



SUNBELT FLOORING, INC.

**SECTION 09670
EPOXY RESINOUS FLOORING**

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Section in Division 1 of these Specifications.

1.02 DESCRIPTION/SUMMARY

A. Work Included

The work includes, but is not limited to, providing all materials, labor, equipment and transportation to provide an epoxy resinous flooring system complete as indicated and as specified herein.

Surface preparation

Primer, base coat and cove base

B. Related Work Specified Elsewhere

Note: Coordinate work of this section with work of other sections to properly execute the work and maintain satisfactory progress of work of other sections including:

CAST-IN-PLACE CONCRETE, Division 3

ROUGH CARPENTRY, Division 6

SEALANTS, Division 6

PLUMBING, Division 15

1.03 REFERENCES

References made herein to published specifications; standards, methods of testing and recommended methods of trade, industry and governmental organizations shall apply to the year of original adoption or the year of the latest revision or approvals.

Refer to Division 1, Section: REFERENCE STANDARDS.

1.04 SUBMITTALS

Submit samples, manufacturers literature and installation instructions per Division 1, Section: SUBMITTAL PROCEDURES

1.05 QUALITY ASSURANCE

- A. Applicator shall have minimum of five years experience in application of the specified type of flooring.
- B. Provide certification from the manufacturer that the applicator is approved for installation of the flooring.

1.06 WARRANTY

Provide one (1) year guarantee for material and installation.

1.07 PRODUCT HANDLING AND DELIVERY

Deliver all material in manufacturers sealed containers and store under cover in a well-ventilated area.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Manufacturer: **Sunbelt Flooring, Inc.**,
Phone: (909) 606-7623 Fax: (909) 606-7685
Website: www.sunbeltflooring.com
- B. System: **The Sunbelt Flooring System** as installed by **Sunbelt Flooring, Inc.**, including: Preparation and installation on the “**Heavy-Duty Sunbelt Flooring No. 1100 Chemical Resistant Industrial Floor**” The General Contractor shall coordinate scheduling with adequate advance notice prior to floor installation as agreed upon with **Sunbelt Flooring, Inc.**
- C. Products: Primer as recommended for conditions. Chemical Resistant Industrial Flooring No. 1100 (Color to be selected by Architect from the **Sunbelt Flooring, Inc.**, sample boards as submitted) and installed only by **Sunbelt Flooring, Inc.** System shall be solids, translucent quartz grains, coated, pigmented, inorganic ceramic film, grade #28.

D. Sunbelt 1100 Flooring System Physical Properties

<u>TEST</u>	<u>PHYSICAL PROPERTIES</u>
Compressive Strength (Kpsi) ASTM C579	18.5
Tensile Strength (psi) ASTM C-307	2000
Flexural Strength (Kpsi) ASTM C-580	6.15
Flexural Modulus of Elasticity (psi) ASTM D-790	2.2×10^5
Hardness (Shore D) ASTM D-2240	86
Bond Strength (psi) ASTM D-454	600
Indentation (mil/Kpsi) Mil D-3124F	11 (No visible indentation)
Abrasion Resistance (mg/Kcyc) ASTM C-501	597.4
Coefficient of Friction ASTM D-2047	>0.9
Flammability ASTM D-635	
Burning time (sec)	104 (Self extinguishing)
Extent of burning (mm)	6.5
Thermal Coefficient of Linear Expansion (in/in °C) ASTM E-831	
25° to 65°C	2.6×10^5
65°C to 135°C	5.7×10^5
135°C to 220°C	2.3×10^5

TEST

PHYSICAL PROPERTIES

Water Absorption (%)
ASTM C-413

.01%

Heat Resistance limit (°F)
ASTM N/A

DRY - 250° Continuous / 275° Intermittent
WET - 140° Continuous / 200° Intermittent

Impact Resistance / Indention
Mil D-3124

5x10⁻⁴ in. (No visible indentation)

Weather Resistance
Weather-O-Meter
200 Hr Exposure

No visible cracking or deterioration

Resistance to Elevated Temperatures

A sample of the flooring was warmed to 158 degrees. There was no discernable softening. After cooling sample showed no measurable slip or flow.

U.S.D.A

Approved

Fungus/Bacteria Resistance

Will not support growth of fungus or bacterial when subject to mildew and bacteria test specified in TT-P-34

Electrical Conductivity

Electrically non-conductive

PART 3 – EXECUTION

3.01 PREPARATION OF EXISTING CONCRETE

Cleaning of interior concrete slabs: Vacuum shot blast (“Blastrac”) all designated existing interior concrete floor slabs that are to receive new flooring materials or leveling underlayment coating. Vacuum shot blasting shall be with steel pellets 330-5 to 390-5 for optimum surface profile in order for all sealers or adhesives to penetrate and bond. Coordinate all vacuum shotblasting with respective floor covering contractor. Dustless diamond cup grinding may be used in some instances in lieu of shot blasting.

3.02 PREPARATION AND INSPECTION

- A. Insure structural substrate to receive flooring is designed to prevent random cracking and/or deflection. Provide adequate control and expansion joints. Finish shall be “light steel trowel finish.”

- B. Concrete to receive flooring shall be wet cured for a minimum of 28 days. Do not permit use of chemical surface curing agents that may interfere with adhesion.
- C. Ensure substrate is sound, dry, and free of dust, dirt, paint, grease, oil or other foreign substances.
- D. Substrates in contact with ground must have an effective vapor barrier to prevent potential problems resulting from hydrostatic or capillary moisture pressure.
- E. Variations in substrate level should not exceed 1/8" in ten feet. Ensure deviations or deteriorated concrete is corrected prior to start of this work.
- F. Advise other trades of finished, fixtures and fittings not to be installed until decking is cured, such as: Painting, floor supported equipment, caulking, plumbing fixtures, etc.
- G. Dirt, dust, plaster, oil, grease, tar, paint or any substrate that might impair adhesion must be thoroughly removed with suitable cleaners.
- H. All cracks, holes broken and crumbling areas must first be cut out, cleaned and repaired with sand filled Sunbelt 1100.
- I. Moving of settling cracks shall be cut or routed out and filled with flexi-caulk or resilient caulk and reinforced with 20 by 20 fiberglass tape.
- J. Building shall be encased with roof, walls, windows and doors prior to floor installation. Exceptions shall be agreed upon, in writing, by flooring installer and architect.

3.03 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations. Mix Sunbelt Flooring No. 1100 industrial flooring liquids with manufacturers approved equipment.
- B. Troweled apply Sunbelt 1100 self-priming epoxy for the first build coat.
- C. Add clean, dry aggregates as recommended by manufacturer. Allow to dry.
- D. Sand if needed to remove all laitance and vacuum clean.

- E. Apply finish coat with trowels to a tight flat surface.
- F. If a skid resistant surface is required by Architect or indicated on drawings, non-skid aggregates shall be broadcast onto surface of finish coat, then back rolled for sealing.
- G. Allow to cure thoroughly before opening floor to normal use. Use of heating equipment or infrared lamps is suggested if the seal coat cannot be given more than twelve hours of curing time before normal use.
- H. Protection: Supply barricades and precautions to allow traffic after and during start of installation, and for the cure period of the final coat.

**Sunbelt Flooring 1100
Chemical Resistance Table
ASTM D – 1308-57**

Test involved completely submerged a cured disk of Sunbelt 1100 in each of the following solutions. Maximum submersion time was 30 days. Most actual commercial applications are far less demanding, particularly where solvents and other evaporating materials are concerned.

<u>Chemical</u>	<u>Results</u>
Acetic Acid 5%	No Effect
Acetic Acid 10%	Ok 3 days then very slow
Acetone	Ok 3 days then slight deterioration
Ammonium Hydroxide 10%	No Effect
Blood	No Effect
Boric Acid	No Effect
Brake Fluid	Very minor swelling over 30 days
Calcium Chloride	No Effect
Carbolic Acid	Ok 2 days then slow dissolve
Acid 5%	No Effect
Detergent Solution	No Effect
Gasoline	No Effect
Hydrochloric Acid 10%	No Effect
Jet Fuel	No Effect
Lactic Acid 5%	No Effect
Methanol	Ok 3 days then Minor surface attack
Mineral Spirits	No Effect
Nitric Acid 5%	No Effect
Phenol	Ok 2 days then slow dissolve
Seawater	No Effect
Skydrol	Very minor swelling over 30 days
Sodium Hydroxide 50%	No Effect
Sodium Hypo chlorite	No Effect
Sugar Solution	No Effect
Sulfuric Acid 25%	No Effect
Toluene	Ok 3 days then very minor effect
Vegetable Oil	No Effect
Urine	No Effect
Vinegar	No Effect
Xylene	Ok 3 days then very minor effect