated by terminating flooring on each side of joint. After flooring is completed, joint shall then be filled by sealant contractor.

**BACKING FOR COVE BASE**

Surface to receive cove and/or base shall be strong, durable and dry. Suitable backings include; concrete, cement plaster, standard light-weight block, clay, sand-lime, cement bricks and drywall with a toe plate. Masonry surface(s) to be free of voids, irregularities and recessed joints (if present, fill with recommended epoxy plaster).