

*Specifier Note: the following CSI (Construction Specifications Institute) section describes the resilient athletic flooring system to be installed over concrete, for the specific project. If the provisions described herein are adopted for installing over an asphalt base or for outdoor projects, Mondo's Warranty will be null and void and the Specifier will be held liable. The number and title of the section may be changed if the Specifier deems necessary; but in any circumstance it will belong to the general CSI **Section 09 65 00: Resilient Flooring**.*

## SECTION 09 65 66 Resilient Athletic Flooring

### 1 PART 1 – GENERAL

#### 1.1 SUMMARY

##### 1.1.1 Products Supplied

- A. Resilient (rubber) athletic flooring.
- B. Adhesive and accessories required for installation, maintenance and repair.

##### 1.1.2 Related Requirements

*Specifier Note: the following CSI sections of the project manual are a guide to what is the essential information needed to determine the acceptability of the site conditions and details of the installation of MONDO products. The Specifier may choose to include other sections he/she deems necessary.*

- A. Section 02 25 00 – Existing Material Assessment
- B. Section 03 05 00 – Common Work Results for Concrete
- C. Section 06 05 00 – Common Work Results for Wood, Plastics, and Composites
- D. Section 07 05 00 – Common Work Results for Thermal and Moisture Protection
- E. Section 07 10 00 – Dampproofing and Waterproofing

#### 1.2 REFERENCES

##### 1.2.1 American Society for Testing & Materials (ASTM)

- A. ASTM D2047: Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as measured by the James Machine.
- B. ASTM D2240: Standard Test Method for Rubber Property (Durometer Hardness).
- C. ASTM D5116: Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products.
- D. ASTM E648: Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.

- E. ASTM E662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
- F. ASTM E1745: Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
- G. ASTM F970: Standard Test Method for Static Load Limit.
- H. ASTM F1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- I. ASTM G21: Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- J. ASTM F710: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

### **1.2.2 GREENGUARD Environmental Institute**

- A. GREENGUARD Indoor Air Quality Certified®.

### **1.2.3 National Fire Protection Association**

- A. NFPA 101: Life Safety Code®.

### **1.2.4 International Organization for Standardization (ISO)**

- A. ISO 9001: Requirements for Quality Management Systems.
- B. ISO 14001: Requirements with Guidance for Use for Environmental Management Systems.

## **1.3 SUBMITTALS**

*Specifier Note: the following are typical submittals. The Specifier may choose to include other submittals he/she deems necessary.*

### **1.3.1 Action Submittals**

- A. Provide Manufacturer's current printed data sheets on specified products (surfacing product, adhesives, accessories, etc.).
- B. Provide samples, 6 inches x 6 inches, for verification of such characteristics as color, texture and finish for each specified rubber athletic flooring product.
- C. As necessary, provide shop drawings prepared for project illustrating layouts, details, dimensions and other data.

### **1.3.2 Informational Submittals**

- A. Provide current subfloor preparation guidelines, as published by the Manufacturer.
- B. Provide current installation guidelines, as published by the Manufacturer.

### 1.3.3 Closeout Submittals

- A. Provide current maintenance guidelines, as published by the Manufacturer.
- B. Provide current standard warranty, as published by the Manufacturer.

### 1.3.4 Maintenance Material Submittals

- A. Provide extra stock materials for use in facility operation and maintenance. Provide amount of approximately 2% of the total floor surface, of each type, color and dye lot.

## 1.4 QUALITY ASSURANCE

- A. Manufacturer must be certified ISO 9001 and ISO 14001.
- B. Manufacturer must have experience in the manufacturing of prefabricated rubber athletic flooring.
- C. Installer must have performed installations of the same scale in the last three (3) years.
- D. Installer to be recognized and approved by the rubber athletic flooring Manufacturer.

*Specifier Note: specify mock-up dimensions as instructed by Owner or Architect.*

- E. Installation of mock-up is highly recommended and must be deemed acceptable by Owner and Architect. Mock-up is to be installed following the same procedures and utilizing the same specified materials that will be used for the actual project.

- Mock-up size: [XX" x XX" (XX cm x XX cm)].

## 1.5 DELIVERY, STORAGE AND HANDLING

- A. Materials must be delivered in Manufacturer's original, unopened and undamaged containers with identification labels intact.
- B. Store material upright on a clean, dry, flat surface protected from all possible damage, and protect from exposure to harmful weather conditions.
- C. Recommended environmental condition for storage is a minimum of 55°F (13°C).
- D. Material need not suffer damage during handling (i.e. edge chipping, excessive warping, etc.).

## 1.6 SITE CONDITIONS

- A. The General Contractor or Construction Manager shall be responsible for ensuring all site conditions meet the requirements of the rubber athletic flooring Manufacturer, as referenced herein at sections 3.2 and 3.3.
- B. Maintain a stable room and subfloor temperature for a period of 48 hours prior, during and 48 hours after installation. Recommended range: 65°F to 86°F (18°C to 30°C).
- C. Installation to be carried out no sooner than the specified curing time of concrete subfloor (normal density concrete curing time is approximately 28 days for development of design strength).
- D. Moisture vapor emission content of the concrete slab must not exceed the tolerance of the adhesive used, when tested using the anhydrous calcium chloride test as per ASTM F1869.
- E. Installation of rubber athletic flooring will not commence unless all other trades in the building are completed. It is the General Contractor or Construction Manager's responsibility to maintain a secure and clean working area before, during and after the installation of rubber athletic flooring.

## 1.7 WARRANTY

- A. Provide current standard warranty, as published by the Manufacturer.
- B. The rubber athletic flooring is warranted to be free from manufacturing defects for a period of three (3) years from the date of shipment from the Manufacturer.

## 2 PART 2 – PRODUCT

### 2.1 MANUFACTURED PRODUCTS

#### 2.1.1 Manufacturers

##### A. Mondo America Inc.:

- I. North America Headquarters and Manufacturing Plant, 2655 Francis-Hughes, Laval, QC, Canada. Toll Free: USA 1 800 361-3747 or CAN: 1 800 663-8138  
Toll Free anywhere in North America: 1 800 441-6645

##### B. Mondo USA:

- I. Mondo USA, 1100 East Hector Street, Suite 160, Conshohocken, PA, Toll Free: 1 888 553-0002

#### 2.1.2 Description

*Specifier Note: specify color, size and thickness of product used in project.*

- A. MONDO RAMFLEX is prefabricated rubber athletic flooring, calendered and vulcanized with a base of natural and synthetic rubbers, stabilizing agents and pigmentation, as manufactured by MONDO AMERICA INC. or approved equal.
- B. Thicknesses: 0.315" (8mm) and 0.394" (10mm) for sheet goods and tiles; interlocking tiles are available in 0.315" (8mm).
- C. Colors: provided in standard, solid background colors with random marbleization throughout material.
- D. Finish: hammered.
- E. Manufactured in two layers which are vulcanized together. The shore hardness of the top layer will be greater than that of the bottom layer; shore hardness of layers to be recommended by the Manufacturer and the limits specified.
- F. Material available in sheets: 6' (1.83m) wide and 19' to 33' (6m to 10m) long and in tiles: 36" x 36" (91.44cm x 91.44cm). Also available in interlocking tiles: 24" x 24" (61cm x 61cm). The interlocking tiles have waterjet cut grooves that allow for a loose lay installation (no adhesive required for interlocking tiles).

### 2.1.3 Performance

A. Performance of the prefabricated rubber athletic flooring to conform to the following criteria:

Performance Criteria	Test Method	Result
Hardness Shore A	ASTM D2240	77/71
Critical Radiant Flux	ASTM E648, NFPA 101	0.58 W/cm <sup>2</sup> , Type I
Optical Density of Smoke	ASTM E662	< 450, Class I
Static Load Limit	ASTM F970	0.004 in.
Fungal Resistance Test	ASTM G21-90	No growth
Coefficient of Friction	ASTM D2047	1.0 dry, >1.2 wet
V.O.C. Compliance	ASTM D5116	Yes
Color Stability		Good
Light Reflection		Average
Chemical Resistance		Good
GREENGUARD Certification		Yes

### 2.1.4 Limitations

A. Because they will not be adhered to the substrate, DO NOT recommend the use of RAMFLEX INTERLOCKING TILES in areas subject to high impacts, such as designated “free weight” areas in fitness facilities. For use in such areas, all flooring products must be glued down.

### 2.1.5 Materials

- A. Provide MONDO RAMFLEX prefabricated rubber athletic flooring manufactured by MONDO AMERICA INC. or approved equal.
- B. Provide rubber athletic surface as specified in section 2.1.2 Description.

## 2.2 ACCESSORY PRODUCTS

*Specifier Note: accessories should be specified in accordance with the project requirements. Interlocking tiles do not required the use of adhesive (material not adhered).*

- A. Provide adhesive certified by rubber athletic flooring manufacturer: PU 105 polyurethane adhesive. Refer to current guidelines on product mixing and use, as published by the Manufacturer. EP 55 epoxy adhesive may be used in areas that have not been specified for use with Mondo Everlay, and that will not be subject to impacts or dynamic loads such as bleachers.
- B. Patching or leveling compound to be supplied and/or recommended/approved by rubber athletic flooring Manufacturer.

### 3 PART 3 – EXECUTION

#### 3.1 INSTALLERS

- A. Refer to section 1.4 of this document for information on installers.

#### 3.2 EXAMINATION

*Specifier Note: the following must be ensured prior to installation of the primary product.*

- A. Concrete subfloors to be placed a minimum of twenty-eight (28) days prior to the installation of rubber athletic flooring.
- B. Concrete subfloors on or below grade are installed over a suitable moisture retardant membrane. Water vapor membrane complies with specification in ASTM E1745.
- C. No concrete sealers or curing compounds are applied or mixed with the subfloors (refer to Section 03 05 00 – Common Work Results for Concrete of Division 3).
- D. The underlayment is adequate (if installing over wood subfloors, Mondo only recommends APA (Engineered Wood Association) Exterior grade plywood or CANPLY Exterior Certified plywood (Group 1, CC type).
- E. Moisture and alkalinity tests must be preformed. Moisture content must not exceed the capacity of the specified adhesive (verify using the anhydrous calcium chloride test as per ASTM F1869) and pH level should be in the range of 7 to 8.5.
- F. Smooth, dense finish, highly compacted with a tolerance of 1/8" in a 10 ft radius (3.2 mm in 3.05 m radius). Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.

#### 3.3 PREPARATION

*Specifier Note: subfloors are to be prepared according to Manufacturer's written instructions. It is recommended that the Specifier review the preparation process from the Manufacturer's printed recommendations given to him/her by the Technical Department of MONDO AMERICA INC. The following are considered common practice subfloor preparation to receive floor finishing products, and as such should not be omitted or altered in any case.*

##### 3.3.1 Subfloors

- A. Prepare concrete subfloor **in accordance with Manufacturer's current printed Subfloor Preparation guidelines.**

#### 3.4 INSTALLATION

*Specifier Note: products are to be installed according to Manufacturer's written instructions. It is recommended that the Specifier review the installation process from the Manufacturer's printed installation manual or from the installation procedures given to him/her by the Technical Department of MONDO AMERICA INC. The following procedures may be altered in special project cases, as deemed necessary by the Specifier, and after having consulted the Technical Department of MONDO AMERICA INC.*

### 3.4.1 Installation of Sheet Goods

- A. Install rubber athletic flooring **in accordance with Manufacturer's current printed Installation Manual.**

### 3.4.2 Installation of Tiles

- A. Install rubber athletic flooring **in accordance with Manufacturer's current printed Installation Manual.**

### 3.4.3 Installation of Interlocking Tiles

- A. Install rubber athletic flooring **in accordance with Manufacturer's current printed Installation Manual.**

## 3.5 REPAIR

- A. Refer to section 1.3.4 for extra stock materials.
- B. Repair material must be from the same dye lot as material supplied for initial installation.
- C. Repairs are to be performed by qualified installers/technicians only.

## 3.6 CLEANING

- A. Initial cleaning should only be performed 72 hours after the rubber athletic surface has been completely installed.
- B. Maintain rubber athletic flooring according to Manufacturer's current maintenance instructions for specified product.

## 3.7 PROTECTION

- A. Rubber athletic flooring surface can be protected with 1/8" Masonite during and after the installation, prior to acceptance by the Owner.