

**SECTION 09 68 00**  
**CARPETING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

Section specifies modular carpet, edge strips, adhesives, and other items required for complete installation.

**1.2 RELATED WORK**

- A. Cement-based, polymer-modified, self-leveling, and sloped underlayment over existing concrete floors: Section 03 54 00, CEMENT-BASED SELF-LEVELING AND SLOPED UNDERLAYMENT.
- B. Resilient wall base: Section 09 65 13, RESILIENT BASE AND ACCESSORIES.

**1.3 QUALITY ASSURANCE**

- A. Carpet installed by mechanics certified by the Floor Covering Installation Board.
- B. Certify and label the carpet that it has been tested and meets criteria of CRI IAQ Carpet Testing Program for indoor air quality.

**1.4 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Product Data:
  - 1. Manufacturer's catalog data and printed documentation stating physical characteristics, durability, resistance to fading and flame resistance characteristics for each type of carpet material and installation accessory.
  - 2. Manufacturer's printed installation instructions for the carpet, including preparation of installation substrate, seaming techniques and recommended adhesives and tapes.
  - 3. Manufacturer's certificate verifying carpet containing recycled materials include percentage of recycled materials as specified.
- C. Samples:
  - 1. Carpet: "Production Quality" samples 300 x 300 mm (12 x 12 inches) of carpets, showing quality, pattern and color specified.
  - 2. Floor Edge Strip (Molding): 150 mm (6 inches) long of each color and type specified.
  - 3. Base Edge Strip (Molding): 150 mm (6 inches) long of each color specified.

- D. Maintenance Data: Carpet manufacturer's maintenance instructions describing recommended type of cleaning equipment and material, spotting and cleaning methods and cleaning cycles.

**1.5 DELIVERY AND STORAGE**

- A. Deliver carpet in manufacturer's original wrappings and packages clearly labeled with manufacturer's name, brand, name, size, dye lot number and related information.
- B. Deliver adhesives in containers clearly labeled with manufacturer's name, brand name, number, installation instructions, safety instructions and flash points.
- C. Store in a clean, dry, well ventilated area, protected from damage and soiling. Maintain storage space at a temperature above 16 degrees C (60 degrees F) for 2 days prior to installation.

**1.6 ENVIRONMENTAL REQUIREMENTS**

Areas in which carpeting is to be installed shall be maintained at a temperature above 16 degrees C (60 degrees F) for 2 days before installation, during installation and for 2 days after installation. A minimum temperature of 13 degrees C (55 degrees F) shall be maintained thereafter for the duration of the contract. Traffic or movement of furniture or equipment in carpeted area shall not be permitted for 24 hours after installation. Other work which would damage the carpet shall be completed prior to installation of carpet.

**1.7 WARRANTY**

Carpet and installation subject to terms of "Warranty of Construction" FAR clause 52.246-21, except that warranty period is extended to two years.

**1.8 APPLICABLE PUBLICATIONS**

- A. Publication listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.
- B. American National Standards Institute (ANSI):  
ANSI/NSF 140-07 .....Sustainable Carpet Assessment Standard
- C. American Association of Textile Chemists and Colorists (AATCC):  
AATCC 129-05 .....Colorfastness to Ozone in the Atmosphere under  
High Humidities  
AATCC 134-06 .....Electric Static Propensity of Carpets  
AATCC 165-99 .....Colorfastness to Crocking: Textile Floor  
Conerings-AATCC Crockmeter Method

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

ASTM D1335-05 .....Tuft Bind of Pile Yarn Floor Coverings

E. The Carpet and Rug Institute (CRI):

CRI 104-02 .....Installation of Commercial Carpet

**PART 2 - PRODUCTS**

**2.1 CARPET**

A. Physical Characteristics:

1. Carpet free of visual blemishes, streaks, poorly dyed areas, fuzzing of pile yarn, spots or stains and other physical and manufacturing defects.
2. Construction: Tip sheared pattern loop.
3. Modular Tile: 660 mm (24 inches) square tile.
4. Dye Method: Solution/yarn.
5. Provide static control to permanently control static build up to less than 3.0 kV when tested at 20 percent relative humidity and 21 degrees C (70 degrees F) in accordance with AATCC 134.
6. Pile Height: Maximum 3.25 mm (0.10 inch).
7. Pile Fiber: Nylon type 6, 6.
8. Pile Type: Pattern Loop.
9. Gage: 5/64 inch.
10. Stitches per inch: 12.6
11. Pile thickness: 0.143 inch.
12. Backing materials: Manufacturer's unitary backing designed for glue-down installation using recovered materials.
13. Appearance Retention Rating (ARR): Carpet shall be tested and have the minimum 3.5-4.0 Severe ARR when tested in accordance with either the ASTM D 5252 (Hexapod) or ASTM D 5417 (Vettermann) test methods using the number of cycles for short and long term tests as specified.
14. Tuft Bind: Minimum force of 40 N (10 lb) required to pull a tuft or loop free from carpet backing. Test per ASTM D1335.
15. Colorfastness to Crocking: Dry and wet crocking and water bleed, comply with AATCC 165 Color Transference Chart for colors, minimum class 4 rating.
16. Colorfastness to Ozone: Comply with AATCC 129, minimum rating of 4 on the AATCC color transfer chart.
17. Delamination Strength: Minimum of 440 N/m (2.5 lb/inch) between secondary backing.

18. Flammability and Critical Radiant Flux Requirements:

- a. Test Carpet in accordance with ASTM E 648.
- b. Class I: Not less than 0.45 watts per square centimeter; Class I.

19. Density: Average Pile Yarn Density (APYD): 8,667 ozs.yd<sup>3</sup>

20. VOC Limits: Use carpet and carpet adhesive that comply with the following limits for VOC content when tested according to ASTM D 5116:

- a. Carpet, Total VOCs: 0.5 mg/sq.m x hr.
- b. Carpet, 4-PC (4-Phenylcyclohexene): 0.05 mg/sq.m x hr.
- c. Carpet, Formaldehyde: 0.05 mg/sq.m x hr.
- d. Carpet, Styrene: 0.4 mg/sq.m x hr.
- e. Adhesive, Total VOCs: 10.00 mg/sq.m x hr.
- f. Adhesive, Formaldehyde: 0.05 mg/sq.m x hr.
- g. Adhesive, 2-Ethyl-1-Hexanol: 3.00 mg/sq.m x hr.

B. Shall meet platinum level of ANSI/NSF 140.

C. Color, Texture, and Pattern: As specified.

**2.2 ADHESIVE AND CONCRETE PRIMER**

- A. Waterproof, resistant to cleaning solutions, steam and water, nonflammable, complies with air-quality standards as specified. Adhesives flashpoint minimum 60 degrees C (140 degrees F), complies with ASTM D 3278.
- B. Seam Adhesives: Waterproof, non-flammable and non-staining.

**2.3 EDGE STRIPS (MOLDING)**

- A. Metal:
  - 1. Hammered surface aluminum, pinless, clamp down type designed for the carpet being installed.
  - 2. Floor flange not less than 38 mm (1-1/2 inches) wide, face not less than 16 mm (5/8 inch) wide.
  - 3. Finish: Clear anodic coating unless specified otherwise.
- B. Vinyl Edge Strip:
  - 1. Beveled floor flange minimum 50 mm (2 inches) wide.
  - 2. Beveled surface to finish flush with carpet for tight joint and other side to floor finish.

**2.4 LEVELING COMPOUND (FOR CONCRETE FLOORS)**

- A. Provide Portland cement bases polymer modifier with latex or polyvinyl acetate resin manufactured specifically for resurfacing and leveling concrete floors. Products containing gypsum are not acceptable.

- B. Determine the type of underlayment selected for use by condition to be corrected.

### **PART 3 - EXECUTION**

#### **3.1 SURFACE PREPARATION**

- A. Examine surfaces on which carpeting is to be installed.
- B. Clean floor of oil, waxy films, paint, dust and deleterious substances that prevent adhesion, leave floor dry and cured, free of residue from curing or cleaning agents and existing carpet materials.
- C. Correct conditions which will impair proper installation, including trowel marks, pits, dents, protrusions, cracks or joints.
- D. Fill cracks, joints depressions, and other irregularities in concrete with leveling compound.
  - 1. Do not use adhesive for filling or leveling purposes.
  - 2. Do not use leveling compound to correct imperfections which can be corrected by spot grinding.
  - 3. Trowel to smooth surface free of trowel marks, pits, dents, protrusions, cracks or joint lines.
- E. Verify that substrate surfaces are clean, smooth and flat with maximum variation of 1/8 inch in 10 feet as described in ACI 117R, or as measured by the Test Method E 1155, and are ready to receive work.
- F. Verify concrete floors have been cured for 90 days minimum. Verify that concrete slabs comply with ASTM F 710
- G. Test new concrete subfloor prior to adhesive application for moisture and surface alkalinity per CRI 104 Section 6.3.1 or per ASTM E1907.

#### **3.2 CARPET INSTALLATION**

- A. Do not install carpet until work of other trades including painting is complete and dry.
- B. Install in accordance with CRI 104 direct glue down installation.
  - 1. Relax carpet in accordance with Section 6.4.
  - 2. Comply with indoor air quality recommendations noted in Section 6.5.
  - 3. Maintain temperature in accordance with Section 15.3.
- C. Secure carpet to subfloor of spaces with adhesive applied as recommended by carpet manufacturer.
- D. Follow carpet manufacturer's recommendations for matching pattern and texture directions.
- E. Cut openings in carpet where required for installing equipment, pipes, outlets, and penetrations.
  - 1. Bind or seal cut edge of sheet carpet and replace flanges or plates.

2. Use additional adhesive to secure carpets around pipes and other vertical projections.

F. Carpet Modules:

1. Install per CRI 104, Section 13, Adhesive Application.
2. Lay carpet modules with pile in same direction unless specified otherwise.
3. Install carpet modules so that cleaning methods and solutions do not cause dislocation of modules.
4. Lay carpet modules uniformly to provide tight flush joints free from movement when subject to traffic.

**3.3 EDGE STRIPS INSTALLATION**

- A. Install edge strips over exposed carpet edges adjacent to uncarpeted finish flooring.
- B. Anchor metal strips to floor with suitable fasteners. Apply adhesive to edge strips, insert carpet into lip and press it down over carpet.
- C. Anchor vinyl edge strip to floor with adhesive apply adhesive to edge strip and insert carpet into lip and press lip down over carpet.

**3.4 PROTECTION AND CLEANING**

- A. Remove waste, fasteners and other cuttings from carpet floors.
- B. Vacuum carpet and provide suitable protection. Do not use polyethylene film.
- C. Do not permit traffic on carpeted surfaces for at least 48 hours after installation. Protect the carpet in accordance with CRI 104.
- D. Do not move furniture or equipment on unprotected carpeted surfaces.
- E. Just before final acceptance of work, remove protection and vacuum carpet clean.

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