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USACE / NAVFAC / AFCEA / NASA UFGS-12 48 13.13 (May 2009)  
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Preparing Activity: NASA Superseding  
UFGS-12 48 13.13 (July 2007)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2009

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05/09

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### SECTION 12 48 13.13

#### ENTRANCE FLOOR MATS 05/09

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NOTE: This specification covers the requirements for entrance and floor mats for surface installation, including resilient link mats, rubber-vinyl mats, rubber-tire mats, carpet-type mats, loop-filament mats, nylon-reinforced mats, coconut brush mats, and custom graphics.

Drawings must indicate location, size, and shape of mats.

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

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).

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## PART 1 GENERAL

### 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.

ASTM INTERNATIONAL (ASTM)

ASTM C 501	(1984; R 2002) Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser
ASTM D 2047	(2004) Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine
ASTM D 2240	(2005) Standard Test Method for Rubber Property - Durometer Hardness
ASTM E 648	(2009a) Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
ASTM F 150	(2006) Electrical Resistance of Conductive and Static Dissipative Resilient Flooring
ASTM F 1869	(2004) Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

CARPET AND RUG INSTITUTE (CRI)

CRI 104	(2002) Standard for Installation Specification of Commercial Carpet
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U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247	Comprehensive Procurement Guideline for Products Containing Recovered Materials
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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.][for 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-03 Product Data

Submit Manufacturer's Data and indicate percentage of **recycled material content** in protective flooring materials **Entrance and Floor Mats** to verify affirmative procurement compliance.

Submit total weight and volume quantities of **protective flooring materials** with recycle materials content.

#### SD-04 Samples

Submit **manufacturer's standard color charts** for **Entrance and Floor Mats** showing the manufacturer's recommended color and finish selections.

Submit one sample **300 mm 12 inch** square, assembled sections of floor mat to show corners, intersections, and other details of construction. Provide any graphics in drawing for approval.

### 1.3 QUALITY ASSURANCE

Comply with Section 4.5 in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility

Guidelines for Buildings and Facilities (ADAAG) for installed entrance and floor mats.

Submit documentation of testing and compliance with the following standards:

- a. Rubber based products: ASTM C 501, ASTM D 2047, ASTM D 2240.
- b. Carpet based products: ASTM E 648, ASTM F 150, CRI 104.
- c. Other materials: ASTM C 501, ASTM D 2047, ASTM D 2240, ASTM E 648, ASTM F 150, ASTM F 1869.

## PART 2 PRODUCTS

### 2.1 AFFIRMATIVE PROCUREMENT

The Environmental Protection Agency (EPA) has designated certain items which must contain a specified percent range of recovered or recycled materials. EPA designated products specified in this contract comply with the stated policy and with the EPA guidelines. Make all reasonable efforts to use recycled and recovered materials in providing the EPA designated products and in otherwise utilizing recycled and recovered materials in the execution of the work. These items, when incorporated into the work under this contract, are to contain at least the specified percentage of recycled or recovered materials unless adequate justification (non-availability) for non-use is provided, per 40 CFR 247.

Mats are listed in the EPA's Comprehensive Procurement Guidelines (CPG ) at <http://www.epa.gov/epaoswer/non-hw/procure/products/mats.htm>.

EPA's recommended Recovered Materials Content Levels for Mats.

Product	Material	Percent Of Post Consumer Materials	Percent Of Total Recovered Materials
Mats	Rubber	75 - 100	85 - 100
	Plastic	10 - 100	100
	Rubber/ Plastic composite	100	100

The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, or coloring agents. EPA's recommendation does not preclude procuring agencies from purchasing mats manufactured from another material. It simply recommends that procuring agencies, when purchasing mats made from rubber or plastic, purchase these items made from recovered materials.

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**NOTE: 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 to [Contractor] [AF Contracting Officer] a written justification and supporting documentation for not**

**procuring designated items containing recovered  
material using the Recovered Materials Determination  
Form.**

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For informational purposes, a list of known sources for mats using recycled material is provided in the EPA/CPG Supplier database at [http://www.ergweb2.com/cpg4review/user/cpg\\_search.cfm](http://www.ergweb2.com/cpg4review/user/cpg_search.cfm).

Note that the Contractor is not limited to these sources. A product meeting CPG recycle requirements from other sources may be submitted for the Government's approval.

Submit **recycled material content** data for **protective flooring materials** indicating compliance with affirmative procurement.

Submit total weight and volume quantities of **protective flooring materials** with recycle material.

## 2.2 TYPE OF MATS

### 2.2.1 Entrance and Floor Mats

Furnish the following type of [entrance mat] [floor mat]:

#### [2.2.1.1 Resilient Link Mats

- a. No-hole, link-mat type designed for reversibility, squares or strips of resilient flame-retardant, virgin polyvinylchloride, with wiping blades on each side.
- b. Framework: **2.3 millimeter 13-gage**, double-galvanized, spring-steel wire.
- c. Nosing: Beveled for surface installation extending out approximately **50 millimeter 2 inch** around the mat perimeter.
- d. Color of Resilient Link Mats - [\_\_\_\_\_].
- e. Size of Resilient Link Mats - [\_\_\_\_\_].

#### ][2.2.1.2 [Rubber] [or] [Vinyl] Mats

- a. [ **6 mm 1/4 inch**][ **9.5 mm 3/8 inch**][ **11 mm 7/16 inch**][ **13 mm 1/2 inch**]  
[\_\_\_\_\_] thick mats
- b. [Square edges for recessed installations] [Beveled edges for surface applications] and with [solid sheet (no perforations) style]  
[perforated style, **6 mm 1/4 inch** diameter on standard spacing]  
[perforated style, **5 mm by 19 mm 3/16 inch by 3/4 inch** on standard spacing], [standard pyramid design with knob back] [standard wide-wale corrugated] [hi-rib, narrow-wale corrugated] top profile, and [low-rib, narrow-wale corrugated] [standard knob-base] [flat-base] bottom surface.
- c. Nonslip, of a prime quality rubber compound free of calendaring and curing defects, and resistant to weather aging and ozone in normal concentrations.
- d. Color of [Rubber] [or] [Vinyl] Mats - [\_\_\_\_\_]

- e. Size of [Rubber] [or] [Vinyl] Mats - [\_\_\_\_\_]

#### ][2.2.1.3 Cocoa Mats

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NOTE: Cocoa Matting is constructed from coconut husk fibers secured in heavy-duty vinyl backing. This process makes cocoa mats ideal scraper mats, which effectively remove dirt, debris and moisture from shoes. Natural color available in 1/2 inch, 5/8 inch, 3/4 inch, 1 inch and 1-1/4 inch thicknesses. All other colors available only in the 3/4 inch thickness. Ideal for moderate to heavy-traffic, indoor / outdoor areas.

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- a. Coconut brush mats made of quality coir yarn from coconut fibers, woven tightly together and securely bound around the perimeter with matching coir yarn rope.
- b. Top sheared to a thickness of approximately 40 millimeter 1-1/2 inch to give an even, flat brush appearance.
- c. Color of cocoa mats - [\_\_\_\_\_]
- d. Size of cocoa mats - [\_\_\_\_\_]

#### ][2.2.1.4 Recycled Rubber-Tire Mats

- a. Industrial type, rubber-tire fabric mats with uniform-size links a minimum of 16 millimeter 5/8 inch thick, and made from recycled selected truck and bus tires.
- b. Links woven in a herringbone design on galvanized spring-steel wire.
- c. Approximately 50 millimeter 2 inch wide beveled nosing for surface use.
- d. Size of Rubber-Tire Mats - [\_\_\_\_\_].

#### ][2.2.1.5 Carpet-Type Mats

- a. [Nylon] [Polypropylene] [Olefin] [Polyester] [\_\_\_\_\_] carpet.
- b. Bond carpet mats to 3 mm to 6 mm 1/8 inch to 1/4 inch thick flexible vinyl backing to form mats 9.5 mm or 11 mm 3/8 inch or 7/16 inch thick with non-raveling edges.
- c. Color of Carpet-Type Mats - [\_\_\_\_\_].
- d. Size of Carpet-Type Mats - [\_\_\_\_\_]

#### ][2.2.1.6 Loop Filament Mats

- a. [ 9.5 mm 3/8 inch][ 13 mm 1/2 inch] thick, with [solid vinyl sheet] [foam sheet].
- b. Backing with built-in chemical agents to reduce fungus and mildew.

c. Color of Loop Filament Mats - [\_\_\_\_\_].

d. Size of Loop Filament Mats - [\_\_\_\_\_].

#### ]2.2.1.7 Nylon-Reinforced Mats

a. 13 mm 1/2 inch wide by [ 11 mm 7/16 inch]  
[ 17.4 mm 11/16 inch] thick, laminated rubber strips alternating with  
14 mm 9/16 inch wide profile shapes assembled on 2.7 mm 0.106 inch  
diameter, galvanized steel wire, 38 mm 1-1/2 inch on center

b. Fibered surface [buffed on rubber strips for interior] [un-buffed on  
rubber strips for exterior] installations.

c. Color of Nylon-Reinforced Mats - [\_\_\_\_\_]

d. Size of Nylon-Reinforced Mats - [\_\_\_\_\_]

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**NOTE: Use the following paragraph for specialized**  
**mats, such as clean room sticky mats, sterile room**  
**anti-fatigue mats, anti-microbial mats, kitchen**  
**mats, walk-in cooler or freezer non-slip mats, etc..**  
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#### ]2.3 GRAPHICS

Clearly illustrate details in drawing of graphics [emblem] [logo] [design]  
along with assembled section of floor mat and manufacturer's standard color  
charts.

### PART 3 EXECUTION

#### 3.1 DELIVERY OF MATERIALS

Deliver materials to the project site in their original packages or  
containers bearing labels clearly identifying the manufacturer, brand name,  
and quality or grade.

Store materials in their original unbroken packages or containers in the  
area in which they will be installed. Unwrap, inspect, and place mats at  
indicated location.

Remove and dispose all excess packing materials.

#### 3.2 EXAMINATION

Comply with manufacture's requirements of substrates and floor conditions  
for location, sizes, and other conditions affecting installation of floor  
mats and frames.

#### 3.3 INSTALLATION

Install only in satisfactory conditions. Comply with manufacturer's  
written printed instructions for recessed mat frames. Set mat tops at  
height recommended by manufacturer for most effective cleaning action.  
Coordinate top of mat surfaces with bottom of doors that swing across mats  
to provide clearance between doors and mat.



Install grout and fill around frames and, if required to set mat tops at proper elevations, in recesses under mats. Finish grout and fill smooth and level. Install surface-type units to comply with manufacturer's written printed instructions at locations indicated. Coordinate with other trades, entrance locations and traffic patterns.

-- End of Section --