



**WMU Design Guidelines Instructions:** These guidelines are to be used by the Design Professional to inform the design process and outline WMU-specific desires for University projects. Text appearing in blue indicates a WMU design guideline which must be met for all campus projects unless approved in writing by the University. Blue text that is struck out indicates products or practices that are **not** acceptable, and shall not be included unless similarly approved. Any text remaining in black is to be edited by the Design Professional as part of the normal specifications-writing process. Guidelines language shall be included in the project specifications and their intent incorporated into the drawings.

## SECTION 09 6513 - RESILIENT BASE AND ACCESSORIES

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Thermoset-rubber base.
2. Thermoplastic-rubber base.
- ~~3. Vinyl base.~~
4. Rubber stair accessories.
- ~~5. Vinyl stair accessories.~~
6. Rubber molding accessories.
- ~~7. Vinyl molding accessories.~~

#### 1.2 ACTION SUBMITTALS

##### A. Product Data: For each type of product.

**Designer Note:** For projects seeking LEED certification, include sustainable design submittals as required.

##### B. Sustainable Design Submittals:

1. <Double click to insert sustainable design text for adhesives.>
2. <Double click to insert sustainable design text for sealants.>
3. <Double click to insert sustainable design text for resilient base and stair products laboratory reports.>
4. <Double click to insert sustainable design text for environmental product declarations.>

##### C. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.

##### D. Samples for Initial Selection: For each type of product indicated.

##### E. Samples for Verification: For each type of product indicated and for each color, texture, and pattern required in manufacturer's standard-size Samples, but not less than 12 inches long.

##### F. Product Schedule: For resilient base and accessory products. **[Use same designations indicated on Drawings.]**



# WMU Design Guidelines

## 1.3 MAINTENANCE MATERIAL SUBMITTALS

**Designer Note:** The amount of attic stock is determined on a project-by-project basis. This needs to be discussed with WMU during the design stages of the project, including where the extra materials will be stored.

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Furnish not less than **[10 linear feet]** <Insert dimension> for every **[500 linear feet]** <Insert dimension> or fraction thereof, of each type, color, pattern, and size of resilient product installed.

## 1.4 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
  - 1. Coordinate mockups in this Section with mockups specified in other Sections.
  - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

## 1.6 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than **[70 deg F]** <Insert temperature> or more than **[95 deg F]** <Insert temperature>, in spaces to receive resilient products during the following periods:
  - 1. 48 hours before installation.
  - 2. During installation.
  - 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than **[55 deg F]** <Insert temperature> or more than **[95 deg F]** <Insert temperature>.
- C. Install resilient products after other finishing operations, including painting, have been completed.



## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. <Double click to insert sustainable design text for floor finishes.>

### 2.2 THERMOSET-RUBBER BASE <Insert drawing designation>

- A. <Double click here to find, evaluate, and insert list of manufacturers and products.>
- B. Product Standard: ASTM F1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous).
  - 1. Style and Location:
    - a. ~~Style A, Straight: [Provide in areas with carpet] <Insert requirements>.~~
    - b. Style B, Cove: Provide in areas with carpet or resilient floor coverings.
    - c. ~~Style C, Butt to: [Provide in areas indicated] <Insert requirements>.~~
- C. Thickness: 0.125 inch.
- D. Height: ~~[2 1/2 inches]~~ 4 inches minimum ~~[6 inches]~~ ~~[As indicated on Drawings]~~.
  - 1. Top Edge: Rounded.
- E. Lengths: ~~[Cut lengths 48 inches long]~~ Coils in manufacturer's standard length ~~[Cut lengths 48 inches long or coils in manufacturer's standard length]~~.
- F. Outside Corners: Job formed ~~[Preformed]~~ ~~[Job formed or preformed]~~.
- G. Inside Corners: Job formed ~~[Preformed]~~ ~~[Job formed or preformed]~~.
- H. Colors: **[As indicated by manufacturer's designations] [Match Architect's sample] <Insert colors>.**

### 2.3 THERMOPLASTIC-RUBBER BASE <Insert drawing designation>

- A. <Double click here to find, evaluate, and insert list of manufacturers and products.>
- B. Product Standard: ASTM F1861, Type TP (rubber, thermoplastic).
  - 1. Group: **[I (solid, homogeneous)]** ~~[or] [II (layered)]~~.
  - 2. Style and Location:
    - a. ~~Style A, Straight: [Provide in areas with carpet] <Insert requirements>.~~
    - b. Style B, Cove: Provide in areas with carpet or resilient floor coverings.
    - c. ~~Style C, Butt to: [Provide in areas indicated] <Insert requirements>.~~
    - d. ~~Style D, Sculptured: [Provide in areas indicated] <Insert requirements>.~~
  - 1) ~~Profile: [As indicated] <Insert requirement>.~~



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- C. Thickness: 0.125 inch.
- D. Height: ~~[2-1/2 inches]~~ 4 inches minimum ~~[6 inches]~~ ~~[As indicated on Drawings]~~.
  - 1. Top Edge: Rounded.
- E. Lengths: ~~[Cut lengths 48 inches long]~~ Coils in manufacturer's standard length ~~[Cut lengths 48 inches long or coils in manufacturer's standard length]~~.
- F. Outside Corners: Job formed ~~[Preformed]~~ ~~[Job formed or preformed]~~.
- G. Inside Corners: Job formed ~~[Preformed]~~ ~~[Job formed or preformed]~~.
- H. Colors: **[As indicated by manufacturer's designations] [Match Architect's sample] <Insert colors>**.

### 2.4 ~~VINYL BASE <Insert drawing designation>~~

- A. ~~<Double click here to find, evaluate, and insert list of manufacturers and products.>~~
- B. ~~Product Standard: ASTM F1861, Type TV (vinyl, thermoplastic).~~
  - 1. ~~Group: [I (solid, homogeneous)] [or] [II (layered)].~~
  - 2. ~~Style and Location:~~
    - a. ~~Style A, Straight: [Provide in areas with carpet] <Insert requirements>~~.
    - b. ~~Style B, Cove: Provide in areas with carpet or resilient floor coverings.~~
- C. ~~Minimum Thickness: 0.125 inch [0.080 inch] <Insert dimension>~~.
- D. ~~Height: [2-1/2 inches] 4 inches minimum [6 inches] [As indicated on Drawings]~~.
  - 1. ~~Top Edge: Rounded.~~
- E. ~~Lengths: [Cut lengths 48 inches long] Coils in manufacturer's standard length [Cut lengths 48 inches long or coils in manufacturer's standard length]~~.
- F. ~~Outside Corners: Job formed [Preformed] [Job formed or preformed]~~.
- G. ~~Inside Corners: Job formed [Preformed] [Job formed or preformed]~~.
- H. ~~Colors and Patterns: [As indicated by manufacturer's designations] [Match Architect's sample] <Insert colors and patterns>~~.

### 2.5 RUBBER STAIR ACCESSORIES **<Insert drawing designation>**

- A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.
  - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.



- B. [<Double click here to find, evaluate, and insert list of manufacturers and products.>](#)
- C. Stair Treads: ASTM F2169.
  - 1. Type: **[TS (rubber, vulcanized thermoset)] [or] [TP (rubber, thermoplastic)]**.
  - 2. Class: **[1 (smooth, flat)] [2 (pattern; embossed, grooved, or ribbed)]**.
  - 3. Group: **[1 (embedded abrasive strips)] [2 (with contrasting color for the visually impaired)]**.
  - 4. Nosing Style: **[Square, adjustable to cover angles between 60 and 90 degrees] [Square] [Round]**.
  - 5. Nosing Height: **[1-1/2 inches] [2 inches] [2-3/16 inches] <Insert dimension>**.
  - 6. Thickness: **[1/4 inch and tapered to back edge] <Insert thickness>**.
  - 7. Size: Lengths and depths to fit each stair tread in **[one piece] [one piece or, for treads exceeding maximum lengths manufactured, in equal-length units]**.
  - 8. Integral Risers: Smooth, flat; in height that fully covers substrate.
- D. Separate Risers: Smooth, flat; in height that fully covers substrate; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.
  - 1. Style: **[Coved toe, 7 inches high by length matching treads] [Toeless, by length matching treads]**.
  - 2. Thickness: **[0.125 inch] [Manufacturer's standard] <Insert thickness>**.
- E. Stringers: Height and length after cutting to fit risers and treads and to cover stair stringers, produced by same manufacturer as treads, and recommended by manufacturer for installation with treads.
  - 1. Thickness: **[0.125 inch] [0.080 inch] [Manufacturer's standard] <Insert thickness>**.
- F. Landing Tile: **[Matching treads; produced by same manufacturer as treads and recommended by manufacturer for installation with treads] <Insert requirements>**.
- G. Locations: **[Provide rubber stair accessories in areas indicated] <Insert requirements>**.
- H. Colors and Patterns: **[As indicated by manufacturer's designations] [Match Architect's sample] <Insert colors and patterns>**.

## ~~2.6~~ ~~VINYL STAIR ACCESSORIES <Insert drawing designation>~~

- ~~A. Fire Test Response Characteristics: As determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.~~
  - ~~1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.~~
- ~~B. [<Double click here to find, evaluate, and insert list of manufacturers and products.>](#)~~
- ~~C. Stair Treads: ASTM F2169, Type TV (vinyl, thermoplastic).~~
  - ~~1. Class: [1 (smooth, flat)] [2 (pattern; embossed, grooved, or ribbed)]~~
  - ~~2. Group: [1 (embedded abrasive strips)] [2 (with contrasting color for the visually impaired)]~~



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3. ~~Nosing Style: [Square, adjustable to cover angles between 60 and 90 degrees] [Square] [Round].~~
4. ~~Nosing Height: [1-1/2 inches] [2 inches] [2-3/16 inches] <Insert dimension>.~~
5. ~~Thickness: [1/4 inch and tapered to back edge] <Insert thickness>.~~
6. ~~Size: Lengths and depths to fit each stair tread in [one piece] [one piece or, for treads exceeding maximum lengths manufactured, in equal length units].~~
7. ~~Integral Risers: Smooth, flat; in height that fully covers substrate.~~

~~D. Separate Risers: Smooth, flat; in height that fully covers substrate; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.~~

1. ~~Style: [Coved toe, 7 inches high by length matching treads] [Toeless, by length matching treads].~~
2. ~~Thickness: [0.125 inch] [0.080 inch] [Manufacturer's standard] <Insert thickness>.~~

~~E. Stringers: Height and length after cutting to fit risers and treads and to cover stair stringers, produced by same manufacturer as treads, and recommended by manufacturer for installation with treads.~~

1. ~~Thickness: [0.125 inch] [0.080 inch] [Manufacturer's standard] <Insert thickness>.~~

~~F. Landing Tile: [Matching treads; produced by same manufacturer as treads and recommended by manufacturer for installation with treads] <Insert requirements>.~~

~~G. Locations: [Provide vinyl stair accessories in areas indicated] <Insert requirements>.~~

~~H. Colors and Patterns: [As indicated by manufacturer's designations] [Match Architect's sample] <Insert colors and patterns>.~~

### 2.7 RUBBER MOLDING ACCESSORY <Insert drawing designation>

- A. ~~<Double click here to find, evaluate, and insert list of manufacturers and products.>~~
- B. Description: Rubber [stair-tread nosing] [cap for cove carpet] [cap for cove resilient floor covering] [carpet bar for tackless installations] [carpet edge for glue-down applications] [nosing for carpet] [nosing for resilient floor covering] [reducer strip for resilient floor covering] [joiner for tile and carpet] [transition strips] <Insert description>.
- C. Profile and Dimensions: [As indicated] <Insert profile and dimensions>.
- D. Locations: [Provide rubber molding accessories in areas indicated] <Insert requirements>.
- E. Colors and Patterns: [As indicated by manufacturer's designations] [Match Architect's sample] <Insert colors and patterns>.

### 2.8 ~~VINYL MOLDING ACCESSORY <Insert drawing designation>~~

- A. ~~<Double click here to find, evaluate, and insert list of manufacturers and products.>~~



- B. ~~Description: Vinyl [stair-tread-nosing] [cap-for-cove-carpet] [cap-for-cove-resilient-floor-covering] [carpet-bar-for-tackless-installations] [carpet-edge-for-glue-down-applications] [nosing-for-carpet] [nosing-for-resilient-floor-covering] [reducer-strip-for-resilient-floor-covering] [joiner-for-tile-and-carpet] [transition-strips] <Insert description>.~~
- C. ~~Profile and Dimensions: [As indicated] <Insert profile and dimensions>.~~
- D. ~~Locations: [Provide vinyl molding accessories in areas indicated] <Insert requirements>.~~
- E. ~~Colors and Patterns: [As indicated by manufacturer's designations] [Match Architect's sample] <Insert colors and patterns>.~~

## 2.9 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.
  - 1. <Double click to insert sustainable design text for VOC content for adhesives.>
- C. Stair-Tread Nose Filler: Two-part epoxy compound recommended by resilient stair-tread manufacturer to fill nosing substrates that do not conform to tread contours.
- D. Metal Edge Strips: **[Extruded aluminum with mill finish]** <Insert requirements>, nominal 2 inches wide, of height required to protect exposed edges of flooring, and in maximum available lengths to minimize running joints.
- E. Floor Polish: Provide protective, liquid floor-polish products recommended by resilient stair-tread manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
  - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Installation of resilient products indicates acceptance of surfaces and conditions.



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### 3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates for Resilient Stair Accessories: Prepare horizontal surfaces according to ASTM F710.
  - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
  - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
  - 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than [9] [10] <Insert number> pH.

**Designer Note:** WMU requires moisture testing per product manufacturer's recommendations.

- 4. Moisture Testing: Perform tests so that each test area does not exceed [200 sq. ft.] [1000 sq. ft.] <Insert area>, and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
  - a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of [3 lb of water/1000 sq. ft.] <Insert rate> in 24 hours.
  - b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum [75] <Insert number> percent relative humidity level measurement.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install resilient products until materials are the same temperature as space where they are to be installed.
  - 1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

### 3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.





- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Terminal ends of base shall be beveled where appropriate for specified product.
- ~~H. Preformed Corners: Install preformed corners before installing straight pieces.~~
- I. Job-Formed Corners:
  - 1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than ~~{3 inches}~~ 18 inches in length.
    - a. Form without producing discoloration (whitening) at bends.
  - 2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than ~~{3 inches}~~ 18 inches in length.

**Designer Note:** WMU prefers mitered corners where appropriate for specified product.

- a. **[Miter] [Cope] [Miter or cope]** corners to minimize open joints.

### 3.4 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Stair Accessories:
  - 1. Use stair-tread-nose filler to fill nosing substrates that do not conform to tread contours.
  - 2. Tightly adhere to substrates throughout length of each piece.
  - 3. For treads installed as separate, equal-length units, install to produce a flush joint between units.
- C. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

### 3.5 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing resilient-product installation:
  - 1. Remove adhesive and other blemishes from surfaces.
  - 2. Sweep and vacuum horizontal surfaces thoroughly.
  - 3. Damp-mop horizontal surfaces to remove marks and soil.
- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.



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- D. Floor Polish: Remove soil, adhesive, and blemishes from resilient stair treads before applying liquid floor polish.
  - 1. Apply **[one]** **[two]** **[three]** **<Insert requirement>** coat(s).
- E. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 09 6513