

## MASTER SPECIFICATION

### SECTION 09624 RESILIENT ATHLETIC SURFACING

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. Section includes: Resilient athletic surfacing, including [recycled] [virgin] rubber flooring
- B. Related Sections: Section(s) related to this section include:
  - 1. Section 03 – Concrete Substrate.
  - 2. Section 06 – Plywood Substrate.

##### 1.02 REFERENCES

- A. Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. The Standards listed here are identified with a designation number, title or other designation established by the issuing authority.
- B. American Society for Testing and Materials (ASTM):
  - 1. ASTM D2240 Hardness Shore A Durometer
  - 2. ASTM D412 Tensile Strength
  - 3. ASTM C501 Taber Abrasion (H-22)
  - 4. ASTM E684 Flammability (Critical Radiant Flux)
  - 5. ASTM D395B Compression Set Under Force
  - 6. ASTM F970 Static Load
  - 7. ASTM D3676 Density Foam Test
  - 8. ASTM D5116 Material Emissions – VOC
  - 9. ASTM F150 Electrical Resistance (Burroughs)
  - 10. ASTM D2047 Static Coefficient of Friction (James Machine Method)
  - 11. ASTM F1914 Short-Tem and Residual Indentation

##### 1.03 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide resilient rubber athletic surfacing system and accessories as produced by a single manufacturer, including recommended primers, adhesives, sealants and leveling compounds, all of which have been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.

##### 1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with the Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product data: Submit product data, including manufacturer's specification sheet and installation instructions for specified products. Include methods of installation and substrate preparation for each type of substrate.
- C. Samples: Submit samples for each type and color of resilient rubber athletic surfacing and accessories required. Provide samples of flooring materials.
- D. Quality Assurance Submittals: (1) Certified test reports showing compliance with specified performance characteristics and physical properties, (2) Bond and moisture tests with location diagrams and results, and (3) Manufacturer's Installation Instructions.
- E. Closeout Submittals: (1) Cleaning & Maintenance Data (Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance), and (2) Warranty.

#### **1.05 QUALITY ASSURANCE**

- A. Installer: Installer should be highly experienced in performing work of this section, having previously done work similar to that required for this project.

#### **1.06 SEQUENCING/SCHEDULING**

- A. Ordering: Comply with Manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- B. Delivery: Deliver materials in Manufacturer's original, unopened, undamaged packaging.
- C. Storage: Store materials at temperature and in humidity conditions recommended by manufacturer and protect from exposure to harmful weather conditions. Store resilient athletic surfacing materials in spaces where they will be installed for at least 48 hours before beginning installation.
- D. Installation: Except as otherwise indicated herein, sequencing or scheduling for performance of work of this section in relation with other work is Contractor's option. Install resilient athletic surfacing and accessories after other finishing operations, including painting, have been completed. Do not install resilient flooring over concrete slabs until the latter have been cured and are sufficiently dry to achieved bond with adhesive as determined by the resilient recycled rubber flooring manufacturer's recommended bond and moisture test. Do not take tests later than ten days prior to scheduled installation. Notify Architect immediately of unsatisfactory conditions.

#### **1.07 PROJECT CONDITIONS**

- A. Temperature: Maintain minimum temperature as recommended by Manufacturer, but not less than 65 degrees Fahrenheit (18 degrees Celsius) in spaces to receive resilient athletic surfacing for at least 48 hours prior to installation, during installation and for not less than 48 hours after installation. Subsequently, maintain minimum

temperature of 55 degrees Fahrenheit (13 degrees Celsius) in areas where work is completed.

- B. Moisture: Prior to floor finish installation, take moisture tests on all concrete floors regardless of age or grade level. The test shall be a calcium chloride test. Conduct one test for every 1,000 or less square feet of resilient athletic surfacing. Conduct tests around the perimeter of the room, at columns and where moisture may be evident. The moisture emission from the concrete shall not exceed 3.0 pounds per 1,000 square feet per 24 hours. Submit a diagram of the area showing the location and results of each test to the Architect, Owner, Construction Manager or General Contractor. If the test results exceed the limitations do not proceed with the installation until the problem has been corrected.

## PART 2 - PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURER

- A. Provide resilient athletic surfacing recycled rubber mats by **American Mat & Rubber Co. d/b/a Amarco Products.**, PO Box 4085, 5 Powder Horn Drive, Warren, NJ, 07059; telephone 1-866-688-6287 or 732-302-1122; fax 877-MAT-ORDERS (1-877-628-6733); [www.amarcoproducts.com](http://www.amarcoproducts.com).

### 2.02 MATERIALS

- A. Provide **Sport-Fleck** -- black recycled rubber tiles with EPDM colored granules as follows:

1. Tile Size: [36" X 3" Square] [36" X 36" Interlocking]
2. Edges: [Square] [Interlocking]
3. Thickness: [1/4" (6mm)] [5/16" (8mm)] [3/8" (10mm)] [1/2" (12mm)] thick.
4. Standard Colors: [Black] [Blue] [Teal] [Orange] [Brick Red] [Purple] [Yellow] [Gold] [Egg Shell] [Beige] [Gray] [Green] [Lipstick] [Raspberry] [Chocolate]
5. Standard Color EPDM %: [10%] [20%] [30%] [50%] Custom Colors Available.

### 2.03 PRODUCT TESTING

- A. Product Testing
1. ASTM D2240 Hardness Shore A Durometer: 64 indentation hardness
  2. ASTM D412 Tensile Strength: 290.2 lbs/square inch
  3. ASTM C501 Taber Abrasion (H-22): 0.8% weight loss
  4. ASTM 648 Flammability (Critical Radiant Flux): Class II (0.23 watts/square centimeter) (Note to Specifier: Class I may be achieved with the addition of fire retardant)
  5. ASTM D395B Compression Set Under Force: 96.3% recovered
  6. ASTM F970-97 Static Load: .000 inch (0.0%) residual compression

7. ASTM D3676 Density Foam test: 66.0 lbs/cubic foot
8. ASTM D5116 Material Emissions – VOC: Pass
9. ASTM F150 Electrical Resistance (Burroughs): surface to surface:  $10^{10}$  ohms average; surface to ground:  $10^{10}$  ohms average
10. ASTM D2047 Static Coefficient of Friction (James Machine): Dry: 1.04; Wet: 1.05
11. ASTM F1914 Short-Term and Residual Indentation: Short-Term: .025 inch (6.0%) loss; Residual: .007 inch (1.7%) loss

#### **2.04 PRODUCT SUBSTITUTIONS**

- A. Substitutions: No substitutions permitted.

### **PART 3 – EXECUTION**

#### **3.01 SUBSTRATE PREPARATION**

- A. Examine substrates and conditions where resilient rubber athletic surfacing will be installed. Require installer to inspect sub-floor surfaces to determine that they are satisfactory. A satisfactory sub-floor surface is defined as one that is dry, smooth, and free from cracks, holes, ridges, sealers or coatings preventing adhesive bond and other defects impairing performance or appearance. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by flooring manufacturer. Do not proceed with installation until unsatisfactory conditions are corrected.

#### **3.02 INSTALLATION**

- A. Preparations: (1) Leveling: Use leveling and patching compounds as recommended by flooring manufacturer for filling small cracks, holes and depressions and leveling sub-floors. This contractor shall be responsible for leveling new or existing floors whose surface varies up to 5/16". Notify Owner, Architect and General Contractor in writing where substrate varies more than above before proceeding with the work. (2) Cleaning: Remove coatings from sub-floor surfaces that would prevent adhesive bond, including curing compounds incompatible with resilient athletic surfacing adhesives, paints, oils, waxes and sealers. Broom clean or vacuum surfaces to be covered, and inspect sub-floor. (3) Priming: Apply concrete slab primer, if recommended by flooring manufacturer, prior to application of adhesive. Apply in compliance with manufacturer's direction.
- B. Field Verification: Field verify, prior to installation, exact layout dimensions of all seams, floor patterns, grain directions and insets with Architect. Start of work without Architect approval of field verification is not permitted and unauthorized installations shall be replaced at Contractors expense.
- C. General:
  1. Strictly comply with manufacturer's installation instructions and recommendations.
  2. Adhere resilient athletic surfacing to substrates using full spread of adhesive applied in compliance with flooring manufacturer's directions.
  3. Where moveable partitions are shown, install resilient athletic surfacing before partitions are erected.

4. Extend flooring into toe spaces, door reveals and into closet and similar openings. Scribe, cut and fit resilient athletic surfacing to permanent fixtures, built-in furniture and cabinets, pipes, outlets and permanent columns, walls and partitions.
  5. Maintain reference markers, holes or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on sub-floor. Use chalk or other nonpermanent-marking device.
  6. Tightly cement edges to perimeter of floor around covers and to covers. Tightly cement flooring to sub-base without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks or other surface imperfections.
- D. Installing resilient athletic surfacing rolls:
1. Match rolls for color and pattern by using rolls from cartons in same sequence as manufactured and packaged if so numbered.
  2. Lay rolls to provide as few seams as possible with economical use of materials. Match edges for color shading and pattern at seams in compliance with manufacturer's recommendations.
  3. On masonry surfaces or other similar irregular vertical substrates, fill voids between metal top edge strip cove cap and vertical surface with manufacturer's recommended adhesive filler material.
  4. On all floor penetrations, cutouts and edge conditions, such as doorframes, fill voids between sheet flooring and other surfaces with sealant recommended by sheet flooring manufacturer.
- E. Installing resilient athletic surfacing tiles / panels:
1. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged if so numbered.
  2. Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis, unless otherwise shown.
  3. Cut tile neatly around all fixtures. Broken, cracked, chipped or deformed tiles are not acceptable. Generally, lay tile with grain running in one direction unless shown or directed otherwise. Verify grain directions with Architect prior to installation.

### **3.03 CLEANING AND PROTECTION**

- A. General Cleaning: Refer to Manufacturer's Cleaning and Maintenance Instructions.
- B. Post Installation Cleaning: Sweep or vacuum floor thoroughly. Do not wash floor until time period recommended by resilient flooring manufacturer has elapsed to allow resilient athletic surfacing to become well sealed in adhesive. Damp mop floor being careful to remove marks and excessive soil. Remove any excess adhesive or other surface blemishes, using appropriate, non-abrasive cleaner recommended by flooring

manufacturer.

- C. Protection: Protect installed product and finish surfaces from damage during construction and until acceptance. Cover resilient flooring with un-dyed, un-treated building paper until inspection for Substantial Completion.
- D. Inspection Cleaning: Clean resilient athletic surfacing not more than four days prior to date scheduled for inspections intended to establish date of Substantial Completion in each area of project. Clean resilient flooring by method recommended by resilient flooring manufacturer.
- E. Owner's Personnel: Instruct Owner's personnel in proper maintenance procedures.

### **3.04 EXTRA MATERIALS**

- A. General: Furnish extra materials from same manufactured lot as materials installed. Deliver to Owner enclosed in protective packaging with appropriate identifying labels.
- B. Resilient rubber rolls: Furnish not less than five linear yards for each type, color and pattern installed.

END OF SECTION

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