

**SECTION 09 68 00
CARPETING**

PART 1 - GENERAL

1.1 DESCRIPTION

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

1.2 RELATED WORK

- A. Color and texture of carpet and edge strip: Section 09 06 00, SCHEDULE FOR FINISHES.
- 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 at least 300 x 300 mm (12 x 12 inches) of carpets, showing quality, pattern and color specified in Section 09 06 00, SCHEDULE FOR FINISHES.
 - 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. Shop Drawings: Installers layout plan showing seams and cuts for sheet carpet and carpet module.

- E. 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 between 60 degrees F and 80 degrees F and a relative humidity below 65%. Store in pallet form as supplied by Manufacturer. Do not stack pallets.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Sub-floor preparation is to include all required work to prepare the existing floor for installation of the product as specified in this document and Manufacturer's installation instructions.
- B. The Maximum amount of moisture evacuation from the floor is 3.0 pounds per 1,000 square feet in 24 hours. The acceptable pH level of the substrate is between 7.0 and 9.0. Flooring contractor is responsible for floor testing.
- C. All Material used in sub-floor preparation and repair shall be recommended by the carpet manufacturer and shall be 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.

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.

- A. Warranty to be the 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, the affected area will be repaired or replaced at the discretion of the Manufacturer.
- C. Chair pads are not required, but are recommended for optimum textural performance. Absent the use of chair pads, more intensive maintenance will be required for areas in direct contact with chair caster traffic, and some degree of appearance change is to be expected.
- D. Warranty shall be for a specifically defined non-prorated period of fifteen years. "Lifetime" warranties are not acceptable.
- E. The non-prorated fifteen-year warranty shall specifically warrant against:
 - a. Excessive Surface Wear: More than 15% 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% loss of backing resiliency
 - d. Delamination
 - e. Edge Ravel
 - f. Zippering
- F. Tuft Bind warranty in lieu of edge ravel and zippering is not acceptable.
- G. Manufacturer to provide a written warranty that carpeting returned to the manufacturer for recycling will be recycled and that carpet will not be sent to a landfill.

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 16-04.....Colorfastness to Light
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
ASTM D3278-96 (R2004)...Flash Point of Liquids by Small Scale Closed-
Cup Apparatus
ASTM D5116-06.....Determinations of Organic Emissions from Indoor
Materials/Products
ASTM D5252-05.....Operation of the Hexapod Tumble Drum Tester
ASTM D5417-05.....Operation of the Vettermann Drum Tester
ASTM E648-06.....Critical Radiant Flux of Floor-Covering Systems
Using a Radiant Heat Energy Source

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. Manufacturers standard construction commercial carpet: Modular Tile: 660 mm (24 inches) square tile.
3. Provide static control to permanently control static build up to less than 2.0 kV when tested at 20 percent relative humidity and 21 degrees C (70 degrees F) in accordance with AATCC 134.
4. Pile Height Average: 0.187 inch (4.7mm)
5. Pile Fiber: Nylon Fiber, Bulk Continuous Filament, Type 6 Yarn Dyed. Fiber to contain carbon-core filament for permanent static control. Topical treatments are not acceptable.
6. Pile Type: Patterned Loop.
7. Backing Characteristics
 - a. Primary Backing: Synthetic Non-Woven
 - b. Secondary Backing: ER3, 100% Recycled Content
8. 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.

9. Colorfastness to Crocking: Dry and wet crocking and water bleed, comply with AATCC 165 Color Transference Chart for colors, minimum class 4 rating.
10. Colorfastness to Ozone: Comply with AATCC 129, minimum rating of 4 on the AATCC color transfer chart.
11. Delamination Strength: No delamination per ASTM D-3936
12. 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.
 - c. Class II: Not less than 0.22 watts per square centimeter.
 - d. Carpet in corridors, exits and Medical Facilities: Class I.
13. Density: Average Pile Yarn Density (APYD):
 - a. Corridors, lobbies, entrances, common areas or multipurpose rooms, open offices, waiting areas and dining areas: Minimum APYD 6000.
14. VOC Limits: Product, inclusive of floor covering adhesive, must meet CRI's Green Label Plus (GLP) Indoor Air Quality requirements for carpet only. Submit documentation showing CRI Green Label Plus (GLP) Certification Number for carpet (inclusive of adhesive). 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/sqm 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. No Antimicrobials (EPA Registered Pesticides) are to be added to the product.
- D. Color, Texture, and Pattern: As specified in Section 09 06 00, SCHEDULE FOR FINISHES. Subject to compliance with all requirements, "or equal" must match the selected colors, have similar aesthetic appearance and tuft density, equivalent EPP certification and recyclability. Substitution sample and submittals must be submitted for written approval of quality and color at least ten days prior to bid to be

considered. Sample of proposed substitute must be inclusive of both the face and the proposed backing (color-only sample not acceptable).

2.2 RECYCLED CONTENT

- A. Product must contain a minimum of 44% Overall Recycled Content by weight (minimum 10% Post Consumer recycled content).
- B. Product must be available inclusive of a recycled content secondary backing with no up-charge.
 - 1. Recycled Content and post consumer content must not be subject to availability. Pre consumer and post consumer recycled content of product installed must be the same as those required by project requirements.
 - 2. Recycled content must be expressed as an exact percentage. Statements such as "up to 60%" recycled content are not acceptable.
 - 3. Product must meet FTC guides for recyclability and must be recyclable. Products containing both recyclable and non-recyclable components must adequately report which portions of the product are recyclable per FTC guides 16 CFR section 260.7(d).
- C. Manufacturer must have a collection and recovery system for product and fully established, currently operational recycling program at time of bid per FTC guides Section 260.7 (d).
- D. Carpet must carry an Environmentally Preferable Product (EPP) product label and must be certified to the Sustainable Carpet Assessment Standard (SCAS) NSF-140. Product certification must be conducted by an independent, third party organization such as Scientific Certification Systems.

2.3 ADHESIVE AND CONCRETE PRIMER

- A. Pressure Sensitive Roll-on adhesive. Nonflammable, complies with air-quality standards as specified. Adhesives flashpoint minimum 60 degrees C (140 degrees F), complies with ASTM D 3278.
- B. Manufacturer recommended primers for porous concrete floors to be used according to floor conditions.

2.4 EDGE STRIPS (MOLDING)

- A. 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.
 - 3. Color as specified in Section 09 06 00, SCHEDULE FOR FINISHES.

2.5 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. Prepare sub-floor to comply with criteria established in Manufacturer's installation instructions. Use only preparation materials that are acceptable to the Manufacturer.
 - 1. For Direct Glue of modular tiles over abated VAT: Cap the concrete floor with a thick layer of Portland cement based self-leveling product. Apply manufacturer's primer and adhesive and allow to dry before installing carpet tiles.
- 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. Test 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 INSTALLTION

- 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 pressure sensitive adhesive applied as recommended by carpet manufacturer.

- D. Cut openings in carpet where required for installing equipment, pipes, outlets, and penetrations. Use additional adhesive to secure carpets around pipes and other vertical projections.
- E. Carpet Modules:
 - 1. Install per CRI 104, Section 13, Adhesive Application.
 - 2. Lay carpet modules with pile in alternating direction unless specified other wise in Section 09 06 00, SCHEDULE FOR FINISHES.
 - 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 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 surfaces using a beater brush/bar commercial vacuum 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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