

SECTION 09 68 13

TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes modular carpet tile.
- B. Related Sections include:
 - 1. Section 01 74 19 "Construction Waste Management and Disposal" for recycling of existing carpet materials to be removed.
 - 2. Section 02 41 19 "Selective Demolition" for removal of existing floor coverings.
 - 3. Section 09 05 65 "Concrete Moisture-Control System" for moisture-vapor-emission control system applied to concrete slab substrates prior to installation of finish flooring.
 - 4. Section 09 65 13 "Resilient Base and Accessories" for the following resilient products used with carpet tile:
 - a. Resilient base.
 - b. Resilient transition moldings between carpet tile and adjacent finish flooring materials.

1.3 REFERENCES

- A. American Association of Textile Chemists and Colorists (AATCC):
 - 1. AATCC 16-E: Test Method for Colorfastness to Light.
 - 2. AATCC 134: Test Method for Electrostatic Propensity of Carpets.
 - 3. AATCC 165: Test Method for Colorfastness to Crocking, Textile Floor Coverings.
 - 4. AATCC 174: Test Method for Antimicrobial Activity Assessment of Carpets.
 - 5. AATCC 175: Test Method for Stain Resistance for Pile Floor Coverings.

- B. ASTM International:
 - 1. ASTM E 648: Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
 - 2. ASTM E 662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 - 3. ASTM E 2471: Standard Test Method for Using Seeded-Agar for the Screening Assessment of Antimicrobial Activity in Carpets.
 - 4. ASTM F 710: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
 - 5. ASTM F 2170: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

- C. California Department of Public Health (CDPH):
 - 1. Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers – Version 1.1, February 2010.

- D. CALGreen: California Green Building Standards Code - California Code of Regulations, Title 24, Part 11.

- E. Carpet and Rug Institute (CRI):
 - 1. CRI Carpet Installation Standard.
 - 2. CRI Green Label Plus testing program.

- F. Chemical Abstract Service (CAS):
 - 1. Chemical Abstract Registration Number (CASRN).

- G. Collaborative for High Performance Schools (CHPS).
 - 1. Criteria Interpretation Library.
 - a. EQ 7.0 – Low Emitting Materials.
 - b. EQ 7.1 – Additional Low Emitting Materials.

- H. Cradle to Cradle Products Innovation Institute:
 - 1. Cradle to Cradle Certified Product Standard.

- I. European Standards (EN):
 - 1. EN 15804: Sustainability of Construction Works – Environmental Product Declarations – Core Rules for the Product Category of Construction Products.

- J. GreenScreen for Safer Chemicals:
 - 1. GreenScreen Chemical Hazard Assessment Procedure V1.2.

- K. Health Product Declaration Collaborative:
 - 1. Health Product Declaration Open Standard.

- L. International Certified Floorcovering Installers Association.
 - 1. Commercial II certification level.
- M. International Organization for Standardization (ISO):
 - 1. ISO 14021: Environmental Labels and Declarations – Self-Declared Environmental Claims (Type II Environmental Labeling).
 - 2. ISO 14025: Environmental Labels and Declarations – Type III Environmental Declarations – Principals and Procedures.
 - 3. ISO 14040: Environmental Management – Life Cycle Assessment – Principals and Framework.
 - 4. ISO 14044: Environmental Management – Life Cycle Assessment – Requirements and Guidelines.
 - 5. ISO 21930: Sustainability in Building Construction – Environmental Declaration of Building Products.
- N. NSF International/American National Standards Institute (ANSI):
 - 1. NSF/ANSI 140: Sustainability Assessment for Carpet.
- O. Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
- P. SCS Global Services:
 - 1. Sustainable Carpet Certification.
- Q. South Coast Air Quality Management District (SCAQMD):
 - 1. Rule 1168 – Adhesive and Sealant Applications.

1.4 DEFINITIONS

- A. VOC: Volatile Organic Compounds.

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to carpet tile installation including, but not limited to, the following:
 - a. Delivery, storage, and handling procedures.
 - b. Ambient conditions and ventilation procedures.
 - c. Subfloor preparation procedures.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
 - 2. Include manufacturer's written installation recommendations for each type of substrate.

- B. Shop Drawings: For carpet tile installation, plans showing the following:
1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
 2. Existing flooring materials to be removed.
 3. Existing flooring materials to remain.
 4. Carpet tile type, color, and dye lot.
 5. Type of subfloor.
 6. Type of installation.
 7. Pattern of installation.
 8. Pattern type, location, and direction.
 9. Pile direction patterns.
 10. Types, color, and locations of insets and borders.
 11. Type, color, and location of edge, transition, and other accessory strips.
 12. Transition details to other flooring materials.
- C. Samples for Initial Selection: Submit manufacturer's full range of colors/patterns for the following items for selection by Architect.
1. Carpet Tile.
 - a. Minimum Number of Color/Patterns for Selection:
 - i) Carpet Tile 1 – "C-1"; Walk-Off Mat:.
 - ii) Carpet Tile – "C-2"; Field: .
- D. Samples for Verification: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
1. Carpet Tile: Full-size Sample.
 2. Exposed Edge, Transition, and other Accessory Stripping: 12-inch long Samples.
- E. Product Schedule: For carpet tile. Use same designations indicated on Drawings.
- F. CALGreen Submittals:
1. Manufacturer's product data for adhesives and adhesive primers indicating compliance with product requirements specified in "CALGreen Requirements" Article.
 2. Manufacturer's product data for carpet tile indicating compliance with product requirements specified in "CALGreen Requirements" Article.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For carpet tile, for tests performed by a qualified testing agency.
- C. Sample Warranties: For special warranties.

1.8 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For carpet tiles to include in maintenance manuals. Include the following:
 - 1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.9 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq yds.

1.10 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced Installer who is certified by the International Certified Floorcovering Installers Association at the Commercial II certification level.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1. Build mockups at locations and in sizes as shown on Drawings or if not shown, as directed by Architect.
 - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI's "CRI Carpet Installation Standard."

1.12 FIELD CONDITIONS

- A. Comply with CRI's "CRI Carpet Installation Standard" for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels planned for building occupants during the remainder of the construction period.
- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

1.13 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
 - 2. Failures include, but are not limited to, the following:
 - a. More than 10 percent loss of face fiber, edge raveling, snags, and runs.
 - b. Dimensional instability.
 - c. Loss of tuft-bind strength.
 - d. Excess static discharge.
 - e. Loss of face fiber.
 - f. Delamination
 - 3. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CALGREEN REQUIREMENTS

- A. General: Conform with all applicable requirements of the California Green Building Standards Code (CALGreen).
- B. Provide adhesives and adhesive primers which comply with current VOC content limits of the South Coast Air Quality Management District (SCAQMD) Rule 1168, except as noted otherwise below. Such products shall also comply with Rule 1168 prohibition of the use of certain toxic compounds (chloroform, ethylene, dichloride, methylene chloride, perchloroethylene, and trichloroethylen).
 - 1. Aerosol adhesives and similar unit sizes of adhesives, and sealants (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions of use of certain toxic compounds, of the California Code of Regulations, Title 17, commencing with Section 94507.
- C. Carpet Tile: Provide carpet tile products which meet at least one of the following:
 - 1. Certified as complying with the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program.
 - 2. Compliant with the VOC-emission limits specified in the California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010.
 - 3. Meets requirements of NSF/ANSI 140 for certification at the Gold level or higher.
 - 4. Meets requirements of SCS Global Services Sustainable Carpet Certification program at the Gold level or higher.
 - 5. Compliant with 2014 California Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and EQ 7.1 (formerly EQ 2.2) and listed in the CHPS High Performance Database.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics for Tile Carpeting:
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq cm, as determined by testing identical products according to ASTM E 648.
 - 2. Smoke Density: 450 or less, determined by testing identical products according to ASTM E 662.

2.3 CARPET TILE

- A. Modular Carpet Tile **C-1; Walk-Off Mat**: Modular carpet tile system designed for specific installation per manufacturer's recommendations. Maintain a visually continuous and finished overall appearance without any tile appearing improperly positioned.
1. Product: **Interface, Inc.; SR799**.
 - a. Color: Onyx
 2. Construction: Tufted Textured Loop
 3. Fiber Content: 100 percent nylon.
 4. Fiber Type: Aquafil.
 5. Dye Method: 100 percent solution dyed.
 6. Pile Characteristic: Tip-sheared.
 7. Pile Height: .19 inch.
 8. Stitches: 10 per inch.
 9. Gage: 1/12 inch.
 10. Face Yarn Weight: 26 oz per sq yd.
 11. Density: 6,686 oz per cu yd.
 12. Primary Backing/Backcoating: Non-woven fiberglass-reinforced PVC.
 13. Secondary Backing: Fiberglass-reinforced thermoplastic composite; 100 percent recyclable.
 - a. Provide minimum 39 percent recycled content, post-consumer or post-industrial in secondary backing material.
 14. Size: 19.6 inches square.
 15. Applied Soil-Resistance Treatment: Manufacturer's standard material; 8.0 on the Red 40 Stain Scale, per AATCC 175.
 16. Antimicrobial Treatment: Manufacturer's standard material; passes AATCC 174 (minimum 90 percent reduction of microorganisms according to Part 2; no macroscopic growth according to Part 3); passes ASTM E 2471.
 17. Performance Characteristics: As follows:
 - a. Colorfastness to Crocking: Not less than 4, wet and dry, per AATCC 165.
 - b. Colorfastness to Light: Not less than 4 after 60 AFU (AATCC fading units) per AATCC 16, Option E.
 - c. Electrostatic Propensity: Less than 3.0 kV per AATCC 134.
 18. Minimum Recycled Content:
 - a. Preconsumer: 33 percent.
 - b. Postconsumer: 33 percent.
 19. VOC Emissions:
 - a. Complies with requirements specified in "CALGreen Requirements" Article.
 - b. Certification: CRI Green Label Plus.

- B. Modular Carpet Tile **C-2; Field**. Modular carpet tile system designed for specific installation per manufacturer's recommendations. Maintain a visually continuous and finished overall appearance without any tile appearing improperly positioned.
1. Product: **Interface, Inc.; Cubic**.
 - a. Color: T.B.D.
 2. Construction: Tufted.
 3. Fiber Content: 100 percent nylon Type 6, 6.
 4. Fiber Type: Aquafil.
 5. Dye Method: 100 percent solution dyed.
 6. Pile Characteristic: Textured loop.
 7. Pile Height: .145 inch.
 8. Stitches: 8.16 per inch.
 9. Gage: 1/12 inch.
 10. Face Yarn Weight: 18 oz per sq yd.
 11. Density: 6,968 oz per cu yd.
 12. Primary Backing/Backcoating: Non-woven fiberglass-reinforced PVC.
 13. Secondary Backing: Fiberglass-reinforced thermoplastic composite; 100 percent recyclable.
 - a. Provide minimum 39 percent recycled content, post-consumer or post-industrial in secondary backing material.
 14. Size: 50 cm by 50 cm (19.69 inches square).
 15. Applied Soil-Resistance Treatment: Manufacturer's standard material; 8.0 on the Red 40 Stain Scale, per AATCC 175.
 16. Antimicrobial Treatment: Manufacturer's standard material; passes AATCC 174 (minimum 90 percent reduction of microorganisms according to Part 2; no macroscopic growth according to Part 3).
 17. Performance Characteristics: As follows:
 - a. Colorfastness to Crocking: Not less than 4, wet and dry, per AATCC 165.
 - b. Colorfastness to Light: Not less than 4 after 60 AFU (AATCC fading units) per AATCC 16, Option E.
 - c. Electrostatic Propensity: Less than 3.0 kV per AATCC 134.
 18. Minimum Recycled Content:
 - a. Preconsumer: 45 percent.
 19. VOC Emissions:
 - a. Complies with requirements specified in "CALGreen Requirements" Article.
 - b. Certification: CRI Green Label Plus.

2.4 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
- B. Primer/Sealer: Carpet manufacturer's standard sealer material designed to seal gypsum-based underlayment surfaces.
- C. Corner Connectors: Manufacturer's standard adhesively-surfaced 3-inch by 3-inch square tabs for connecting underside of corners of four adjacent carpet tile units to maintain a tight joint on all sides of tile, thereby maintaining an overall stable surface. Tabs are surfaced with pressure-sensitive acrylic adhesive on one side, only, of polyester backing, so as not to adhere tiles to substrate.
 - 1. Product: Interface, Inc.; TacTiles.
- D. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.
 - 1. VOC Content: Complies with requirements specified in "CALGreen Requirements" Article.
- E. Resilient Transition Moldings: As specified in Section 09 65 13 "Resilient Base and Accessories."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance.
- B. Examine carpet tile for type, color, pattern, and potential defects.
- C. Verify that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might show through surface or interfere with adhesion of carpet tile and accessories
- D. For painted subfloors, perform bond test recommended in writing by adhesive manufacturer.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with CRI's "CRI Carpet Installation Standard," and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile.
- B. Concrete substrates: Prepare according to ASTM F 710.
 - 1. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturer.
 - 2. Refer to Section 09 05 65 "Concrete Moisture-Control System" for moisture and alkalinity testing and treatment. Proceed with installation only after substrates pass testing.
 - 3. Adhesion Testing: Perform tests recommended by carpet tile manufacturer. Proceed with installation only after substrates pass testing.
- C. Metal Substrates: Clean grease, oil, soil, and rust, and prime if recommended in writing by adhesive manufacturer. Rough sand painted metal surfaces and remove loose paint. Sand aluminum surfaces, to remove metal oxides, immediately before applying adhesive.
- D. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes, and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions.
- E. Apply primer/sealer over gypsum-based cementitious underlayment in accordance with carpet manufacturer's written instructions and as required to ensure proper adhesion of carpet to underlayment surface.
- F. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 CARPET TILE INSTALLATION

- A. General: Comply with with CRI's "Carpet Installation Standard," Section 18, "Modular Carpet," and with carpet tile manufacturer's written installation instructions.
- B. Installation Method: As recommended in writing by carpet tile manufacturer, and as follows:
 - 1. TacTiles
- C. Maintain dye lot integrity. Do not mix dye lots in same area.
- D. Maintain carpet tile patterns indicated on Drawings.
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.
- H. Install pattern parallel to walls and borders.
- I. Do not bridge building expansion joints with carpet tiles.
- J. At access flooring, stagger joints of carpet tiles so carpet tile grid is offset from access flooring panel grid. Do not fill seams of access flooring panels with carpet adhesive; keep seams free of adhesive.
- K. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of carpet tiles that would otherwise be exposed.

3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing carpet tile.
 - 1. Remove excess adhesive and other surface blemishes using cleaner recommended by carpet tile manufacturer.
 - 2. Remove yarns that protrude from carpet tile surface.
 - 3. Vacuum carpet tile using commercial machine with face-beater element.
- B. Protect installed carpet tile to comply with CRI's "CRI Carpet Installation Standard," Section 20, "Protecting Indoor Installations."
- C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 09 68 13