

## SECTION 09681 – CARPET TILE

### PART 1 – GENERAL

#### 1.01 RELATED SECTIONS

The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this Section.

#### 1.02 SECTION INCLUDES:

- A. Manufacturers
- B. Testing Protocols
- C. Performance Requirements
- D. Product Specifications
- E. Environmental Requirements
- F. Warranties
- G. Exclusions
- H. Installation
- I. Maintenance
- J. Accessories

#### 1.03 REFERENCES

- A. American Association of Textile Chemists and Colorists (AATCC):
  - 1. AATCC 16 – Test Method for Colorfastness to Light
  - 2. AATCC 107 – Test Method for Colorfastness to Water
  - 3. AATCC 129 – Test Method for Colorfastness to Ozone in the Atmosphere under High Humidity.
  - 4. AATCC 134 – Test Method for Electrostatic Propensity of Carpets.

5. AATCC 165 – Test Method for Colorfastness to Crocking: Carpets – AATCC Crock Meter Method
6. AATCC 175 – Test Method for stain Resistance: Pile Floor Coverings

B. American Society for Testing and Materials (ASTM):

1. ASTM D418 – Methods for Testing Pile Yarn Floor Covering Construction (Finished Pile Thickness only)
2. ASTM E648 – Test Method for Critical Radiant Flux of Floor Covering Systems
3. ASTM E662 – Test Method for Specific Optical Density of Smoke

C. International Standards Organization (ISO):

1. ISO 2551 – Test Method for Dimensional Stability (Aachen Test)

D. Carpet and Rug Institute (CRI):

1. CRI Indoor Air Quality Testing and Labeling Program

#### 1.04 PERFORMANCE REQUIREMENTS

A. Comply with the following performance requirements:

1. Radiant Panel: ASTM E648: >.45 watts/sq. cm: Class 1
2. Smoke Density: ASTM E662: 450 Flaming Mode - Maximum
3. Static Generation: AATCC 134: 3.5 KV - Maximum
4. Lightfastness: AATCC 16E: Min 4.0 at 40 hrs.
5. Crocking: AATCC 165: 4.0 – Wet/Dry
6. Cold Water Bleed: AATCC 107: 3.0 - Minimum
7. Ozone Fade: AATCC 129: 3.0 - Minimum
8. Soil Protection: AATCC 189: 500 PPM Min.
9. CRI Green Label Plus Air Quality Certification: Pass
10. CRI Appearance Retention Rating: 3.5 minimum – Severe Traffic

11. Aachen Test: ISO 2551: Less than .15% shrinkage or growth
12. Stain protection: AATCC 175: Equal to or greater than 8.0 on Red 40 stain test.

B. Special Performance Requirements

1. Must have Soil and Stain Resist treatment
2. Must have minimum 20 dpf fiber
3. Must have Trilobal cross-section

1.05 SUBMITTALS

A. Manufacturer's Data

Submit two (2) copies of manufacturer's specifications and installation instructions for carpet tile and related items specified.

B. Fiber Requirements

Submit certification from the fiber producer verifying the following:

1. Use of the specified fiber in the submitted carpet product.

C. Warranties

Submit warranties as described in Paragraph 1.14, Warranty.

D. Maintenance

Maintenance Manual – submit manual of carpet manufacturer's recommendations for the general care, cleaning and maintenance of carpet tile products.

E. Certificate of Compliance

Submit certified test reports that carpet tile meets all the performance requirements stated above in section 1.04 Performance requirements. Submit certified test reports from a NVLAP Certified Lab that carpet meets all performance criteria.

F. Shop Drawings

For carpeted areas submit shop drawings showing installation of carpeting, pattern direction, necessary installation accessories, and provisions for work of other trades. Show location of different patterns or styles of carpet tile. Also show locations of any threshold conditions

1. The contractor will supply reproducible prints on request, to facilitate shop drawing preparation.

G. Samples

Submit standard-size carpet tile samples of each type of carpet, in each specified pattern, color and construction.

Any alternates to specified products must be submitted for approval by a representative of the end user or architect/design firm at least ten (17) working days prior to bid or proposal.

1. Final Sample Submittal

- a. Submit two (2) sets of samples for each carpet type.
- b. No carpet shipments are permitted until acceptance of final samples is given by representative of the end user or architect/design firm, certifying that samples are the approved color, pattern and texture.

2. Custom Color only

- a. A representative of the end user or architect/design firm, certifying that the samples are the approved color, pattern and texture, shall sign high quality color samples.
- b. Samples submitted are assumed to be the manufacturer's best obtainable match to the color described under Materials Section.
- c. Must have federally registered Branded trademark.

1.06 CLOSEOUT SUBMITTALS

A. Maintenance Data

Include maintenance procedures, recommended cleaning and stain removal materials, and recommended cleaning schedule. Include product data and Safety Data Sheets (SDS) for cleaning and stain-removal materials.

B. Installation Instructions

Include detailed installation procedures. Include carpet tile installation procedures, adhesive types, trowel sizes, spread rates, open times, and Safety Data Sheets (SDS) for all carpet tile adhesives.

C. Warranties and Performance Certifications

Submit written warranties for all products as well as performance testing results on all items included in Warranty section and Performance section of this specification.

1.07 QUALITY ASSURANCE

A. Single Source Responsibility: Provide products from a single manufacturer.

1. Warranties must be standard and not job specific.
2. All styles must come from the same manufacturer.
3. Must be single source fiber extrusion and yarn manufacturing.

1.08 QUALIFICATIONS

A. Manufacturer

Company specializing in manufacturing carpet tiles with minimum five (5) years (documented) experience.

B. Installer/Flooring Contractor Qualifications

1. Carpet contractor must provide all the necessary licenses, performance bonds, and insurance certificates that comply with all local, state, and federal laws, ordinances, or codes prior to the start of the installation.
2. Carpet contractor shall be a firm established not less than five (5) years and, if requested, shall submit evidence of having furnished and installed commercial carpet on commercial carpet projects of similar size and scope for at least five (5) years.
3. Flooring Contractor to provide references at the request of the owner.
4. Carpet Contractor will be responsible for the proper product installation, including floor preparation, in those areas indicated in the Drawings.

5. Carpet Contractor to provide owner a written warranty that guarantees the completed installation be free from defects in materials and workmanship for a period of two (2) years after job completion.

C. Corporate Social Responsibility

Corporate social responsibility requirements: Manufacturer shall meet the corporate social responsibility as outlined below.

1. GRI Reporting: Manufacturer to have a corporate sustainability report (CSR) as per the GRI G4 guidelines.
2. Health and Wellness: Manufacturer to have on-site health clinics and biometric screenings, or health facilities displaying commitment towards health and wellness.
3. United Nations Sustainable Development Goals (UN SDGs): Manufacturer must identify and commit to at least part of the UN SDGs as applicable to their organization and industry.
4. Facility certifications: Product's manufacturing facility shall be ISO 9001 certified. Manufacturer to have at least one green building certification for their own facilities – LEED, Living Building Challenge or WELL Building Standard.

1.09 PRE-INSTALLATION MEETINGS

- A. Convene one (1) week prior to commencing work of this section.
- B. Require attendance of installer, contractor, owner, architect and other parties directly affecting the work of this section.

1.10 DELIVERY, STORAGE AND HANDLING

- A. Deliver carpet tile in sealed protective boxes and accessories in sealed containers. Segregate each carpet product (if several product styles are involved), according to style, color, pattern, dye lot, run number, and quantity.
- B. Store products in an enclosed and dry area protected from damage and soiling.

1.11 SITE ENVIRONMENTAL REQUIREMENTS

- A. Do not install carpet tile until all areas have been fully enclosed and the environmental conditions have reached the levels desired for occupancy of the space.
- B. Maintain ambient temperature and humidity conditions during and after installation of carpet tile at occupancy levels.

- C. Allow carpet to reach room temperature, or minimum temperature recommended by manufacturer prior to the start of the installation.
- D. Protect adhesives from freezing. Follow manufacturer's recommendations for minimum temperatures to which adhesives are exposed.

#### 1.12 FIELD MEASUREMENTS

Verify that field measurements are as indicated on drawings.

#### 1.13 SEQUENCING

- A. Sequence installation so as to minimize possibility of damage and soiling of carpet.
- B. Do not commence installation until painting and finishing work are complete, and ceiling and overhead work have been tested, approved and completed.
- C. Remove and replace existing carpet (renovations) in accordance with pre-approved architectural plan.

#### 1.14 WARRANTY

##### Warranty Performance Requirements

- A. Provide manufacturer's lifetime warranties for:
  - 1. Wear
  - 2. Static
  - 3. Edge Ravel
  - 4. Zippering
  - 5. Delamination
  - 6. Dimensional Stability
- B. Supplemental Fiber Warranties:
  - 1. Lifetime Stain Warranty
  - 2. Lifetime Warranty against color transfer wet or dry
  - 3. Lifetime Warranty against wet fastness

4. 10 Year Colorfastness to Light
5. 10 Year Colorfastness to Atmospheric contaminants

#### 1.15 EXTRA MATERIALS

- A. Provide 15% percent overage of calculated yardage for each type of carpet (include carpet needed for complete installation plus waste and usable scraps in calculated yardage) as specified by architect and/or end user. Recycle waste, unusable scrap and any carpet tile damaged during installation through a qualified industry recycling or manufacturer environmental program.
- B. Deliver specified attic stock requirements to Owner's designated storage space, properly packaged and identified.

### PART 2 – PRODUCTS

#### 2.01 MANUFACTURERS

- A. Mohawk Group, 160 S. Industrial Blvd, Calhoun GA Telephone 800.241.4494 Web Site: [www.mohawkgroup.com](http://www.mohawkgroup.com). or Approved equal.
  1. Contact: Madeline Murphy Cell: 808.389.6235
- B. Armstrong Flooring, Inc. 2500 Columbia Avenue, Lancaster, PA 17604.
- C. Substitutions or Equals: Substitutions are allowed in accordance with the Special provisions of this specification.

#### 2.02 CARPET TILE CONSTRUCTION

- A. All yarn and other carpet materials shall be manufacturer's first quality.
- B. Carpet tile backing composite shall be constructed in the following manner:
  1. Backing Material/Composition  
Primary – Reinforced Synthetic – non-woven  
Secondary Backing Layer – Thermoplastic Polymer



## 2. DETAILED PRODUCT CONSTRUCTION SPECIFICATIONS

CARPET (CPT-1, “Pronounced Navy, #599))

Style Name:	Faculty Remix Tile GT154
Product Type:	Carpet Tile
Construction:	Tufted
Surface Texture:	Textured Multi Colored Loop
Gauge:	1/8 (31.5 rows per 10 cm)
Density:	6,500
Weight Density:	169,000
Stitches per Inch:	8.3 (32.68 per 10 cm)
Finished Pile Thickness:	.144” (3.66 mm)
Dye Method:	Solutioned Dyed / Yarn Dyed
Backing Material:	EcoFlex NXT
Fiber Type:	Duracolor® Premium Nylon
Face Weight:	26.0 oz per sq. yd. (882 g/m <sup>2</sup> )
Size:	24” x 24” (.6096 m x .6096 m)
Soil Release Technology:	Sentry Soil Protection
Stain Release Technology:	Permanent, Built into Fiber
Installation Method:	Quarter Turn, Monolithic
Indoor Air Quality:	CRI Green Label Plus GLP 1171
Foot Traffic Recommendation TARR:	Severe
NSF 140	EcoFlex NXT - NSF 140 Gold

All specifications are subject to normal manufacturing tolerances

### 2.03 ENVIRONMENTAL ATTRIBUTES AND CRITERIA

- A. Transparency Attributes: Products shall meet the transparency requirements and the following documentation and certifications are acceptable towards compliance.
  - 1. Health Product Declaration (HPD): Manufacturer’s publicly available Health Product Declaration (HPD) with full disclosure of ingredients and known hazards that is in compliance with the Health Product Declaration Standard 2.1.
  - 2. Declare Label: Third Party Verified Declare Label
  - 3. Environmental Product Declaration (EPD): Manufacturer’s product life cycle assessment documenting environmental impact of the product throughout its life cycle in accordance with ISO 14025.
- B. Material Health and Indoor Air Quality Attributes: Products shall meet the transparency requirements and the following documentation and certifications are acceptable towards compliance.

1. Health Product Declaration (HPD): Manufacturer's publicly available Health Product Declaration (HPD) with full disclosure of ingredients and known hazards that is in compliance with the Health Product Declaration Standard 2.1.
  2. Declare Label: Third Party Verified Declare Label with Living Building Challenge Red List Free status and provide 100% ingredient disclosure.
  3. Carpet and Rug Institute (CRI) Green Label Plus (GLP) certification.
  4. California Department of Public Health (CDPH) Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers (also known as CDPH/EHLB Standard Method v1.2 or California Specification 01350).
- C. Additional Sustainability Attributes: Products shall meet the following requirements and the following documentation and certifications are acceptable towards compliance.
1. ANSI/NSF 140: For carpet, meet Achievement Level of Gold, 52 to 70 points, based on specific Sustainable Attribute Performance for all product stages according to ANSI/NSF 140.
- D. Adhesive requirements: Products shall meet the following requirements and the following documentation and certifications are acceptable towards compliance.
1. Volatile Organic Compound (VOC) Emissions: Emissions shall meet the California Department of Public Health (CDPH) Standard Method v1.2, 2017 requirements.
  2. Volatile Organic Compound (VOC) Emissions: Adhesive shall comply with the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1168.
- E. Building Certifications: Products shall meet the following building certification standards.
1. LEED 2009 and LEEDv4, Living Building Challenge (Petals including Red List Imperative) and WELL Building Standard

## 2.04 MANUFACTURER'S REQUIREMENTS

- A. Corporate social responsibility requirements: Manufacturer shall meet the corporate social responsibility as outlined below
1. GRI Reporting: Manufacturer to have a corporate sustainability report (CSR) as per the GRI guidelines.

2. Health and Wellness: Manufacturer to have on-site health clinics and biometric screenings, or health facilities displaying commitment towards health and wellness.
3. United Nations Sustainable Development Goals (UN SDGs): Manufacturer must identify and commit to at least part of the UN SDGs as applicable to their organization and industry.
4. Facility Certifications: Product's manufacturing facility shall be ISO 9001 certified. Manufacturer to have at least one green building certification for their own facilities – LEED, Living Building Challenge or WELL Building Standard.
5. Manufacturer to contribute towards protecting natural and ecological habitat through conservation and provide appropriate documentation. Manufacturer to have on-site renewable energy as a part of their energy portfolio.

## 2.05 ACCESSORIES

- A. Leveling Compound: Latex type as recommended by carpet manufacturer; compatible with carpet adhesive and curling/sealing compound used on concrete.
- B. Pressure Sensitive Adhesive: Low VOC Pressure Sensitive Adhesive carpet tile adhesive, as recommended by carpet manufacturer for direct glue down of carpet tiles; comply with CRI Green Label Plus Certification Program.
- C. Non-Metallic Carpet Edge Guard: Extruded or molded heavy-duty vinyl or rubber carpet edge guard of size and profile indicated; minimum two (2) inch wide anchorage flange; colors selected by Architect from manufacturer's standard range of colors.
- D. Miscellaneous Materials: As recommended by manufacturer of carpet, cushion, and other carpet products; as required to complete installation.

## PART 3 – EXECUTION

### 3.01 EXAMINATION

- A. Examine substrates for conditions under which carpet tiles are to be installed.
- B. Verify that floor surfaces are smooth and flat within tolerances specified in Section 3.02 below and are ready to receive work.
- C. Beginning of installation means installer accepts existing substrate conditions.

### 3.02 PREPARATION

- A. Allow new concrete to cure for 90 days before carpet installation starts.
- B. Perform moisture content testing as required by manufacturer's instructions to ensure pH readings of no more than nine (9). Moisture transmission of 3.0-lbs/sq. ft per 24 hours is acceptable. If values exceed this level, follow manufacturer's recommendations for moisture transmission mitigation. Do not proceed until unsatisfactory conditions have been corrected.
- C. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes and other defects with sub-floor filler.
- D. Fill, level and make smooth cracks 1/16 inch or more, holes, unevenness, and roughness with compatible latex floor patching compounds. Feather floor filling or leveling compound a minimum of four (4) ft. Sweep floor of loose granular debris prior to filling. After filling, allow filler to dry. Damp mop floor with warm water and allow to dry. Vacuum after mopping to ensure that loose granular debris is removed and to provide a proper substrate to install carpet tile. Prohibit traffic until filler is cured.
- E. Vacuum floor again immediately before installation of carpeting.
- F. Confirm compatibility of Pressure Sensitive Adhesive with curing compounds on concrete floors.
- G. Preheat areas to receive carpet tile to a minimum temperature of 65° F for 72 hours prior to installation, with a relative humidity of not more than 65 percent. Maintain minimum temperature of 65° F thereafter. Carpet tile and adhesive must be stored at a minimum temperature of 65° F, for 24 hours prior to installation.
- H. Store Pressure Sensitive Adhesive and other liquid materials in same atmospheric conditions as carpet tile, 65° F for at least 24 hours.

### 3.03 INSTALLATION

- A. Install carpet tile in accordance with the Technical Bulletins provided by the manufacturer. These technical bulletins will offer the proper instructions to install carpet tile including: (1) conducting site testing and conditioning, (2) floor preparation, (3) installation of the carpet tile, including carpet tile layout (if more than one pattern or color) and approved adhesives, systems, etc. As a supplement, the CRI 104, section 8 will supply additional installation support guidance for your installation.

- B. Install carpet tile under open-bottom obstructions and under removable flanges and furnishings, and into alcoves and closets in each space.
- C. Conceal cut edges with protective edge guards or flanges.
- D. Install carpet tile under open-bottom items and cut tiles tight against walls, columns, and cabinets so that the entire floor area is covered with carpet tile. Cover over floor-type door closers.
- E. Install edging guards at openings and doors wherever the carpet tile terminates, unless indicated otherwise.
- F. Perform cutting in accordance with manufacturer's recommendation using tools designed for carpet tile being installed. Verify carpet tile patterns and colors before cutting to insure minimal variation between dye lots.
- F. Install carpet tile according to manufacturer's instructions. Depending on the product specification, install either monolithically, quarter turned, Ashlar, or random. Installation requirements will be spelled out in the architectural drawings for the recommended method to be employed.
- G. Use leveling compound where necessary. Feather floor leveling compounds minimum of 4 ft.
- I. Trim carpet tile neatly at walls, and around interruptions
- J. Complete installation of edge strips, concealing exposed edges.
- K. Cut carpet tile at fixtures, architectural elements, and perimeters.
- L. Install carpet on stairs using acceptable permanent adhesive. Furnish and use compatible edge strip and nosing products as required.

### 3.04 FIELD QUALITY CONTROL

- A. Inspect completed carpet tile installation on each floor.
- B. Verify that installation is complete; work is properly done and acceptable.
- C. Remove and replace, at no additional cost to owner, any work found not to be acceptable.

### 3.05 CLEANING

- A. On completion of installation in each area, remove dirt and scraps from surface of finished carpet tile. Clean soiling, spots, or excess adhesive on carpet with cleaning materials recommended by carpet manufacturer.
- B. Remove debris; sort pieces from carpet scraps.
- C. At completion of work, vacuum carpet using commercial vacuuming equipment as recommended by manufacturer. Remove spots and replace carpet tile where spots cannot be removed. Remove rejected carpet tile pieces and replace with new modules. Remove any protruding yarns with shears or sharp scissors.

### 3.06 PROTECTION

- A. Do not permit traffic over unprotected carpet surface.
- B. Protect carpet tile against damage during construction. Cover with 6-mil thick polyethylene during construction period so that carpet will be without soiling, deterioration, wear, or damage at time of completion.
- C. Prior to furniture move in, heavy traffic areas will be protected with additional Masonite sheets to protect the carpet from damage.
- D. Damaged carpet tile will be rejected. As carpet tile is installed, remove trimmings, scraps of carpet and installation materials.
- E. Maintain protection of carpeting on each floor or area until work is accepted.

## PART 4 – MEASUREMENT AND PAYMENT

### 4.01 BASIS OF MEASUREMENT AND PAYMENT

- A. Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the price bid for the various items of work in this project.

END OF SECTION