

## **SECTION 09 68 16 - SHEET CARPETING**

### **PART 1 - GENERAL**

#### **1.1 PERFORMANCE REQUIREMENTS**

- A. Design Requirements
  - 1. Sheet Carpeting is not acceptable unless approved by the University Project Manager.

#### **1.2 SUBMITTALS**

- A. Review shop drawings for pattern match, if any, for matching during installation and possible waste factors in ordering required amounts. Provide copy of approved shop drawings on job site during installation.
- B. Verification Samples: Submit two 18" x 18" samples illustrating color and pattern for each carpet material specified.
- C. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

#### **1.3 QUALITY ASSURANCE**

- A. Manufacturer Qualifications
  - 1. Upon request, Provide a representative to assist in project start-up and to inspect installation while in process and upon completion.
    - a. Representative will notify designated contact if any installation instructions are not followed.
    - b. Representative will be present at 6 month and 11 month punch walks.
  - 2. Minimum 1 year documented experience in manufacturing of sheet carpeting.
- B. Installer Qualifications
  - 1. Flooring contractor must be certified by the carpet manufacturer prior to bid.
  - 2. Flooring contractor to be a specialty contractor normally engaged in this type of work and have prior experience in the installation of these types of materials.
  - 3. Flooring contractor will be responsible for proper product installation, including floor testing and preparation, as specified by the carpet manufacturer and job conditions herein.
- C. Single Source Responsibility: Obtain each type of carpet from one source and by a single manufacturer.

#### **1.4 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials to the site in manufacturer's original packaging listing manufacturer's name, product name, identification number, and related information.
- B. Store in a dry location, between 60 degrees F and 80 degrees F and a relative humidity below 65%. Protect from damage and soiling. Stack carpet rolls horizontally on a flat surface, stacked no higher than two rolls.
- C. Make stored materials available for inspection by The University's representative.
- D. Store materials in area of installation for minimum period of 48 hours prior to installation.

## 1.5 PROJECT CONDITIONS

- A. Include sub-floor preparation in all required work to prepare the existing floor for installation of the product as specified in this document and Manufacturer's installation instructions.
- B. Comply with 09 00 00 – Finishes, Part 3.1 for preparation of concrete to receive moisture sensitive flooring.
- C. Provide all material used in sub-floor preparation and repair as recommended by the carpet manufacturer and chemically and physically compatible with the carpet system being bid.
- D. Maintain minimum 65 degrees F ambient temperature and 65% Relative Humidity for 72 hours prior to, during, and 48 hours after installation.
- E. 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 be continuously maintained at values near those indicated for final occupancy.
- F. Extra Materials: Refer to Section 01 78 46 – Extra Stock Materials.

## 1.6 WARRANTY

- A. Warranty to be sole source responsibility of the Manufacturer. Second source warranties and warranties that involve parties other than the carpet manufacturer are unacceptable.
- B. If the product fails to perform as warranted when properly installed and maintained, repair and replace the affected area at the discretion of the Manufacturer.
- C. Include carpet product installed on stairs in warranty provided it is properly installed and maintained.
- D. Provide warranty for a specifically defined non-prorated period of 10 years to cover the following. "Lifetime" warranties are not acceptable.
  - 1. Excessive Surface Wear: More than 10% loss of pile fiber weight
  - 2. Excessive Static Electricity: More than 3.5 kV per AATCC 134; 3.0 kV in areas of heavy electronic usage
  - 3. No Delamination
  - 4. No Edge Ravel
  - 5. No Zippering
- E. Tuft Bind warranty in lieu of edge ravel and zippering is not acceptable.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. CARPET
  - 1. Nylon Fiber: Fiber must be premium branded nylon. Mill extruded nylon will not be accepted. 100% type 6,6 bulk continuous filament (BCF) nylon. Hollow filament fiber shape for optimal soil hiding capability. A modification ratio of less than 1.5. Polymer identification to AATCC TM 20.
  - 2. Construction: Texture - level loop or textured loop with maximum pile height variation of 1/32 inch.
  - 3. Pile Weight: Minimum 17 oz/yd<sup>2</sup>, ASTM D5848 test method.
  - 4. Pile Density: Minimum 5500 for heavy or severe traffic.
  - 5. Dye Method: Fiber to be minimum 75% solution dyed; 95% preferred.

6. Stain Resistance: AATCC TM 171 (HWE) for 2 cleanings to simulate removal of topical treatments by hot water extraction, followed by AATCC TM 175 Stain Resistance test; minimum rating of 8 using AATCC Red 40 Stain Scale.
  7. Soil Resistance: Soil resistance treatment to be heat cured by mill during manufacturing process.
- Coloration/Patterning: Minimum five (5) color hues. Recommended: Hue values to be in medium to medium-dark range with random or complex patterning for optimum soil hiding capability. Restrict solid color carpet to accent areas. Do not use light colors.

**B. BACKING CHARACTERISTICS**

1. Primary Backing: Synthetic Woven or Non-Woven.
2. Pre-Coat (Fusion Coat): Sealant Vinyl
3. Secondary Backing: Closed-Cell, Vinyl backing system.
  - a. High performance; Impermeable to moisture and airflow
  - b. Provide for a chemically welded seam that is also impermeable to moisture and airflow
  - c. 6' Width Roll Goods

**2.2 PERFORMANCE CHARACTERISTICS**

- A. Test reports for the following performance assurance testing to be submitted upon request. Submitted results shall represent average results for production goods of the referenced style.
- B. Requirements listed below must be met by all products.
  1. Flooring Radiant Panel: ASTM E-648 / NFPA 253: Class 1 (CRF: 0.45 watts/sq cm or greater)
  2. Federal Flammability: CPSC FF 1-70: Passes (must pass Methenamine Pill test, ASTM D2859 test method)
  3. Smoke Density: ASTM E-662 / NFPA 258: < 450 Flaming Mode (or to State Code)
  4. Electrostatic Propensity: AATCC TM 134 (Step & Scuff): 3.5 kV or less by permanent means (i.e. antistatic filaments) and without chemical treatment. 3.0 kV in areas of heavy electronic usage
  5. Static Coefficient of Friction: ASTM C-1028: Passes ADA Guidelines for Accessible Routes (Minimum 0.60)
  6. Tuft Bind: ASTM D1335 test method. Must resist a minimum of 10 lbs-force.
  7. Colorfastness to Light: AATCC TM 16.3 to 200 AFU; minimum rating 3-4 using AATCC Grey Scale for color change.
  8. Colorfastness to atmospheric contaminants: AATCC TM 164 (resistance to fade from oxides of nitrogen) and AATCC TM 129 (resistance to fade from ozone) for 2 cycles; minimum rating of 3-4 using AATCC Gray Scale for Color Change.
  9. Colorfastness to crocking: AATCC TM 165, minimum rating of 4 using the AATCC Chromatic Transference Scale
  10. Delamination of Secondary Backing of Pile Floor Coverings: ASTM D-3936: Minimum 15 lbs.
  11. Texture Retention: Vettermann Drum ASTM D-5417: Minimum 3.5 @ 22,000 cycles or Hexapod Test Method, ASTM D5252, for 12,000 cycles (8.4 lb tumbler) with a minimum rating of a 3.5 Rating using the appropriate Commercial Reference Scale for the construction per ASTM D7330 test method. Testing without underpad or brushing.
  12. Moisture Barrier: Moisture Penetration by Impact Test: No penetration of backing after 10,000 impacts @ 10 psi.
  13. Moisture Barrier: Moisture Penetration by Impact @ 10 psi: No Penetration of backing and seam after 10,000 impacts
  14. Air Flow Barrier: Air Permeability of Textile Fabrics: No Air Flow (0.0 ft<sup>3</sup>/min) through backing and seam
  15. Seam Integrity: Seam to remain intact after 50,000 cycles per Phillips Chair Test

**2.3 SUSTAINABILITY**

- A. VOC Chamber Testing : ASTM D-5116: Product inclusive of “dry” adhesive system meets criteria established by the State of Washington Indoor Air Quality Specification for Carpet and/or Carpet & Rug

Institute's (CRI) Indoor Air Quality Carpet Testing Program. If "dry" adhesive (2.02D) not available from manufacturer and "wet" adhesive is used to install the product, carpet and adhesive to meet CRI's Green Label requirements

- B. NSF/ANSI 140 the Sustainability Assessment for Carpet.

## 2.4 SUBSTITUTES/ALTERNATES

- A. Subject to compliance with all requirements, "or equal" must match the selected color(s), have similar aesthetic appearance and tuft density, closed-cell vinyl backing, and meet the performance criteria. Substitution sample and submittals to be considered must be submitted for written approval of quality and color in accordance with bidding documents. Sample of proposed substitute must be inclusive of both the face and proposed backing (color-only sample not acceptable).

## 2.5 ACCESSORIES

- A. Materials recommended by Manufacturer for patching, priming, chemically welding the seams, etc.
- B. Adhesives: Products to be supplied with a pre-cured, mill-applied or other "dry" adhesive system (2.02E) when available. Otherwise, adhesive should be full spread, extremely low VOC in compliance with CRI Indoor Air Quality Adhesive Testing Program requirements, compatible with materials being adhered, as recommended by the Manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Prepare sub-floor to comply with criteria established in Manufacturer's installation instructions. Use only preparation materials that are acceptable to the Manufacturer.
  - 1. Remove all deleterious substances from substrate(s) that would interfere with or be harmful to the installation. (*i.e. floor wax*)
  - 2. Remove sub-floor ridges and bumps. Fill cracks, joints, holes, and other defects.
- B. Verify that sub-floor is smooth and flat within specified tolerances and ready to receive carpet.
- C. Verify that substrate surface is dust-free and free of substances that would impair bonding of product to the floor.
- D. There will be no exceptions to the provisions stated in the Manufacturer's installation instructions.

### 3.2 INSTALLATION, GENERAL

- A. Install product in accordance with Manufacturer's installation instructions.
- B. Verify carpet match before cutting to ensure minimal variation between dye lots.
- C. Layout carpet and locate seams in accordance with shop drawings.
  - 1. Locate seams in area of least traffic, out of areas of pivoting traffic, and parallel to main traffic. Minimize cross seams.
  - 2. Do not locate seams perpendicular through door openings.
  - 3. Align run of pile *in same direction as anticipated traffic and* in same direction on adjacent pieces.

4. Locate change of color or pattern between rooms under door centerline.
  5. Provide monolithic color, pattern, and texture match within any one area.
- D. Install carpet tight and flat on sub-floor, well-fastened at edges, with a uniform appearance.
  - E. Double-cut carpet seams with accurate pattern match. Make cuts true, and unfrayed.
  - F. Chemically weld all seams with manufacturer's recommended seam sealer as stated in installation instructions. Make sure the seam is fully sealed.
  - G. Where demountable partitions or other items are indicated for installation on top of finished carpet, install carpet before installation of these items.
  - H. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.
  - I. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
  - J. Install borders parallel to walls (where applicable).
  - K. Roll with appropriate roller for complete contact of carpet with mill-applied adhesive to sub-floor.
  - L. Trim carpet neatly at walls and around interruptions.
  - M. Completed carpet is to be smooth and free of bubbles, puckers, and other defects.
- 3.3 TESTING, CLEANING, AND CERTIFICATION
- A. Remove excess adhesive and/or seam sealer from floor and wall surfaces without damage.
  - B. All rubbish, wrappings, debris, trimmings, etc. to be removed from site and disposed of properly.
  - C. Clean and vacuum carpet surfaces using a beater brush/bar commercial vacuum.
  - D. After each area of carpet is installed, protect from soiling and damage by other trades.

**END OF SECTION 09 68 16**