

## SECTION 09651

### RESILIENT SAFETY FLOORING

*[Notes like this one help the specifier identify and make selections. Remove all notes when editing is complete. You can remove them quickly by deleting this Style (Specifier Notes).]*

*[Option: Metric equivalents can be removed globally by deleting the Style "Metric".]*

*[Note: Please re-number articles and paragraphs after editing is complete. This document is not written using automatic paragraph numbering so that it is compatible with most formats.]*

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

A. Section includes:

*[Note: Select one or both of the following]*

1. Rubber rolled safety flooring
2. Rubber tile safety flooring

B. Related Sections include:

*[Note: Edit the following for project conditions]*

1. Section 02740, finishing requirements specified in this Section
2. Section 03300, curing, finishing and drying requirements specified in this Section.
3. Section 09621, for rubber athletic flooring

##### **1.2 SUBMITTALS**

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

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

C. Samples for Verification:

1. Roll Form: 9.5 x 8 inch sample
2. Tile: Full-size units of each color and pattern

*[Note: Delete the following if project is not LEED certified or delete points that are not required]*

D. LEED Submittals:

1. Credits MR 4.1 and MR 4.2: Product Data indicating percentages by weight of postconsumer and preconsumer recycled content and statement indicating costs for each product having recycled content.
2. Credit EQ 4.1: Manufacturers' product data for adhesives, including printed statement of VOC content.

E. Installer's certification and experience.

F. Maintenance Data: For maintenance manuals.

##### **1.3 QUALITY ASSURANCE**

A. Manufacturer's Qualifications: Experience manufacturing and warranting prefabricated rubber flooring.

*[Note: The following testing is optional and adds nominal cost to the project. Delete QMP if additional cost is not necessary.]*

1. Quality Monitoring Program [QMP]: testing by an independent lab either in the plant or at the project site. Test product(s) for compliance with DIN 183032-2 and this specification.
- B. Installer's Qualifications: Trained and certified by Manufacturer.
- C. Fire-Test-Response Characteristics: Provide products identical to those tested for fire-exposure behavior per test method indicated by a testing and inspecting agency acceptable to authorities having jurisdiction.
- D. Environmental: Products shall contain no halogen, formaldehyde, or PVC. Flooring products shall be fully recyclable without generating harmful byproducts at end of use.

#### **1.4 DELIVERY, STORAGE AND HANDLING**

- A. Deliver products in manufacturer's original, unopened wrappings and containers.
- B. Protect products from weather, frost and excessive heat

#### **1.5 PROJECT CONDITIONS**

*[Note: Coordinate requirements in paragraphs A, B, and C with project design. Delete requirements that do not apply.]*

- A. Exterior Substrate Slope: Not less than 0.8% and no greater than 1% unless approved by Rephouse.
- B. Asphalt Substrate: Engineered design and mix, cured for not less than 14 days.
- C. Concrete Substrate: Engineered design and mix, cured for not less than 28 days. Dry concrete after curing to moisture requirements in Part 3.
- D. Sequencing: Do not begin installation of Neoflex™ until other work in area is complete and area is cleared of extraneous materials.
  1. If the requirements are as such that Neoflex™ surface must be installed before other trades have completed their work, the installed Neoflex™ surface should be covered with a suitable protective covering
- E. Restricted access to areas finished in this Section: 24 hours prior to installation and 7 days after installation is complete, Installer or personnel accompanied by Installer.
- F. Interior Conditions: Neoflex™ surfacing and adhesive shall be left to acclimatize at a minimum temperature of 68°F [20°C] for at least 24 hours before, during and after the installation is completed.

#### **1.6 WARRANTY**

- A. Manufacturer's standard five-year limited warranty.

#### **1.7 EXTRA MATERIAL**

*[Note: Edit the following to reflect Owner's needs. Extra material is not allowed for some public agencies.]*

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents:

1. Rubber Rolled Flooring: One 50 ft [15.24 meter] or one 25 ft [7.62 meter] roll.
2. Rubber Tile Flooring: One box containing 10 tiles

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. Approved Manufacturer:  
Rehouse America LLC  
P O Box 248, 203, Eggert Road  
Buffalo, New York 14225-0248, USA  
Tel : 866 898 8007  
Fax: 519 821 6694

*[Note: Retain each Neoflex™ Series article for products required. Delete those not required.]*

### **2.2 NEOFLEX™ 500 SERIES**

- A. Description: Prefabricated rubber flooring surface polymerically bound recycled rubber blended with colored synthetic EPDM rubber.
1. Density: 62.3 lb/cu ft [1,000 kg/m<sup>3</sup>]
  2. Recycled Content: At least 80%

*[Note: Delete thicknesses not required. If more than one thickness is required, either create a schedule of Neoflex™ Flooring at the end of this Section or indicated thicknesses in Drawings and finish Schedule.]*

3. Thickness: 4 mm (5/32 inch)
4. Thickness: 6 mm (1/4 inch)
5. Thickness: 8 mm (5/16 inch)
6. Thickness: 9 mm (3/8 inch)

- B. Form:

*[Note: Delete forms not required for the project.]*

1. Rolls: 4 feet [1.22 meter] wide by 50 feet [15.24-meter] or 25 feet [7.62 meter] long
2. Tile: 20 inch by 20 inch [508 mm by 508 mm]
3. Tile: 24 inch by 24 inch [608 mm by 608 mm]

- C. Performance Characteristics:

1. Force Reduction per DIN 183032-2: 12%
2. Sliding Coefficient per DIN 183032-2: 1.02
3. Hardness (Shore A) per ASTM D2240: 60
4. Flammability Rating per ASTM D 2859: Class 1

- D. Color: Selected by Architect from full range of at least 15 colors

### **2.3 NEOFLEX™ 600 SERIES**

- A. Description: Prefabricated rubber flooring surface polymerically bound recycled rubber blended with colored synthetic EPDM rubber.
1. Density: 74.8 lb/cu ft [1,200 kg/m<sup>3</sup>]

2. Thickness: 4 mm (5/32 inch) - other thicknesses upon request
3. Recycled Content: At least 2%

B. Form:

*[Note: Delete forms not required for the project.]*

1. Rolls: 4 feet [1.22 meter] wide by 50 feet [15.24-meter] or 25 feet [7.62 meter] long
2. Tile: 20 inch by 20 inch [508 mm by 508 mm]
3. Tile: 24 inch by 24 inch [608 mm by 608 mm]

C. Performance Characteristics:

1. Force Reduction per DIN 183032-2: 8%
2. Sliding Coefficient per DIN 183032-2: 0.91
3. Hardness (Shore A) per ASTM D2240: 60
4. Critical Radiant Flux Classification per ASTM E 648: Class 1

D. Color: Selected by Architect from full range

## 2.4 NEOFLEX™ 700 SERIES

A. Description: Prefabricated rubber flooring surface polymerically bound recycled rubber blended with colored synthetic EPDM rubber.

1. Density: 71.7 lb/cu ft [1,150 kg/m<sup>3</sup>]
2. Thickness: 4 mm (5/32 inch) - other thicknesses upon request
3. Recycled Content: At least 30%

B. Form:

*[Note: Delete forms not required for the project.]*

1. Rolls: 4 feet [1.22 meter] wide by 50 feet [15.24-meter] or 25 feet [7.62 meter] long
2. Tile: 20 inch by 20 inch [508 mm by 508 mm]
3. Tile: 24 inch by 24 inch [608 mm by 608 mm]

C. Performance Characteristics:

1. Force Reduction per DIN 183032-2: 6%
2. Sliding Coefficient per DIN 183032-2: 0.99
3. Hardness (Shore A) per ASTM D2240: 65
4. Critical Radiant Flux Classification per ASTM E 648: Class 1

D. Color: Selected by Architect from full range of at least 80 colors

## 2.5 NEOFLEX™ 800 SERIES

A. Description: Prefabricated rubber flooring surface polymerically bound recycled rubber blended with colored synthetic EPDM rubber.

1. Density: 74.8 lb/cu ft [1,200 kg/m<sup>3</sup>]
2. Thickness: 4 mm (5/32 inch) - other thicknesses upon request
3. Recycled Content: 0%

B. Form:

*[Note: Delete forms not required for the project.]*

1. Rolls: 4 feet [1.22 meter] wide by 50 feet [15.24-meter] or 25 feet [7.62 meter] long
2. Tile: 20 inch by 20 inch [508 mm by 508 mm]
3. Tile: 24 inch by 24 inch [608 mm by 608 mm]

C. Performance Characteristics:

1. Force Reduction per DIN 183032-2: 8%
2. Sliding Coefficient per DIN 183032-2: 0.91
3. Hardness (Shore A) per ASTM D2240: 60
4. Critical Radiant Flux Classification per ASTM E 648: Class 1

D. Color: Selected by Architect from full range

## 2.6 INSTALLATION MATERIALS

*[Note: Delete materials for installation methods that are not required in project.]*

- A. Adhesive for Interior Installation: two-part polyurethane adhesive such as Rephouse's PU88 or any adhesive that has been tested and recommended for use with Neoflex™.

*[Note: Retain the following for LEED point EQ 4.1 or for a "Green Spec."]*

1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24): 60 g/L.
- B. Adhesive for Exterior Installation: two-part polyurethane adhesive such as Rephouse's PU88 or any adhesive that has been tested and recommended for use with Neoflex™.
- C. Double-Sided Tape: High density tape approved by Rephouse for substrate.
- D. Reducing Strips, Edge Guards, Corner Strips: Metal, vinyl or rubber accessories manufactured for the purpose and approved by Submittal Procedure.
- E. Sealer-Finish: "Fresh Finish" clear, non-yellowing, waterborne 2-component polyurethane, low satin finish.

## PART 3 EXECUTION

### 3.1 EXAMINATION

*[Note: Delete exterior or interior conditions if not applicable to project.]*

- A. Substrate Surface: smooth and trimmed and have no compaction or trowel ridges and shall not vary from smooth by more than 1/8 inch [4 mm] measured under a 12 ft [4 m] straight edge, measured in any direction.
1. For exterior installations, any resultant ponding of water after flooding, the sub-surface shall be corrected until no pond is deeper than 1/25 inch [1 mm]
  2. Neoflex™ surfacing will follow the contours of the sub-surface which it covers. The smoother the sub-surface, the better the Neoflex™ surfacing finish.
- B. Substrate shall be dry:
1. Interior Concrete: Not more than 2 pounds water / 1000 square feet / 24 hours, measured by ASTM F 1869 anhydrous calcium chloride test.
  2. Exterior Concrete: No moisture transmission or high moisture content, when measured by ASTM D 4263 Plastic Sheet Method.

- C. Substrate shall be clear of all foreign matter and free of dust, dirt, oil or any kind of spills.
  - 1. Remove concrete curing agent, other coatings and lattice by sand blasting or shot blasting.
  - 2. Remove contaminates that will interfere with adhesive bond.
- D. Do not proceed with installation until unacceptable conditions have been corrected.

### **3.2 PREPARATION**

- A. Vacuum clean substrate.
- B. Neoflex™ Roll: Unroll and layout Neoflex to “relax” surfacing prior to installation.

*[Note: Delete the following article if rolled form of Neoflex™ is not specified in Part 2.]*

### **3.3 INSTALLATION OF ROLLED FLOORING**

- A. General procedure for all types of installation:
  - 1. Neoflex™ surfaces must be unrolled and installed in the same direction i.e. start one roll from one side of the room and another adjacent roll in the same direction and so on. Best results dictate that you install the right hand side of one roll to the left hand side of the next roll with the sequence being right-on-right (RL) and left-on-left (LR).
  - 2. Rolls of Neoflex™ are labeled on the underside advising the direction of rolling and which face of the roll is to be placed down on to sub-floor. Follow these instructions carefully to avoid potential installation problems.
  - 3. To achieve tight seams, certain situations may dictate that it will be necessary to trim sides and or the ends of the rolls of the Neoflex™ surfacing (such as undulated and contoured sub floors).
  - 4. Neoflex™ can be field cut by utilizing a razor (or Stanley) knife and a straight edge
  - 5. Installation of Reducing strips, edge guards and corner strips may be specified here or indicated in Drawings.

*[Note: Delete the following paragraphs if fully adhered method does not apply.]*

- B. Fully Adhered installation procedure:
  - 1. Spread adhesive evenly and at the recommended rate. Do not overlap adhesive applications as this will cause Neoflex™ to ‘stand up’. The finished appearance will be effected as this level difference is ‘telegraphed’ through the Neoflex™ surface. This is especially important along the seams.
  - 2. Do not to drag the Neoflex™ surface across the adhesive, thereby possibly contaminating the adjacent sheet
  - 3. After the Neoflex™ surfacing is placed into the adhesive and jointed, roll the entire surface with a 100 lb. [45 kg.] hand-held flooring roller. Assure that entrapped air is removed and surfacing is fully adhered.
  - 4. Weights such as sand bags have to be used on the edges, corners and seams of the Neoflex™ surface installation until the adhesive is cured.
  - 5. Roll repeatedly for up to 2 hours or until the adhesive has set.
  - 6. Allow the adhesive to cure for a minimum of 72 hours before applying finish.

*[Note: Delete the following paragraphs if tape method does not apply.]*

- C. Tape installation procedure:

1. Installed Neoflex™ using double sided High Density (H.D.) tape. Apply tape around the total perimeter of each roll. Apply additional tape approximately 12 to 18 inches [30 to 40 cm] from the end of each roll to overcome any potential curling of the Neoflex™.
2. Lay Neoflex™ with the correct face down and form tight butt joints and eliminate any gaps. Lift the corner of one Neoflex™ mat and peel the film from the double sided H.D. tape until it is long enough to place the mat back down on to the tape.
3. Then peel the film off progressively while the Neoflex™ mat is being laid down.
4. Roll the entire surface with a 100 lb. [45 kg.] hand-held flooring roller.

*[Note: Delete the following article if Neoflex™ tiles are not specified in Part 2.]*

### **3.4 INSTALLATION OF TILE FLOORING**

- A. Measure the dimensions of the room and ascertain a center point. Using this center point, establish a North-South [NS] chalk line on the floor, following the alignment of one of the walls and taking into account the most appropriate spacing to reduce wastage. This chalk line will be the guide to follow when installing the first row of Neoflex™ Rubber Tiles.
- B. Spread adhesive evenly and at the recommended rate. Do not overlap adhesive applications as this will cause Neoflex™ to ‘stand up’. The finished appearance will be effected as this level difference is ‘telegraphed’ through the Neoflex™ surface. This is especially important along the seams.
- C. Start laying the first row of tiles, following the chalk line accurately. After the first row of Neoflex™ tiles are placed into the adhesive and jointed, roll the entire surface with a 100 lb. [45 kg.] hand-held flooring roller. Assure that entrapped air is removed and surfacing is fully adhered. Only then start laying the second row of tiles. Repeat this procedure for each row of tiles laid.
- D. With the first row of Neoflex™ tiles, installed, it is advisable to lay the next row staggered, ensuring that no four corners of a tile meet at the same place. The accurate staggering of tiles can be easily achieved by measuring the middle point of any tile already laid and using that point as the starting point to lay the ensuring row of tiles.
- E. Tiles of Neoflex™ are labeled on the underside advising the surface texture direction of the product and which face of the tile is to be placed down on to sub-floor. Always install Neoflex™ tiles in the same direction following labeling. Follow these instructions carefully to avoid potential installation problems.
- F. To achieve tight seams, certain situations may dictate that it will be necessary to trim sides and or the ends of the tiles of the Neoflex™ surfacing (such as undulated and contoured sub floors).
- G. Neoflex™ can be field cut by utilizing a razor (or Stanley) knife and a straight edge
- H. Installation of Reducing strips, edge guards and corner strips may be specified here or indicated in Drawings
- I. Do not to drag the Neoflex™ surface across the adhesive, thereby possibly contaminating the adjacent sheet.
- J. Roll the whole surface repeatedly for up to 2 hours or until the adhesive has set.

- K. Allow the adhesive to cure for a minimum of 72 hours before applying finish.

### **3.5 CLEANING AND FINISHING**

- A. Sweep and vacuum flooring to remove dust and loose debris.
- B. Apply 2 or 3 thin coats of “Fresh Finish” waterborne 2-component polyurethane with a hand operated spray at 400 sq ft/gallon [10 sqm/litre] for 2 coats. Strike off coating with a PADCO® 6000 Nylfoam® Floor Coater 18" wide.
  1. Follow mixing and application instructions and recommendations as on label of “Fresh Finish” containers.
  2. Ensure sufficient cure time of final coat, at least 5 hours, before allowing foot traffic.

### **3.6 PROTECTION**

- A. Cover sealed flooring with a breathable, non-staining, untreated building paper.
- B. Do not move heavy and sharp objects directly over surfaces. Place hardboard or plywood panels over flooring and under objects while they are being moved. Slide or roll objects over panels without moving panels.

END OF SECTION