

*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 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 E1745: Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
- B. ASTM F1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- C. ASTM F710: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

1.2.2 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.

1.2.3 Italian Organization for Standardization (UNI- *Ente Nazionale Italiano di Unificazione*)

- A. UNI EN 13036-4: Method for measurement of slip/skid resistance of a surface - The pendulum test.
- B. UNI EN 14808: Surfaces for sports areas - Determination of shock absorption.
- C. UNI EN 14809: Surfaces for sports areas - Determination of vertical deformation.
- D. UNI EN 12235: Surfaces for sports areas - Determination of vertical ball behaviour.
- E. UNI EN 1569: Surfaces for sports areas - determination of the behaviour under a rolling load.
- F. UNI EN ISO 5470-1: Rubber- or plastics-coated fabrics - Determination of abrasion resistance - Taber abrader.
- G. UNI EN ISO 2813: Paints and varnishes - Determination of specular gloss of non-metallic paint films at 20°, 60° and 85°.
- H. UNI EN 1516: Surfaces for sports areas - Determination of resistance to indentation.
- I. UNI EN 1517: Surfaces for sport areas - Determination of resistance to impact.
- J. ISO 105-B02: Textiles - Tests for colour fastness - Colour fastness to artificial light: Xenon arc fading lamp test.
- K. UNI EN 434: Resilient floor coverings. Determination of dimensional stability and curling after exposure to heat.

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 promotional literature on multipurpose surfacing product specified.
- B. Provide Manufacturer's current printed data sheets on specified products (surfacing product, adhesives, accessories, etc.).
- C. Provide samples, 6 inches x 6 inches, for verification of such characteristics as color, texture and finish for each specified indoor resilient multipurpose surfacing product.
- D. As necessary, provide shop drawings prepared for project illustrating layouts, details, dimensions and other data.
- E. If specified, provide samples of available game line paint colors for selection and approval.
- F. Submit test results for performance criteria in accordance with EN 14904 Surfaces for Sport Areas. Specifications for Indoor Surfaces for Multi-Sports Use.

1.3.2 Informational Submittals

- A. Provide Manufacturer's current subfloor preparation guidelines, as published by the Manufacturer.
- B. Provide Manufacturer's current installation guidelines, as published by the Manufacturer.
- C. Provide Manufacturer's current heat welding guidelines, as published by the Manufacturer.
- D. Provide Manufacturer's current game line painting guidelines, as published by the Manufacturer.

1.3.3 Closeout Submittals

- A. Provide Manufacturer's current maintenance guidelines, as published by the Manufacturer.
- B. Provide Manufacturer's 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 1% of the total floor surface, of each type, color and dye lot.

1.4 QUALITY ASSURANCE

- A. Supplier of the multipurpose surfacing product must have actively been in business within North America for a minimum of 15 years.
- B. Manufacturer of the multipurpose surfacing product must be ISO 9001 certified.
- C. Manufacturer of the multipurpose surfacing product must be ISO 14001 certified.
- D. Installer of the multipurpose surfacing product must have performed installations of the same size, application and level of difficulty in the last three (3) years.
- E. Installer of the multipurpose surfacing product to be recognized and approved by the Manufacturer of the specified surfacing.

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

- F. 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 Manufacturer of the multipurpose surfacing product specified, 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, within a range of 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 multipurpose surfacing product 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 the multipurpose surfacing product.

1.7 WARRANTY

- A. Provide Manufacturer's current standard warranty.
- B. The resilient multipurpose surfacing product is warranted to be free from manufacturing defects for a period of two (2) 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 MONDOSPORT II, as manufactured by MONDO AMERICA INC. or approved equal, is prefabricated resilient athletic surfacing consisting of a 2mm (0.078") polyvinyl chloride (PVC) wear layer combined with a 6mm (0.236") three dimensional cross linked polyurethane elastomer backing; fusion of the layers then occurs during the manufacturing process. The surface or wear layer is stabilized with glass fiber and is protected by fungistatic and bacteriostatic treatments, incorporated throughout its thickness.
- B. Thicknesses: 0.315" (8mm).
- C. Colors: provided in eleven (11) standard, solid colors and one (1) additional color of wood-grain design.
- D. Finish: sealskin.
- E. Material available in sheets: 6'4" (1.95m) wide and 69' (21m) long for the eleven (11) standard colored products; 5'11" (1.56m) wide and 69' (21m) long for the wood grain product.

2.1.3 Performance

A. Performance of prefabricated resilient athletic surfacing to conform to the following criteria:

Performance Criteria	Test Method	Result
Slip Resistance	UNI EN 13036-4	85
Shock Absorption	UNI EN 14808	28
Vertical Deformation	UNI EN 14809	1.3
Vertical Ball Behavior	UNI EN 12235	≥95
Resistance to a Rolling Load	UNI EN 1569	In conformity
Resistance to Wear	UNI EN ISO 5470-1	In conformity
Specular Gloss	UNI EN ISO 2813	In conformity
Resistance to Indentation	UNI EN 1516	≤0.15
Resistance to Impact	UNI EN 1517	In conformity
Colour Fastness to Artificial Light	ISO 105-B02	≥6
Dimensional Stability	UNI EN 434	No appreciable variation

2.1.4 Materials

- A. Provide MONDOSPORT II prefabricated resilient athletic surfacing manufactured by MONDO AMERICA INC. or approved equal.
- B. Provide resilient athletic surfacing 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 resilient 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 resilient athletic surfacing Manufacturer.
- C. Gameline paint products to be supplied and/or recommended/approved by resilient athletic surfacing Manufacturer.
- D. Provide weld cord supplied by the resilient athletic surfacing Manufacturer. Color selection to match/blend/correspond with the resilient athletic surfacing specified. All seams shall be heat welded to create a monolithic and impermeable surface.

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 resilient athletic surfacing.
- 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 performed. 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 resilient athletic surfacing **in accordance with Manufacturer's current printed Installation Manual.**

3.4.2 Heat Welding of Seams

- A. Heat weld all seams **in accordance with Manufacturer's current Heat Welding instructions.**

3.5 PAINTING (If Specified)

Specifier Note: If specified, products are to be painted according to Manufacturer's written instructions. It is recommended that the Specifier review the paint application 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.

3.5.1 Gameline Painting

- A. All gamelines that are to be painted onto the resilient athletic flooring must be applied **in accordance with Manufacturer's current printed Line Painting Application Instructions.**

3.6 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.

3.7 CLEANING

- A. Initial cleaning should only be performed 72 hours after the resilient athletic surface has been completely installed. **NOTE: For surfaces with newly applied line paint, allow 7 days for proper cure.**
- B. Maintain rubber athletic flooring according to Manufacturer's current maintenance instructions for specified product.

3.8 PROTECTION

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