

## SECTION 09680

### CARPET

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. **This Section includes** 12-foot-wide Broadloom carpet, direct-glue-down, Modular Carpet Tile, and all accessories as indicated in the “Interior Finish Legend” on the Drawings.
1. The Work shall include, but is not limited to the following:
    - a. Preparation of new concrete subfloor to receive carpet.
    - b. Slab preparation and leveling including necessary priming, sealing, patching and repairs.
    - c. Coordination with expansion joints, and electrical, audiovisual, telephone outlets, and other floor-mounted devices.
    - d. Extent of Work as indicated in the Drawings.
- B. **Definitions:**
1. **Shading:** A localized change in appearance of the carpet brought about by the tufts leaning in different directions. Shading may be temporary or permanent.
  2. **Temporary Shading:** Localized surface effects where the pile is disturbed by normal conditions of use such as footmarks, scuffmarks and vacuum marks, which can be removed or changed in appearance by brushing or vacuuming.
  3. **Permanent Shading:** A type of pile reversal that exhibits itself visually and is permanent.
    - a. **Tracking:** A form of permanent shading resulting from traffic patterns within an installation. The main lines of traffic and turning points of traffic are susceptible to this type of shading and are predictable.
    - b. **Random Permanent Shading:** Other terms commonly used to describe this type of change in appearance include watermarking and pooling. Random permanent shading effects are not related to known traffic patterns within an installation. Areas of random permanent shading may vary in shape size and orientation through the installation resulting in a random patterning, which can cross seams. Areas appear light from one direction and dark from another. Carpet may look as though water has been spilled (in pools) on areas of the carpet in random, irregular patterns.
- C. **Related Sections include:**
1. Division 9 Section “Resilient Flooring” for resilient wall base.

##### 1.2 PERFORMANCE REQUIREMENTS

- A. **Test Reports:** Test reports for the following performance assurance tests shall be submitted upon request. Submitted results shall represent average results for production goods of the referenced style. All carpet products shall meet the following:
1. Carpets:
    - a. Flooring Radiant Panel:     ASTM E-648             Class 1
    - b. Smoke Density:             ASTM E-662:             450 Flaming Mode - Maximum

- c. Electrostatic Propensity: AATCC 134: 3.5 kV or less

### 1.3 SUBMITTALS

- A. Product Data:** Submit manufacturer's product literature and delivery, storage, handling, and installation instructions for each type of carpet, accessory item, and installation material required. Include methods of installation for each type of substrate.
1. Submit written data on physical characteristics and flame resistance characteristics.
  2. Submit written recommendations from carpet manufacturers on carpet adhesive.
- B. Installer Qualification:** Qualification data for firms specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include list of completed projects of type, quantity, and installation methods similar to the Work of this Section.
- C. Samples for Verification Purposes:** Submit manufacturer's physical examples, showing full range of color, texture, and pattern variations expected. Prepare Samples from same material to be used for the Work. Submit the following:
1. 18-inch-square Samples of carpet material.
  2. 18-inch-long Samples of carpet edge guard.
- D. Shop Drawings:** Show the following:
1. Seaming Diagrams: Dimensioned Drawings showing carpet layout. Verify field conditions and include field measurements. Comply with manufacturer's instructions for seam location and for lay of carpet. Clearly indicate the following:
    - a. Seam locations, types, and methods.
    - b. Carpet type, color, and dye lot.
    - c. Pattern type, repeat size, location, direction and center point.
    - d. Type, color and location of carpet insets and borders.
    - e. Critical pattern match relationships between carpet types.
    - f. Direction and lay of pile.
    - g. Installation starting point and sequencing.
    - h. Installation method for each space, location, or carpet type.
    - i. Pattern match relationship at stair installations.
    - j. Type and location of edge, transition, and other accessory strips.
    - k. Transition details to other flooring materials.
    - l. Location of building expansion joints and joint/carpet details.
    - m. Indicate columns, doorways, enclosing walls/ partitions, built-in cabinets, and locations where cutouts are required in carpet.
    - n. Installation details at any special conditions.
- E. Standard Product Samples:** Submit the following for Architect's approval:
1. 12-inch-long Samples of each type of exposed edge stripping and accessory item.

- F. **Manufacturer's Installation Instructions:** Indicate special procedures and perimeter conditions requiring special attention in submittal.
- G. **Certification:** Submit manufacturer's certificate stating that materials furnished comply with specified requirements for fire performance characteristics and physical properties and warranty requirements.
  - 1. **Test Reports:** Submit certified laboratory test data and reports evidencing material compliance with requirements for the following:
    - a. Fire performance characteristics.
- H. **Acceptance of Substrate:** Provide letter of substrate acceptance, signed by Contractor, manufacturer, and Installer as defined in Part 3.
  - 1. Manufacturer, Contractor, and Installer shall review substrate testing including results of ASTM E 1907 and bond and adhesion test reports and any other tests required by manufacturer prior to accepting substrate.
- I. **Bond and Adhesion Test Reports:** Submit certified test data and reports on bond and moisture tests for concrete subfloors. Distribute copies to Installer, carpet manufacturer, Contractor, adhesive manufacturer, and Architect for review prior to installation.
- J. **Floor Flatness Documentation:**
  - 1. Submit certification that floor flatness criteria established in Part 3 Articles has been maintained in areas to receive carpet.
- K. **Maintenance Manual:** Submit 2 copies of manufacturers' instructions for daily and periodic maintenance of all installed carpet types. Include methods and frequency recommended for maintaining carpet in optimum conditions under anticipated traffic and use conditions. Include cleaning and stain removal products and procedures recommended. Include precautions against products and methods, which may be detrimental to appearance and performance. Include instructions for repairing materials.
- L. **Maintenance Training:** Prior to Substantial Completion, review maintenance manual with Owner's maintenance staff and demonstrate recommended methods for cleaning and maintaining carpet.
- M. **Warranty:** Submit manufacturer's and Installer's sample warranties.

#### 1.4 QUALITY ASSURANCE

- A. **Source of Materials:**
  - 1. **Carpet Materials:** To ensure matching of quality, color, pattern, and texture, install materials produced from same dye lot and production run. Where materials cannot be obtained from a single lot or production run, notify the Architect so that the extent and use of each lot or run can be controlled.
  - 2. **Carpet Material, Installation Materials and Accessories:** Provide material obtained from one source for each type of material used in the Work. Do not change source or brands of materials during progress of Work.
- B. **Qualifications:**

1. **Carpet Manufacturer Qualifications:** Firm (material producer) with not less than 5 years of production experience in materials of types and quantities similar to the work of this Section, whose published literature clearly indicates compliance of products with requirements of this section.
  2. **Installer Qualifications:** Firm specializing in commercial carpet installation with not less than 5 years experience in installation of carpet of type, quantity, and installation methods similar to the work of this Section.
  3. Installer must be approved and certified by the Floor Covering Installation Board.
  4. Installer must be approved and certified by the manufacturer.
- C. Manufacturer Qualifications:** Company specializing in manufacturing specified carpet with minimum 10 years documented experience.
1. Upon request by Architect, manufacturer shall provide representative to assist in project start-up and to inspect installation while in process and upon completion.
- D. Fire-Test-Response Characteristics:** Provide products with the critical radiant flux classification indicated in Part 2, as determined by testing identical products per ASTM E 648 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
- E. Test concrete** subfloors for compliance with ASTM F 710 and for determining adhesion and dryness characteristics.
- F. ADA Compliance:** Carpet, as installed, shall be securely attached to the subfloor in compliance with ADAAG Section 4.5.3.
- G. Preinstallation Conference:** One week prior to commencing Work of this Section, conduct conference at Project site to comply with requirements in Division 1.
1. **Required Attendees:** Manufacturer's representative, Installer, Contractor, and Architect.
  2. Inspect condition of substrate and other preparatory work performed by other trades. Discuss any corrections required to substrates or other work required for installation of carpet.
  3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  4. Review special carpet designs and patterns.
  5. Review dust-control procedures.
  6. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. General:** Comply with CRI 104, Section 5, "Storage and Handling."
- B. Delivery:** Deliver materials to Project site in original factory wrappings and containers, labeled with identification of manufacturer, brand name, and lot number.
- C. Storage:** Store materials in protective packaging to prevent damage prior to installation. Comply with manufacturer's instructions and recommendations.

1. Lay flat, on continuous blocking off ground.
2. Keep materials dry at all times. Protect against exposure to weather and contact with damp or wet surface.
3. Protect adhesives from freezing. Follow manufacturer's recommendations for minimum temperatures to which adhesives are exposed.

## 1.6 PROJECT CONDITIONS

- A. **General:** Comply with CRI 104, Section 6.1, "Site Conditions; Temperature and Humidity."
- B. **Space Enclosure and Environmental Limitations:** Do not install carpet until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will continuously be maintained at values anticipated for final occupancy.
- C. **Subfloor Moisture Conditions:** Do not install carpet over concrete slabs until slabs have cured and are sufficiently dry. The moisture emission rate shall be acceptable to carpet and carpet adhesive manufacturers, but in any case not more than 3 lb/1000 sq.ft./24 hours when tested by calcium chloride moisture test in compliance with CRI 104, 6.2.1, with subfloor temperatures not less than 55 deg F.
  1. Application substrates shall show no condensation within 48 hours on underside of 4 foot by 4 foot polyethylene sheet, fully taped at perimeter to substrate.
- D. **Subfloor Alkalinity Conditions:** A pH range acceptable to carpet and carpet adhesive manufacturers, but in any case not outside the range of 5 to 9, when subfloor is wetted with distilled water and pHdrion paper is applied.

## 1.7 CARPET WARRANTIES

- A. **Manufacturer's Warranty:** Carpet warranty shall be the sole responsibility of the manufacturer. Second-source warranties and warranties that involve parties other than the carpet manufacturer are unacceptable.
  1. **Warranty Period:** Warranty shall be for lifetime (20 years minimum) and shall cover against:
    - a. Excessive Surface Wear: More than 15 percent loss of pile fiber weight.
    - b. Excessive Static Electricity: More than 3.0 kV per AATCC 134.
    - c. Resiliency Loss of the Backing: More than 10 percent loss of backing resiliency.
    - d. Delamination.
    - e. Edge Ravel.
    - f. Zippering.
  2. If the product fails to perform as warranted when properly installed and maintained, the affected area shall be repaired or replaced at the discretion of the manufacturer.
  3. Chair pads are not required for carpet warranty coverage.
  4. Warranty shall not exclude carpet product installed on stairs provided it is properly installed and maintained.
  5. Tuft bind warranty in lieu of edge ravel and zippering is not acceptable.

6. Provide certification and warranty that product is 100 percent recyclable through manufacturer's recycling program into infinitely recyclable products. Warranty and certification shall include that no part of the product will be landfilled or incinerated.
  - a. Warranty is not intended to include manufacturer's responsibility for recycling in any way.
- B. **Installer's Warranty:** Flooring contractor shall provide Owner a written installation warranty that guarantees the completed installation to be free from defects in materials and workmanship.
  1. Warranty Period: One year from date of Substantial Completion.

## 1.8 EXTRA MATERIALS

- A. **Furnish extra materials** described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  1. Carpet: Full-width rolls equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.
    - a. Provide 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 Owner.
- B. **Usable Scraps:** Upon completion of the carpet installation, deliver usable scraps to the Owner. Usable scraps are defined to include roll ends of less than 4 feet in length and pieces of more than 3 square feet in area and more than 8 inches wide. Package usable scraps per manufacturer's instructions and clearly label and identify packages. "Usable scraps" will not be accepted as inventory requirement for replacement/maintenance materials.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. **Approved Carpet Colors:** Refer to the Drawings.
  1. The Mohawk Group (maker of Durkan), 500 Town Park Lane, #400, Kennesaw, GA 30144. Telephone 800.554.6637. Web Site: www.themohawkgroup.com

### 2.2 PRODUCTS:

- A. **Carpet C-1: ROWE by Durkan:**
  1. Product Type: Broadloom
  2. Construction: Ultra Performance System
  3. Surface Appearance: Textured Patterned Loop
  4. Nylon Type: Solutia Ultron® Nylon, Type 6,6
  5. Gauge: 1/16 (62.99 rows per 10 cm)
  6. Pile Weight: 32.0 oz. per sq. yd. (1085 g/m2)
  7. Pile Thickness: .133" (3.38 mm)
  8. Stitches Per Inch: 9.0 (35.43 per 10 cm)

9. Dye Method: Skein Dyed
10. Protective Treatment: Sentry
11. Density: 8,662
12. Weight Density: 277,184
13. Primary Backing: Not Applicable
14. Backing Foundation: Composite Foundation
15. Secondary Backing: None
16. Pattern Repeat: 1.50" (W) x 1.63" (L)
17. Width: 12' (3.66 m)
18. Flammability: ASTM E 648 Class 1 (Glue Down)
19. Smoke Density: ASTM E 662 Less than 450
20. Static Propensity: AATCC-134 Under 3.5 kV
21. IAQ Green Label: 40904952
22. Warranties: Lifetime Ultra Performance System Warranty, Lifetime Static, Lifetime EverSet® Stain Warranty

**B. Carpet C-2: Newbury by Durkan:**

1. Product Type: Broadloom
2. Construction: Ultra Performance System
3. Surface Appearance: Textured Patterned Loop
4. Nylon Type: Solutia Ultron® Nylon, Type 6,6
5. Gauge: 1/16 (62.99 rows per 10 Cm)
6. Pile Weight: 32.0 Oz. per sq. yd. (1085 G/M2)
7. Pile Thickness: .135" (3.43 Mm)
8. Stitches Per Inch: 9.8 (38.58 Per 10 cm)
9. Dye Method: Skein Dyed
10. Protective Treatment: Sentry
11. Density: 8,533
12. Weight Density: 273,056
13. Primary Backing: UPS Bloc
14. Backing Foundation: Composite Foundation
15. Secondary Backing: None
16. Pattern Repeat: .75" (W) X .88" (L)
17. Width: 12' (3.66 M)
18. Flammability: ASTM E 648 Class 1 (Glue Down)
19. Smoke Density: ASTM E 662 less than 450
20. Static Propensity: Aatcc-134 under 3.5 kV
21. IAQ Green Label: 40904952
22. Warranties: Lifetime Ultra Performance System Warranty, Lifetime Static, Lifetime Everset® Stain Warranty

**C. Carpet C-3: Petit Point by Durkan:**

1. Product Type Broadloom
2. Construction Tufted
3. Surface Appearance Level Solid Loop
4. Nylon Type Solutia Ultron® Nylon, Type 6,6
5. Gauge 1/10 (39.37 rows per 10 cm)
6. Pile Weight 30.0 oz. per sq. yd. (1017 g/m<sup>2</sup>)
7. Pile Thickness .156" (3.96 mm)
8. Stitches Per Inch 16.0 (62.99 per 10 cm)
9. Dye Method Piece Dyed
10. Protective Treatment Sentry
11. Density 6,923
12. Weight Density 207,690
13. Primary Backing Woven Polypropylene
14. Backing Foundation Single Primary
15. Secondary Backing Woven Polypropylene
16. Pattern Repeat None
17. Width 12' (3.66 m)
18. Flammability ASTM E 648 Class 1 (Glue Down)
19. Smoke Density ASTM E 662 Less than 450
20. Static Propensity AATCC-134 Under 3.5 kV
21. IAQ Green Label 10749226
22. Warranties Lifetime Limited Wear Warranty, Lifetime Static

**D. Carpet C-4: Woven Circuit by Lees:**

1. Style Number - DE263
2. Construction - tufted
3. Surface Texture - patterned loop
4. Gauge - 5/64" (50.4/10 cm)
5. Stitches Per Inch - 8.5 per inch (33.5/10 cm)
6. Finished Pile Thickness - .079" avg (2.0 mm)
7. Dye Method - yarn dyed
8. Backing Material - Integrated Cushion Thermobond™ Tile
9. Face Yarn - Antron® Legacy nylon with DuraTech Soil Protection by Invista
10. Fiber Technology - Duracolor® by LEES Stain Resistant System. Passes GSA requirements for permanent stain resistant carpet\*
11. Face Weight - 18 oz/yd<sup>2</sup> (610.38 gm/m<sup>2</sup>)
12. Primary Backing - reinforced synthetic
13. Bonding Agent - premium vinyl
14. Secondary Backing - fiberglass reinforced thermoplastic composite
15. Total Weight - 138.49 oz/yd<sup>2</sup> (4696.20 gm/m<sup>2</sup>)

16. Size/Width - 24" x 24" (60.9 cm x 60.9 cm)
17. Installation Method - quarter turn and ashlar, monolithic at owner's discretion
18. Static - 3.0 kV when tested under the Standard Shuffle Test 70 degrees Fahrenheit (21 degrees Celsius) - 20% R.H.
19. Flammability - Passes DOC-FF-1-70 Pill Test
20. Flooring Radiant Panel Test - Meets NFPA Class 1 when tested under ASTM E-648 glue down
21. Smoke Density - NBS Smoke Chamber NFPA-258 - Less than 450 Flaming Mode
22. CRI Certified - Y
23. Construction Materials - 100% man-made materials for superior stability. Specifications are subject to change without notice when such changes do not alter product performance. Slight color variation may occur from dye lot to dye lot.
24. Warranties Manufacturer's standard Lifetime Wear Warranty, Lifetime Static

### 2.3 ACCESSORIES

- A. **Carpet Edge Guard:** Extruded or molded heavy duty vinyl or rubber of size and profile indicated; minimum 2-inch-wide anchorage flange; manufacturer's standard colors selected by Architect.
- B. **Leveling and Patching Compound:** Latex type recommended by carpet manufacturer and acceptable to adhesive manufacturer.
- C. **Adhesives:** Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet and that is recommended by carpet manufacturer.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. **Substrate Conditions:** Inspect application surfaces to determine that they are free from defects impairing performance or appearance of the installed materials. Application surfaces shall be:
  1. Straight and true to plane within 1/8 inch in 8 feet, without local irregularities and abrupt changes in plane which could telegraph through new materials.
  2. Smooth and free from cracks, holes, ridges and similar defects.
  3. Clean and free from foreign materials including incompatible curing compounds, paint, oils, waxes, sealers, grease and similar substances which would prevent adhesive bond.
- B. **Testing:** Perform tests on concrete subfloors to determine if surfaces are sufficiently cured and dry as well as to ascertain presence of curing compounds and other coatings, which would prevent adhesive bond. Floor testing shall include but may not be limited to:
  1. pH level analysis.
  2. Moisture content analysis as required by manufacturer's instructions to ensure pH readings of no more than 9. Moisture transmission of 5.0-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. **Acceptance:** Start of carpet installation will be considered acceptance by Installer, Contractor, and manufacturer of conditions as satisfactory for proper installation. Do not proceed with carpet installation until application surfaces are free from defects that would impair the in-use performance and appearance of carpet.

### 3.2 PREPARATION

- A. **General:** Prepare unsatisfactory application surfaces as follows:
  1. Allow new concrete to cure for 90 days before carpet installation starts.
  2. Fill, level and make smooth cracks 1/16 inch or more, holes, unevenness, and roughness with compatible latex floor patching compounds recommended by carpet manufacturer. Feather floor filling or leveling compound a minimum of 4 feet. 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 Broadloom carpet. Prohibit traffic until filler is cured.
  3. Remove ridges and surface irregularities by grinding or sanding.
  4. Remove foreign materials and coatings by grinding, scraping, sanding and then washing as necessary.
- B. **Cleaning:** Vacuum floor again immediately before installation of carpeting, re-inspect substrates, and perform additional preparation work if necessary.
- C. **Sealing:** Apply sealer, if recommended by carpet/adhesive manufacturers, prior to application of adhesive. Apply in compliance with manufacturer's directions.
- D. **Adhesive:** Confirm compatibility of adhesive (as recommended by manufacturer) with curing compounds on concrete floors.
- E. **Preheat areas to receive carpet** to a minimum temperature of 68 deg F for 72 hours prior to installation, with a relative humidity of not more than 65 percent. Maintain minimum temperature of 50 deg F thereafter. Carpet and adhesive must be stored at a minimum temperature of 68 deg F, for 72 hours prior to installation.
- F. **Store adhesive** and other liquid materials in same atmospheric conditions as carpet, 68 deg F for at least 72 hours.

### 3.3 INSTALLATION, GENERAL

- A. **General:** Follow manufacturer's instructions for installation. Butt edges tight to form seams without gaps. Roll entire area lightly to eliminate air pockets and ensure uniform bond.
- B. **Layout:** Comply with manufacturer's recommendations for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. Comply with approved layout diagram.
- C. **Extent of Flooring:** Extend flooring materials into toe spaces, door reveals, alcoves, closets, and similar openings.

1. Extend carpet under furniture and furnishings, movable equipment, operable partitions, removable flanges and similar non-fixed items.
- D. **Cutouts:** Provide cutouts where required, and bind cut edges where not concealed by protective edge guards or overlapping flanges.
- E. **Edge Guard:** Install carpet edge guard where edge of carpet is exposed; anchor guards to substrate.
- F. **Pattern:** Install with pattern parallel to walls and borders, unless otherwise indicated. Orient matching carpet pattern in adjacent spaces in same direction.

### 3.4 INSTALLATION METHOD

- A. **Manufacturer's Instructions:** Comply with manufacturer's recommendations and instructions.
- B. **Installation Method:** Install self-adhesive sheet carpet in accordance with manufacturer's instructions.
  1. Butt edges to form tight seams without gaps. Roll entire area lightly to eliminate air pockets and ensure uniform bond.

### 3.5 CLEANING AND PROTECTION

- A. **Cleaning:** Remove and dispose of debris and scraps. Vacuum with commercial machine with face-beater element. Remove soil. Replace carpet where soil cannot be removed. Remove protruding face yarn.
  1. Vacuum carpet.
- B. **Protection:** Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, to ensure carpet is not damaged or deteriorated at time of Substantial Completion.
- C. **Workmanship:** Completed carpet Work shall be clean and free from damage and defective materials and workmanship. Seams shall be snug, and carpeting shall be smooth and uniform, without humps and wrinkles. Edge strips shall be securely fastened and neatly fitted. There shall be no excess adhesive on carpeting and other surfaces.
  1. Removal and replacement of such defects will be required throughout the period specified for correction of defective work for this Project.

END OF SECTION