

\*\*\*\*\*  
USACE / NAVFAC / AFCEA / NASA UFGS-09680 (October 2004)  
-----

Preparing Activity: USACE MasterFormat™ 2004 - 09 68 00  
Superseding  
UFGS-09680 (April 2004)

## UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UML dated 23 June 2005

Latest change indicated by CHG tags

\*\*\*\*\*

### SECTION TABLE OF CONTENTS

#### DIVISION 09 - FINISHES

#### SECTION 09680

#### CARPET

10/04

#### PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 SUBMITTALS
- 1.3 REGULATORY REQUIREMENTS
- 1.4 DELIVERY AND STORAGE
- 1.5 ENVIRONMENTAL REQUIREMENTS
- 1.6 WARRANTY
- 1.7 EXTRA MATERIAL

#### PART 2 PRODUCTS

- 2.1 CARPET
  - 2.1.1 Physical Characteristics
    - 2.1.1.1 [BROADLOOM CARPET] [MODULAR TILE CARPET] [ENTRANCE CARPET] [A]
    - 2.1.1.2 [BROADLOOM CARPET] [MODULAR TILE CARPET] [ENTRANCE CARPET]  
[B] [ ]
    - 2.1.1.3 [BROADLOOM CARPET] [MODULAR TILE CARPET] [ENTRANCE CARPET]  
[C] [ ]
  - 2.2 Performance Requirements
  - 2.3 ADHESIVES AND CONCRETE PRIMER
  - 2.4 MOLDING
  - 2.5 TAPE
  - 2.6 COLOR, TEXTURE, AND PATTERN

#### PART 3 EXECUTION

- 3.1 SURFACE PREPARATION
- 3.2 MOISTURE AND ALKALINITY TESTS
- 3.3 PREPARATION OF CONCRETE SUBFLOOR
- 3.4 INSTALLATION
  - 3.4.1 Broadloom Installation
  - 3.4.2 Modular Tile Installation

- 3.4.3 Entrance Carpet Installation
- 3.5 CLEANING AND PROTECTION
  - 3.5.1 Cleaning
  - 3.5.2 Protection
- 3.6 REMNANTS

-- End of Section Table of Contents --

\*\*\*\*\*  
USACE / NAVFAC / AFCEA / NASA UFGS-09680 (October 2004)  
-----

Preparing Activity: USACE MasterFormat<sup>TM</sup> 2004 - 09 68 00  
Superseding  
UFGS-09680 (April 2004)

## UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 23 June 2005

Latest change indicated by CHG tags

\*\*\*\*\*

### SECTION 09680

CARPET  
10/04

\*\*\*\*\*

NOTE: This guide specification covers the requirements for broadloom carpet, modular tile carpet, and entrance carpet.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

This guide specification includes tailoring options for broadloom carpet, modular tile carpet, and entrance carpet. Selection or deselection of a tailoring option will include or exclude that option in the section, but editing the resulting section to fit the project is still required.

Carpet containing recovered material is designated in 40 CFR 247.12 and subsequent Recovered Materials Advisory Notices (RMAN) as an affirmative procurement item. Designers should give preference to products containing recovered material when price, performance, and availability meet project requirements.

Options to consider include:

- a. Use of polyester carpet fiber face, polyethylene

terephthalate resin. (A justification is required when polyester fiber is specified in lieu of polyethylene terephthalate (PET) fiber).

b. Use of carpet cushion containing recovered materials.

c. Use of nylon fiber with recycled content.

d. Use of nylon carpet with backing containing recovered carpet.

e. Use of a program that reconditions and restores old carpet for re-use.

f. Use of programs to send old carpet and existing carpet waste back to mills for recycling, rather than to landfills.

Edit paragraphs SUBMITTALS and Physical Characteristics within this section and Section 02220 DEMOLITION as necessary.

\*\*\*\*\*

## PART 1 GENERAL

### 1.1 REFERENCES

\*\*\*\*\*

NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

\*\*\*\*\*

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

AATCC 107 (2002) Colorfastness to Water

AATCC 134 (2001) Electrostatic Propensity of Carpets

|           |   |
|-----------|---|
| AATCC 16  | (2003) Colorfastness to Light   |
| AATCC 165 | (1999) Colorfastness to Crocking: Textile Floor Coverings - AATCC Crockmeter Method |
| AATCC 174 | (1998) Antimicrobial Activity Assessment of Carpets                                 |

#### ASTM INTERNATIONAL (ASTM)

|             |  |
|-------------|--|
| ASTM D 1423 | (2002) Twist in Yarns by Direct-Counting   |
| ASTM D 1667 | (1997) Flexible Cellular Materials - Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam) |
| ASTM D 297  | (1993; R 2002e1) Rubber Products - Chemical Analysis   |
| ASTM D 3278 | (1996e1; R 2004) Flash Point of Liquids by Small Scale Closed-Cup Apparatus                    |
| ASTM D 3676 | (2001) Rubber Cellular Cushion Used for Carpet or Rug Underlay                                 |
| ASTM D 418  | (1993) Pile Yarn Floor Covering Construction   |
| ASTM D 5252 | (1998a; R 2003) Operation of the Hexapod Drum Tester   |
| ASTM D 5417 | (1999; R 2003) Operation of the Vettermann Drum Tester   |
| ASTM D 5793 | (2003) Binding Sites Per Unit Length or Width of Pile Yarn Floor Coverings                     |
| ASTM D 5848 | (1998) Mass Per Unit Area of Pile Yarn Floor Coverings   |
| ASTM E 648  | (2003) Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source      |

#### CARPET AND RUG INSTITUTE (CRI)

|         |   |
|---------|---|
| CRI 104 | (2002) Standard for Installation Specification of Commercial Carpet |
|---------|---|

#### INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

|          |   |
|----------|---|
| ISO 2551 | (1981) Machine-made Textile Floor Coverings - Determination of Dimensional Changes Due to the Effects of Varied Water and Heat Conditions |
|----------|---|

#### U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

|             |  |
|-------------|--|
| 16 CFR 1630 | Standard for the Surface Flammability of |
|-------------|--|

## 1.2 SUBMITTALS

\*\*\*\*\*

NOTE: Review submittal description (SD) definitions in Section 01330 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

\*\*\*\*\*

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

### SD-02 Shop Drawings

Installation[; G][; G, [\_\_\_\_]]  
Molding[; G][; G, [\_\_\_\_]]

[Three] [\_\_\_\_] copies of drawings indicating areas receiving carpet, carpet types, textures and patterns, direction of pile, location of seams, and locations of edge molding.

### SD-03 Product Data

Carpet[; G][; G, [\_\_\_\_\_]]

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.

Surface Preparation[; G][; G, [\_\_\_\_\_]]  
Installation[; G][; G, [\_\_\_\_\_]]

[Three] [\_\_\_\_\_] copies of the manufacturer's printed installation instructions for the carpet, including preparation of substrate, seaming techniques, and recommended adhesives and tapes.

Regulatory Requirements[; G][; G, [\_\_\_\_\_]]

[Three] [\_\_\_\_\_] copies of report stating that carpet contains recycled materials and/or involvement in a recycling or reuse program. Report shall include percentage of recycled material.

#### SD-04 Samples

Carpet[; G][; G, [\_\_\_\_\_]]  
Molding[; G][; G, [\_\_\_\_\_]]

a. Carpet: [Two] [\_\_\_\_\_] "Production Quality" samples 450 x 450 mm 18 x 18 inches of each carpet proposed for use, showing quality, pattern, and color specified.

b. Vinyl or Aluminum Moldings: [Two] [\_\_\_\_\_] pieces of each type at least 300 mm 12 inches long.

c. Special Treatment Materials: [Two] [\_\_\_\_\_] samples showing system and installation method.

#### SD-06 Test Reports

Moisture and Alkalinity Tests[; G][; G, [\_\_\_\_\_]]

[Three] [\_\_\_\_\_] copies of test reports of moisture and alkalinity content of concrete slab stating date of test, person conducting the test, and the area tested.

#### SD-07 Certificates

Carpet

Certificates of compliance from a laboratory accredited by the National Laboratory Accreditation Program of the National Institute of Standards and Technology attesting that each type of carpet and carpet with cushion material conforms to the standards specified.

Regulatory Requirements[; G][; G, [\_\_\_\_\_]]

Report stating that the carpet contains recycled materials and indicating the actual percentage of recycled material.

#### SD-10 Operation and Maintenance Data

Carpet[; G][; G, [\_\_\_\_]]  
Cleaning and Protection[; G][; G, [\_\_\_\_]]

[Three] [\_\_\_\_] copies of carpet manufacturer's maintenance instructions describing recommended type of cleaning equipment and material, spotting and cleaning methods, and cleaning cycles.

### 1.3 REGULATORY REQUIREMENTS

Carpet and adhesives shall bear the Carpet and Rug Institute (CRI) Indoor Air Quality (IAQ) label or demonstrate compliance with testing criteria and frequencies through independent laboratory test results. Carpet type bearing the label will indicate that the carpet has been tested and meets the criteria of the CRI IAQ Carpet Testing Program, and minimizes the impact on indoor air quality. Contractor shall procure carpet in accordance with 40 CFR 247. Carpet shall conform to EPA requirements in accordance with Section 01670 RECYCLED / RECOVERED MATERIALS. Where possible, product shall be purchased locally to reduce emissions of fossil fuels from transporting.

### 1.4 DELIVERY AND STORAGE

Materials shall be delivered to the site in the manufacturer's original wrappings and packages clearly labeled with the manufacturer's name, brand name, size, dye lot number, and related information. Materials shall be stored in a clean, dry, well ventilated area, protected from damage and soiling, and shall be maintained at a temperature above 16 degrees C 60 degrees F for 2 days prior to installation.

### 1.5 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.

### 1.6 WARRANTY

Manufacturer's standard performance guarantees or warranties including minimum ten (10) year wear warranty, two (2) year material and workmanship and ten (10) year tuft bind and delamination.

### 1.7 EXTRA MATERIAL

Extra material from same dye lot consisting of [full width continuous broadloom] [and] [uncut carpet tiles] shall be provided for future maintenance. A minimum of [\_\_\_\_] percent of total square meters square yards of each carpet type, pattern, and color shall be provided.

## PART 2 PRODUCTS

### 2.1 CARPET

\*\*\*\*\*



NOTE: Color, texture, and pattern must be in accordance with Section 09915 COLOR SCHEDULE or must be indicated on the drawings.

If more than one carpet type is required for a project, a separate paragraph will be used for each carpet type. Each carpet type will be designated with a letter or number symbol. Use the same designations to key carpets to locations on the drawings and in Section 09915 COLOR SCHEDULE.

ADA Requirements: If carpet is used as a floor, then it shall be securely attached; have a firm cushion, pad, or backing, or no cushion or pad; and have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. The maximum thickness shall be 13 mm 1/2 in. Exposed edges of carpet shall be fastened to floor surfaces and have trim along the entire length of the exposed edge.

\*\*\*\*\*

Carpet shall be first quality; free of visual blemishes, streaks, poorly dyed areas, fuzzing of pile yarn, spots or stains, and other physical and manufacturing defects. Carpet materials and treatments shall be reasonably nonallergenic and free of other recognized health hazards. All grade carpets shall have a static control construction which gives adequate durability and performance. Carpet shall bear the Carpet and Rug Institute (CRI) Indoor Air Quality (IAQ) Label. Carpet type bearing the label will indicate that carpet has been tested and meets the criteria of the CRI Green Label Requirements for Indoor Air Quality Test Criteria.

#### 2.1.1 Physical Characteristics

##### 2.1.1.1 [BROADLOOM CARPET] [MODULAR TILE CARPET] [ENTRANCE CARPET] [A]

Carpet shall comply with the following:

\*\*\*\*\*

NOTE: Delete subparagraphs not required or applicable

\*\*\*\*\*

- a. Carpet Construction: [Tufted] [Woven] [Bonded] [Needlebond] [Needle Felt] [\_\_\_\_\_].
- b. Type: [Broadloom [3.6] [1.8] m [12] [6] feet minimum usable carpet width [with exception of corridors] [and] [stairs] [\_\_\_\_\_].] [Modular tile [450 x 450] [500 x 500] [600 x 600] mm square [18 x 18] [20 x 20] [24 x 24] inches square with 0.15 percent growth/shrink rate in accordance with ISO 2551.] [Entrance [450 x 450] [ ]mm [18 x 18] [ ] inches square [3.6] [1.8] m [12] [6] feet width [ ] mat size.]
- c. Pile Type: [Level-loop] [Multilevel loop] [Cut and loop] [Frieze] [Cut pile] [Random sheared] [Level tip shear].
- d. Pile Fiber: Commercial 100% branded (federally registered trademark) [nylon continuous filament] [nylon staple] [[wool]

[wool blend] with Wool Bureau certification] [polyethylene terephthalate (PET) 100% recycled fiber] [polypropylene] [\_\_\_\_].

- e. Pile or Wire Height: Minimum [\_\_\_\_] mm inch in accordance with ASTM D 418.
- f. Yarn Ply: Minimum [2] [\_\_\_\_].
- g. Gauge or Pitch: Minimum [\_\_\_\_] mm inch in accordance with ASTM D 5793.
- h. Stitches or Rows/Wires: Minimum [\_\_\_\_] per square meter per square inch.
- i. Finished Pile Yarn Weight: Minimum [\_\_\_\_] kg per square meter ounces per square yard. This does not include weight of backings. Weight shall be determined in accordance with ASTM D 5848.

\*\*\*\*\*

**NOTE: Yarn weight must meet project criteria and requirements.**

\*\*\*\*\*

- j. Pile Density: Minimum [\_\_\_\_].
- k. Dye Method: [Solution dyed] [Stock dyed] [Yarn (or Skein) dyed] [Piece dyed] [Space dye] [Continuous dye].
- l. Backing Materials: Primary backing materials shall be [those customarily used and accepted by the trade for each type of carpet] [polypropylene] [synthetic material] [synthetic material] [rubber] [\_\_\_\_]. Secondary backing to suit project requirements shall be those customarily used and accepted by the trade for each type of carpet, except when a special unitary back designed for gluedown is provided.
- m. Attached Cushion: Attached cushion shall be [chemically frothed polyurethane with minimum weight of 0.610 kg/sq. m 18 oz/sq. yard, minimum density of 176 kg/cubic m 11 lb/cubic foot] [mechanically frothed polyurethane with minimum weight of 0.745 kg/sq. m 22 oz/sq. yard, minimum density of 224 kg/cubic m 14 lb/cubic foot, minimum thickness of 2.5 mm 0.100 inch, and maximum compression resistance of 34.5 kPa 5 psi, and compression set of 15 percent in accordance with ASTM D 3676] [[ethylene vinyl acetate (EVA)] [polyvinyl chloride (PVC)] with minimum weight of 0.95 kg/sq. m 28 oz/sq. yard, minimum thickness of 3.8 mm 0.150 inch, and minimum density of 240.3 kg/cubic m 15 lb/cubic foot and a maximum compression set of 15 percent in accordance with ASTM D 1667]. Maximum ash content shall not exceed 50 percent when tested in accordance with ASTM D 297. Cushion shall pass accelerated aging test in accordance with [ASTM D 3676] [ASTM D 1667].
- n. Recycle Efforts: [Use of polyester carpet fiber face, polyethylene terephthalate resin] [Use of carpet cushion containing recovered materials] [Use of nylon carpet with backing containing recovered carpet] [Use of nylon fiber with 25 per cent minimum recycled content] [Use of reconditioned nylon carpet].

\*\*\*\*\*

**NOTE: Consider selecting multiple recycle effort options to prevent the specification from being proprietary as appropriate on a project per project basis.**

\*\*\*\*\*

2.1.1.2 [BROADLOOM CARPET] [MODULAR TILE CARPET] [ENTRANCE CARPET] [B] [\_\_\_\_\_]

Carpet shall comply with the following:

- a. Carpet Construction: [Tufted] [Woven] [Bonded] [Needlebond] [Needle Felt] [\_\_\_\_\_].
- b. Type: [Broadloom [3.6] [1.8] m [12] [6] feet minimum usable carpet width[with exception of corridors] [and] [stairs] [\_\_\_\_\_].] [Modular tile [450 x 450] [500 x 500] [600 x 600] mm square [18 x 18] [20 x 20] [24 x 24] inches square with 0.15 percent growth/shrink rate in accordance with ISO 2551.] [Entrance [450 x 450] [ ]mm [18 x 18] [ ] inches square [3.6] [1.8] m [12] [6] feet width [ ] mat size.]
- c. Pile Type: [Level-loop] [Multilevel loop] [Cut and loop] [Frieze] [Cut pile] [Random sheared] [Level tip shear].
- d. Pile Fiber: Commercial 100% branded (federally registered trademark) [nylon continuous filament] [nylon staple] [[wool] [wool blend] with Wool Bureau certification] [polyethylene terephthalate (PET) 100% recycled fiber] [polypropylene] [\_\_\_\_\_].
- e. Pile or Wire Height: Minimum [\_\_\_\_\_] mm inch in accordance with ASTM D 418.
- f. Yarn Ply: Minimum [2] [\_\_\_\_\_] in accordance with ASTM D 1423.
- g. Gauge or Pitch: Minimum [\_\_\_\_\_] mm inch in accordance with ASTM D 5793.
- h. Stitches or Rows/Wires: Minimum [\_\_\_\_\_] per square meter per square inch.
- i. Finished Pile Yarn Weight: Minimum [\_\_\_\_\_] kg per square meter ounces per square yard. This does not include weight of backings. Weight shall be determined in accordance with ASTM D 5848.
- j. Pile Density: Minimum [\_\_\_\_\_].
- k. Dye Method: [Solution dyed] [Stock dyed] [Yarn (or Skein) dyed] [Piece dyed] [Space dye] [Continuous dye].
- l. Backing Materials: Primary backing materials shall be [those customarily used and accepted by the trade for each type of carpet] [polypropylene] [synthetic material] [synthetic material] [rubber] [\_\_\_\_\_]. Secondary backing to suit project requirements shall be those customarily used and accepted by the trade for each type of carpet, except when a special unitary back designed for gluedown is provided.
- m. Attached Cushion: Attached cushion shall be [chemically frothed polyurethane with minimum weight of 0.610 kg/sq. m 18 oz/sq. yard,

minimum density of 176 kg/cubic m 11 lb/cubic foot] [mechanically frothed polyurethane with minimum weight of 0.745 kg/sq. m 22 oz/sq. yard, minimum density of 224 kg/cubic m 14 lb/cubic foot, minimum thickness of 2.5 mm 0.100 inch, and maximum compression resistance of 34.5 kPa 5 psi, and compression set of 15 percent in accordance with ASTM D 3676] [[ethylene vinyl acetate (EVA)] [polyvinyl chloride (PVC)] with minimum weight of 0.95 kg/sq. m 28 oz/sq. yard, minimum thickness of 3.8 mm 0.150 inch, and minimum density of 240.3 kg/cubic m 15 lb/cubic foot and a maximum compression set of 15 percent in accordance with ASTM D 1667]. Maximum ash content shall not exceed 50 percent when tested in accordance with ASTM D 297. Cushion shall pass accelerated aging test in accordance with [ASTM D 3676] [ASTM D 1667].

- n. Recycle Efforts: [Use of polyester carpet fiber face, polyethylene terephthalate resin] [Use of carpet cushion containing recovered materials] [Use of nylon carpet with backing containing recovered carpet] [Use of nylon fiber with 25 per cent minimum recycled content] [Use of reconditioned nylon carpet].

#### 2.1.1.3 [BROADLOOM CARPET] [MODULAR TILE CARPET] [ENTRANCE CARPET] [C] [ ]

Carpet shall comply with the following:

- a. Carpet Construction: [Tufted] [Woven] [Bonded] [Needlebond] [Needle Felt] [\_\_\_\_\_].
- b. Type: [Broadloom [3.6] [1.8] m [12] [6] feet minimum usable carpet width[with exception of corridors] [and] [stairs] [\_\_\_\_\_].] [Modular tile [450 x 450] [500 x 500] [600 x 600] mm square [18 x 18] [20 x 20] [24 x 24] inches square with 0.15 percent growth/shrink rate in accordance with ISO 2551.] [Entrance [450 x 450] [ ]mm [18 x 18] [ ] inches square [3.6] [1.8] m [12] [6] feet width [ ] mat size.]
- c. Pile Type: [Level-loop] [Multilevel loop] [Cut and loop] [Frieze] [Cut pile] [Random sheared] [Level tip shear].
- d. Pile Fiber: Commercial 100% branded (federally registered trademark) [nylon continuous filament] [nylon staple] [[wool] [wool blend] with Wool Bureau certification] [polyethylene terephthalate (PET) 100% recycled fiber] [polypropylene] [\_\_\_\_\_].
- e. Pile or Wire Height: Minimum [\_\_\_\_\_] mm inch in accordance with ASTM D 418.
- f. Yarn Ply: Minimum [2] [\_\_\_\_\_] in accordance with ASTM D 1423.
- g. Gauge or Pitch: Minimum [\_\_\_\_\_] mm inch in accordance with ASTM D 5793.
- h. Stitches or Rows/Wires: Minimum [\_\_\_\_\_] per square meter per square inch.
- i. Finished Pile Yarn Weight: Minimum [\_\_\_\_\_] kg per square meter ounces per square yard. This does not include weight of backings. Weight shall be determined in accordance with ASTM D 5848.
- j. Pile Density: Minimum [\_\_\_\_\_].

- k. Dye Method: [Solution dyed] [Stock dyed] [Yarn (or Skein) dyed] [Piece dyed] [Space dye] [Continuous dye].
- l. Backing Materials: Primary backing materials shall be [those customarily used and accepted by the trade for each type of carpet] [polypropylene] [synthetic material] [synthetic material] [rubber] [\_\_\_\_\_]. Secondary backing to suit project requirements shall be those customarily used and accepted by the trade for each type of carpet, except when a special unitary back designed for gluedown is provided.
- m. Attached Cushion: Attached cushion shall be [chemically frothed polyurethane with minimum weight of 0.610 kg/sq. m 18 oz/sq. yard, minimum density of 176 kg/cubic m 11 lb/cubic foot] [mechanically frothed polyurethane with minimum weight of 0.745 kg/sq. m 22 oz/sq. yard, minimum density of 224 kg/cubic m 14 lb/cubic foot, minimum thickness of 2.5 mm 0.100 inch, and maximum compression resistance of 34.5 kPa 5 psi, and compression set of 15 percent in accordance with ASTM D 3676] [[ethylene vinyl acetate (EVA)] [polyvinyl chloride (PVC)] with minimum weight of 0.95 kg/sq. m 28 oz/sq. yard, minimum thickness of 3.8 mm 0.150 inch, and minimum density of 240.3 kg/cubic m 15 lb/cubic foot and a maximum compression set of 15 percent in accordance with ASTM D 1667]. Maximum ash content shall not exceed 50 percent when tested in accordance with ASTM D 297. Cushion shall pass accelerated aging test in accordance with [ASTM D 3676] [ASTM D 1667].
- n. Recycle Efforts: [Use of polyester carpet fiber face, polyethylene terephthalate resin] [Use of carpet cushion containing recovered materials] [Use of nylon carpet with backing containing recovered carpet] [Use of nylon fiber with 25 per cent minimum recycled content] [Use of reconditioned nylon carpet].

## 2.2 Performance Requirements

\*\*\*\*\*

**NOTE:** Use the chart below to identify the recommended minimum use classification that corresponds to the end-use application. Record the minimum Appearance Retention Rating, or ARR, in subparagraph a.

### END-USE CLASSIFICATION CHART

| <u>End-Use Application</u>                                     | <u>Minimum Use Classification</u> |
|--|-----------------------------------|
| <b>BANKS/CREDIT UNIONS</b>                                     |                                   |
| Entrances and customer banking space                           | Severe                            |
| Open office space, private offices                             | Heavy                             |
| <b>BOWLING ALLEYS</b>  |                                   |
| Concourses (excluding food service, working and storage areas) | Severe                            |
| <b>CHAPELS AND OTHER RELIGIOUS FACILITIES</b>                  |                                   |
| Educational wing, worship areas                                | Heavy                             |
| <b>CHILD CARE CENTERS</b>                                      |                                   |
| All areas  | Severe                            |

|  |  |          |
|--|--|----------|
| CLUBS  |  |          |
| All areas  |  | Severe   |
| HOUSING  |  |          |
| <i>Single Family</i>   |  |          |
| Family rooms,living rooms,dining rooms                               |  | Heavy    |
| Sleeping rooms   |  | Moderate |
| Combination living/sleeping rooms                                    |  | Heavy    |
| <i>Multi-Family</i>  |  |          |
| Common areas (lobbies,lounges)                                       |  | Severe   |
| Corridors  |  | Severe   |
| Family rooms,living rooms,dining rooms                               |  | Heavy    |
| Multi-purpose areas  |  | Severe   |
| Sleeping rooms   |  | Moderate |
| Combination living/sleeping rooms                                    |  | Heavy    |
| LABORATORY/RESEARCH FACILITIES                                       |  |          |
| Computer work areas  |  | Severe   |
| Closed private office  |  | Heavy    |
| Open work areas, dry labs  |  | Severe   |
| LIBRARIES  |  |          |
| Conference rooms, corridors  |  | Severe   |
| LODGING FACILITIES/DORMITORIES                                       |  |          |
| Conference rooms   |  | Severe   |
| Combination living/sleeping rooms                                    |  | Severe   |
| Dining facilities  |  | Severe   |
| Offices  |  | Heavy    |
| Public areas (lobbies,lounges,TV rooms,<br>day rooms)                |  | Severe   |
| Sleeping rooms   |  | Heavy    |
| MEDICAL FACILITIES   |  |          |
| (excluding patient treatment areas)                                  |  |          |
| Assisted living areas,classrooms                                     |  | Heavy    |
| Chapels, consultation rooms  |  | Moderate |
| Clinical waiting areas (outpatient,<br>pharmacy,ancillary zone only) |  | Severe   |
| Corridors,dining areas,elevators                                     |  | Severe   |
| Entrance areas<br>(entry mats should be used)                        |  | Severe   |
| Libraries  |  | Moderate |
| Lobbies  |  | Severe   |
| Lounges  |  | Heavy    |
| Offices (private,semi-private)                                       |  | Severe   |
| Patient rooms  |  | Heavy    |
| Playrooms (OB/GYN,Pediatric clinics)                                 |  | Severe   |
| Staff sleeping and watch areas                                       |  | Moderate |
| MILITARY HOUSING   |  |          |
| <i>Family Housing</i>  |  |          |
| Flag   |  | Moderate |
| Single unit  |  | Heavy    |
| Multi-unit (corridors,sleeping/living<br>rooms)                      |  | Heavy    |
| Multi-unit (public areas,lobbies,lounges)                            |  | Severe   |

|  |  |          |
|--|--|----------|
| <i>Bachelor Officer Quarters</i>   |  |          |
| Sleeping/living rooms  |  | Moderate |
| Public areas (lobbies,lounges)   |  | Severe   |
| Dining Facilities  |  | Severe   |
| Offices  |  | Moderate |
| <br><i>Bachelor Enlisted Quarters</i>  |  |          |
| Sleeping/living rooms  |  | Severe   |
| Public areas (lobbies,lounges)   |  | Severe   |
| Dining Facilities  |  | Severe   |
| Offices  |  | Heavy    |
| <br>MUSIC OR DRAMA CENTERS   |  |          |
| All areas  |  | Severe   |
| <br>OFFICES (including administrative areas)                                     |  |          |
| Closed private offices   |  | Heavy    |
| Corridors  |  | Severe   |
| Conference rooms   |  | Heavy    |
| Open plan office (circulation areas)   |  | Severe   |
| Open plan office (work areas)  |  | Heavy    |
| <br>RESTAURANTS (excluding work spaces)  |  |          |
| Dining areas   |  | Severe   |
| Cafeteria-type dining areas,enlisted canteens                                    |  | Severe   |
| Office areas   |  | Heavy    |
| <br>RETAIL STORES  |  |          |
| Offices  |  | Heavy    |
| Restaurant and cafeteria dining areas  |  | Severe   |
| Sales areas  |  | Severe   |
| <br>THEATERS   |  |          |
| All areas  |  | Severe   |
| <br>TRAINING BUILDINGS/EDUCATIONAL FACILITIES<br>(including dependents' schools) |  |          |
| Classrooms,corridors   |  | Severe   |
| Staff/administration offices   |  | Heavy    |
| <br>YOUTH CENTERS  |  |          |
| All areas  |  | Severe   |

These classifications are based on typical usage.  
Use a higher classification if traffic exposure is  
expected to be greater than usual.

\*\*\*\*\*

a. ARR (Appearance Retention Rating): Carpet shall be tested and have the minimum [2.5-3.0 (Moderate)] [3.0-3.5 (Heavy)] [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.

\*\*\*\*\*

NOTE: Specify static control only when required to

meet project requirements. Installations for critical areas such as computer rooms will use the 2.0 kV requirements. Static protected carpets for most commercial installations are normally rated at 3.5 kV.

\*\*\*\*\*

b. Static Control: Static control shall be provided to permanently control static buildup to less than [3.5] [2.0] [\_\_\_\_\_] kV when tested at 20 percent relative humidity and 21 degrees C 70 degrees F in accordance with AATCC 134.

\*\*\*\*\*

NOTE: 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 MIL-HDBK 1008B or NFPA 101. Wherever the use of Class II (0.22) watts finish is required, Class I (0.45) watts will be permitted.

Critical radiant flux will be a minimum average of 0.45 watts when used in corridors in bachelor enlisted quarters, bachelor officer quarters, hospital, child care centers, temporary lodging facilities, and new construction detention and correctional facilities. Generally the critical radiant flux will be a minimum of 0.22 for corridors of other type facilities. Where an approved automatic sprinkler system is installed, Class II interior floor finish may be used where Class I floor finish is required, and where Class II is required, no critical radiant flux rating is required. Omit paragraph if not applicable.

\*\*\*\*\*

c. Flammability and Critical Radiant Flux Requirements: Carpet shall comply with 16 CFR 1630. Carpet in corridors and exits shall have a minimum average critical radiant flux of [0.22] [0.45] watts per square centimeter when tested in accordance with ASTM E 648.

\*\*\*\*\*

NOTE: For most facilities, the 45 N (10 pound) tuft bind for loop pile and 13 N (3 pound) for cut pile are adequate. For child care centers, youth centers, and dependents' schools, specify 53 N (12 pound) tuft bind for loop pile because of the increased potential for loop pull in the course of children's activities. Although increased wear by itself is not the primary factor in damage due to lack of tuft bind, consider 53 N (12 pound) tuft bind for any severe wear application where loop pile might be vulnerable to snagging.

\*\*\*\*\*

d. Tuft Bind: Tuft bind force required to pull a tuft or loop free from carpet backing shall be a minimum [40 N 10 pound average force for loop pile] [18 N 3 pound average force for cut pile].

e. Colorfastness to Crocking: Dry and wet crocking shall comply



with AATCC 165 and shall have a Class 4 minimum rating on the AATCC Color Transference Chart for all colors.

f. Colorfastness to Light: Colorfastness to light shall comply with AATCC 16, Test Option E "Water-Cooled Xenon-Arc Lamp, Continuous Light" and shall have a minimum 4 grey scale rating after 40 hours.

\*\*\*\*\*

**NOTE: Include the following test when specifying carpet constructed of yarn dyed fibers.**

\*\*\*\*\*

g. Colorfastness to Water: Colorfastness to water shall comply with AATCC 107 and have a minimum 4.0 gray scale rating and a minimum 4.0 transfer scale rating.

h.. Delamination Strength: Delamination strength for tufted carpet with a secondary back shall be minimum of 440 N/m 2.5 lbs./inch.

\*\*\*\*\*

**NOTE: The following will be included when required for a specific use such as child care, dining facilities or hospitals.**

\*\*\*\*\*

i.. Antimicrobial: Nontoxic antimicrobial treatment in accordance with AATCC 174 Part I (qualitative), guaranteed by the carpet manufacturer to last the life of the carpet.

## 2.3 ADHESIVES AND CONCRETE PRIMER

Adhesives and concrete primers for installation of carpet shall be waterproof, nonflammable, meet local air-quality standards, and shall be as required by the carpet manufacturer. Seam adhesive shall be waterproof, nonflammable, and nonstaining as recommended by the carpet manufacturer. Release adhesive for modular tile carpet shall be as recommended by the carpet manufacturer. Adhesives flashpoint shall be minimum 60 degrees C 140 degrees F in accordance with ASTM D 3278.

## 2.4 MOLDING

[Aluminum molding shall be a hammered surface, pinless clamp-down type, designed for the type of carpet being installed. Finish shall be [natural color anodized] [prefinished color [\_\_\_\_]]. Floor flange shall be a minimum 38 mm 1-1/2 inches wide and face shall be a minimum 16 mm 5/8 inch wide] [Vinyl molding shall be heavy-duty and designed for the type of carpet being installed. Floor flange shall be a minimum 50 mm 2 inches wide. Color shall be [\_\_\_\_]].

## 2.5 TAPE

Tape for seams shall be as recommended by the carpet manufacturer for the type of seam used in installation.

## 2.6 COLOR, TEXTURE, AND PATTERN

Color, texture, and pattern shall be [in accordance with Section 09915

COLOR SCHEDULE] [\_\_\_\_\_] .

### PART 3 EXECUTION

#### 3.1 SURFACE PREPARATION

Carpet shall not be installed on surfaces that are unsuitable and will prevent a proper installation. Holes, cracks, depressions, or rough areas shall be repaired using material recommended by the carpet or adhesive manufacturer. Floor shall be free of any foreign materials and swept broom clean. Before beginning work, subfloor shall be tested with glue and carpet to determine "open time" and bond.

#### 3.2 MOISTURE AND ALKALINITY TESTS

Concrete slab shall be tested for moisture content and excessive alkalinity in accordance with CRI 104.

#### 3.3 PREPARATION OF CONCRETE SUBFLOOR

\*\*\*\*\*  
**NOTE: Designer must coordinate need for sealing of  
concrete slab with project requirements such as wet  
conditions which might occur in hospital care.**  
\*\*\*\*\*

Installation of the carpeting shall not commence until concrete substrate is at least 90 days old. The concrete surfaces shall be prepared in accordance with instructions of the carpet manufacturer. Type of concrete sealer, when required, shall be compatible with the carpet.

#### 3.4 INSTALLATION

All work shall be performed by installers who are CFI certified (International Certified Floorcovering Installer Association), or manufacturer's approved installers. Installation shall be in accordance with the manufacturer's instructions and CRI 104. Edges of carpet meeting hard surface flooring shall be protected with molding; installation shall be in accordance with the molding manufacturer's instructions. Ventilation, personal protection, and other safety precautions recommended by the manufacturer of the adhesive shall be followed. Ventilation shall continue for at least 72 hours following installation.

##### 3.4.1 Broadloom Installation

Broadloom carpet shall be installed [direct glue down] [pre-applied adhesive glue down] and shall be smooth, uniform, and secure, with a minimum of seams. Seams shall be regular, unnoticeable, and treated with a seam adhesive. Side seams shall be run toward the light where practical and where such layout does not increase the number of seams. Breadths shall be installed parallel, with carpet pile in the same direction. Patterns shall be accurately matched. Cutouts, as at door jams, columns and ducts shall be neatly cut and fitted securely. Seams at doorways shall be located parallel to and centered directly under doors. Seams shall not be made perpendicular to doors or at pivot points. Seams at changes in directions of corridors shall follow the wall line parallel to the carpet direction. Corridors with widths less than 1.8 m 6 feet shall have the carpet laid lengthwise down the corridors.

### 3.4.2 Modular Tile Installation

Modular tiles shall be installed with [permanent vinyl-compatible] [release] adhesive and shall be snugly jointed together. Tiles shall be laid in [the same direction] [an alternating pattern] with accessibility to the subfloor where required.

### 3.4.3 Entrance Carpet Installation

[Tiles shall be installed with [[permanent vinyl-compatible]] [[release]] adhesive and shall be snugly jointed together. Tiles shall be laid in [[the same direction]] [[an alternating pattern]]. [Roll goods shall be installed [[direct glue down]] [pre-applied adhesive glue down]] and shall be smooth, uniform, and secure, with a minimum of seams. Seams shall be regular, unnoticeable, and treated with a seam adhesive. Breadths shall be installed parallel, with carpet pile in the same direction. Patterns shall be accurately matched. Cutouts, as at door jambs, columns and ducts shall be neatly cut and fitted securely. Seams at doorways shall be located parallel to and centered directly under doors. Seams shall not be made perpendicular to doors or at pivot points.] [Mats shall be cut to specified size and finished with a tapered vinyl edge that is glued and sewn on.]

## 3.5 CLEANING AND PROTECTION

### 3.5.1 Cleaning

After installation of the carpet, debris, scraps, and other foreign matter shall be removed. Soiled spots and adhesive shall be removed from the face of the carpet with appropriate spot remover. Protruding face yarn shall be cut off and removed. Carpet shall be vacuumed clean.

### 3.5.2 Protection

The installed carpet shall be protected from soiling and damage with heavy, reinforced, nonstaining kraft paper, plywood, or hardboard sheets. Edges of kraft paper protection shall be lapped and secured to provide a continuous cover. Traffic shall be restricted for at least 45 hours. Protective covering shall be removed when directed by the Contracting Officer.

## 3.6 REMNANTS

Remnants remaining from the installation, consisting of scrap pieces more than 600 mm 2 feet in dimension with more than 0.6 square meters 6 square feet total, shall be provided. Non-retained scraps shall be removed from site and recycled appropriately.

-- End of Section --