

SECTION 09 6816 - SHEET CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Tufted carpet.
2. Woven carpet.

B. Related Requirements:

1. Section 024119 "Selective Demolition" for removing existing floor coverings.
2. **[Section 096513 "Resilient Base and Accessories"] [Section 096519 "Resilient Tile Flooring"]** for resilient wall base and accessories installed with carpet.
3. Section 096813 "Tile Carpeting" for modular carpet tiles.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include manufacturer's written data on physical characteristics and durability.
2. Include manufacturer's written installation recommendations for each type of substrate.
3. Include manufacturer's written certification that product is appropriate for the intended use.

B. LEED Submittals:

1. Product Data for Credit IEQ 4.3: For flooring system elements, documentation from an independent testing agency indicating compliance with CRI's "Green Label Plus" testing program for carpet tile; include documentation of VOC concentrations for carpet tile and installation adhesives.

C. Shop Drawings: For carpet installation, field measure and verify areas to receive sheet carpeting and showing the following:

1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet.
2. Carpet type, color, and dye lot.
3. Locations where dye lot changes occur.
4. Seam locations, types, and methods.
5. Type of subfloor.

6. Type of installation.
7. Pattern type, repeat size, location, direction, and starting point.
8. Pile direction.
9. Types, colors, and locations of insets and borders.
10. Types, colors, and locations of edge, transition, and other accessory strips.
11. Transition details to other flooring materials.

D. Samples: 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: 12-inch- (300-mm-) square Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.
3. Carpet Seam: 6-inch (150-mm) Sample.
4. Mitered Carpet-Border Seam: 12-inch- (300-mm-) square Sample. Show carpet pattern alignment.

E. Samples for Initial Selection: For each type of product.

1. Include Samples of exposed edge, transition, and other accessory stripping involving color or finish selection.

F. 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: 12-inch- (300-mm-) square Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.
3. Carpet Seam: 6-inch (150-mm) Sample.
4. Mitered Carpet-Border Seam: 12-inch- (300-mm-) square Sample. Show carpet pattern alignment.

G. Product Schedule: For carpet. Use same designations indicated on Drawings.

H. Sustainable Product Certification: Provide ANSI/NSF 140 certification for carpet products.

1.4 INFORMATIONAL SUBMITTALS

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

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For carpet to include in maintenance manuals. Include the following:

1. Methods for maintaining carpet, 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.

1.6 QUALITY ASSURANCE

- A. Comply with the most current edition of the Northwestern University Design Standards.
- B. Installer Qualifications: An experienced installer who is certified by the International Certified Floorcovering Installers Association at the Commercial II certification level.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI's "CRI Carpet Installation Standard."
- B. Deliver carpet in original mill protective covering with mill register numbers and tags attached.

1.8 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 until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.
- C. Do not install carpet over concrete slabs until slabs have cured, are sufficiently dry to bond with adhesive, and have pH range recommended by carpet manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet, install carpet before installing these items.

1.9 WARRANTY

- A. Special Warranty for Carpet: Manufacturer agrees to repair or replace components of carpet installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet 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. Loss of tuft bind strength.
 - c. Excess static discharge.
 - d. Delamination.
 - 3. Warranty Period: 10 years for wear and edge ravel, and 15 years for tuft bind from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 WOVEN, UNITARY, ENHANCER/CUSHION BACK CARPET

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. **<Insert manufacturer's name>**.

B. Color: **<Insert color>**.

C. Pattern: **<Insert pattern>**.

D. Fiber Content: 100 percent nylon 6, 6.

E. Fiber Type: Dupont Antron Nylon or equivalent.

F. Pile Characteristic: [Level-loop] [Cut] [Cut-and-loop] [Multilevel-loop] [Level tip shear] [Random shear] [Frieze] [Sculptured] **<Insert characteristic>** pile.

G. Yarn Count: **<Insert yarn count>**.

H. Yarn Color: Yarn dyed.

I. Density: **<Insert oz./cu. yd. (g/cu. cm)>**.

J. Pile Thickness: **<Insert inches (mm)>** for finished carpet according to ASTM D 6859.

K. Stitches: 8.0 per inch minimum.

L. Gage: **<Insert gage in ends per inch (mm)>**.

M. Face Weight: 28 oz.sq.yd.

1. Exception: Provide 38 oz.sq.yd. at steps and classroom risers with rubber nosings.

N. Primary Backing: Woven polypropylene.

O. Secondary Backing: Interlocked with face yarn or unitary.

P. Roll Width: **<Insert dimension>**.

Q. Applied Treatments:

1. Applied Soil-Resistance Treatment: **[Manufacturer's standard material]**.

R. Performance Characteristics:

1. Sustainable Product Certification: Silver level certification according to ANSI/NSF 140.

2. Emissions: Provide carpet tile that complies with testing and product requirements of CRI's "Green Label Plus" testing program.

3. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm according to NFPA 253.

4. Flamability: Class 1 Radiant Panel Test per ASTM E-648

5. Smoke Density: 450 or less in flaming mode ASTM E-622.

6. Dry Breaking Strength: Not less than 100 lbf (445 N) according to ASTM D 2646.
7. Tuft Bind: Not less than 6.2 lbf (28 N) according to ASTM D 1335.
8. Delamination: Not less than 4 lbf/in. (.07 N/mm) according to ASTM D 3936.
9. Colorfastness to Crocking: Not less than 4, wet and dry, according to AATCC 165.
10. Colorfastness to Light: Not less than 4 after 40 AFU (AATCC fading units) according to AATCC 16, Option E.
11. Electrostatic Propensity: Less than 3.5 kV according to AATCC 134.
12. Flamability: Class 1 Radiant Panel Test

2.2 WOVEN, TUFTED WITH DOUBLE BACK UNITARY CARPET

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. **<Insert manufacturer's name>**.

B. Color: **<Insert color>**.

C. Pattern: **<Insert pattern>**.

D. Fiber Content: 100 percent nylon 6, 6.

E. Fiber Type: Dupont Antron Nylon or equivalent.

F. Pile Characteristic: [Level-loop] [Cut] [Cut-and-loop] [Multilevel-loop] [Level tip shear] [Random shear] [Frieze] [Sculptured] **<Insert characteristic>** pile.

G. Yarn Count: **<Insert yarn count>**.

H. Yarn Color: Yarn dyed.

I. Density: **<Insert oz./cu. yd. (g/cu. cm)>**.

J. Pile Thickness: **<Insert inches (mm)>** for finished carpet according to ASTM D 6859.

K. Stitches: 8.0 per inch minimum.

L. Gage: **<Insert gage in ends per inch (mm)>**.

M. Face Weight: 28 oz.sq.yd.

1. Exception: Provide 38 oz.sq.yd. at steps and classroom risers with rubber nosings.

N. Primary Backing: Woven polypropylene.

O. Secondary Backing: Interlocked with face yarn or unitary.

P. Roll Width: **<Insert dimension>**.

Q. Applied Treatments:

1. Applied Soil-Resistance Treatment: **[Manufacturer's standard material]**.

R. Performance Characteristics:

1. Sustainable Product Certification: Silver level certification according to ANSI/NSF 140.
2. Emissions: Provide carpet tile that complies with testing and product requirements of CRI's "Green Label Plus" testing program.
3. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm according to NFPA 253.
4. Flamability: Class 1 Radiant Panel Test per ASTM E-648
5. Smoke Density: 450 or less in flaming mode ASTM E-622.
6. Dry Breaking Strength: Not less than 100 lbf (445 N) according to ASTM D 2646.
7. Tuft Bind: Not less than 6.2 lbf (28 N) according to ASTM D 1335.
8. Delamination: Not less than 4 lbf/in. (.07 N/mm) according to ASTM D 3936.
9. Colorfastness to Crocking: Not less than 4, wet and dry, according to AATCC 165.
10. Colorfastness to Light: Not less than 4 after 40 AFU (AATCC fading units) according to AATCC 16, Option E.
11. Electrostatic Propensity: Less than 3.5 kV according to AATCC 134.
12. Flamability: Class 1 Radiant Panel Test

2.3 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet and is recommended or provided by carpet manufacturer.
 1. VOC Content: 50 g/L or less.
- C. Tackless Carpet Stripping: Water-resistant plywood, in strips as required to match cushion thickness and that comply with CRI's "CRI Carpet Installation Standard."
- D. Seam Adhesive: Hot-melt adhesive tape or similar product recommended by carpet manufacturer for sealing and taping seams and butting cut edges at backing to form secure seams and to prevent pile loss at seams.
- E. Metal Edge/Transition Strips: Extruded aluminum with **<Insert finish>** finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

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 performance.
- B. Examine carpet for type, color, pattern, and potential defects.
- C. Concrete Slabs: Verify that finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" and that surfaces are free of cracks, ridges, depressions, scale, and foreign deposits.

1. Moisture Testing: Perform tests so that each test area does not exceed 1000 sq. ft. (304.8 sq. m), and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
 - b. Relative Humidity Test: Using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
 - c. Perform additional moisture tests recommended in writing by adhesive and carpet manufacturers. Proceed with installation only after substrates pass testing.
- D. 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 manufacturer's written installation instructions for preparing substrates.
- B. 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 (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm), unless more stringent requirements are required by manufacturer's written instructions.
- C. Concrete Substrates: 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 manufacturers.
- D. Broom and vacuum clean substrates to be covered immediately before installing carpet.

3.3 CARPET INSTALLATION

- A. Comply with CRI's "CRI Carpet Installation Standard" and carpet manufacturer's written installation instructions for the following:
 1. Direct-glue-down installation.
 2. Tackless Installation
 3. Carpet with attached-cushion installation.
 4. Stair installation.
- B. Comply with carpet manufacturer's written instructions and Shop Drawings for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under the door in closed position.
- C. Install **[pattern parallel to walls and borders]** <Insert requirements>.
- D. Install borders with mitered corner seams.
- E. Do not bridge building expansion joints with carpet.

- F. Cut and fit carpet 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 manufacturer.
- G. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- H. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet as marked on subfloor. Use nonpermanent, nonstaining marking device.

3.4 CLEANING AND PROTECTION

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

END OF SECTION 09 6816