

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 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 resilient underlayment 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 13 00: Sheet Waterproofing.

SECTION 07 13 53

Elastomeric Sheet Waterproofing

1 PART 1 – GENERAL

1.1 SUMMARY

1.1.1 Products Supplied

- A. Resilient underlayment/Elastomeric Sheet Waterproofing.
- B. Accessories required for 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 resilient underlayment. 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 E662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
- C. 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.
- D. ASTM E1745: Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
- 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.

1.2.2 European Committee for Standardization (CEN)

- A. EN 1931: Flexible sheets for waterproofing -- Bitumen, plastic and rubber sheets for roof waterproofing - Determination of water vapour transmission properties.
- B. EN12667: 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 10140-1: Acoustics. Laboratory measurement of sound insulation of building elements - Part 1: Application rules for specific products.
- C. 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.

1.3.1 Action Submittals

- A. Provide current printed data sheets for all Products Supplied.
- B. Provide samples, 6 inches x 6 inches, for verification and suitability.
- C. As necessary, provide shop drawings prepared for project illustrating layouts, details, dimensions and other data.

1.3.2 Informational Submittals

- A. Provide Manufacturer's current printed subfloor preparation guidelines.
- B. Provide Manufacturer's current printed installation guidelines for Products Supplied.

1.3.3 Closeout Submittals

- A. Provide Manufacturer's current printed standard warranty for resilient underlayment.

1.4 QUALITY ASSURANCE

- A. Manufacturer must be certified ISO 9001.
- B. In accordance with ASTM E648, the Manufactured Product must have a critical radiant flux $\geq 0.45\text{W/cm}^2$ (Class 1).
- C. In accordance with ASTM E662, the Manufactured Product must have an optical density of smoke < 450 .
- D. Manufacturer must have a minimum of fifteen (15) years of experience in the manufacturing resilient underlayment for use with prefabricated resilient athletic flooring.
- E. Installer must have performed installations of the same scale in the last three (3) years.
- F. Installer to be recognized and approved by the resilient underlayment Manufacturer.

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

- G. 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: [XXin x XXin (XXcm x XXcm)].

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 resilient underlayment upright.
- C. Climate controlled storage is recommended. Storage temperature must not be below 55°F (13°C) and must not exceed 100°F (38°C).
- 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.
- B. Concrete subfloors, on or below grade, must be installed over a permanent effective vapor retarder, respecting current versions of 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 (0.010in).
- C. Installation of the resilient underlayment 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). Refer to current version of ASTM F710.
- D. The resilient underlayment will be glued down in limited areas, such as doorways, around columns and wherever a resilient athletic flooring head seam is located. In those areas, the subfloor's surface must be free of any paint, wax, oil, grease, sealer, curing compound, solvent or any other contaminants that may inhibit bond. All contaminants must be removed from the surface via mechanical abatement. Use of abatement chemicals is not recommended.
- E. Concrete to have smooth, dense finish, and be highly compacted with a tolerance of 1/8" in a 10ft radius (3.2mm in 3.05m radius). Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.
- F. Moisture 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. Moisture vapor emissions from the concrete slab must not exceed 12lb/1,000ft²/24hr, in accordance with ASTM F1869 (anhydrous calcium chloride).
- G. If installing over wood subfloors, 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).

- H. Maintain a stable room and subfloor temperature within the recommended range of 65°F to 86°F (18°C to 30°C), 48 hours prior to installation, during the installation, and 48 hours after the installation. Recommended ambient humidity control level is between 35 to 55%.
- I. Installation of resilient underlayment 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 the resilient underlayment and subsequent resilient athletic flooring.

1.7 WARRANTY

- A. The resilient athletic flooring is warranted to be free from manufacturing defects for a period of one (1) year from the date of shipment from the Manufacturer.
- B. Refer to current copy of Manufactured Product's Limited Warranty for all terms and conditions.

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 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. Everlay T is heavy metal-free, isocyanate-free, formaldehyde-free and BPA-free.
- C. Thickness: 0.059" (1.5mm).
- D. Colors: Provided in one standard color.
- E. Surface Texture: Smooth.
- F. Format: Available in sheets that are 6'6" (2m) wide and 82' (25m) long.

2.1.3 Performance

- A. Performance of the Manufactured Product to conform to the following criteria:

Performance Criterion	Test Method	Requirement	Result
Critical Radiant Flux	ASTM E648	≥0.45	≥0.45W/cm ²
Optical Density of Smoke	ASTM E662	<450	<450
Water Vapour Transmission	EN 1931	-	5.9X10 ⁹ s·m ² Pa/kg
Vapour Resistance Factor	EN 1931	-	776
Thermal Resistance	EN 12667	-	0.0099m ² K/W
Thermal Conductivity	EN 12667	-	0.1515W/mK
Dimensional Stability	EN 23999	-	0.02%
Sound Insulation	ISO 10140-1	-	8dB

2.1.4 Limitations

- A. Everlay T resilient underlayment is a loose laid (floating) system; do not use in areas that will receive frequent surface impacts (such as designated “free weight” sections in fitness facilities).
- B. In a special case where Everlay T resilient underlayment shall 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 (preventing air flow underneath the Everlay T). Bleachers must be limited in rows and lightweight to avoid point loading.
- C. Vented cove base must always be used in conjunction with Everlay T.

2.1.5 Materials

- A. Provide Everlay T resilient underlayment, as manufactured by Mondo S.p.A. or approved equal.
- B. Provide resilient underlayment 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 105 (polyurethane). For suitability, recommendations and use please refer to Manufacturer’s current printed adhesive guidelines.
- B. 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 installation of resilient underlayment.

- A. Ensure that concrete subfloors, on or below grade, are installed over a permanent effective vapor retarder, respecting current versions of standard practice ASTM E1643 and 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 (0.010in).
- B. Installation of the resilient underlayment 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). Refer to current version of ASTM F710.
- C. The resilient underlayment will be glued down in limited areas, such as doorways, around columns and wherever a resilient athletic flooring head seam is located. In those areas, the subfloor’s surface must be free of any paint, wax, oil, grease, sealer, curing compound, solvent or any other contaminants that may inhibit bond. All contaminants must be removed from the surface via mechanical abatement. Use of abatement chemicals is not recommended.
- D. Confirm concrete has smooth, dense finish, and is highly compacted with a tolerance of 1/8” in a 10ft radius (3.2mm in 3.05m radius). Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.

- E. Moisture 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. Moisture vapor emissions from the concrete slab must not exceed 12lb/1,000ft²/24hr, in accordance with ASTM F1869 (anhydrous calcium chloride).
- F. If installing over wood subfloors, 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).
- G. Maintain a stable room and subfloor temperature within the recommended range of 65°F to 86°F (18°C to 30°C), 48 hours prior to installation, during the installation, and 48 hours after the installation. Recommended ambient humidity control level is between 35 to 55%.
- H. Installation of resilient underlayment will not commence until the building is enclosed and all other trades have completed their work. Ensure a secure and clean working area before, during and after the installation of the resilient underlayment and subsequent resilient athletic flooring.

3.3 PREPARATION

Specifier Note: Subfloors are to be prepared according to Manufacturer's current printed guidelines; it is recommended that the Specifier review said guidelines. A copy of the subfloor preparation guidelines can be obtained from the Technical Department at Mondo America, Inc. The following are considered common practice for the preparation and verification of subfloor surfaces that will receive resilient underlayment, and as such should not be omitted or altered in any case.

- A. Prepare subfloor 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. 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 rolls of resilient underlayment following Manufacturer's current printed guidelines.
- B. Install all accessories following Manufacturer's current printed guidelines.

3.5 REPAIR

- A. Repair material must have the same thickness as Manufactured Product initially installed.
- B. Repairs are to be performed by qualified installers/technicians only.

3.6 PROTECTION

- A. As needed, protect resilient underlayment with 1/8" Masonite during and after the installation, prior to acceptance by the Owner.