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USACE / NAVFAC / AFCEA / NASA UFGS-09 65 00 (July 2006)  
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Preparing Activity: USACE Superseding  
UFGS-09 65 00 (April 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated June 15, 2006

Latest change indicated by CHG tags

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### SECTION 09 65 00

#### RESILIENT FLOORING 07/06

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NOTE: This guide specification covers the requirements for resilient floor coverings, base materials, and accessory items.

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 vinyl composition tile, sheet vinyl flooring, rubber tile, rubber sheet flooring, solid vinyl tile, linoleum sheet flooring, linoleum tile, stair treads, risers, stringers, wall base, integral cove base, and feature strip. 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: Resilient flooring may be used over wood subfloor provided that the subfloor underside is well ventilated and the installation conforms to the manufacturer's recommendations. Note that not all products are recommended for installation over panel

type underlayment.

Flooring such as nonslip tile and cork tile are not included in this specification; appropriate wording must be added when those tiles are required.

Show location of resilient flooring, including types, on the drawings.

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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.

### ASTM INTERNATIONAL (ASTM)

ASTM D 4078	(2002) Water Emulsion Floor Polish
ASTM E 648	(2004) Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
ASTM F 1066	(2004) Vinyl Composition Floor Tile
ASTM F 1303	(2004) Sheet Vinyl Floor Covering with Backing
ASTM F 1344	(2004) Rubber Floor Tile
ASTM F 1482	(2004) Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring
ASTM F 1700	(2004) Solid Vinyl Floor Tile
ASTM F 1859	(2004) Rubber Sheet Floor Covering Without

	Backing
ASTM F 1860	(2004) Rubber Sheet Floor Covering With Backing
ASTM F 1861	(2002) Resilient Wall Base
ASTM F 1869	(2004) Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
ASTM F 1913	(2004) Vinyl Sheet Floor Covering Without Backing
ASTM F 2034	(2003) Sheet Linoleum Floor Covering
ASTM F 2169	(2002) Resilient Stair Treads
ASTM F 2170	(2002) Determining Relative Humidity in Concrete Floor Slabs in situ Probes
ASTM F 2195	(2003) Linoleum Floor Tile
ASTM F 710	(2003) Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

#### SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD)

SCAQMD Rule No. 1168 (2003) Adhesive and Sealant Applications

### 1.2 FIRE RESISTANCE REQUIREMENTS

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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 UFC 3-600-01 and 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.

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Provide a minimum average critical radiant flux of [0.22] [0.45] watts per square centimeter for flooring in corridors and exits when tested in accordance with ASTM E 648.

### 1.3 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

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NOTE: Drawings are required for projects with floor patterns.

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Resilient Flooring and Accessories[; G][; G, [\_\_\_\_]]

Scaled drawings indicating patterns (including location of patterns and colors) and dimensions.

#### SD-03 Product Data

Resilient Flooring and Accessories[; G][; G, [\_\_\_\_]]

Manufacturer's descriptive data.

#### Adhesives

Manufacturer's descriptive data, documentation stating physical characteristics, and mildew and germicidal characteristics. Provide Material Safety Data Sheets (MSDS) for all primers and adhesives to the Contracting Officer. Highlight VOC emissions.

#### SD-04 Samples

Resilient Flooring and Accessories[; G][; G, [\_\_\_\_]]

[Three] [\_\_\_\_] samples of each indicated color and type of flooring, base, mouldings, and accessories. Provide a minimum 60 by 100 mm 2-1/2 by 4 inch sample.

#### SD-06 Test Reports

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

Copy of test reports for moisture and alkalinity content of concrete slab, and bond test stating date of test, person conducting the test, and the area tested.

#### SD-08 Manufacturer's Instructions

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

Manufacturer's printed installation instructions for all flooring materials and accessories, including preparation of substrate, seaming techniques, and recommended adhesives.

#### SD-10 Operation and Maintenance Data

Resilient Flooring and Accessories[; G][; G, [\_\_\_\_]]

Data Package 1 in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

### 1.4 DELIVERY AND STORAGE

Deliver materials to the building site in original unopened containers bearing the manufacturer's name, style name, pattern color name and number, production run, project identification, and handling instructions. Store materials in a clean dry area with ambient air temperature maintained above 20 degrees C 68 degrees F and below 30 degrees C 85 degrees F, stacked according to manufacturer's recommendations. Protect materials from the direct flow of heat from hot-air registers, radiators and other heating fixtures and appliances. Do not open containers until materials are to be used, except for verification inspection.

### 1.5 ENVIRONMENTAL REQUIREMENTS

Maintain areas to receive resilient flooring at a temperature above 20 degrees C 68 degrees F and below 30 degrees C 85 degrees F for 2 days before application, during application and 2 days after application, unless otherwise directed by the flooring manufacturer for the flooring being

installed. Maintain a minimum temperature of 13 degrees C 55 degrees F thereafter. Provide adequate ventilation to remove moisture from area and to comply with regulations limiting concentrations of hazardous vapors.

#### 1.6 SCHEDULING

Schedule resilient flooring application after the completion of other work which would damage the finished surface of the flooring.

#### 1.7 WARRANTY

Provide manufacturer's standard performance guarantees or warranties that extend beyond a one year period.

#### 1.8 EXTRA MATERIALS

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NOTE: To ensure matching flooring that may become damaged and require spot replacement, a supply of extra flooring of same types, colors and dye lot is recommended. Coordinate requirement for extra stock with customer; warehousing may not be available.  
\*\*\*\*\*

Furnish extra flooring material of each color and pattern at the rate of [[\_\_\_\_\_] [5] tiles for each 1000 tiles] [and] [[\_\_\_\_\_] [0.5] square meters [5] square feet for each 92 square meters 1000 square feet of sheet flooring] installed. Furnish extra wall base material composed of 6 m 20 linear feet of each type, color and pattern. Package all extra materials in original properly marked containers bearing the manufacturer's name, brand name, pattern color name and number, production run, and handling instructions. Provide extra materials from the same lot as those installed. Leave extra stock at the site in location assigned by Contracting Officer.

#### PART 2 PRODUCTS

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NOTE: Appropriate flooring material should be determined by:  
-Amount and type (foot, cart, wheelchair, etc.)  
of traffic  
-Abrasiveness of local soil conditions  
-Exposure to water, chemicals, grease, and burns  
-Exposure to in-use damage (cuts, tears, gouges)  
-Exposure to direct sunlight (fading potential)  
-Anticipated type of and frequency of maintenance  
-Cost of maintenance  
-Appearance expectations  
Verify proposed use of flooring with manufacturer's recommendations.

Sheet flooring should be considered for areas such as health care facilities due to the reduced amount of seams. Seam welded sheet flooring without backing provides a monolithic floor impervious to moisture penetration.

Specify special adhesive for resilient flooring



installed on floors with radiant heating, wet areas and areas with heavy rolling loads.

If more than one type of resilient flooring is required, a separate paragraph for each type will be used. Each type will be designated with a letter or number symbol. Use the same symbols to key flooring to locations on the drawings and in Section 09 06 90 COLOR SCHEDULE. Delete reference to type symbol if not used.

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## 2.1 VINYL COMPOSITION TILE [TYPE [A] [\_\_\_\_]]

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NOTE: The 3.2 mm (1/8 inch) thick vinyl composition tile (VCT) should be utilized in high traffic commercial type installations. The 2.4 mm (3/32-inch) thick VCT should be considered for light to medium duty areas such as rooms in BEQ's and BOQ's.

Solid color tiles are tiles with uniform color throughout. These are recommended for use as an accent only in small quantities and not as the floor field color. These tiles do not hide soiling well and show scratches easily.

Through pattern tiles are tiles with patterning distributed through the entire thickness.

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Conform to ASTM F 1066 for vinyl-composition tile, [Class 1, (solid color tile),] [Class 2, (through pattern tile),] [Composition 1, asbestos-free, [300] [\_\_\_\_] mm [12] [\_\_\_\_] inch square and [2.4] [3.2] mm [3/32] [1/8] inch thick]. Provide color and pattern uniformly distributed throughout the thickness of the tile.

## 2.2 SHEET VINYL FLOORING [TYPE [A] [\_\_\_\_]]

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NOTE: Not all sheet vinyl flooring is available with chemically bonded and/or heat welded seams. Research available products and coordinate with facility requirements.

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Conform to [ASTM F 1303 for sheet vinyl flooring, Type I, Grade 1, [Class A-non-asbestos formulated fibrous backing] [or] [Class B-nonfoamed plastic backing] (minimum wear layer thickness 0.5 mm 0.020 inch and minimum overall thickness 2 mm 0.080 inch) and a minimum [1800 mm 6 feet] [3660 mm 12 feet] wide.] [ASTM F 1303, Type II, Grade 1, without backing (minimum wear layer thickness 2 mm 0.080 inch and minimum overall thickness 2 mm 0.080 inch), and a minimum 1800 mm 6 feet wide. Extend color and pattern through the total thickness of the material.] [ASTM F 1303, Type II, Grade 1, [Class A non-asbestos formulated fibrous backing] [or] [Class B nonfoamed plastic backing] (minimum wear layer thickness 1.27 mm 0.050 inch and minimum overall thickness 2 mm 0.080 inch) and a minimum 1800 mm 6 feet wide. Extend color and pattern throughout the thickness of the wearlayer.]

[ASTM F 1913, (minimum wear layer thickness 1.9 mm 0.075 inch and minimum overall thickness 1.9 mm 0.075 inch) and a minimum 1800 mm 6 feet wide. Extend color and pattern through the total thickness of the material.] As required, provide welding rods as recommended by the manufacturer for heat welding of joints.

## 2.3 RUBBER TILE [TYPE [A] [\_\_\_\_\_]]

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NOTE: Rubber flooring provides slip resistance not usually found with other type floor tiles. Consider for areas such as stairwell landings and ramps. Rubber flooring has a cushioning quality that reduces leg weariness and fatigue.

Some rubber flooring is not resistant to oil and grease and can perform poorly against certain reagents and stain spills. Determine project needs, research available product and add verbiage to paragraph if rubber flooring needs to be resistant to oil and grease and perform against certain reagents and stain spills.

Research available sizes. Manufacturer's sizes vary and not all manufacturers offer all sizes.

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Conform to ASTM F 1344 for rubber tile [Class 1 homogeneous] [Class 2 layered], [Type A (solid color)] [Type B (through mottled)], [300] [450] [600] [900] [\_\_\_\_\_] mm [12] [18] [24] [36] [\_\_\_\_\_] inch square. Provide [smooth] [\_\_\_\_\_] [raised [round] [square] [diamond] surface studs with chamfered edges. Provide [high] [low]] stud profile. Provide [3.2] [\_\_\_\_\_] mm [0.125] [\_\_\_\_\_] inch overall thickness.

## 2.4 RUBBER SHEET FLOORING [TYPE [A] [\_\_\_\_\_]]

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NOTE: Rubber sheet flooring provides slip resistance not usually found with other type floor tiles. Consider for areas such as stairwell landings and ramps. Rubber flooring has a cushioning quality that reduces leg weariness and fatigue.

Some rubber flooring is not resistant to oil and grease and can perform poorly against certain reagents and stain spills. Determine project needs, research available product and add verbiage to paragraph if rubber flooring needs to be resistant to oil and grease and perform against certain reagents and stain spills.

The following thicknesses of rubber flooring are recommended for the traffic type shown: 2.0 mm (0.080 inch) thickness - low traffic; 2.5 mm (0.100 inch) thickness - medium traffic; 3 mm (0.118 inch) thickness or greater - heavy traffic.

Research available widths. Manufacturer's widths

vary and not all manufacturers offer all sizes.

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Conform to [ASTM F 1859 for rubber sheet flooring (flooring without backing), [Type I homogeneous] [Type II layered]] [or] [ASTM F 1860 (flooring with backing), [Type I homogeneous] [Type II layered]], [minimum] [1 m 36 inch] [\_\_\_\_\_] wide. Provide [smooth] [embossed] [\_\_\_\_\_] surface. Provide [2] [2.5] [3] [\_\_\_\_\_] mm [0.080] [0.100] [0.118] [\_\_\_\_\_] inch overall thickness.

## 2.5 SOLID VINYL TILE [TYPE [A] [\_\_\_\_\_] ]

Conform to ASTM F 1700 for solid vinyl tile [Class I monolithic (minimum wear layer thickness 3.2 mm 0.125 inch and minimum overall thickness 3.2 mm 0.125 inch) [Class III printed film (minimum wear layer thickness 0.50 mm 0.020 inch and minimum overall thickness 3.2 mm 0.125 inch)], Type [A (smooth)] [B (embossed)]. Provide [300] [400] [450] [600] [900] [\_\_\_\_\_] mm [12] [16] [18] [24] [36] [\_\_\_\_\_] inch square tile.

## 2.6 SHEET LINOLEUM [TYPE [A] [\_\_\_\_\_] ]

Conform to ASTM F 2034 for linoleum consisting of a homogeneous layer of a mixture of linoleum cement (binder in linoleum consisting of a mixture of linseed oil, pine rosin, fossil, or other resins or rosins, or an equivalent oxidized oleoresinous binder), cork and/or wood flour, mineral fillers, and pigments bonded to a jute backing. Provide a minimum 1800 mm 6 feet wide and overall thickness not less than [2.0 mm 0.080 inch] [2.5 mm 0.100 inch] [3.2 mm 0.125 inch] for linoleum. Provide welding rods as recommended by the manufacturer for heat welding of joints.

## 2.7 LINOLEUM TILE [TYPE [A] [\_\_\_\_\_] ]

Conform to ASTM F 2195 for linoleum tile consisting of a homogeneous layer of a mixture of linoleum cement (binder in linoleum consisting of a mixture of linseed oil, pine rosin, fossil, or other resins or rosins, or an equivalent oxidized oleoresinous binder), cork and/or wood flour, mineral fillers, and pigments bonded to a [jute] [\_\_\_\_\_] backing. Provide square tiles a minimum [450 mm 18 inch] [\_\_\_\_\_] square and overall thickness [2.5 mm 0.100 inch] [\_\_\_\_\_] minimum for linoleum tile.

## 2.8 WALL BASE

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NOTE: Job formed corners are recommended. The return on preformed corners is not always long enough to hold the piece in place and the corners can be knocked off during vacuuming and other cleaning operations.

Base is available in different lengths ranging from 1220 mm (4 feet) pieces to 30480 mm (100 feet) or 36576 mm (120 feet) rolls. Availability and roll lengths vary dependent on manufacturer. Identify required length if it impacts design intent. Some manufacturers of Type TS (vulcanized thermoset rubber) base offer only 1220 mm (4 feet) lengths and not roll goods.

\*\*\*\*\*

Conform to **ASTM F 1861** for wall base, [[Type TS (vulcanized thermoset rubber)] [or] [Type TP (thermoplastic rubber)]] [, or] [Type TV (thermoplastic vinyl)], [Style A (straight - installed with carpet)] [,] [and] [Style B (coved - installed with resilient flooring)] [,] [and] [Style C (butt toe cove installed with 3 mm 1/8 inch thick flooring)]. Provide [100] [150] mm [4] [6] inch high and a minimum 3.175 mm 1/8 inch thick wall base. Furnish [preformed] [job formed] corners in matching height, shape, and color.

## 2.9 INTEGRAL COVE BASE

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**NOTE:** Integral coves can be used in many situations in which sheet vinyl and linoleum flooring are used to enhance the sanitary capacity inherent in seamless construction.

Consider specifying corner protectors in high traffic areas and areas that may receive some abuse.

Corner protectors are preferred in naval installations.

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Extend integral coved base for [[sheet vinyl] [and] [sheet linoleum] flooring up the wall [100] [150] mm [4] [6] inch]. Provide a [vinyl] [or] [rubber] [clear anodized aluminum], [square] [round] cap strip and vinyl, rubber, or wood fillet strip with a minimum radius of 19 mm 3/4 inch for integral coved bases [at perimeter and fixed vertical interruptions to flooring] [as shown]. Provide integral cove of the same material as flooring. [Provide inside and outside corner protectors of [[\_\_\_\_]-colored anodized aluminum] [clear anodized aluminum] [or] [plastic] approved by flooring manufacturer.]

## 2.10 STAIR TREADS, RISERS, AND STRINGERS

Conform to **ASTM F 2169** for treads, risers, and stringers [[Type TS (vulcanized thermoset rubber)] [or] [Type TP (thermoplastic rubber)]] [, or] [Type TV (thermoplastic vinyl)]. Conform to **ASTM F 2169** for surface of treads [Class 1 smooth] [[Class 2 raised [round] [square] [diamond] stud] [ribbed] pattern] [and have [Group 1 abrasive non-slip strip] [Group 2 strip for visually impaired of contrasting [\_\_\_\_] color of [same] [abrasive] material]]. Provide [square] [or] [round] nosing. Provide either a one piece nosing/tread/riser or a two piece nosing/tread design with a matching coved riser.

## 2.11 FEATURE STRIP

Provide feature strips with [vinyl composition tile and conform to **ASTM F 1066**, [Class 1, (solid color tile),] [rubber tile and conform to **ASTM F 1344** [Class 1 homogeneous]] [\_\_\_\_], and be [25 mm 1 inch] [50 mm 2 inch] [\_\_\_\_] wide, and of thickness to match the flooring.

## 2.12 MOULDING

Provide tapered mouldings of [[vinyl] [or] [rubber]] [[\_\_\_\_]-colored anodized aluminum] [clear anodized aluminum] and types as recommended by flooring manufacturer for both edges and transitions of flooring materials specified. Provide vertical lip on moulding of maximum 6 mm 1/4 inch.

Provide bevel change in level between 6 and 13 mm 1/4 and 1/2 inch with a slope no greater than 1:2.

#### 2.13 ADHESIVES

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NOTE: Conformance with South Coast Air Quality  
Management District (SCAQMD) Rule No. 1168 as noted  
complies with LEED and SPiRit requirements.  
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Provide adhesives for flooring, base and accessories as recommended by the manufacturer and comply with local indoor air quality standards.[ VOC content must be less than the current VOC content limits of SCAQMD Rule No. 1168.]

#### 2.14 SURFACE PREPARATION MATERIALS

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NOTE: Particleboard is not recommended for use as  
an underlayment. Panel type underlayments, such as  
plywood and hardboard, are specified in Section 06  
10 00 ROUGH CARPENTRY. Coordinate underlayments  
requirements with the ROUGH CARPENTRY specifications.  
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Provide surface preparation materials, such as panel type underlayment, lining felt, and floor crack fillers as recommended by the flooring manufacturer for the subfloor conditions. Comply with ASTM F 1482 for panel type underlayment products.

#### 2.15 POLISH/FINISH

Furnish polish as recommended by the manufacturer and conform to ASTM D 4078.

#### 2.16 CAULKING AND SEALANTS

Furnish caulking and sealants in accordance with Section 07 92 00 JOINT SEALANTS.

#### 2.17 MANUFACTURER'S COLOR, PATTERN AND TEXTURE

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NOTE: Editing of color reference sentence(s) shall  
be coordinated with the Government. Generally the  
Section 09 06 90 COLOR SCHEDULE or drawings are used  
when the project is designed by an Architect or  
Interior designer. Color shall be selected from  
manufacturer's standard colors or identified in this  
specification only when the project has minimal  
finishes.

When the government directs that color be located in  
the drawings, a note will be added that states:  
"Where color is shown as being specific to one  
manufacturer, an equivalent color by another  
manufacturer may be submitted for approval.  
Manufacturers and materials specified are not  
intended to limit the selection of equal colors from

other manufacturers. The word "color" as used herein includes surface color and pattern."

When more than one type, pattern or color is specified identify location.

When a manufacturer's name, stock number, pattern, and color is specified for color, be certain that the product conforms to the specification, as edited.

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Provide color, pattern and texture for resilient flooring and accessories [in accordance with Section 09 06 90 COLOR SCHEDULE] [as indicated on the drawings] [selected from manufacturer's standard colors] [[\_\_\_\_\_]. Color listed is not intended to limit the selection of equal colors from other manufacturers]. [ Provide floor patterns as specified on the [drawings Sheet No. [\_\_\_\_\_]] [\_\_\_\_\_].] Provide flooring in any one continuous area or replacement of damaged flooring in continuous area from same production run with same shade and pattern.

### PART 3 EXECUTION

#### 3.1 EXAMINATION/VERIFICATION OF CONDITIONS

Examine and verify that site conditions are in agreement with the design package. Report all conditions that will prevent a proper installation. Do not take any corrective action without written permission from the Government. Work will proceed only when conditions have been corrected and accepted by the installer.

#### 3.2 SURFACE PREPARATION

Provide a smooth, true, level plane for surface preparation of the flooring, except where indicated as sloped. Flatten floor to within 4.75 in 3048 mm 3/16 inch in 10 feet. Prepare subfloor in accordance with flooring manufacturer's recommended instructions. Prepare the surfaces of lightweight concrete slabs (as defined by the flooring manufacturer) as recommended by the flooring manufacturer. Comply with ASTM F 710 for concrete subfloor preparation. Floor fills or toppings may be required as recommended by the flooring manufacturer. Install underlayments, when required by the flooring manufacturer, in accordance with manufacturer's recommended printed installation instructions. Comply with ASTM F 1482 for panel type underlayments. Before any work under this section is begun, correct all defects such as rough or scaling concrete, chalk and dust, cracks, low spots, high spots, and uneven surfaces. Repair all damaged portions of concrete slabs as recommended by the flooring manufacturer. Remove from the slabs concrete curing and sealer compounds, other than the type that does not adversely affect adhesion. Remove paint, varnish, oils, release agents, sealers, waxers, and adhesives, as required by the flooring product in accordance with manufacturer's printed installation instructions.

#### 3.3 MOISTURE, ALKALINITY AND BOND TESTS

Determine the suitability of the concrete subfloor for receiving the resilient flooring with regard to moisture content and pH level by moisture and alkalinity tests and comply with manufacturer's recommendations. Conduct moisture testing in accordance with ASTM F 1869 or ASTM F 2170, unless otherwise recommended by the flooring manufacturer. Conduct alkalinity testing as recommended by the flooring manufacturer. Determine

the compatibility of the resilient flooring adhesives to the concrete floors by a bond test in accordance with the flooring manufacturer's recommendations.

#### 3.4 PLACING VINYL-COMPOSITION, LINOLEUM AND SOLID VINYL TILES

Install tile flooring and accessories in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's directions. Keep tile lines and joints square, symmetrical, tight, and even. Keep each floor in true, level plane, except where slope is indicated. Vary edge width as necessary to maintain full-size tiles in the field, but no edge tile with less than one-half the field tile size, except where irregular shaped rooms make it impossible. Cut flooring to fit around all permanent fixtures, built-in furniture and cabinets, pipes, and outlets. Cut, fit, and scribe edge tile to walls and partitions after field flooring has been applied.

#### 3.5 PLACING SHEET VINYL FLOORING

Install sheet vinyl flooring and accessories in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions. Provide square, symmetrical, tight, and even flooring lines and joints. Keep each floor in true, level plane, except where slope is indicated. Cut flooring to fit around all permanent fixtures, built-in furniture and cabinets, pipes, and outlets. Cut, fit, and scribe flooring to walls and partitions after field flooring has been applied. Provide [seams and edges of sheet vinyl flooring [in rooms [\_\_\_\_]] [shown on the drawings] [chemically bonded] [or] [heat welded] in accordance with the manufacturer's written installation instructions. Finish joints flush, free from voids, recesses, and raised areas.] [Install flooring with an integral coved base.]

#### 3.6 PLACING SHEET LINOLEUM FLOORING

Install sheet linoleum flooring and accessories in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions. Provide square, symmetrical, tight, and even flooring lines and joints. Keep each floor in true, level plane, except where slope is indicated. Cut flooring to fit around all permanent fixtures, built-in furniture and cabinets, pipes, and outlets. Cut, fit, and scribe flooring to walls and partitions after field flooring has been applied. Cut seams by overlapping or underscribing as recommended by the manufacturer. Provide seams of sheet linoleum flooring [in rooms [\_\_\_\_]] [shown on the manufacturer's written installation instructions]. Finish joints flush, free from voids, recesses, and raised areas. [Install flooring with an integral coved base.]

#### 3.7 PLACING RUBBER TILE

Install rubber tile and accessories in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions. Provide square, symmetrical, tight, and even flooring lines and joints. Keep each floor in true, level plane, except where slope is indicated. Vary width of edge tiles as necessary to maintain full-size tiles, except where irregular-shaped rooms makes it impossible. Cut flooring to fit around, all permanent fixtures, built-in furniture and cabinets, pipes, and outlets. Cut, fit, and scribe flooring to walls and partitions after field flooring has been applied.

### 3.8 PLACING RUBBER SHEET FLOORING

Install rubber sheet flooring and accessories in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions. Provide square, symmetrical, tight, and even flooring lines and joints. Keep each floor in true, level plane, except where slope is indicated. Cut seams by overlapping or underscribing as recommended by the manufacturer. Cut flooring to fit around all permanent fixtures, built-in furniture and cabinets, pipes, and outlets. Cut, fit, and scribe flooring to walls and partitions after field flooring has been applied.

### 3.9 PLACING FEATURE STRIPS

Install feature strips in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions.

### 3.10 PLACING MOULDING

Provide moulding where flooring termination is higher than the adjacent finished flooring and at transitions between different flooring materials. When required, locate moulding under door centerline. Moulding is not required at doorways where thresholds are provided. [Secure moulding with adhesive as recommended by the manufacturer. Prepare and apply adhesives in accordance with manufacturer's printed directions.] [Anchor aluminum moulding to floor surfaces as recommended by the manufacturer.]

### 3.11 PLACING WALL BASE

Install wall base in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions. Tighten base joints and make even with adjacent resilient flooring. Fill voids along the top edge of base at masonry walls with caulk. Roll entire vertical surface of base with hand roller, and press toe of base with a straight piece of wood to ensure proper alignment. Avoid excess adhesive in corners.

### 3.12 PLACING STAIR TREADS, RISERS, AND STRINGERS

\*\*\*\*\*  
**NOTE: Installation of stringers can be labor intensive. Dependent on the project requirements consider other stringer finish alternatives, an example would be a painted stringer.**  
\*\*\*\*\*

Secure and install stair treads, risers, and stringers in accordance with manufacturer's printed installation instructions. Cover treads and risers to [the full width of the stairs] [the surface of the stairs to within 150 mm 6 inch of the edges]. Provide stairs wider than manufacturer's standard lengths with equal length pieces butted together to cover the treads. [Include stringer angles on both the wall and banister sides, and landing trim for installation.]

### 3.13 PLACING INTEGRAL COVED BASE

Install integral cove base. Form integral base by extending the flooring



material in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions. Form integral coved base by extending the flooring material [100] [150] [ ] mm [4] [6] [ ] inch onto the wall surface. Support cove by a filler. Provide a cap strip at the top of the base. Fill voids along the top edge of base at masonry walls with caulk.

### 3.14 CLEANING

\*\*\*\*\*  
NOTE: Some activities prefer no-wax maintenance;  
others prefer waxing. Pre-waxed flooring and  
flooring that does not require wax need not be waxed  
after installation if properly protected. Modify  
paragraph accordingly.  
\*\*\*\*\*

Immediately upon completion of installation of flooring in a room or an area, dry/clean the flooring and adjacent surfaces to remove all surplus adhesive. Clean flooring as recommended in accordance with manufacturer's printed maintenance instructions. No sooner than 5 days after installation, wash flooring with a nonalkaline cleaning solution, rinsed thoroughly with clear cold water, and, except for rubber flooring and stair treads, risers and stringers, vinyl and other flooring not requiring polish by manufacturer, given the number of coats of polish in accordance with manufacturer's written instructions. Clean and maintain all other flooring as recommended by the manufacturer.

### 3.15 PROTECTION

From the time of laying until acceptance, protect flooring from damage as recommended by the flooring manufacturer. Remove and replace flooring which becomes damaged, loose, broken, or curled and wall base which is not tight to wall or securely adhered.

-- End of Section --