Specifier Note: This Specification has been created to assist in preparing a Project or Master Specification. In accordance with Construction Specifications Institute (CSI)'s MasterFormat®, this Specification can be used with most Master Specifications following simple editing.

*Specifier Note: **The enclosed requirements are intended for indoor installations over concrete** (or in some cases over wood). If the provisions described herein are adopted for installations outdoors or over asphalt, Mondo's Warranty will be null and void and the Specifier will be held liable.*

Specifier Note: This Specification describes the elastomeric sheeting to be installed. 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 07 00 00: Thermal and Moisture Protection.

SECTION 07 13 53
Elastomeric Sheet Waterproofing

1 PART 1 – GENERAL

1.1 SUMMARY

1.1.1 Products Supplied

A. Elastomeric sheeting: resilient underlayment for stability and/or waterproofing.
B. Accessories required for the installation.

1.1.2 Related Requirements

Specifier Note: The following CSI sections serve as a guide to what is essential information needed to determine the acceptability of the site conditions required for the installation of the elastomeric sheeting. 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 ASTM International (ASTM)

A. ASTM E648: Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
B. ASTM E1643: Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
C. ASTM E1745: Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
D. ASTM F386: Standard Test Method for Thickness of Resilient Flooring Materials Having Flat Surfaces.
E. ASTM F710: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

F. ASTM F1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
G. ASTM F2170: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

1.2.2 European Committee for Standardization (CEN)

A. EN 1928: Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of watertightness.
B. EN 1931: Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of water vapour transmission properties.
C. EN 12667: Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance.

1.2.3 International Organization for Standardization (ISO)

A. ISO 9001: Quality management systems – Requirements.
B. ISO 14001: Environmental management systems – Requirements with guidance for use.
C. ISO 10140-3: Acoustics. Laboratory measurement of sound insulation of building elements – Part 3: Measurement of impact sound insulation.
D. ISO 23999: 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. Technical and warranty information is available for download at www.mondoworldwide.com or may be obtained from the Technical Department at Mondo America, Inc. (United States 1-800-361-3747 • Canada 1-800-663-8138).

1.3.1 Action Submittals

A. Provide copies of Original Equipment Manufacturer (OEM)'s ISO 9001 and ISO 14001 certifications.
B. Provide current printed data sheets for all Products Supplied.
C. Provide samples, 6 inches x 6 inches, for verification and suitability of each specified Manufactured Product.
D. As necessary, provide shop drawings prepared for project illustrating layouts, details, dimensions and other pertinent data.

1.3.2 Informational Submittals

A. Provide Manufacturer's current printed substrate surface preparation guidelines.
B. Provide Manufacturer's current printed installation guidelines for all Products Supplied.

1.3.3 Closeout Submittals

A. Provide Manufacturer's current printed standard warranty for Manufactured Product.

1.4 QUALITY ASSURANCE

A. Manufacturer must be certified ISO 9001 and ISO 14001.
B. Manufacturer must have a minimum of fifteen (15) years of experience in the manufacturing of prefabricated elastomeric sheeting for use with prefabricated resilient athletic flooring.
C. Surfacing Contractor to be recognized and approved by the Manufacturer.
D. Surfacing Contractor shall be fully acquainted with the existing facility and utilities and shall fully understand the difficulties and restrictions attending the execution of the work under contract. Surfacing Contractor to advise the Owner of any restrictions or anticipated difficulty, in writing and before submitting bids.
E. Installer must be approved by the Surfacing Contractor and must have performed installations of the same scale in the last three (3) years.

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

F. A mock-up installation is highly recommended; always follow the same procedures and use the same materials that have been specified for the actual project. The Owner or Architect will be responsible for deeming the mock-up acceptable.

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

1.5 DELIVERY, STORAGE AND HANDLING

A. Products Supplied must be delivered in Manufacturer's original, unopened and undamaged packaging with identification labels intact.
B. Products Supplied must be protected from exposure to harmful weather conditions and must be safely stored on a clean, dry, flat surface. Store rolls of elastomeric sheeting upright.
C. Climate controlled storage is recommended. Storage temperature must not be below 40°F (4°C) and must not exceed 100°F (38°C). Materials must be delivered to site a minimum of 24 hours before work is scheduled to begin so that they may acclimate.
D. Avoid storing Manufactured Product for extended periods of time or additional material trimming may be required.
E. Products Supplied need not suffer damage during handling (i.e. dents/scratches, 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, as referenced herein at sections 3.2 and 3.3. Refer to current version of ASTM F710 for additional information.
B. Concrete slabs, on or below grade, must be installed over a permanent effective vapor retarder, respecting current versions of the standard practice ASTM E1643 and the standard specification ASTM E1745. The vapor retarder must be placed directly underneath the concrete slab, above the granular fill, per Manufacturer's instructions. The vapor retarder must have a perm rating of 0.1 or less and must have a minimum thickness of 10 mil (0.010 in).
C. No sealers or curing compounds are applied to or mixed into the concrete (refer to Section 03 05 00 – Common Work Results for Concrete of Division 3).
D. Installation of the elastomeric sheeting to be carried out no sooner than the specified curing time of the concrete (normal density concrete curing time is approximately 28 days for development of design strength, having a minimum 3500 psi or 25 MPa in compressive strength).

E. Elastomeric sheeting is mainly loose-laid (not glued down), but specific areas (such as at columns, doorways and everywhere a head seam of resilient athletic flooring falls) will need to be glued down for stability and aesthetic reasons. The substrate's surface must be free of all contaminants that can inhibit bond (paint, wax, dust, oil or grease, sealer, curing compound, solvent, asphalt, old adhesive residues, etc.). All contaminants must be removed from the surface via mechanical abatement. Use of abatement chemicals is not recommended.
F. Concrete must have a smooth finish, proper density and be highly compacted with a tolerance of 1/8" (3.2 mm) on a 10-foot (3.05 m) radius. Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.
G. Moisture and alkalinity tests must be performed on all concrete substrates, under in-service conditions. It is recommended to turn on the HVAC unit prior to performing moisture testing, in order to ensure stable testing conditions and accurate results. The concrete's surface pH should be between 7 and 10. Relative humidity of the concrete slab must not exceed 92%, in accordance with the current version of ASTM F2170 (in situ probes). Moisture vapor emissions from the concrete slab must not exceed 12lb/1000ft^2/24hr, in accordance with the current version of ASTM F1869 (anhydrous calcium chloride).
H. Maintain stable room and substrate temperatures prior to moisture testing and installation, during the installation, as well as a minimum of 48 hours after the complete installation of the flooring system. Recommended ambient temperature range is between 65°F and 86°F (18°C and 30°C) and recommended ambient humidity range is between 35% and 55%.
I. If installing over wood substrates, use exterior grade plywood with at least one good side, such as: APA (Engineered Wood Association) Exterior grade plywood (A-A Exterior, A-B Exterior or A-C Exterior) and CANPLY (Canadian Plywood Association) Exterior certified plywood (Canada: Grade G2S A-A or G1S A-C. USA: Grade G2S A-A, A-B, B-B or G1S A-C and B-C). There must be proper underfloor ventilation, plywood must be dry and should have a moisture content ranging from 6% to 12%, when measured with a quality wood moisture meter (electronic hygrometer).
J. Installation of elastomeric sheeting will not commence until the building is enclosed and all other trades have completed their work. 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 elastomeric sheeting.

1.7 LIMITED WARRANTY

A. The elastomeric sheeting is warranted to be free from manufacturing defects for a period of one (1) year from the date that is 30 days from shipment from the Manufacturer, per the terms and conditions of the Manufacturer's written Limited Warranty.
B. Refer to current copy of Manufacturer's written Limited Warranty for all terms and conditions, which shall be obtained directly from Manufacturer. In no event shall any warranties provided by any third parties (including distributors, insurance and/or private label providers) be considered a valid.

2 PART 2 – PRODUCTS

2.1 MANUFACTURED PRODUCT

2.1.1 Manufacturer

A. Mondo S.p.A.: Piazzale E. Stroppiana, 1, 12051 Alba, Fraz. Gallo - Italia.

2.1.2 Description

A. Everlay T is prefabricated single sheet fiberglass-reinforced resilient underlayment for stabilizing, waterproofing and insulating, treated on both sides with synthetic elastomeric resins, with a series of stems in expanded resin on the underside, as manufactured by Mondo S.p.A or approved equal.
B. Health-Conscious Production: Everlay T is manufactured without bisphenol A (BPA), formaldehyde, heavy metals and isocyanates.
C. Thickness: 0.059” (1.5 mm).
D. Color: Provided in one standard solid color.
E. Surface Texture: Smooth.
F. Format: Available in sheets that are 6’6” (2 m) wide and 82’ (25 m) long.

2.1.3 Performance

Specifier Note: Results may vary slightly between production runs, due to manufacturing tolerances and testing methods/equipment used by laboratories during analysis. However, Manufactured Product must always meet any minimum requirements listed.

A. Performance characteristics of Manufactured Product to conform to the following requirements:

Characteristic	Standard	Requirement	Result*
Critical Radiant Flux	ASTM E648	≥0.22 (Class 2)	≥0.45 (Class 1)
Thickness	ASTM F386	0.059” (1.5 mm)	Compliant
Water Tightness	EN 1928	-	No waterproofing loss
Water Vapour Resistance (Z_p)	EN 1931	-	$5.9x10^9$ s·m²Pa/kg
Water Vapour Diffusion Resistance Factor (μ)	EN 1931	-	776
Thermal Resistance	EN 12667	-	0.0099 m²K/W
Thermal Conductivity	EN 12667	-	0.1515 W/mK
Sound Insulation	ISO 10140-3	-	≈ 8 dB
Dimensional Stability	ISO 23999	-	0.02%
Curling After Heat Exposure	ISO 23999	-	0 mm

* Results obtained from manufacturing controls can vary between production lots and do not constitute representations or warranties as to any particular production lot. Mondo reserves the right to modify product design and/or specifications at any time without notice.
.

2.1.4 Limitations

A. Everlay T cannot be used in conjunction with thinner flooring products (such as 2 mm, 3 mm and 3.5 mm contract flooring, 4 mm Advance and 4 mm Reflex HP flooring products).
B. Everlay T is designed for a loose-laid (floating) application; do not use in areas that will receive frequent surface impacts (such as designated free weight areas).
C. In a special case where Everlay T has to be installed under bleachers/retractable bleachers, it is required to glue down the system in all wheel paths. Be mindful not to encapsulate the system (avoid preventing air flow underneath the Everlay T). Bleachers must be limited in rows and lightweight to avoid point loading.
D. Vented cove base must always be used in conjunction with Everlay T.

2.1.5 Materials

A. Provide Everlay T elastomeric sheeting, as manufactured by Mondo S.p.A. or approved equal.
B. Provide Manufactured Product, as specified in section 2.1.2 Description.

2.2 ACCESSORIES

Specifier Note: Accessories should be specified in accordance with the project requirements.

A. Provide adhesive certified by Manufacturer: Mondo PU 100 (polyurethane) adhesive or Mondo PU 200 (polyurethane) adhesive is recommended for installations over concrete and/or wood substrates. For suitability, recommendations and use, please refer to Manufacturer's current printed adhesive data sheets.
B. Portland cement based patching or leveling compound to be supplied or recommended/approved by Manufacturer.
C. Vented cove base to be supplied or recommended/approved by 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 elastomeric sheeting installation.

A. Prior to elastomeric sheeting installation, ensure substrate is ready to receive resilient flooring products and has been prepared according to Manufacturer's current substrate surface preparation guidelines. Refer to current version of ASTM F710 for additional information.
B. Ensure that concrete slabs, on or below grade, are installed over a permanent effective vapor retarder, respecting current versions of the standard practice ASTM E1643 and the standard specification ASTM E1745. The vapor retarder must be placed directly underneath the concrete slab, above the granular fill, as per Manufacturer's instructions. The vapor retarder must have a perm rating of 0.1 or less and must have a minimum thickness of 10 mil (0.010 in).
C. Installation of the elastomeric sheeting to be carried out no sooner than the specified curing time of the concrete (normal density concrete curing time is approximately 28 days for development of design strength, having a minimum 3500 psi or 25 MPa in compressive strength).
D. Ensure that no sealers or curing compounds have been applied to or mixed into the concrete (refer to Section 03 05 00 – Common Work Results for Concrete of Division 3).
E. Elastomeric sheeting is mainly loose-laid (not glued down), but specific areas (such as at columns, doorways and everywhere a head seam of resilient athletic flooring falls) will need to be glued down for stability and aesthetic reasons. Ensure that the substrate's surface is free of all contaminants that could inhibit bond (paint, wax, dust, oil or grease, sealer, curing compound, solvent, asphalt, old adhesive residues, etc.). All contaminants must be removed from the surface via mechanical abatement. Use of abatement chemicals is not recommended.
F. Confirm concrete has a smooth finish, proper density and is highly compacted with a tolerance of 1/8th of an inch in a 10-foot radius (3.2 mm in a 3.05 m radius). Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.
G. Moisture and alkalinity tests must be performed on all concrete substrates, under in-service conditions. It is recommended to turn on the HVAC unit prior to performing moisture testing, in order to ensure stable testing conditions and accurate results. Confirm that the concrete's surface pH is between 7 and 10. When testing in accordance to the current version of ASTM F2170 (in situ probes), confirm RH does not

exceed 92%. When testing in accordance to the current version of ASTM F1869 (anhydrous calcium chloride), confirm moisture vapor emissions from the concrete slab do not exceed 12lb/1000ft^2/24hr.

H. Ensure room and substrate temperatures are maintained prior to moisture testing and installation, during installation, as well as a minimum of 48 hours after the complete installation of the flooring system. Recommended ambient temperature range is between 65°F and 86°F (18°C and 30°C) and recommended ambient humidity range is between 35% and 55%.

I. If installing over wood substrates, ensure exterior grade plywood with at least one good side, such as: APA (Engineered Wood Association) Exterior grade plywood (A-A Exterior, A-B Exterior or A-C Exterior) and CANPLY (Canadian Plywood Association) Exterior certified plywood (Canada: Grade G2S A-A or G1S A-C. USA: G2S A-A, A-B, B-B, or G1S A-C, B-C). There must be proper underfloor ventilation, plywood must be dry and should have a moisture content ranging between 6 and 12%, when measured with a quality wood moisture meter (electronic hygrometer).

J. Installation of elastomeric sheeting will not commence until the building is enclosed and all other trades have completed their work. It is the General Contractor or Construction Manager's responsibility to ensure and maintain a secure and clean working area before, during and after the installation of elastomeric sheeting.

3.3 PREPARATION

Specifier Note: The surface of the concrete (or wood when specified) is to be prepared according to Manufacturer's current printed guidelines; it is recommended that the Specifier review said guidelines. A copy of the substrate surface preparation guidelines can be obtained from the Technical Department at Mondo America, Inc. (United States 1-800-361-3747 • Canada 1-800-663-8138). The guidelines are considered common practice for the preparation and verification of substrates that will be receiving resilient flooring products, and as such should not be omitted or altered in any case.

A. Prepare substrate surface in accordance with Manufacturer's current printed guidelines.

3.4 INSTALLATION

Specifier Note: Products Supplied are to be installed following their current printed guidelines; it is recommended that the Specifier review said guidelines. Copies of all installation guidelines for Products Supplied can be obtained from the Technical Department at Mondo America, Inc. (United States 1-800-361-3747 • Canada 1-800-663-8138). Installation procedures may be altered to accommodate special project needs, as deemed necessary by the Specifier and after he/she has consulted the Technical Department at Mondo America, Inc. to ensure suitability.

A. Install elastomeric sheeting following Manufacturer's current printed guidelines.
B. Install all accessories following Manufacturer's current printed guidelines.

3.5 REPAIR

A. Repairs are to be performed by Surfacing Contractor's qualified installers/technicians only.
B. Repairs shall be performed utilizing same-thickness materials as the original Manufactured Product installed.

3.6 CLEANING

A. Elastomeric sheeting may be vacuumed to remove dust from its surface, prior to the installation of the resilient athletic flooring atop. Never wash elastomeric sheeting with chemicals to avoid leaving deleterious surface residue that may affect the adhesion of the resilient athletic flooring atop.

3.7 PROTECTION

A. As needed, protect the elastomeric sheeting with 1/8” Masonite during and after the installation, prior to acceptance by the Owner.
B. Preserve the integrity of the installation and protect against direct sunlight/UV exposure; always ensure that windows and glass doors have inherent UV protection and/or are fitted with blinds/UV film.