

SECTION 09 6700

FLUID-APPLIED FLOORING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fluid-applied floor finish.
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. C501 - Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser.
 - 2. C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - 3. C1045 - Standard Practice for Calculating Thermal Transmission Properties Under Steady-State Conditions.
 - 4. D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.
 - 5. D624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
 - 6. D638 - Standard Test Method for Tensile Properties of Plastics.
 - 7. D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - 8. D2240 - Standard Test Method for Rubber Property - Durometer Hardness (Apparatus: Shore Type D Durometer).
 - 9. D4258 - Standard Practice for Surface Cleaning Concrete for Coating.
 - 10. D4259 - Standard Practice for Abrading Concrete.
 - 11. ASTM D4440 - Standard Test Method for Plastics: Dynamic Mechanical Properties Melt Rheology.
 - 12. ASTM D4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
 - 13. E648 - Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
 - 14. F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- B. United States Food and Drug Administration (US FDA).
- C. New Zealand Food Safety Council (NZFDA) C41 - Approved Maintenance Compounds (Non-Dairy) Manual.
- D. United States Department of Agriculture (USDA).

1.3 SUBMITTALS

- A. Submittals for Review:
 - 1. Product Data: Provide data on specified products, describing physical and performance characteristics.
 - 2. Samples: [6 x 6] [__ x __] inch flooring samples [showing available colors.] [in each color.]
- B. Sustainable Design Submittals:

1. Low-Emitting Materials.
2. Regional Materials.

C. Closeout Submittals:

1. Maintenance Data: Include maintenance procedures, recommended maintenance materials, procedures for stain removal, repairing surface, and suggested schedule for cleaning.

1.4 QUALITY ASSURANCE

A. Installer Qualifications:

1. Minimum [] years [documented] experience in work of this Section.
2. Approved by flooring manufacturer.

B. Mockup:

1. Size: [4 x 8] [] x [] feet.
2. Locate [where directed.] [].
3. Approved mockup may [not] remain as part of the Work.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Maintain minimum temperature required by manufacturer in storage area unless otherwise instructed by manufacturer.

1.6 PROJECT CONDITIONS

- A. Maintain ambient temperature required by manufacturer [3] [] days prior to, during, and for [24] [] hours after installation of materials.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on products manufactured by Vortex SprayOn Coatings and distributed by Team Coatings (www.teamcoatings.com), <http://www.teamcoatings.com>
- B. Substitutions: [Under provisions of Division 01.] [Not permitted.]

2.2 MATERIALS

A. Fluid-Applied Flooring:

1. Product: Vortex.
2. Type: Polyurethane/polyurea.
3. Solids content: 100 percent.
4. Free from volatile organic compounds (VOC's) and chlorofluorocarbons (CFC's).
5. Approved by USDA and FDA for incidental food contact.
6. Approved by NZFDA under C41.
7. Color: []. [Custom color to be selected.] [To be selected from manufacturer's full color range.]
8. Physical properties:

PROPERTY	TEST METHOD	RESULT
Hardness	ASTM D2240	Minimum 55, Shore D
Tensile Strength	ASTM D638	Minimum 3025 PSI
Flexural Strength	ASTM C580	Minimum [4300] [] PSI

PROPERTY	TEST METHOD	RESULT
Elongation	ASTM D412	Minimum 275 percent
Tear Resistance	ASTM D624	Minimum 475 pounds per linear inch
Flexural Modulus	ASTM D790	Minimum 52,000 PSI
Abrasion Resistance	ASTM C501	Minimum 0.075 at 250 cycles Minimum 0.075 at 500 cycles Minimum 0.14 at 1,000 cycles
Impact Resistance	ASTM D256	Minimum 4.5 foot pounds Minimum 0.4 foot pounds at minus 40 degrees F
Adhesion	ASTM D4440 and D4541 using specified primer	Average of 730 PSI, dry sample Average of 320 PSI, damp sample Average of 265 PSI, wet sample
Thermal Conductivity	ASTM C518 and C1045	0.08 to 0.12 W/mK
Fire Hazard Classification	ASTM E648	Class II

2.3 ACCESSORIES

- A. Subfloor Filler: Type recommended by flooring manufacturer.
- B. Primer: SuperSeal, as manufactured by Vortex SprayOn Coatings and distributed by Team Coatings.

2.4 EQUIPMENT

- A. Application Equipment: Type recommended by flooring manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that concrete floors have cured a minimum 28 days and do not exhibit negative alkalinity, carbonization, or dusting.

3.2 PREPARATION

- A. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with filler.
- B. Prepare concrete substrates to receive flooring system by [broom] [vacuum] [air blast] [water] [detergent water] cleaning method to requirements of ASTM D 4258.

**** OR ****

- C. Prepare concrete substrates to receive flooring system by shot blasting to requirements of ASTM D4259.
- D. Test substrate for moisture content to ASTM F1869; do not install flooring until moisture emission level is acceptable to flooring manufacturer.

3.3 INSTALLATION

- A. Apply flooring system in accordance with manufacturer's instructions.

- B. Apply primer to substrate surfaces at manufacturer's recommended application rate.
- C. Spray apply flooring to minimum thickness of [1/16] [] inch.
- D. Finish to level, smooth, slip-resistant surface.
- E. Cove flooring at vertical surfaces to a height of [4] [6] [] inches.

3.4 PROTECTION

- A. Prohibit traffic on floor finish for minimum 8 hours after installation at room temperature.
- B. Barricade area to protect flooring until cured.

END OF SECTION