

PART 1 General

1.1 REFERENCES

- .1 American Society for Testing & Materials (ASTM)
 - .1 ASTM D2047: Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor
 - .2 Surfaces as measured by the James Machine.
 - .3 ASTM D2240: Standard Test Method for Rubber Property (Durometer Hardness).
 - .4 ASTM D5116: Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products.
 - .5 ASTM E648: Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
 - .6 ASTM E662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 - .7 ASTM E1745: Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
 - .8 ASTM F970: Standard Test Method for Static Load Limit.
 - .9 ASTM F1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 - .10 ASTM G21: Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
 - .11 ASTM F710: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- .2 GREENGUARD Environmental Institute
 - .1 GREENGUARD Indoor Air Quality Certified®.
- .3 National Fire Protection Association
 - .1 NFPA 101: Life Safety Code®.
- .4 International Organization for Standardization (ISO)
 - .1 ISO 9001: Requirements for Quality Management Systems.
 - .2 ISO 14001: Requirements with Guidance for Use for Environmental Management Systems.

1.2 SUBMITTALS

- .1 Submit samples in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Provide samples, 12" x 12", for verification of such characteristics as color, texture and finish for each specified rubber athletic product.
- .3 As necessary, provide shop drawings prepared for project illustrating layouts, details, dimensions and other data.
- .4 Provide current subfloor preparation guidelines, as published by the Manufacturer.
- .5 Provide current installation guidelines, as published by the Manufacturer.

1.3 CLOSEOUT SUBMITTALS

- .1 Provide extra materials of resilient sheet flooring and adhesives in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Provide 2% or 250 sq' of flooring, whichever is greater, and 250 sq' of base, of each material specified.
- .3 Extra materials one piece and from same production run as installed materials.
- .4 Identify each roll of sheet flooring and each container of adhesive.

1.4 QUALITY ASSURANCE

- .1 Manufacturer must be certified ISO 9001 and ISO 14001.
- .2 Manufacturer must have experience in the manufacturing of prefabricated rubber athletic flooring.
- .3 Installer must have performed installations of the same scale in the last three (3) years.
- .4 Installer to be recognized and approved by the rubber athletic flooring Manufacturer.
- .5 Installation of mock-up is highly recommended and must be deemed acceptable by The City and Contract Administrator. Mock-up is to be installed following the same procedures and utilizing the same specified materials that will be used for the actual project.
- .6 During flooring installation, the flooring manufacturer representative and floor Contractor shall conduct on-site meetings for installation procedures and techniques for the entire flooring installation.

1.5 DELIVERY, STORAGE AND HANDLING

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

1.6 SITE CONDITIONS

- .1 The Contractor or shall be responsible for ensuring all site conditions meet the requirements of the rubber athletic flooring Manufacturer.
- .2 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).
- .3 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).

- .4 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.
- .5 Installation of rubber athletic flooring will not commence unless all other trades in the building are completed. It is the Contractor's responsibility to maintain a secure and clean working area before, during and after the installation of rubber athletic flooring.

1.7 WARRANTY

- .1 Provide Manufacturer's current standard warranty.
- .2 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.
- .3 The rubber athletic flooring is warranted against excessive wear under normal usage for a period of ten (10) years from the date installation.

PART 2 Product

2.1 ACCEPTABLE MANUFACTURERS

- .1 Mondo America Inc.:

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

2.2 ACCEPTABLE PRODUCTS

- .1 MONDO ADVANCE VULCANIZED 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 in accordance with B6.
 - .1 Thickness: 5/16" (8 mm).
 - .2 Colour: L90 Light Maple.
 - .3 Finish: smooth (matte).
 - .4 Sheet size: 6' (1.83m) wide x lengths as required.
 - .5 Locations: Refer to flooring plan for further info
 - .1 Multi-Purpose Room 1 – Room 107 (Gymnasium)
- .2 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.
 - .1 Thickness: 1/4" (6 mm).
 - .2 Colour: G707 Grey.
 - .3 Texture: hammered.
- .3 Sheet Size: 6' (1.83m) wide x lengths as required.
- .4 Locations: Refer to flooring plan for further info
 - .1 Vestibule – Room 101
 - .2 Multi-Purpose Room 2 – Room 102

- .3 Women’s UTR - Room 105
- .4 Men’s UTR – Room 106

2.3 SUBSTITUTIONS:

- .1 Refer to Section 01 33 00 – Submittal Procedure, subsection 2.2.

2.4 PERFORMANCE

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

- .1 MONDO ADVANCE VULCANIZED

| Performance Criteria | Test Method | Result |
|--------------------------|----------------------|---------------------------------|
| Hardness Shore A | ASTM D2240 | 78/50 |
| Critical Radiant Flux | A0STM E648, NFPA 101 | 0.70 W/cm ² , 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 | 0.78 dry, 0.78 wet |
| V.O.C. Compliance | ASTM D5116 | Yes |
| Color Stability | | Good |
| Light Reflection | | Average |
| Chemical Resistance | | Good |
| GREENGUARD Certification | | Yes |

- .2 MONDO RAMFLEX

| Performance Criteria | Test Method | Result |
|--|---------------|--|
| Tensile Strength | ASTM D412-06 | ≥ 500 psi |
| Elongation at Break | ASTM D412-06 | ≥ 150% |
| Hardness (Shore A) | ASTM D2240-05 | 80 ± 5 (Top Layer), 70 ± 5 (Bottom Layer) |
| Abrasion Resistance (H18 Wheel 1000 cycles 1000g load) | ASTM D3389-05 | ≤ 0.5 grams loss |
| Static Load Limit (250 Lbs) | ASTM F970-06 | ≤ 0.009 inch |
| Coefficient of Friction | ASTM D2047-04 | Dry ≥ 0.80 |
| Fungal Resistance Test | ASTM G21-96 | No Growth |
| Chemical Resistance | ASTM F925-02 | No Surface Attack |
| Critical Radiant Flux | ASTM E 648-06 | ≥ 0.45W/cm ² , Class 1 |
| Optical Smoke Density | ASTM E662-06 | < 450 |
| GREENGUARD Certification | | Yes |

2.5 ACCESSORIES

- .1 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.
- .2 Edge protection strips: rubber with lip to extend under floor finish, with shoulder flush with top of adjacent flooring. Colours selected by Contract Administrator
- .3 Subfloor filler and leveler:
 - .1 Cementitious underlayment, trowelable, non-shrink water-resistant, minimum compressive strength 4200 psi (29 MPa) after 28 day cure. Premix requiring only the addition of water.
 - .2 Use manufacturer's recommended primers on all surfaces to receive cementitious underlayment.
 - .3 Gypsum based products are not acceptable for sub-floor fillers and levelers.
 - .4 Acceptable material: Elsro Ardex K-55, Mapei Plani/Patch, EP Para-Patch System.

PART 3 Execution

3.1 EXAMINATION

- .1 Concrete subfloors to be placed a minimum of twenty-eight (28) days prior to the installation of rubber athletic flooring.
- .2 Concrete subfloors on or below grade are installed over a suitable moisture retardant membrane.
- .3 Water vapor membrane complies with specification in ASTM E1745.
- .4 No concrete sealers or curing compounds are applied or mixed with the subfloors.
- .5 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.
- .6 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.
- .7 Verify that correct slopes have been provided to floor drains prior to installation of rubber athletic flooring.

3.2 PREPARATION

- .1 Subfloors:
 - .1 Prepare concrete subfloor in accordance with Manufacturer's current printed Subfloor preparation Guidelines.

- .2 Account for differing thickness of flooring with leveling compound and ensure that top of all flooring types meet flush with one another.

3.3 INSTALLATION

- .1 Installation of Sheet Goods:
 - .1 Install rubber athletic flooring in accordance with Manufacturer's current printed Installation Manual.
- .2 Make transitions between different flooring materials smooth, level, and flush by building up subfloor with smooth gradual ramping of filler.

3.4 INSTALLATION AT DRAINS

- .1 Comply with manufacturer's written instructions for installation of rubber athletic flooring at floor drains and cleanouts.
- .2 Scribe drain opening and cut flooring to fit. Ensure top of flooring meets flush with top of drain. Flooring must be sealed to all drain outlets and cleanouts to ensure a permanent watertight installation.

3.5 REPAIR

- .1 Repair material must be from the same dye lot as material supplied for initial installation.
- .2 Repairs are to be performed by qualified installers/technicians only.

3.6 CLEANING

- .1 Comply with manufacturer's written instructions for cleaning and protection of resilient products.
- .2 Perform the following operations immediately after completing resilient product installation:
 - .1 Remove adhesive and other blemishes from exposed surfaces.
 - .2 Sweep and vacuum surfaces thoroughly.
 - .3 Damp-mop surfaces to remove marks and soil.
- .3 Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
 - .1 No traffic for 24 hours after installation.
 - .2 No heavy traffic, rolling loads, or furniture placement for 72 hours after installation.
- .4 Cover flooring until Substantial Completion.
- .5 Wait 72 hours after installation before performing initial cleaning.
- .6 For surfaces with newly applied line paint, allow 7 days for proper cure.
- .7 A regular maintenance program must be started after the initial cleaning.

END OF SECTION