

# STONBLEND GSI GUIDE SPEC

**SECTION 096723 - RESINOUS FLOORING**

1. **GENERAL**
	* + 1. RELATED DOCUMENTS
				1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			2. SUMMARY
				1. This Section includes one resinous flooring system, one with epoxy body.

Application Method: Flat metal or plastic blade, power or hand troweled.

* + - 1. SUBMITTALS
				1. Product Data: For each type of product indicated. Include manufacturer's technical data, application instructions, and recommendations for each resinous flooring component required.
				2. Samples for Verification: For each resinous flooring system required, 5 inches (150 mm) square, applied to a rigid backing.
				3. Product Schedule: Use resinous flooring designations indicated in Part 2 and room designations indicated on Drawings in product schedule.
				4. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.
				5. Maintenance Data: For resinous flooring to include in maintenance manuals.
			2. QUALITY ASSURANCE
				1. No request for substitution shall be considered that would change the generic type of floor system specified (i.e. Epoxy resin mortar based flooring system with urethane seealers). Equivalent materials of other manufactures may be substituted only on approval of Architect or Engineer. Request for substitution will only be considered only if submitted 10 days prior to bid date. Request will be subject to specification requirements described in this section.
				2. Installer Qualifications: Engage an experienced installer (applicator) who is experienced in applying resinous flooring systems similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance, and who is acceptable to resinous flooring manufacturer.

Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.

Contractor shall have completed at least 10 projects of similar size and complexity.

* + - * 1. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, through one source from a single manufacturer, with not less than ten years of successful experience in manufacturing and installing principal materials described in this section. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.
				2. Manufacturer Field Technical Service Representatives: Resinous flooring manufacture shall retain the services of Field Technical Service Representatives who are trained specifically on installing the system to be used on the project.

Field Technical Services Representatives shall be employed by the system manufacture to assist in the quality assurance and quality control process of the installation and shall be available to perform field problem solving issues with the installer.

* + - * 1. Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

Apply full-thickness mockups on 48-inch- (1200-mm-) square floor area selected by Architect.

Include 48-inch (1200-mm) length of integral cove base.

Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

* + - * 1. Pre-installation Conference:

General contractor shall arrange a meeting not less than thirty days prior to starting work.

Attendance:

General Contractor

Architect/Owner's Representative.

Manufacturer/Installer's Representative.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.
				2. Store materials to prevent deterioration from moisture, heat, cold, direct sunlight, or other detrimental effects. Store material per product data.
				3. All materials used shall be factory pre-weighed and pre-packaged in single, easy to manage batches to eliminate on site mixing errors. No on site weighing or volumetric measurements allowed.
			2. PROJECT CONDITIONS
				1. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.

Maintain material and substrate temperature between 65 and 85 deg F (18 and 30 deg C) during resinous flooring application and for not less than 24 hours after application.

* + - * 1. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.
				2. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application, unless manufacturer recommends a longer period.
				3. Concrete substrate shall be properly cured. A vapor barrier must be present for concrete subfloors on or below grade. Otherwise, an osmotic pressure resistant grout must be installed prior to the resinous flooring

1.7 WARRANTY

* + - * 1. Manufacturer shall furnish a single, written warranty covering both material and workmanship for a period of (1) full years from date of installation, or provide a joint and several warranty signed on a single document by material manufacturer and applicator jointly and severally warranting the materials and workmanship for a period of (1) full year from date of installation. A sample warranty letter must be included with bid package or bid may be disqualified.
1. **PRODUCTS**
	* + 1. RESINOUS FLOORING
				1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include,

Broadcast systems will not be accepted. Trowel mortar only.

* + - * 1. Acceptable Manufactures,

Stonhard Basis of design.

* + - * 1. Product: Subject to compliance with requirements:

Stonhard, Inc.; Stonblend GSI®.

* + - * 1. System Characteristics:

Color and Pattern: TBD

Wearing Surface: smooth Matte finish.

Integral Cove Base: TBD

Overall System Thickness: 3/16 inch (5 mm).

* + - * 1. System Components: Manufacturer's standard components that are compatible with each other and as follows:

Primer:

Material Basis: Stonblend Primer

Resin: Epoxy.

Formulation Description: 2 component, 100% solids.

Type: non pigmented.

Finish: standard.

Number of Coats: one.

Mortar Base:

Material Basis: Stonblend Mortar

Resin: Epoxy.

Formulation Description: 3 component, 100% solids.

Application Method: Flat Metal or plastic blade trowel.

Thickness of Coats: 3/16 inch (5 mm).

Number of Coats: One.

Aggregates: Pigmented quartz Blended aggregate.

Groutcoat:

Material Basis: Stonblend Groutcoat

Resin: Epoxy.

Formulation Description: 2 component, 100% high solids.

Type: Clear.

Finish: standard.

Number of Coats: one.

Sealer:

Material Basis: Stonkote CE4.

Resin: Epoxy

Formulation Description: 2 component, 100% solids.

Type: Clear.

Finish: Matte.

Number of Coats: one.

Topcoat:

Material Basis: Stonseal CF7.

Resin: VOC EPA Compliant, Waterborne, Aliphatic Polyurethane.

Formulation Description: 2 component 100% high solids.

Type: Clear.

Finish: Matte.

Number of Coats: Two.

Note: Components listed above are the basis of design intent; all bids will be compared to this standard including resin chemistry, color, wearing surface, thickness, and installation procedures, including number of coats. Contractor shall be required to comply with all the requirements of the Specifications and all of the components required by the Specifications, whether or not such products are specifically listed above.

* + - * 1. System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:

Compressive Strength: 6,000 psi after 7 days per ASTM C 579.

Tensile Strength: 1,500 psi per ASTM C 307.

Flexural Strength: 2,200 psi per ASTM C 580.

Flexural Modulus of Elasticity: 5.0 x 105 psi per ASTM C 580.

Hardness: 85 to 90, Shore D per ASTM D 2240.

Impact Resistance: > 160 in. lbs. per ASTM D 2794.

Abrasion Resistance: 0.06 gm max. weight loss per ASEM D 4060, CS-17

If needed, insert, in first subparagraph below, requirements for extent of burning.

Flammability: Class 1 per ASTM E-648, E-662

Thermal Coefficient of Linear Expansion: 9 x 10-6 in./n oF

VOC Content per ASTM D 2369, Method E

Stonblend Primer: 75 g/l

Stonblend GSI Base: 17 g/l

Stonblend Groutcoat: 52 g/l

Stonkote CE4: 34 g/l

Stonseal CF7: 47 g/l (Method C)

Cure Rate: 12 hours for foot traffic, 24 hours normal operations.

* + - 1. ACCESSORY MATERIALS
				1. Primer: Type recommended by manufacturer for substrate and body coats indicated. Formulation Description: Stonhard Stonblend Primer, 100% solids.
				2. Waterproofing Membrane: Type recommended by manufacturer for substrate and primer and body coats indicated. Formulation Description Only if application above grade Stonproof ME7.
				3. Patching, Leveling and Fill Material: Resinous product of or approved by resinous flooring manufacturer and recommended by manufacturer for application indicated.
				4. Joint Sealant: Type recommended or produced by resinous flooring manufacturer for type of service and joint condition indicated. Allowances should be included for Stonflex MP7 joint fill material.
1. **EXECUTION**
	* + 1. PREPARATION
				1. General: Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean and dry substrate for resinous flooring application.
				2. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.

Mechanically prepare substrates as follows:

Shot-blast surfaces with an apparatus that abrades the concrete surface, contains the dispensed shot within the apparatus, and recirculates the shot by vacuum pickup or Diamond Grind with a dust-free system.

Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written recommendations.

Verify that concrete substrates meet the following requirements.

Perform in situ probe test, ASTM F 2170. Proceed with application only after substrates do not exceed a maximum potential equilibrium relative humidity of 85 percent.

Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application only after substrates have maximum moisture-vapor-emission rate of 6 lb of water/1000 sq. ft. of slab in 24 hours.

* + - * 1. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.
				2. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written recommendations. Allowances should be included for Stonflex MP7 joint fill material, and CT5 concrete crack treatment.
			1. APPLICATION
				1. General: Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.

Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.

Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.

At substrate expansion and isolation joints, provide joint in resinous flooring to comply with resinous flooring manufacturer's written recommendations.

Apply joint sealant to comply with manufacturer's written recommendations.

* + - * 1. Apply primer where required by resinous system, over prepared substrate at manufacturer's recommended spreading rate.
				2. Integral Cove Base: Stonblend GSI mortar, apply cove base mix to wall surfaces before applying flooring. Apply according to manufacturer's written instructions and details including those for taping, mixing, priming, troweling, sanding, and topcoating of cove base. Round internal and external corners.

Integral Cove Base: TBD inches high.

* + - * 1. Troweled Mortar: Mix mortar material according to manufacturer's recommended procedures. Uniformly spread mortar over substrate using manufacturer's specially designed screed box adjusted to manufacturer's recommended height. Hand trowel apply mixed material over freshly primed substrate using steel finishing trowels or power trowel material using manufacturer's specially designed power trowel blades.
				2. Groutcoat: Remove excess unbonded granules by lightly abrading or scraping and vacuuming the floor surface. Mix and apply grout coat with strict adherence to manufacturer's installation procedures and coverage rates.
				3. Sealer: Lightly sand or scrape surface to remove any floor surface irregularities. Mix and apply sealer with strict adherence to manufacturer's installation procedures.
				4. Matte Finish: Lightly sand or scrape surface to remove any floor surface irregularities. Mix and roller apply mar resistant finish with strict adherence to manufacturer's installation procedures.
			1. TERMINATIONS
				1. Chase edges to “lock” the flooring system into the concrete substrate along lines of termination.
				2. Penetration Treatment: Lap and seal coating onto the perimeter of the penetrating item by bridging over compatible elastomer at the interface to compensate for possible movement.
				3. Trenches: Continue flooring system into trenches to maintain monolithic protection. Treat cold joints to assure bridging of potential cracks.
				4. Treat floor drains by chasing the flooring system to lock in place at point of termination.
			2. JOINTS AND CRACKS
				1. Treat control joints and to maintain monolithic protection.
				2. Treat cold joints and construction joints to bridge potential cracks and to maintain monolithic protection on horizontal and vertical surfaces as well as horizontal and vertical interfaces.
				3. Vertical and horizontal contraction and expansion joints are treated by installing backer rod and compatible sealant after coating installation is completed. Provide sealant type recommended by manufacturer for traffic conditions and chemical exposures to be encountered.
			3. FIELD QUALITY CONTROL
				1. Material Sampling: Owner may at any time and any numbers of times during resinous flooring application require material samples for testing for compliance with requirements.

Owner will engage an independent testing agency to take samples of materials being used. Material samples will be taken, identified, sealed, and certified in presence of Contractor.

Testing agency will test samples for compliance with requirements, using applicable referenced testing procedures or, if not referenced, using testing procedures listed in manufacturer's product data.

If test results show applied materials do not comply with specified requirements, pay for testing, remove noncomplying materials, prepare surfaces coated with unacceptable materials, and reapply flooring materials to comply with requirements.

* + - 1. CLEANING, PROTECTING, AND CURING
				1. 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.
				2. 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.
				3. Cleaning: Remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous flooring manufacturer. General Contractor is responsible for cleaning prior to inspection.

END OF SECTION 096723