

**SECTION 09 68 21  
ATHLETIC CARPETING**

SPEC WRITER NOTES:

1. Delete between // // if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
2. Areas that have this floor are VAMC MULTI-PURPOSE and PHYSICAL THERAPY (ACTIVITY) rooms.

**PART 1 - GENERAL**

**1.1 DESCRIPTION:**

- A. This section specifies a carpet like soft surface flooring constructed monolithically to provide good traction designed to cushion accidental falls.

**1.2 RELATED WORK:**

- //A. Sustainable Design Requirements: Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS. //
- B. Manufacturer, color and style of carpet and edge strip: Section 09 06 00, SCHEDULE FOR FINISHES.
- C. Resilient Wall Base: Section 09 65 13, RESILIENT BASE AND ACCESSORIES.
- D. Testing of Concrete Floors Before Installation: Section 09 05 16, SUBSURFACE PREPARATION FOR FLOOR FINISHES.

**1.3 QUALITY ASSURANCE:**

- B. Installer Qualifications: A company specializing in carpet installation with a minimum three (3) years' experience and employing experienced flooring installers who have retained, and currently hold, an INSTALL-Certification, or a certification from a comparable certification program, and a valid OSHA 10 certification.
  1. Installers are to be certified by INSTALL or a comparable certification program with the following minimum criteria:
    - a. US Department of Labor approved 4-year apprenticeship program, 160 hours a year.
    - b. Career-long training.
    - c. Manufacturer-endorsed training.
    - d. Fundamental journeyman skills certification.

SPEC WRITER NOTE: Mock-up must be approved by Contracting Officer Representative (COR) in the project design stage before including requirement in specification.

//C. Mockup: Install 3.04 x 3.04 m (10 x 10 ft.) minimum mockup to verify selections made under sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation. Engage a qualified independent inspector approved by COR is to examine carpet installation workmanship of mockup and evaluate the workmanship according to the criteria established by INSTALL's Certification Program submit a report of installation evaluation. COR Approved mockups may become part of the completed Project if undisturbed at the time of Substantial Completion. //

**1.4 SUBMITTALS:**

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

//B. Sustainable Design Submittals as described below:

//1. Volatile organic compounds per volume as specified in  
PART 2 - PRODUCTS.// //

C. 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.

D. Samples:

1. Carpet: "Production Quality" samples 305 x 305 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): 152 mm (6 inches) long of each color and type specified.
3. Base Edge Strip (Molding): 152 mm (6 inches) long of each color specified.

E. Shop Drawings: Installers layout plan showing seams and cuts for sheet carpet and carpet modules.

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

G. Installer's Qualifications.

H. Manufacturer's warranty.

**1.5 DELIVERY AND STORAGE:**

- A. Deliver carpet in manufacturer's original wrappings and packages clearly labeled with manufacturer's brand name, size, dye lot number and related information. Transport carpet to job site in a manner that prevents damage and distortion that might render it unusable. When bending or folding is unavoidable for delivery purposes, unfold carpet and lay flat immediately.
- B. Deliver adhesives in containers clearly labeled with manufacturer's brand name, number, installation instructions, safety instructions and flash points.
- C. Store in a clean, dry, well-ventilated area, protected from damage and soiling. Before installation, acclimate carpet to the atmospheric conditions of the areas in which it will be installed for two (2) days prior to installation.

**1.6 ENVIRONMENTAL REQUIREMENTS:**

- A. Maintain areas in which carpeting is to be installed at a temperature between 18 - 35 degrees C (65 - 95 degrees F) with a maximum relative humidity of 65 percent for two (2) days before installation, during installation and for three (3) days after installation.
- B. Minimum Substrate Surface Temperature: 18 degrees C (65 degrees F) at time of installation.
- C. Three (3) days after installation, maintain minimum temperature of 10 degrees C (50 degrees F) for the duration of the project.
- D. Do not permit traffic or movement of furniture or equipment in carpeted areas for 24 hours after installation.
- E. Complete other work which would damage the carpet prior to installation of carpet.

**1.7 WARRANTY:**

- A. Construction Warranty: Comply with FAR clause 52.246-21, "Warranty of Construction".
- B. Manufacturer Warranty: Manufacturer shall warranty their athletic carpeting for a minimum of ten (10) // // years from date of installation and final acceptance by the Government. Submit manufacturer warranty.

SPEC WRITER NOTE: Update Applicable Publications to current issue at time of project specification preparation.

**1.8 APPLICABLE PUBLICATIONS:**

- A. Publications 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 140-10.....Sustainable Carpet Assessment Standard
- C. American Association of Textile Chemists and Colorists (AATCC):  
16-04(R1020).....Colorfastness to Light  
134-11(R2013).....Electric Static Propensity of Carpets  
165-13.....Colorfastness to Crocking: Textile Floor  
Coverings-AATCC Crockmeter Method  
174-11.....Antimicrobial Activity Assessment of New  
Carpets
- D. ASTM International (ASTM):  
D1335-12.....Tuft Bind of Pile Yarn Floor Coverings  
D3278-96(R2011).....Flash Point of Liquids by Small Scale Closed-  
Cup Apparatus  
D5116-10.....Determinations of Organic Emissions from Indoor  
Materials/Products  
D5252-11.....Operation of the Hexapod Tumble Drum Tester  
D5417-11.....Operation of the Vettermann Drum Tester  
E648-14c.....Critical Radiant Flux of Floor-Covering Systems  
Using a Radiant Heat Energy Source
- E. The Carpet and Rug Institute (CRI):  
CIS.....Carpet Installation Standard
- F. International Standards and Training Alliance (INSTALL)
- G. International Organization for Standardization (ISO):  
2551-81.....Machine-Made Textile Floor Coverings
- H. U.S. Consumer Product and Safety Commission (CPSC):  
16 CFR 1630.....Surface Flammability of Carpets and Rugs
- I. Carpet and Rug Institute (CRI):  
Green Label Plus

**PART 2 - PRODUCTS**

## SPEC WRITER NOTES:

1. Do not use cushions under carpet.
2. Specify glue down installation only.
3. Specify carpet manufacturer, color and style in Section 09 06 00, SCHEDULE FOR FINISHES.

**2.1 ATHLETIC 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. Provide carpet with the following characteristics:

Surface Fiber Content	100 percent continuous filament soil-hiding nylon with static control.
Surface Fiber Height	3 mm (0.128 inch).
Surface Weight Per Square Meter	744 g per square meter (2.44 ounces per square foot)
Interliner	120 g per square meter (0.39 ounce per square foot) olefin.
Fusion Coat	900 g per square meter (2.94 ounces per square foot).
Vinyl Back Plate	Compression set maximum 5 percent of compressed distance.
Width	1800 mm (6 feet).
Total Weight Per Square Meter (Square Foot)	3000 g per square meter (9.83 ounces per square foot).

3. Backing Materials: Manufacturer's unitary backing designed for glue-down installation.
4. Appearance Retention Rating (ARR): Carpet is to have a minimum 3.5 - 4.0 severe ARR when tested in accordance with either the ASTM D5252 (Hexapod) or ASTM D5417 (Vettermann) test methods using the number of cycles for short and long term tests as specified in the ASTM standard.
5. Tuft Bind: Comply with ASTM D1335 for tuft bind force required to pull a tuft or loop free from carpet backing with a minimum
  - // 40 N (9 pound) average force for loop pile broadloom //
  - // 18 N (4 pound) average force for cut pile broadloom //.
6. Colorfastness to Crocking: Dry and wet crocking and water bleed, comply with AATCC 165 Color Transference Chart for colors, minimum class 4 rating.

7. Colorfastness to Light (AATCC 16, Option 3): Color change between the exposed and unexposed carpet areas equivalent to a minimum of Grade 4 on the Gray Scale for Color Change after an exposure of 40 AFU (AATCC fading units) for all specified colors.
8. Delamination Strength: Minimum of 440 N/m (2.5 lb./inch) between secondary backing.

## SPEC WRITER NOTES:

1. Choice of critical radiant flux level as it applies to building type and area of application will be made in accordance with the latest edition of NFPA 101. Wherever the use of Class II (0.22) watts finish is required, Class I (0.45) watts will be permitted.
2. Use Class I in medical facilities.

9. Flammability and Critical Radiant Flux Requirements:
  - a. Comply with 16 CFR 1630.
  - b. Test Carpet in accordance with ASTM E648.
  - //c. Class I: Minimum critical radiant flux of 0.45 watts per square centimeter (2.9 watts per square inch). //
  - //d. Class II: Minimum critical radiant flux of 0.22 watts per square centimeter (1.4 watts per square inch). //
  - e. Carpet in corridors, exits and Medical Facilities to be Class I.
10. Average Pile Yarn Density (APYD):
  - a. Corridors, lobbies, entrances, common areas or multipurpose rooms, open offices, waiting areas and dining areas: Minimum APYD 6000.
  - b. Other areas: Minimum APYD 4000.

SPEC WRITER NOTE: Include when required for a specific use such as childcare, dining facilities or hospitals.

- // 11. Static Control: Provide static control to permanently regulate static buildup to less than 3.0 kV when tested to 20 percent relative humidity and 21 degrees C (70 degrees F) in accordance with AATCC 134. //
- // 12. VOC Limits: Use carpet that complies with the following limits for VOC content when tested according to ASTM D5116:
- 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. //

**2.2 ADHESIVE AND CONCRETE PRIMER:**

A. Provide water resistant, mildew resistant, nonflammable, and nonstaining adhesives and concrete primers for carpet installation. Provide adhesives flashpoint of minimum 60 degrees C (140 degrees F) in accordance with ASTM D3278.

//B. Materials to have a VOC content of // 50 // g/L or less when calculated according to 40 CFR 59, (EPA Method 24). //

**2.3 SEAMING TAPE:**

A. Provide tape for seams as recommended by the carpet manufacturer for the type of seam used in installation. // Seam sealant is to have a maximum VOC content of 50 g/L when calculated according to 40 CFR 59, (EPA Method 24). // Do not use sealants that contain 1,1,1-trichloroethane or toluene.

**SPEC WRITER NOTES:**

1. Use metal strips in traffic area corridors and where subject to cart traffic.
2. Use vinyl strips in remaining areas unless scheduled otherwise.
3. Designate strips locations in finish schedule.

**2.4 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 in Section 09 06 00, SCHEDULE FOR FINISHES.

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

SPEC WRITER NOTE: Use top edge strip where carpet base is used.

C. Carpet Base Top Edge Strip:

1. Vinyl "J" strip wall flange minimum of 38 mm (1-1/2 inches) wide with cap beveled from wall to finish flush with carpet being installed.
2. Color as specified in Section 09 06 00, SCHEDULE FOR FINISHES.

**PART 3 - EXECUTION**

SPEC WRITER NOTE: Include Section 09 05 15, SUBSURFACE PREPARATION FOR FLOOR FINISHES in specifications manual for preparation and testing procedures for concrete and other subsurface conditions required before installation of flooring.

**3.1 SURFACE PREPARATION:**

- A. Contractor to prepare and test surfaces to receive carpet and adhesives as per Section 09 05 16, SUBSURFACE PREPARATION FOR FLOOR FINISHES.

**3.2 GENERAL INSTALLATION:**

- A. Isolate area of installation from rest of building.
- B. Perform all work by manufacturer's approved installers. Conduct installation in accordance with the manufacturer's printed instructions and CRI CIS.
- C. Protect edges of carpet meeting hard surface flooring with molding and install in accordance with the molding manufacturer's printed instructions.
- D. Follow ventilation, personal protection, and other safety precautions recommended by the adhesive manufacturer. Continue ventilation during installation and for at least three (3) days following installation.
- E. Do not permit traffic or movement of furniture or equipment in carpeted area for 24 hours after installation.
- F. Complete other work which would damage for carpet prior to installation of carpet.

**3.3 ATHLETIC CARPET INSTALLATION:**

- A. Follow carpet manufacturer's recommendations for matching pattern and texture directions.
- B. Cut openings in carpet where required for installing equipment, pipes, outlets, and penetrations. Bind or seal cut edge of carpet. Use additional adhesive to secure carpets around pipes and other vertical projections.
- C. Install carpet direct glue down smooth, uniform, and secure, with a minimum of seams.



- D. Apply regular, unnoticeable, and treated seams with a seam adhesive.  
Run side seams toward the light, where practical, and where such layout does not increase the number of seams.
- E. Install breadths parallel, with carpet pile in the same directions.  
Match patterns accurately.
- F. Neatly cut and fit cutouts, at doorjamb, columns and ducts securely.  
Locate seams at doorways parallel to and centered directly under doors.  
Do not make seams perpendicular to doors or at pivot points.
- G. Provide seams at changes in directions of corridors to follow the wall line parallel to the carpet direction. Lay the carpet lengthwise down the corridors with widths less than 1.82 m (6 feet).

#### **3.4 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.

SPEC WRITER NOTE: Use paragraphs below only where carpet base is used.

#### //D. Carpet Base Top Edge Strip Installation:

1. Place carpet molding at top edge of carpet where turned up as base.
2. Install molding in accordance with manufacturer's instructions. //

#### **3.5 PROTECTION AND CLEANING:**

- A. Once a carpet installation is complete, clean up scrap materials and debris, and vacuum the area, using manufacturer approved equipment.  
Inspect seams carefully for evenness and protruding backing yarns, and inspect the perimeter of the installation for an acceptable finished appearance.
- B. Protect installed carpet if furniture is being moved, by laying plywood, fiberboard or porous non-staining sheeting material for minimum time practical. Based on manufacturer guidelines, protect carpet from rolling or foot traffic. Protect against other materials or renovation or construction activities, including dust, debris, paint, contractor traffic, until it is ready for its final use.
- C. Do not move furniture or equipment on unprotected carpeted surfaces.

D. Just before final acceptance of work, remove protection and vacuum carpet clean.

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