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USACE / NAVFAC / AFCEA / NASA UFGS-09 68 00 (July 2006)  
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Preparing Activity: USACE Superseding  
UFGS-09 68 00 (April 2006)

## UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 18 July 2006

Latest change indicated by CHG tags

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SECTION 09 68 00

CARPET  
07/06

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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.

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PART 1 GENERAL

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NOTE: 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 02 41 00 DEMOLITION as necessary.

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#### 1.1 REFERENCES

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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.

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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	(2004) 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	(2005) Flexible Cellular Materials - Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam)
ASTM D 297	(1993; R 2002e2) 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 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	(2004) 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
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#### U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS SS-W-40	(Rev A; Int Am 1, Notice 1) Wall Base: Rubber, and Vinyl Plastic
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#### 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
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U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

16 CFR 1630 Standard for the Surface Flammability of  
Carpets and Rugs (FF 1-70)

40 CFR 247 Comprehensive Procurement Guideline for  
Products Containing Recovered Materials

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 253 (2000) Test for Critical Radiant Flux of  
Floor Covering Systems Using a Radiant  
Heat Energy Source

1.2 SUBMITTALS

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NOTE: Review submittal description (SD) definitions  
in Section 01 33 00 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.

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Government approval is required for submittals with a "G" designation;  
submittals not having a "G" designation are for [Contractor Quality Control  
approval.] [information only. When used, a designation following the "G"  
designation identifies the office that will review the submittal for the  
Government.] Submit the following in accordance with Section 01 33 00  
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. Installation drawings for the following items diagramming the location of seams, edge moldings, and carpet direction for approval prior to installation.

- 1) Carpet Pads
- 2) Carpet Moldings
- 3) Base

#### SD-03 Product Data

Carpet[; G][; G, [\_\_\_\_]]  
Carpet Pads[; G][; G, [\_\_\_\_]]  
Carpet Moldings[; G][; G, [\_\_\_\_]]  
Base[; 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. Submit manufacturer's catalog data for the following items:

- 1) Carpet Pads
- 2) Carpet Moldings
- 3) Base

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. Include percentage of recycled material in the report.

#### SD-04 Samples

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

a. Carpet: [Two] [\_\_\_\_] "Production Quality" samples 450 by 450 mm 18 by 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[; G][; G, [\_\_\_\_\_]]

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. Certificates, showing conformance with the referenced standards contained in this section, for the following:

- 1) Carpet Pads
- 2) Carpet Moldings
- 3) Base

## 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

Provide the Carpet and Rug Institute (CRI) Indoor Air Quality (IAQ) label for carpet and adhesives 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. Procure carpet in accordance with 40 CFR 247, and where possible, purchased locally to reduce emissions of fossil fuels from transporting. Conform to EPA requirements in accordance with Section 01 62 35 RECYCLED / RECOVERED MATERIALS for carpet.

### 1.4 DELIVERY AND STORAGE

Deliver materials 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. Store materials in a clean, dry, well ventilated area, protected from damage and soiling, and maintain at a temperature above 16 degrees C 60 degrees F for 2 days prior to installation.



## 1.5 ENVIRONMENTAL REQUIREMENTS

Maintain areas in which carpeting is to be installed at a temperature above 16 degrees C 60 degrees F for 2 days before installation, during installation, and for 2 days after installation. Maintain a minimum temperature of 13 degrees C 55 degrees F thereafter for the duration of the contract. Do not permit traffic or movement of furniture or equipment in carpeted area for 24 hours after installation. Complete other work which would damage the carpet prior to installation of carpet.

## 1.6 WARRANTY

Provide 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

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

## PART 2 PRODUCTS

### 2.1 CARPET

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NOTE: Color, texture, and pattern must be in accordance with Section 09 06 90 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 09 06 90 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.

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Furnish first quality carpet; free of visual blemishes, streaks, poorly dyed areas, fuzzing of pile yarn, spots or stains, and other physical and manufacturing defects. Provide carpet materials and treatments as reasonably nonallergenic and free of other recognized health hazards. Provide a static control construction on all grade carpets which gives adequate durability and performance. Provide 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.

### 2.1.1.1 Polyester Carpet Face Fibers

For informational purposes, a list of sources known to recycle polyester carpet face fibers is provided below. Note that the Contractor is not limited to these sources. An approved product from other sources may be submitted for the Government's approval during construction. Acceptable manufacturer's include, but are not limited to:

Bretlin, Inc.  
LaFayette, Georgia

Central Vermont Carpet  
Barre, Vermont

Environmental Building Supplies  
Portland, Oregon

Image Industries  
Amuchee, Georgia

Martin Color-FI  
Edgefield, South Carolina

Talisman Mills, Inc.  
Mequon, Wisconsin

### 2.1.1.2 Physical Characteristics

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

\*\*\*\*\*  
**NOTE: Delete subparagraphs not required or  
applicable**  
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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 by 450] [500 by 500] [600 by 600] mm square [18  
by 18] [20 by 20] [24 by 24] inch square with 0.15 percent  
growth/shrink rate in accordance with ISO 2551.] [Entrance [450  
by 450] [\_\_\_\_\_] mm [18 by 18] [\_\_\_\_\_] inch 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 percent branded (federally registered  
trademark) [nylon continuous filament] [nylon staple] [[wool]  
[wool blend] with Wool Bureau certification] [polyethylene  
terephthalate (PET) 100 percent recycled fiber] [polypropylene]  
[\_\_\_\_\_].
- e. Yarn Ply: Minimum [2] [\_\_\_\_\_].

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

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**NOTE: Yarn weight must meet project criteria and requirements.**  
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- i. Pile Density: Minimum [\_\_\_\_\_].
- j. Dye Method: [Solution dyed] [Stock dyed] [Yarn (or Skein) dyed] [Piece dyed] [Space dye] [Continuous dye].
- k. Backing Materials: Provide primary backing materials like [those customarily used and accepted by the trade for each type of carpet] [polypropylene] [synthetic material] [synthetic material] [rubber] [\_\_\_\_\_]. Provide secondary backing to suit project requirements of those customarily used and accepted by the trade for each type of carpet, except when a special unitary back designed for gluedown is needed.
- l. Attached Cushion: Provide an attached cushion [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]. Do not exceed the maximum ash content of 50 percent when tested in accordance with ASTM D 297. Pass the accelerated aging test in accordance with [ASTM D 3676] [ASTM D 1667] for the cushion.

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

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

Comply with the following carpet requirements:

- 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 by 450] [500 by 500] [600 by 600] mm square [18 by 18] [20 by 20] [24 by 24] inches square with 0.15 percent growth/shrink rate in accordance with ISO 2551.] [Entrance [450 by 450] [\_\_\_\_\_] mm [18 by 18] [\_\_\_\_\_] inch 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 percent branded (federally registered trademark) [nylon continuous filament] [nylon staple] [[wool] [wool blend] with Wool Bureau certification] [polyethylene terephthalate (PET) 100 percent recycled fiber] [polypropylene] [\_\_\_\_\_].
- e. Yarn Ply: Minimum [2] [\_\_\_\_\_] in accordance with ASTM D 1423.
- f. Gauge or Pitch: Minimum [\_\_\_\_\_] mm inch in accordance with ASTM D 5793.
- g. Stitches or Rows/Wires: Minimum [\_\_\_\_\_] per square meter per square inch.
- h. Finished Pile Yarn Weight: Minimum [\_\_\_\_\_] kg/square meter ounces per square yard. This does not include weight of backings. Determine weight in accordance with ASTM D 5848.
- i. Pile Density: Minimum [\_\_\_\_\_].
- j. Dye Method: [Solution dyed] [Stock dyed] [Yarn (or Skein) dyed] [Piece dyed] [Space dye] [Continuous dye].
- k. Backing Materials: Provide primary backing materials like [those customarily used and accepted by the trade for each type of carpet] [polypropylene] [synthetic material] [synthetic material] [rubber] [\_\_\_\_\_]. Provide secondary backing to suit project requirements of those customarily used and accepted by the trade for each type of carpet, except when a special unitary back designed for gluedown is needed.
- l. Attached Cushion: Provide an attached cushion [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]. Do not exceed the maximum ash content of 50 percent when tested in accordance with ASTM D 297. Pass accelerated aging test in accordance with [ASTM D 3676] [ASTM D 1667] for the cushion.

- m. 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].

2.1.2.3 [BROADLOOM CARPET] [MODULAR TILE CARPET] [ENTRANCE CARPET] [C] [\_\_\_\_\_]

Comply with the following carpet requirements:

- 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 by 450] [500 by 500] [600 by 600] mm square [18 by 18] [20 by 20] [24 by 24] inch square with 0.15 percent growth/shrink rate in accordance with ISO 2551.] [Entrance [450 by 450] [\_\_\_\_\_] mm [18 by 18] [\_\_\_\_\_] inch 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 percent branded (federally registered trademark) [nylon continuous filament] [nylon staple] [[wool] [wool blend] with Wool Bureau certification] [polyethylene terephthalate (PET) 100 percent recycled fiber] [polypropylene] [\_\_\_\_\_].
- e. Yarn Ply: Minimum [2] [\_\_\_\_\_] in accordance with ASTM D 1423.
- f. Gauge or Pitch: Minimum [\_\_\_\_\_] mm inch in accordance with ASTM D 5793.
- g. Stitches or Rows/Wires: Minimum [\_\_\_\_\_] per square meter square inch.
- h. Finished Pile Yarn Weight: Minimum [\_\_\_\_\_] kg per square meter ounces per square yard. This does not include weight of backings. Determine weight in accordance with ASTM D 5848.
- i. Pile Density: Minimum [\_\_\_\_\_].
- j. Dye Method: [Solution dyed] [Stock dyed] [Yarn (or Skein) dyed] [Piece dyed] [Space dye] [Continuous dye].
- k. Backing Materials: Provide primary backing materials of [those customarily used and accepted by the trade for each type of carpet] [polypropylene] [synthetic material] [synthetic material] [rubber] [\_\_\_\_\_]. Provide secondary backing to suit project requirements of those customarily used and accepted by the trade for each type of carpet, except when a special unitary back

designed for gluedown is needed.

1. Attached Cushion: Provide an attached cushion [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]. Do not exceed the maximum ash content of 50 percent when tested in accordance with ASTM D 297. Pass the cushion accelerated aging test in accordance with [ASTM D 3676] [ASTM D 1667] for the cushion.
- m. 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

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**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

<i>End-Use Application</i>	<i>Minimum Use Classification</i>
<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
<b>CLUBS</b>	
All areas	Severe
<b>HOUSING</b>	
Single Family	
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, 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, pharmacy,ancillary zone only)	Severe
Corridors,dining areas,elevators	Severe
Entrance areas	
(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 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
<i>Bachelor Enlisted Quarters</i>	
Sleeping/living rooms	Severe

Public areas (lobbies,lounges)	Severe
Dining Facilities	Severe
Offices	Heavy
<b>MUSIC OR DRAMA CENTERS</b>	
All areas	Severe
<b>OFFICES (including administrative areas)</b>	
Closed private offices	Heavy
Corridors	Severe
Conference rooms	Heavy
Open plan office (circulation areas)	Severe
Open plan office (work areas)	Heavy
<b>RESTAURANTS (excluding work spaces)</b>	
Dining areas	Severe
Cafeteria-type dining areas,enlisted canteens	Severe
Office areas	Heavy
<b>RETAIL STORES</b>	
Offices	Heavy
Restaurant and cafeteria dining areas	Severe
Sales areas	Severe
<b>THEATERS</b>	
All areas	Severe
<b>TRAINING BUILDINGS/EDUCATIONAL FACILITIES (including dependents' schools)</b>	
Classrooms,corridors	Severe
Staff/administration offices	Heavy
<b>YOUTH CENTERS</b>	
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): Test carpet with the minimum [2.5-3.0 (Moderate)] [3.0-3.5 (Heavy)] [3.5-4.0 (Severe)] ARR 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: Provide static control to permanently regulate 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: Comply carpet with 16 CFR 1630. Provide carpet in corridors and exits with 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: Provide tuft bind force required to pull a tuft or loop free from carpet backing with a minimum [40 N 10 pound average force for loop pile] [18 N 3 pound average force for cut pile].

e. Colorfastness to Crocking: Comply dry and wet crocking with AATCC 165 and with a Class 4 minimum rating on the AATCC Color Transference Chart for all colors.

f. Colorfastness to Light: Comply colorfastness to light with AATCC 16, Test Option E "Water-Cooled Xenon-Arc Lamp, Continuous Light" and with 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: Comply colorfastness to water with AATCC 107 and with a minimum 4.0 gray scale rating and a minimum 4.0 transfer scale rating.

h. Delamination Strength: Provide delamination strength for tufted carpet with a secondary back of minimum 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 CARPET PADS

\*\*\*\*\*

NOTE: Carpet cushions is one of the materials listed in the EPA's Comprehensive Procurement Guidelines (CPG) (<http://www.epa.gov/cpg/>). If the Architect/Engineer determines that use of certain materials meeting the CPG content standards and guidelines would result in inadequate competition, do not meet quality/ performance specifications, are available at an unreasonable price or are not available within a reasonable time frame, the Architect/Engineer may submit written justification and supporting documentation for not procuring designated items containing recovered material. Written justification may be submitted on a Request for Waiver Form to the NASA Environmental Program Manager for approval. The Request for Waiver Form is located in the NASA Procedures and Guidelines (NPG 8830.1) (<http://nodis3.gsfc.nasa.gov>).

\*\*\*\*\*

Provide a sponge rubber pad, 1800-gram 64-ounce flame spread in accordance with NFPA 253.

### 2.3.1 Carpet Cushion

For informational purposes, a list of sources known to recycle carpet cushions is provided below. Note that the Contractor is not limited to these sources. An approved product from other sources may be submitted for the Government's approval during construction. Acceptable manufacturer's include, but are not limited to:

Collins & Aikman Floor Coverings  
Dalton, Georgia

Chris Craft International Products  
Waterford, New York

Carpenter Company  
Richmond, Virginia

Dixie Manufacturing Corporation  
Norfolk, Virginia

### 2.3.2 Recycling Requirements

Provide [bonded polyurethane carpet cushions be made from 15-50 percent of postconsumer content and 15-50 percent] [rubber carpet cushions with recycled tire rubber and be made from 60-90 percent of postconsumer content and 60-90 percent] [synthetic carpet cushions with recycled carpet fabrication scrap and be made from 100 percent] of total recovered materials content.

### 2.4 CARPET MOLDINGS

Install carpet moldings, either vinyl or aluminum, where floor covering material changes or carpet edge does not abut a vertical surface.

### 2.5 BASE

Conform to **FS SS-W-40** for vinyl base. Provide minimum overall thickness of base not less than **3 mm 0.125 inch**, color as selected from manufacturer's full line. [Straight] [Cove] style, **[100] [150] mm [4] [6] inch** high. Furnish base in rolls not less than **30 meter 96 feet** long. Premold corners with wings not less than **50 mm 2 inch** long.

### 2.6 ADHESIVES AND CONCRETE PRIMER

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

### 2.7 MOLDING

Provide a [hammered surface aluminum molding, pinless clamp-down type, designed for the type of carpet being installed. Provide [natural color anodized] [prefinished color [\_\_\_\_]] finish. Provide a floor flange of a minimum **38 mm 1-1/2 inch** wide and face a minimum **16 mm 5/8 inch** wide.] [heavy-duty vinyl molding designed for the type of carpet being installed. Provide floor flange of a minimum **50 mm 2 inches** wide. Provide [\_\_\_\_] color].

### 2.8 TAPE

Provide tape for seams as recommended by the carpet manufacturer for the type of seam used in installation.

### 2.9 COLOR, TEXTURE, AND PATTERN

Provide color, texture, and pattern [in accordance with Section **09 06 90 COLOR SCHEDULE**] [\_\_\_\_].

## PART 3 EXECUTION

### 3.1 SURFACE PREPARATION

Do not install carpet on surfaces that are unsuitable and will prevent a proper installation. Repair holes, cracks, depressions, or rough areas using material recommended by the carpet or adhesive manufacturer. Free floor of any foreign materials and sweep clean. Before beginning work, test subfloor with glue and carpet to determine "open time" and bond.

### 3.2 MOISTURE AND ALKALINITY TESTS

Test concrete slab shall 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.**  
\*\*\*\*\*

Do not commence installation of the carpeting shall until concrete substrate is at least 90 days old. Prepare the concrete surfaces in accordance with instructions of the carpet manufacturer. Match carpet, when required, to a type of concrete sealer.

### 3.4 INSTALLATION

Perform all work by installers who are CFI certified (International Certified Floorcovering Installer Association), or manufacturer's approved installers. Conduct installation in accordance with the manufacturer's printed instructions and CRI 104. Protect edges of carpet meeting hard surface flooring with molding and install in accordance with the molding manufacturer's printed instructions. Follow ventilation, personal protection, and other safety precautions recommended by the adhesive manufacturer. Continue ventilation for at least 72 hours following installation.

#### 3.4.1 Broadloom Installation

Install broadloom carpet [direct glue down] [pre-applied adhesive glue down] and smooth, uniform, and secure, with a minimum of seams. 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. Install breadths parallel, with carpet pile in the same direction. Match patterns accurately. Neatly cut and fit cutouts, at door jambs, 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. 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 1.8 m 6 feet.

#### 3.4.2 Modular Tile Installation

Install modular tiles with [permanent vinyl-compatible] [release] adhesive and snugly jointed together. Lay tiles in [the same direction] [an

alternating pattern] with accessibility to the subfloor where required.

#### 3.4.3 Entrance Carpet Installation

Install [tiles with [[permanent vinyl-compatible]] [[release]] adhesive and shall be snugly jointed together. Lay tiles in [[the same direction]] [[an alternating pattern]]. [Install roll goods [[direct glue down]] [pre-applied adhesive glue down]] and smooth, uniform, and secure, with a minimum of seams. Prepare regular, unnoticeable, and treated seams with a seam adhesive. Install breadths parallel, with carpet pile in the same direction. Match patterns accurately. Neatly cut and fit, securely, cutouts at door jambs, columns, and ducts. Locate seams at doorways parallel to and centered directly under doors. Do not make seams perpendicular to doors or at pivot points.] [Cut mats to specified size and finish them 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, remove debris, scraps, and other foreign matter. Remove soiled spots and adhesive from the face of the carpet with appropriate spot remover. Cut off and remove protruding face yarn. Vacuum carpet clean.

#### 3.5.2 Protection

Protect the installed carpet from soiling and damage with heavy, reinforced, nonstaining kraft paper, plywood, or hardboard sheets. Lap and secure edges of kraft paper protection to provide a continuous cover. Restrict traffic for at least 48 hours. Remove protective covering when directed by the Contracting Officer.

#### 3.6 REMNANTS

Provide 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. Remove non-retained scraps from site and recycle appropriately.

-- End of Section --