SECTION 096536 - STATIC-CONTROL RESILIENT FLOORING

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. SUMMARY
				1. Section Includes:

Static-control, solid vinyl floor tile.

Static-control, rubber floor tile.

Static-control, vinyl composition floor tile.

Static-control, vinyl sheet floor covering.

Static-control, rubber sheet floor covering.

* + - * 1. Related Requirements:

Retain subparagraph below for requirements that Contractor might expect to find in this Section but are specified in other Sections.

Section 096513 "Resilient Base and Accessories" for resilient base, reducer strips, and other accessories installed with static-control resilient flooring.

* + - 1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" paragraph below if Work of this Section is extensive or complex enough to justify a preinstallation conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.

Retain and revise subparagraph below if additional requirements are necessary; include information about conference.

Review methods and procedures related to static-control resilient flooring including, but not limited to, the following:

Examination and preparation of substrates to receive static-control resilient flooring.

Installation techniques required for specified products.

If needed, insert list of conference participants.

* + - 1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For each type of product.
				5. Sustainable Design Submittals:

Retain "Shop Drawings" paragraph below if required.

* + - * 1. Shop Drawings: For each type of static-control resilient flooring. Include floor-covering layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.

Show details of special patterns.

Retain first subparagraph below if required for conductive, solid vinyl floor tile, and coordinate with Part 2 requirements.

Show locations of inscribed maintenance floor tiles in conductive, solid vinyl floor tile installation areas.

Show grounding locations of grounding strips and connections.

Retain "Samples" paragraph below for single-stage Samples, with a subordinate list if applicable. Retain "Samples for Initial Selection" and "Samples for Verification" paragraphs for two-stage Samples.

* + - * 1. Samples: For each type of static-control resilient flooring and in each color, pattern, and texture required, in manufacturer's standard size, but not less than 6 by 9 inches.

Static-control resilient floor covering is sometimes specified for seamless installation. Retain "Heat-Welding Bead" subparagraph below if heat-welded seams are required.

Heat-Welding Bead: Include Samples of each color required, not less than 9 inches long.

* + - * 1. Samples for Initial Selection: For each exposed static-control resilient flooring product, in manufacturer's standard size.
				2. Samples for Verification: For each type of static-control resilient flooring and in each color, pattern, and texture required, of size indicated below:

Floor Tile: Full-size units.

Sheet Floor Covering: 6-by-9-inch sections of floor covering.

Static-control resilient floor covering is sometimes specified for seamless installation. Retain "Heat-Welding Bead" subparagraph below if heat-welded seams are required.

Heat-Welding Bead: Include Samples of each color required, not less than 9 inches long.

Retain "Seam Samples" paragraph below for seamless installation if required. Coordinate with seaming techniques specified in Part 2 and Part 3.

* + - * 1. Seam Samples: For seamless-installation technique indicated and for each static-control resilient flooring product, color, pattern, and texture required; with seam running lengthwise and in center of 6-by-9-inch Sample applied to a rigid backing and prepared by Installer for this Project.
				2. Product Schedule: For static-control resilient flooring. Use same designations indicated on Drawings.

Coordinate "Qualification Data" paragraph below with qualification requirements in "Quality Assurance" Article.

* + - * 1. Qualification Data: For Installer.
				2. Product Test Reports: For static-control resilient flooring, for tests performed by a qualified testing agency.

Retain "Field quality-control reports" paragraph below if Contractor is responsible for field quality-control testing and inspecting.

* + - * 1. Field quality-control reports.
			1. CLOSEOUT SUBMITTALS
				1. Maintenance Data: For each type of static-control resilient flooring to include in maintenance manuals.
			2. MAINTENANCE MATERIAL SUBMITTALS
				1. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Revise "Floor Tile" and "Sheet Floor Covering" subparagraphs below to suit Project.

Floor Tile: Furnish one box for every 50 boxes, or fraction thereof, of each type, color, and pattern of floor tile installed.

* + - 1. QUALITY ASSURANCE
				1. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in installation techniques required by manufacturer for specified static-control resilient flooring.

Not all manufacturers train or certify installers. Before retaining subparagraph below, verify availability with manufacturers. Retain below with "Qualification Data" paragraph in "Informational Submittals" Article.

Engage an installer who employs workers for this Project who are trained or certified by manufacturer for installation techniques required for specified products.

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

Build mockups for static-control resilient flooring including[**integral-flash-cove base and**][**resilient base and**] accessories.

Size: Minimum 100 sq. ft. for each type, color, and pattern [**in locations indicated**] [**in locations directed by Director’s Representative**].

Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Director’s Representative specifically approves such deviations in writing.

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Store static-control resilient flooring and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended in writing by manufacturer, but not less than 50 deg F or more than 90 deg F.

Floor Tile: Store on flat surfaces.

Sheet Floor Covering: Store rolls upright.

* + - 1. PROJECT CONDITIONS

Ambient temperature range for installation varies among manufacturers. Consult manufacturers for recommendations and revise first paragraph below to suit Project.

* + - * 1. Maintain ambient temperatures in spaces to receive static-control resilient flooring within range recommended by manufacturer, but not less than 70 deg F or more than 85 deg F, during the following time periods:

48 hours before installation.

During installation.

48 hours after installation.

* + - * 1. Until Substantial Completion, maintain ambient temperatures in installation areas within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
				2. Close spaces to traffic during static-control resilient flooring installation.
				3. Close spaces to traffic for 48 hours after static-control resilient flooring installation.
				4. Install static-control resilient flooring after other finishing operations, including painting, have been completed.
1. PRODUCTS

Manufacturers and products listed in SpecAgent and MasterWorks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. PERFORMANCE REQUIREMENTS
			2. STATIC-CONTROL, SOLID VINYL FLOOR TILE <**Insert drawing designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. [Manufacturers:](http://www.specagent.com/Lookup?ulid=14035) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[StaticStop; a division of SelecTech, Inc](http://www.specagent.com/Lookup?uid=123457174281).

[Staticworx](http://www.specagent.com/Lookup?uid=123457174282).

Approved equivalent.

* + - * 1. Source Limitations: Obtain floor tile from single source from single manufacturer.
				2. Static-Control Properties: As determined by testing identical products in accordance with test method indicated by an independent testing and inspecting agency.

Electrical Resistance:

Material: Point-to-point and point-to-ground resistances between 50,000 ohms and 1,000,000 ohms when tested in accordance with ASTM F150.

Material in Combination with a Person: Maximum resistance of 350,000,000 ohms when tested in accordance with ESD STM97.1.

Static Generation:

ESD STM97.2: Less than 50 V when tested at 12 percent relative humidity with static-control footwear.

Static Decay: 5000 to 0 V in less than 0.25 seconds when tested in accordance with FED-STD-101C, Method 4046.1.

If required by authorities having jurisdiction or the State, insert fire-test-response-characteristic requirements to suit Project. Retain first option in "Critical Radiant Flux" paragraph below if Class I floor finish materials are required; retain second option if Class II floor finish materials are required. See "Fire-Test-Response Characteristics" Article in the Evaluations.

* + - * 1. Critical Radiant Flux: 0.45 W/sq. cm or greater when tested in accordance with ASTM E648 or NFPA 253.
				2. Construction: ASTM F1700, Class I (monolithic), Type A (smooth surface).
				3. Thickness: Manufacturer's standard, but not less than 0.08 inch.
				4. Size: [**12 by 12 inches**] [**24 by 24 inches**] [**36 by 36 inches**].

Revise "Seaming Method" paragraph below to suit Project. Generally, only some large-size floor tiles can be heat welded or chemically bonded. See "Seaming Methods" Article in the Evaluations for a discussion of seamless-installation techniques. Coordinate with manufacturer's written recommendations for specified floor tile.

* + - * 1. Seaming Method: Heat welded.

Retain "Colors and Patterns" paragraph below if colors and patterns are not indicated in a separate schedule.

* + - * 1. Colors and Patterns: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

Retain "Maintenance Floor Tiles" paragraph below if required for conductive floor tile, and revise to suit Project. Not all manufacturers produce maintenance floor tiles.

* + - * 1. Maintenance Floor Tiles: Special floor tiles inscribed "Conductive floor. Do not wax."
			1. STATIC-CONTROL, RUBBER FLOOR TILE <**Insert drawing designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. [Manufacturers:](http://www.specagent.com/Lookup?ulid=14036) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[StaticStop; a division of SelecTech, Inc](http://www.specagent.com/Lookup?uid=123457174283).

[Staticworx](http://www.specagent.com/Lookup?uid=123457174284).

Approved equivalent.

* + - * 1. Source Limitations: Obtain floor tile from single source from single manufacturer.
				2. Static-Control Properties: As determined by testing identical products in accordance with test method indicated by an independent testing and inspecting agency.

Electrical Resistance:

Material: Point-to-point and point-to-ground resistances less than 1,000,000 ohms when tested in accordance with ASTM F150.

Material in Combination with a Person: Maximum resistance of 35 X 106 ohms when tested in accordance with ESD STM97.1.

Static Generation:

ESD STM97.2: Less than 20 V when tested at 12 percent relative humidity with static-control footwear.

Static Decay: 5000 to 0 V in less than 0.25 seconds when tested in accordance with FED-STD-101C, Method 4046.1.

If required by authorities having jurisdiction or the State, insert fire-test-response-characteristic requirements to suit Project. Retain first option in "Critical Radiant Flux" paragraph below if Class I floor finish materials are required; retain second option if Class II floor finish materials are required. See "Fire-Test-Response Characteristics" Article in the Evaluations.

* + - * 1. Critical Radiant Flux: 0.45 W/sq. cm or greater when tested in accordance with ASTM E648 or NFPA 253.
				2. Composition: ASTM F1344, Class I-B (homogenous rubber, through-mottled pattern).
				3. Surface: [**Hammered**] [**Textured**] [**Smooth**].
				4. Thickness: Manufacturer's standard, but not less than 0.08 inch.
				5. Size: [**24 by 24 inches**] [**24.6 by 24.6 inches**].

Revise "Seaming Method" paragraph below to suit Project. See "Seaming Methods" Article in the Evaluations for a discussion of seamless-installation techniques. Coordinate with manufacturer's written recommendations for specified floor tile.

* + - * 1. Seaming Method: Heat welded.

Retain "Colors and Patterns" paragraph below if colors and patterns are not indicated in a separate schedule.

* + - * 1. Colors and Patterns: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].
			1. STATIC-CONTROL, VINYL COMPOSITION FLOOR TILE <**Insert drawing designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. [Products:](http://www.specagent.com/Lookup?ulid=14037) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[Armstrong World Industries, Inc](http://www.specagent.com/Lookup?uid=123457174274); Excelon SDT.

Roppe Corporation; ESD Vinyl Static Control Tile.

United Static Control Products; ElectraTile.

Approved equivalent.

* + - * 1. Source Limitations: Obtain floor tile from single source from single manufacturer.
				2. Static-Control Properties: As determined by testing identical products in accordance with test method indicated by an independent testing and inspecting agency.

Electrical Resistance:

Material: Point-to-point and point-to-ground resistances between 1,000,000 ohms and 1,000,000,000 ohms when tested in accordance with ASTM F150.

Material in Combination with a Person: Average resistance of 448,000,000 ohms when tested in accordance with ESD STM97.1.

Static Generation: When tested in accordance with ESD STM97.2, an average of less than 30 V when tested at 12 percent relative humidity with static-control footwear.

Static Decay: 1000 to 100 V in maximum of 0.2 seconds at 12 percent relative humidity when tested in accordance with manufacturer's standard test protocol using an operator wearing static-control footwear and a static decay meter.

If required by authorities having jurisdiction or the State, insert fire-test-response-characteristic requirements to suit Project. Retain "Critical Radiant Flux" paragraph below if Class I floor finish materials are required; vinyl composition floor tile is typically Class 1.

* + - * 1. Critical Radiant Flux: 0.45 W/sq. cm or greater in accordance with ASTM E648 or NFPA 253.
				2. Construction: ASTM F1066 Class 2, vinyl composition floor tile, through pattern.
				3. Thickness: 1/8 inch.
				4. Size: 12 by 12 inches.

Retain "Colors and Patterns" paragraph below if colors and patterns are not indicated in a separate schedule.

* + - * 1. Colors and Patterns: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].
			1. STATIC-CONTROL, VINYL SHEET FLOOR COVERING <**Insert drawing designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. [Products:](http://www.specagent.com/Lookup?ulid=14038) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[Gerflor](http://www.specagent.com/Lookup?uid=123457174275); GTI Cleantech ESD.

[Johnsonite; a Tarkett company](http://www.specagent.com/Lookup?uid=123457174285); iQ Toro SC series.

[Polyflor, Ltd.; distributed by Gerbert Limited](http://www.specagent.com/Lookup?uid=123457174276); SD series.

Approved equivalent.

* + - * 1. Source Limitations: Obtain floor covering from single source from single manufacturer.
				2. Static-Control Properties: As determined by testing identical products in accordance with test method indicated by an independent testing and inspecting agency.

Electrical Resistance:

Material: Point-to-point and point-to-ground resistances between 1,000,000 ohms and 1,000,000,000 ohms when tested in accordance with ASTM F150 or ESD STM7.1.

Material in Combination with a Person: [**Maximum**] [**Average**] resistance of <**Insert number**> ohms when tested in accordance with ESD STM97.1.

Static Generation:

ESD STM97.2: Less than <**Insert number**> V when tested at 12 percent relative humidity with static-control footwear.

AATCC TM134: Less than <**Insert number**> V when tested at 20 percent relative humidity with static-control footwear.

Static Decay: 5000 to 0 V in less than 0.25 seconds when tested in accordance with FED-STD-101C, Method 4046.1.

If required by authorities having jurisdiction or the State, insert fire-test-response-characteristic requirements to suit Project. Retain first option in "Critical Radiant Flux" paragraph below if Class I floor finish materials are required; retain second option if Class II floor finish materials are required. See "Fire-Test-Response Characteristics" Article in the Evaluations.

* + - * 1. Critical Radiant Flux: 0.45 W/sq. cm or greater in accordance with ASTM E648 or NFPA 253.
				2. Construction: [**ASTM F1913, unbacked sheet vinyl flooring**] [**ASTM F1303 Type II, Grade I, Class B, sheet vinyl flooring with nonfoamed plastic backing**] [**Manufacturer's standard high-density vinyl resin with smooth surface**].
				3. Thickness: Manufacturer's standard, but not less than 0.08 inch.
				4. Size: Manufacturer's standard roll width and length.

Revise "Seaming Method" paragraph below to suit Project. See "Seaming Methods" Article in the Evaluations for a discussion of seamless-installation techniques. Coordinate with manufacturer's written recommendations for specified sheet floor covering.

* + - * 1. Seaming Method: Heat welded.

Retain "Colors and Patterns" paragraph below if colors and patterns are not indicated in a separate schedule.

* + - * 1. Colors and Patterns: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from full range of industry colors**].
			1. STATIC-CONTROL, RUBBER SHEET FLOOR COVERING <**Insert drawing designation**>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. [Manufacturers:](http://www.specagent.com/Lookup?ulid=14039) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Nora Systems, Inc](http://www.specagent.com/Lookup?uid=123457174277).

Activa Rubber Flooring; [PRF USA Inc](http://www.specagent.com/Lookup?uid=123457174278).

[Staticworx](http://www.specagent.com/Lookup?uid=123457174286).

Approved equivalent.

* + - * 1. Source Limitations: Obtain floor covering from single source from single manufacturer.
				2. Static-Control Properties: As determined by testing identical products in accordance with test method indicated by an independent testing and inspecting agency.

Electrical Resistance:

Material: Point-to-point and point-to-ground resistances between 1,000,000 ohms and 1,000,000,000 ohms when tested in accordance with ASTM F150 or ESD STM7.1.

Material in Combination with a Person: [**Maximum**] [**Average**] resistance of <**Insert number**> ohms when tested in accordance with ESD STM97.1.

Static Generation:

ESD STM97.2: Less than 20 V when tested at 12 percent relative humidity with static-control footwear.

Static Decay: 5000 to 0 V in less than 0.25 seconds when tested in accordance with FED-STD-101C, Method 4046.1.

If required by authorities having jurisdiction or the State, insert fire-test-response-characteristic requirements to suit Project. Retain first option in "Critical Radiant Flux" paragraph below if Class I floor finish materials are required; retain second option if Class II floor finish materials are required. See "Fire-Test-Response Characteristics" Article in the Evaluations.

* + - * 1. Critical Radiant Flux: 0.45 W/sq. cm or greater when tested in accordance with ASTM E648 or NFPA 253.
				2. Construction: ASTM F1859 Type I, homogeneous rubber sheet flooring without backing.
				3. Wear Surface: [**Smooth**] [**Textured**].
				4. Thickness: 0.14 inch.
				5. Size: Manufacturer's standard roll width and length.

Revise "Seaming Method" paragraph below to suit Project. See "Seaming Methods" Article in the Evaluations for a discussion of seamless-installation techniques. Coordinate with manufacturer's written recommendations for specified sheet floor covering.

* + - * 1. Seaming Method: [**Heat welded**] [**Manufacturer's standard**] <**Insert requirements**>.

Retain "Colors and Patterns" paragraph below if colors and patterns are not indicated in a separate schedule.

* + - * 1. Colors and Patterns: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].
			1. INSTALLATION MATERIALS
				1. Trowelable Leveling and Patching Compounds: Latex-modified portland cement or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.

Retain "Static-Control Adhesive" paragraph below for adhesively installed products. Delete if all products use free-lay installation methods.

* + - * 1. Static-Control Adhesive: Provided or approved by manufacturer; type that maintains electrical continuity of floor-covering system to ground connection.

For substrates other than concrete, verify requirements for substrate preparation with manufacturers and insert products if necessary.

* + - * 1. Grounding Strips: Provided or approved by manufacturer; type and size that maintains electrical continuity of floor-covering system to ground connection.

Retain "Seamless-Installation Accessories" paragraph below if required; revise to suit Project.

* + - * 1. Seamless-Installation Accessories:

Heat-Welding Bead: Solid-strand product of manufacturer for heat welding seams.

Color: [**As selected by Director’s Representative from manufacturer's full range to contrast with floor covering**] [**Match floor covering**].

Chemical-Bonding Compound: Product of manufacturer for chemically bonding seams.

Retain "Integral-Flash-Cove Base Accessories" paragraph below if required. Requirements vary among manufacturers; revise to suit Project and specified products.

* + - * 1. Integral-Flash-Cove Base Accessories:

Cove Strip: 1-inch radius support strip provided or approved by manufacturer.

Cap Strip: [**Square metal, vinyl, or rubber cap**] [**Tapered vinyl cap**] provided or approved by manufacturer.

Retain "Corners" subparagraph below if applicable. Not all manufacturers' written installation instructions require metal inside and outside corners.

Corners: Metal inside and outside corners and end stops provided or approved by floor-covering manufacturer.

Before retaining "Floor Polish" paragraph below, verify manufacturers' written instructions for floor polish products. Floor polish is generally used instead of paste wax if required at all.

* + - * 1. Floor Polish: Provide protective, static-control liquid floor polish products recommended in writing by floor-covering manufacturer.
1. EXECUTION
	* + 1. EXAMINATION

Coordinate requirements specified in other Sections for subfloor construction and tolerances to ensure that they are appropriate for types of static-control resilient floor coverings selected.

* + - * 1. Examine substrates, with Installer present, for compliance with requirements for conditions affecting performance of the Work.
				2. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with installation or static-control characteristics of floor coverings.
				3. Proceed with installation only after unsatisfactory conditions have been corrected.
			1. PREPARATION

Extensive surface preparation is required over substrates from which existing floor coverings have been removed. Requirements vary among manufacturers. Insert requirements to suit Project. Some substrates may need to be primed to ensure electrical continuity; consult manufacturers for recommendations.

* + - * 1. Prepare substrates in accordance with manufacturer's written instructions and with oversight by manufacturer's representative to ensure successful installation of static-control resilient flooring and electrical continuity of floor-covering systems.

Retain "Concrete Substrates" paragraph below if adhesive installation of floor covering is required.

* + - * 1. Concrete Substrates: Prepare in accordance with ASTM F710.

Verify that substrates are dry and free of curing compounds, sealers, and hardeners.

Remove substrate coatings and other substances that are incompatible with floor-covering adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

Alkalinity and Adhesion Testing: Perform tests recommended in writing by manufacturer. Proceed with installation only after substrate alkalinity is not less than 6 or more than 8 pH unless otherwise recommended in writing by flooring manufacturer.

Typically, retain "Moisture Testing" subparagraph below; excessive moisture vapor can cause adhered floor covering to fail. ASTM F1869 (anhydrous calcium chloride test) and ASTM F2170 (relative humidity test) both recommend one test per 1000 sq. ft., but no fewer than three tests per test area.

Moisture Testing: Perform tests so that each test area does not exceed [**1000 sq. ft.**], and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

Typically, retain both "Anhydrous Calcium Chloride Test" and "Relative Humidity Test" subparagraphs below.

When tested in accordance with ASTM F1869, a maximum moisture-emission rate of 3 lb of water/1000 sq. ft. of slab area in a 24-hour period is generally accepted for adhered resilient floor coverings. Some floor coverings can tolerate greater rates.

Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.

Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

Retain "Access Flooring Panels" paragraph below for static-control resilient flooring installed on access flooring. See "Grounding" Article in the Evaluations for additional information.

* + - * 1. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.
				2. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
				3. Do not install static-control resilient flooring until it is same temperature as space where it is to be installed.

Move static-control resilient flooring and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

* + - * 1. Sweep and vacuum substrates to be covered by static-control resilient flooring immediately before installation.
			1. INSTALLATION, GENERAL
				1. Install static-control resilient flooring in accordance with manufacturer's written instructions.

Indicate ground locations on Drawings or revise first paragraph below. Incorporate requirements for making final ground connection in Section 260526 "Grounding and Bonding for Electrical Systems."

* + - * 1. Extend grounding strips beyond perimeter of static-control resilient floor-covering surfaces to ground connections.

Retain subparagraph below if adhesively installed flooring is required.

For adhesively installed flooring, embed grounding strips in static-control adhesive.

* + - * 1. Scribe, cut, and fit static-control resilient flooring to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

Retain subparagraph below if flooring installation is required under certain built-in or movable items and indicate locations on Drawings.

Extend static-control resilient flooring below built-in items and permanent, but movable, items that allow for a flexible layout where indicated on Drawings.

* + - * 1. Extend static-control resilient flooring into toe spaces, door reveals, closets, and similar openings.
				2. Extend static-control resilient flooring to center of door openings where flooring or color transitions occur.
				3. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on static-control resilient flooring as marked on substrates. Use chalk or other nonpermanent, nonstaining marking device.

Retain first paragraph below for floor coverings adhesively installed on covers.

* + - * 1. Install static-control resilient flooring on covers for telephone and electrical ducts, and similar items in installation areas. Maintain overall continuity of color and pattern with pieces of static-control resilient flooring installed on covers. Tightly adhere static-control resilient flooring edges to substrates that abut covers and to cover perimeters.

Retain "Free-Lay Installation" or "Adhesive Installation" paragraph below, or both. If retaining both, indicate locations of each in schedules or on Drawings.

* + - * 1. Free-Lay Installation: Install static-control resilient flooring in accordance with manufacturer's written instructions for a completed installation without open cracks, raising and puckering at joints, and surface imperfections.
				2. Adhesive Installation: Adhere static-control resilient flooring to substrates using a full spread of static-control adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

Retain "Seamless Installation" paragraph below for seamless installation of static-control sheet or large-size tile flooring.

* + - * 1. Seamless Installation:

Revise "Heat-Welded Seams" and "Chemically Bonded Seams" subparagraphs below to suit Project and specified products.

Heat-Welded Seams: Comply with ASTM F1516. Rout joints and heat weld with welding bead to permanently fuse sections into a seamless floor covering. Prepare, weld, and finish seams to produce surfaces flush with adjoining floor-covering surfaces.

Chemically Bonded Seams: Bond seams with chemical-bonding compound to permanently fuse sections into a seamless floor covering. Prepare seams and apply compound to produce tightly fitted seams without gaps, overlays, or excess bonding compound on floor-covering surfaces.

* + - * 1. Integral-Flash-Cove Base: Cove static-control flooring [**4 inches**] [**6 inches**] [**to dimension indicated on Drawings**] up vertical surfaces. Support static-control resilient flooring at horizontal and vertical junction with cove strip. Butt at top against cap strip.

Retain subparagraph below if metal corners are required.

Install metal corners at inside and outside corners according to manufacturer's written instructions.

* + - 1. INSTALLATION OF FLOOR TILE
				1. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so floor tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half floor tile at perimeter.

Lay floor tiles [**square with room axis**] [**at a 45-degree angle with room axis**] [**in pattern indicated on Drawings**].

* + - * 1. Match floor tiles for color and pattern by selecting floor tiles from cartons in same sequence as manufactured and packaged if so numbered. Discard broken, cracked, chipped, or deformed floor tiles.

Retain and revise subparagraph below for vinyl composition floor tile if required.

Lay vinyl composition floor tiles [**with grain running in one direction**] [**with grain direction alternating in adjacent floor tiles (basket-weave pattern)**] [**in pattern of colors and sizes indicated on Drawings**].

Retain paragraph below for conductive, solid vinyl floor tile if required.

* + - * 1. In each space where conductive, solid vinyl floor tile is installed, install maintenance floor tile identifying conductive floor tile in locations approved by Director’s Representative.
			1. INSTALLATION OF SHEET FLOOR COVERINGS
				1. Unroll sheet floor coverings and allow them to stabilize before cutting and fitting.
				2. Lay out sheet floor coverings as follows:

Maintain uniformity of sheet floor-covering direction.

Minimize number of seams and place them in inconspicuous and low-traffic areas, at least 6 inches away from parallel joints in floor-covering substrates.

Match edges of floor coverings for color shading at seams.

Avoid cross seams.

* + - 1. FIELD QUALITY CONTROL

Retain "Testing Agency" paragraph below to identify who shall perform tests and inspections. If Contractor will engage testing agency, retain "Field quality-control reports" paragraph in "Informational Submittals" Article.

* + - * 1. Testing Agency: Engage a qualified testing agency to test electrical resistance of static-control resilient flooring in accordance with ASTM F150 or ESD STM7.1 for compliance with requirements.

Arrange for testing after the following:

Retain first subparagraph below if adhesively installed flooring is required.

Static-control adhesives have fully cured.

Static-control resilient flooring has stabilized to ambient conditions.

Ground connections are completed.

Retain subparagraph below if floor polish is required.

Arrange for testing of static-control resilient flooring [**before**] [**and**] [**after**] performing floor polish procedures.

* + - * 1. Static-control resilient flooring will be considered defective if it does not pass tests and inspections.
				2. Prepare test and inspection reports.
			1. CLEANING AND PROTECTION
				1. Comply with manufacturer's written instructions for cleaning and protection of static-control resilient flooring.
				2. Perform the following operations immediately after completing static-control resilient flooring:

Retain first subparagraph below if adhesively installed flooring is required.

Remove static-control adhesive from exposed surfaces.

Remove dirt and blemishes from exposed surfaces.

Sweep and vacuum surfaces thoroughly.

Damp-mop surfaces to remove marks and soil.

* + - * 1. Protect static-control resilient flooring from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

Retain one of two subparagraphs below. Only some manufacturers recommend that that their products receive floor polish.

Do not wax static-control resilient flooring.

If recommended in writing by manufacturer, apply protective static-control floor polish formulated to maintain or enhance floor covering's electrical properties. Before polishing, do the following:

Ensure that static-control resilient flooring surfaces are free from soil, static-control adhesive, and surface blemishes.

Verify that both floor polish and its application method are approved by manufacturer and that floor polish will not leave an insulating film that reduces static-control resilient flooring's effectiveness for static control.

* + - * 1. Cover static-control resilient flooring and protect from rolling loads until Substantial Completion.

END OF SECTION 096536