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*V SPECS VERIFIED SPEC NOTE: This Section has been scored against "Industry Standard Practices", using V SPECS proprietary 35pt Inspection and Scoring Methodology within its Product Master Specification Report Card.*

*V SPECS VERIFIED Seal is Valid for 12 months beginning: December 1, 2025*



*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: This Product Master Specification Section includes DMX MEMBRANES LIMITED SPEC NOTES for information purposes and to assist the editor in making appropriate decisions. DMX MEMBRANES LIMITED SPEC NOTES are color-coded, identifying type and responsibility/action requirements, and always immediately precede the text to which it is referring.*

*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: Optional text is indicated by square brackets [ ]; Delete the optional text including the brackets in the final copy of the Specification. Delete all DMX MEMBRANES LIMITED SPEC NOTES in the final copy of the Specification, prior to Project Tendering/Pricing. The Section content serves as a guideline only and should be edited (by additions, deletions, and modifications) to meet specific project requirements.*

*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: This Specification Section follows the recommendations of the Construction Specifications Institute (CSI), Manual of Practice including MasterFormat names and numbers, SectionFormat layout guidelines, and PageFormat paragraph numbering.*

*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: DMX MEMBRANES LIMITED manufactures and sells sheet dampproofing and dimpled drainage board products. DMX MEMBRANES LIMITED does not practice architecture or engineering. Therefore, the design responsibility remains with the architect or engineer. The information given here is based upon data considered to be true and accurate and is offered solely for the user's consideration, investigation and verification. Nothing contained herein is representative of a warranty or guarantee for which DMX MEMBRANES LIMITED can be held legally responsible. DMX MEMBRANES LIMITED does not assume any responsibility for any misinterpretation or assumptions the reader may formulate.*

*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: This Product Master Section specifies a dimpled high-density polyethylene (HDPE) sheet dampproofing membrane installed on below-grade foundation walls to resist moisture penetration and relieve hydrostatic pressure. The system provides a continuous drainage layer between the foundation wall and backfill and directs collected water toward the perimeter drainage system.*

*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: DMX MEMBRANES LIMITED is a Canadian manufacturer located in Brampton, Ontario. The company produces foundation moisture protection and flooring underlayment systems used across North America. All DMX products are manufactured in Canada and tested under rigorous in-house quality control procedures to ensure consistent strength, durability, and dimensional accuracy.*

*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: DMX AG Foundation Wrap forms a protective air-gap barrier between the foundation wall and soil, allowing water to drain downward to the footing drain while preventing direct moisture contact with the foundation structure.*

*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: The product installs mechanically without primers, solvents, or adhesives, providing a clean and efficient installation process suitable for all weather conditions. DMX AG Foundation Wrap is made entirely from virgin resin, ensuring consistent material composition, superior flexibility, and high Environmental Stress Crack Resistance (ESCR). Unlike membranes produced from recycled resins, DMX AG Foundation Wrap maintains long-term performance without embrittlement or micro-cracking.*

*DMX MEMBRANES LIMITED PREFACE SPEC NOTE: DMX AG Foundation Wrap's reinforced flat tab, higher compressive strength, and single-manufacturer accessory system provide installation advantages, faster application, and long-term reliability. These characteristics have made DMX AG Foundation Wrap the preferred choice among major North American homebuilders and contractors seeking consistent, low-maintenance, user-friendly, and reliable performance from their dampproofing systems.*

*DMX MEMBRANES LIMITED ENVIRO PREFACE SPEC NOTE: This Section specifies environmentally responsible material choices which include ENVIRO SPEC NOTES that always immediately precede text regarding Environmental practices, approaches, and rating system contributions.*

*DMX MEMBRANES LIMITED ENVIRO PREFACE SPEC NOTE: The manufacturer produces DMX AG Foundation Wrap using a low-heat, low-shear extrusion process that minimizes polymer degradation and energy use during production. This process extends the service life of the membrane and reduces the need for product replacement, lowering embodied carbon over the building's lifecycle.*

*DMX MEMBRANES LIMITED ENVIRO PREFACE SPEC NOTE: The membrane is made from 100 percent virgin high-density polyethylene (HDPE), which is chemically inert, non-toxic, and fully recyclable at the end of its service life. The product contains no volatile organic compounds (VOCs), formaldehyde, or heavy metal additives, contributing to improved indoor and outdoor air quality during construction and occupancy.*

## **1 GENERAL**

### **1.1 GENERAL REQUIREMENTS**

- A. The General Conditions, the Supplementary Conditions, the Instructions to Bidders and Division 1 General Requirements shall be read in conjunction with and govern this section.

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph to select either Contractor or Construction Manager, and Subcontractor or Trade Contractor, depending on the Contract Type used on the Project.*

*DMX MEMBRANES LIMITED SPEC NOTE: When Tendering this Section to a Contractor, select both Contractor and Subcontractor. When issuing this Section for Pricing, Select both Construction Manager and Trade Contractor. Delete the title references not required on the Project.*

- B. The Specification shall be read in its entirety by all parties concerned. Each Section may contain more or less than the complete work of any trade. The [Contractor][Construction Manager] is solely responsible to make clear to the [Subcontractor][Trade Contractor] the extent of their work.
- C. The Consultant and Owner assume no responsibility to act as arbiters or to establish subcontract limits between Sections or Divisions of the Work. Any references to related work items contained in this Section are provided for convenience only.

## 1.2 SUMMARY

- A. The Work of this Section includes, but is not limited to the following:
  - 1. Supply and installation of a dimpled high-density polyethylene (HDPE) sheet dampproofing membrane on the exterior face of below-grade foundation walls to resist moisture penetration, withstand hydrostatic pressure, and direct water toward the perimeter drainage system.
  - 2. Supply and installation of all related accessories required to complete the system, including manufacturer's proprietary fasteners, washers, and termination trims designed for use with the specified dampproofing membrane.
  - 3. Coordination with other trades for the placement of foundation drainage systems, wall penetrations, and associated waterproofing or insulation components to ensure a continuous and watertight installation.
  - 4. Completion of all work necessary for a functional and continuous dampproofing system, fully integrated with the project's foundation drainage and moisture management assemblies.

## 1.3 REFERENCE STANDARDS

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the bid closing date of this Project shall be applicable to this Project.
- C. All materials, installation and workmanship shall comply with all applicable requirements and standards.

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph to reflect reference standards for this Project.*

- D. American Society for Testing and Materials (ASTM):
  - 1. ASTM D543: Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents
  - 2. ASTM D638: Standard Test Method for Tensile Properties of Plastics
  - 3. ASTM D746: Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
  - 4. ASTM D882: Standard Test Method for Tensile Properties of Thin Plastic Sheeting
  - 5. ASTM D1203: Standard Test Methods for Volatile Loss from Plastics Using Activated Carbon Methods
  - 6. ASTM D1204: Standard Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature
  - 7. ASTM D1621: Standard Test Method for Compressive Properties of Rigid Cellular Plastics
  - 8. ASTM D1709: Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method
  - 9. ASTM D1777: Standard Test Method for Thickness of Textile Materials
  - 10. ASTM D5321/D5321M: Standard Test Method for Determining the Shear Strength of Soil-Geosynthetic and Geosynthetic-Geosynthetic Interfaces by Direct Shear

- E. Canadian Construction Materials Centre (CCMC):
  - 1. CCMC 13169-R – Evaluation Report for Rigid Polyethylene or Polystyrene Dampproofing Membrane
  - 2. CCMC 13182-R – CCMC Technical Guide for Foundation Wall Drainage Systems – Dimpled Membranes
  - 3. CCMC Technical Guide for Rigid Polyethylene or Polystyrene Dampproofing Membrane, MasterFormat Section 07 11 19.01
- F. International Code Council – Evaluation Service (ICC-ES):
  - 1. ICC-ES ESR 2896, Evaluation Report for DMX AG Foundation Wrap
- G. International Organization for Standardization (ISO):
  - 1. ISO 14021 – Environmental Labels and Declarations – Self-declared Environmental Claims (Type II Environmental Labelling)
- H. In case of conflict between referenced standards, or between these standards and this Section, the more stringent requirement shall apply.
- I. Maintain at the project site a copy of each referenced standard that is directly related to the Work of this Section.

#### 1.4 DEFINITIONS

*DMX MEMBRANES LIMITED SPEC NOTE: The following definitions are provided to assist the Editor in understanding terminology specific to dampproofing systems and to maintain clarity when interpreting this Section. Delete definitions not applicable to the project or those already defined elsewhere in Division 01.*

- A. Air-Gap Membrane: A dimpled high-density polyethylene (HDPE) sheet designed to create a continuous airspace between the foundation wall and backfill. The dimples form a drainage cavity that relieves hydrostatic pressure and directs moisture downward to the perimeter drainage system.
- B. Flat Tab: The smooth upper edge of the DMX AG membrane used for mechanical fastening to the foundation wall. The flat tab is reinforced to withstand backfill pressure, Prevents soil from entering the top of the membrane and to eliminate the need for a separate termination bar.
- C. Environmental Stress Crack Resistance (ESCR): The ability of HDPE to resist cracking or failure when exposed to stress, moisture, and chemical agents present in soil. High ESCR values indicate long-term performance and durability under backfill loads.
- D. Foundation Drainage System: A subgrade assembly consisting of perforated piping, gravel, and filter media designed to collect and convey water away from the base of the foundation wall. The dampproofing membrane is installed in coordination with this system to maintain continuous drainage.
- E. Dampproofing: The treatment of surfaces to resist the passage of moisture not subject to hydrostatic pressure. This differs from waterproofing, which is intended to resist both moisture and hydrostatic pressure.
- F. Drainage Plane: The cavity or air space created by the dimpled side of the membrane that allows incidental water to move freely down to the foundation drain while protecting the wall substrate from direct soil contact.

*DMX MEMBRANES LIMITED SPEC NOTE: Review this article carefully to ensure that coordination and administrative requirements align with project delivery methods and construction sequencing. Delete paragraphs not applicable to the specific project.*

## 1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the Work of this Section with all other trades affecting, or affected by, installation of the dampproofing membrane, including but not limited to:
  - 1. Concrete forming and placing.
  - 2. Parging and surface preparation trades.
  - 3. Waterproofing and insulation installers.
  - 4. Foundation drainage and backfilling operations.
  - 5. Mechanical and electrical trades penetrating foundation walls.
- B. Coordinate the installation sequence of the dampproofing membrane with the placement of the perimeter drain tile and granular drainage layer to ensure a continuous drainage path and prevent obstruction of flow.
- C. Coordinate with the Consultant for required inspections prior to backfilling and for review of any modifications to details around penetrations, stepped foundations, or terminations at grade.

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.*

- D. Pre-Construction Meeting: Arrange a preconstruction meeting in accordance with [Division 01][Section 01 31 19 Project Meetings] at least seven (7) days prior to commencement of Work of this Section.
- E. Notification: Notify Consultant and Owner of scheduled meeting dates in advance; minimum 72 hour notice required.

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.*

- F. Attendees: Attended by [Contractor][Construction Manager], Consultant, and the [Subcontractor][Trade Contractor] to discuss the following:
  - 1. Establishing procedures to maintain optimum working conditions and to coordinate Work of this Section with related and adjacent work.
  - 2. Review project scheduling and coordination, as well as the following:
    - a. Approved shop drawings and product data.
    - b. Sequence and timing of work.
    - c. Site access, storage, and protection of materials.
    - d. Substrate readiness and inspection procedures.
    - e. Methods of fastening and termination details.
    - f. Requirements for protection prior to and during backfilling operations.

- g. Coordination with perimeter drain tile and other foundation moisture protection systems.
- G. Reporting: Record significant discussions, agreements, and disagreements, including required corrective measures and actions.
- H. Distribution: Distribute minutes of the meeting to each party present and to other parties requiring information not more than 72 hours after meeting.

## 1.6 SUBMITTALS

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.*

- A. Provide submittals as indicated in [Division 01][Section 01 33 00 Submittal Procedures].
- B. Action Submittals: Provide the following submittals before starting work of this Section:
  - 1. Product Data:
    - a. Submit manufacturer's current technical data sheets for each product specified, indicating material composition, physical properties, performance criteria, limitations, and recommended installation procedures.
    - b. Include information on Environmental Stress Crack Resistance (ESCR), compressive strength, vapour permeance, and temperature range as stated in the manufacturer's technical documentation.
  - 2. Shop Drawings:
    - a. Submit shop drawings showing layout and extent of membrane installation, including:
      - 1. Horizontal and vertical termination details.
      - 2. Integration with footing, foundation drains, and backfill interfaces.
      - 3. Detailing at corners, window wells, and stepped foundation walls.
      - 4. Methods of sealing around service penetrations.
      - 5. Connection to adjoining waterproofing or insulation systems.
    - b. Indicate fastening patterns, overlap dimensions, and termination heights relative to finished grade.
    - c. Identify transition details to other assemblies where dampproofing stops and waterproofing or insulation begins.
  - 3. Samples:
    - a. Submit 12 inches x 12 inches samples of sheet dampproofing membrane showing both flat tab and dimpled portions.
    - b. Submit representative samples of sheet dampproofing manufacturer's recommended membrane fasteners, washers; submit 12 inches long samples of trim and termination components.

C. Closeout Submittals:

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.*

*DMX MEMBRANES LIMITED SPEC NOTE: Unless modified, the clauses below are requests of the Contractor "to provide" to satisfy the requirements of this Section. Delete paragraphs not applicable to the specific project.*

1. Closeout Submittals: In accordance with [Division 01] [Section 01 78 00 Closeout Submittals].
2. As-built Drawings: Submit record drawings indicating any deviations from approved Shop Drawings and showing final locations of terminations, transitions, and service penetrations.
3. Maintenance Data: Provide manufacturer's maintenance and repair instructions for inclusion in the project Operation and Maintenance (O&M) Manuals. Include inspection procedures for damage repair prior to backfilling and recommendations for long-term monitoring.
4. Extra Materials: Submit one (1) unopened roll of sheet dampproofing membrane and sufficient accessories to repair 100 square feet of membrane area for maintenance purposes.
5. Warranty Documentation: Submit copy of extended warranties specified in this Section.

## 1.7 SUSTAINABLE DESIGN SUBMITTALS

*DMX MEMBRANES LIMITED SPEC NOTE: This article is intended to inform the Editor and end-user of the sustainability attributes inherent to the product and manufacturing process. It provides guidance on how the product may assist the Project in achieving credits under various green building rating systems.*

*DMX MEMBRANES LIMITED SPEC NOTE: The high-quality resin utilized in the manufacturing process prevents plastic breakdown in the soil requiring maintenance or replacement.*

*DMX MEMBRANES LIMITED SPEC NOTE: To view 3<sup>rd</sup> party analysis report testing data on ASTM D4703: <https://www.youtube.com/watch?v=RhQAwbIE4MU>*

A. Material Ingredient Disclosure:

1. The sheet dampproofing membrane is 100 percent recyclable at the end of its service life.
  - a. This supports Materials and Resources credits for Construction Waste Management and Material Reuse under LEED and CALGreen by reducing landfill waste and enabling closed-loop material recovery.
2. The use of virgin resin within the sheet dampproofing membrane ensures consistent performance and eliminates the variability associated with recycled-content plastics, resulting in improved Environmental Stress Crack Resistance (ESCR) and reduced maintenance or replacement frequency.
  - a. This durability aligns with Green Globes and Living Building Challenge priorities for long-term material resilience and resource conservation.

*DMX MEMBRANES LIMITED ENVIRO SPEC NOTE: Most sustainable building rating systems include credits for the use of local or regional materials as defined by the rating system. Specifying local materials may help minimize transportation impacts; However, it may not have a significant impact on reducing the overall embodied energy of a building material because of efficiencies of scale in some modes of transportation.*

*DMX MEMBRANES LIMITED ENVIRO SPEC NOTE: The membrane is manufactured entirely in Canada, minimizing transportation-related emissions for Canadian projects and contributing to regional material sourcing objectives under LEED v4 and other regional procurement frameworks.*

- B. Local/Regional Materials:
  - 1. Sourcing Locations: Provide extraction, harvesting, and recovery locations, and indicate distances from these locations to the project site.
  - 2. Manufacturing Locations: Indicate the location of the manufacturing facility and the distance from the facility to the project site.
  - 3. Product Value: Provide the dollar value of products containing local or regional materials, based on material costs only.
  - 4. Product Component Values: For products with components sourced or manufactured at separate locations, provide the location details for each component. Indicate the percentage by weight of each component per unit of product.
- C. VOC Content for adhesives and sealants: Submit manufacturer's product data for adhesives. Indicate VOC limits of the product. Submit SDS highlighting VOC limits.

## 1.8 QUALITY ASSURANCE

*DMX MEMBRANES LIMITED SPEC NOTE: Review this article carefully and coordinate with Division 01 Quality Requirements. Retain subparagraphs that apply to project-specific conditions. Delete paragraphs not relevant to the scope or local regulatory requirements.*

- A. Manufacturer's Qualifications:
  - 1. Manufacturer shall have a minimum of ten (10) years of documented experience producing dimpled high-density polyethylene (HDPE) dampproofing and drainage products for use on below-grade foundation walls.
  - 2. Manufacturer shall provide evidence of current CCMC and ICC-ES product evaluations verifying compliance with technical and performance standards for dampproofing membranes.
  - 3. Manufacturer shall maintain in-house testing programs for compressive strength, roll weight verification, and dimensional consistency, including routine performance checks using the Deflection (Banana) Test and Hang Test methods.
- B. Installer's Qualifications:
  - 1. Installation shall be performed by a firm or crew with a minimum of three (3) years of verifiable experience in the installation of dimpled dampproofing membranes on projects of similar size and complexity.
  - 2. Installers shall have successfully completed the Manufacturer's Certified Installer Program, or demonstrate equivalent training and experience in accordance with manufacturer requirements.

3. Only installers trained and approved by dampproofing membrane manufacturer shall be eligible to perform Work that qualifies for the manufacturer's 30-year limited material warranty.
  4. Always maintain on site a supervisor who has completed the Manufacturer's Certified Installer Program, and who is authorized by the manufacturer to oversee and approve Work performed under this Section.
- C. Single Source Responsibility:
1. Obtain components and accessories for Work of this Section through one source, from a single manufacturer to ensure system component compatibility and warranty requirements are satisfied.
    - a. Mixing Products across from various manufacturers without manufacturers' written permission is not permitted and will void warranties specified below.

*DMX MEMBRANES LIMITED SPEC NOTE: Mock-ups are required where the Consultant or Owner wishes to verify the installer's ability to properly apply, fasten, and terminate the sheet dampproofing membrane system prior to commencement of full installation. Delete this article if not required by the project.*

## 1.9 MOCK-UPS

- A. Construct a mock-up panel minimum 4 feet by 4 feet in size, incorporating a typical lap joint, one inside corner and one outside corner, including the following:

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the followings subparagraphs below to reflect the scope of the required mock-up. Add and/or remove where required.*

1. Concrete substrate representative of field conditions.
  2. Installation of sheet dampproofing membrane showing correct orientation of dimples, fastening pattern, and overlap detail.
  3. Installation of flat tab with recommended washers spaced as per manufacturer's requirements.
  4. Typical corner condition, vertical overlap seam, and penetration detail.
- B. Locate mock-up where directed by the Consultant. Ensure location allows safe and repeated access for inspection and reference throughout the duration of the Work.
- C. Construct mock-up using materials, equipment, and personnel intended for the final installation.
- D. Do not proceed with full-scale Work until the mock-up has been reviewed and accepted by the Consultant.
1. Acceptance of the mock-up shall constitute approval of the visual standard for quality of materials, workmanship, and application methods.
  2. Approved mock-up may remain as part of the final Work if located in an area approved by the Consultant and if not damaged or altered during construction.
- E. If the mock-up is not accepted, correct deficiencies and construct an additional mock-up until approved at no additional cost to the Owner.
- F. Maintain approved mock-up on site as a reference standard for the duration of the Work. Protect the mock-up from damage and environmental exposure.

- G. Provide and document modifications to construction details and interfaces between components and systems required to properly sequence the Work, or to pass performance testing requirements.
1. Obtain Consultant's approval for all modifications prior to proceeding with work.

*DMX MEMBRANES LIMITED SPEC NOTE: The mock-up provides an opportunity to confirm surface preparation, fastening layout, termination detail, and visual appearance of the finished membrane.*

*DMX MEMBRANES LIMITED SPEC NOTE: It is strongly recommended that the Consultant conduct a mock-up review before allowing commencement of full installation to ensure warranty compliance and consistent workmanship standards.*

- H. Mock-up Review Meeting:

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.*

1. Schedule mock-up review meeting, attended by [Contractor][Construction Manager], [Subcontractor][Trade Contractor], Manufacturer's Representative and Consultant.
2. Convene a meeting at the mock-up location immediately following completion of the installation.
3. Review the following:
  - a. Installation technique and membrane fastening method.
  - b. Proper alignment, overlap, and termination conditions.
  - c. Compatibility with foundation drainage and adjacent waterproofing systems.
  - d. Procedures for protection of installed membrane prior to and during backfilling.
4. Record results of the review meeting, including any corrective actions required. Distribute meeting minutes to all attendees within seventy-two (72) hours of review.

*DMX MEMBRANES LIMITED SPEC NOTE: This article establishes procedures to maintain product integrity from delivery through installation. Edit only where project-specific site conditions require modification.*

*DMX MEMBRANES LIMITED SPEC NOTE: The following subparagraphs maintain compliance with the manufacturer's warranty and ensure the physical properties of the sheet dampproofing membrane will remain unaffected prior to installation.*

#### **1.10 DELIVERY, STORAGE, HANDLING AND PROTECTION**

- A. Follow packaging, shipping and product handling requirements recommended by the manufacturer.
- B. Coordinate deliveries to comply with the construction schedule and arrange ahead for off ground, under cover storage location. Do not load any area beyond the design limits.
- C. Materials shall be carefully checked, unloaded, stored and handled to prevent damage. Protect materials with suitable non-staining waterproof coverings.
- D. Deliver, store and handle materials in accordance with manufacturer's written instructions.

- E. Store rolls of sheet dampproofing rolls in their original packaging, with factory seals intact and labels clearly identifying product name, type, and batch number.
- F. Store sheet dampproofing rolls upright on pallets and keep dry at all times. Do not store directly on grade or on uneven surfaces where deformation or contamination may occur.
- G. Protect sheet dampproofing rolls from prolonged exposure to direct sunlight. The manufacturer's warranty is void if sheet dampproofing rolls are stored outdoors in direct sunlight for more than thirty (30) days. Cover stored materials with opaque, breathable tarpaulins to prevent ultraviolet degradation and condensation buildup.
- H. Protect materials from punctures, cuts, crushing, and other physical damage during transportation, unloading, and storage. Do not stack heavy objects or construction materials on top of stored membrane rolls or accessories.
- I. Store accessories and fasteners in clean, dry, and covered conditions to prevent corrosion or deformation prior to installation.
- J. Do not expose sheet dampproofing membrane or accessories to open flame, welding sparks, or high heat sources.
- K. Remove from site and replace any materials that become wet, contaminated, or damaged prior to installation.
- L. Deliver required sheet dampproofing membrane and accessories to the site to allow installation to proceed without interruption.

#### 1.11 FIELD CONDITIONS

- A. Weather Conditions:
  - 1. Schedule installation of materials in this Section when existing and forecasted weather conditions permit installation according to manufacturer's written instructions and warranty requirements.
  - 2. Do not install materials during inclement weather that may affect the workmanship quality of the installer.

#### 1.12 MANUFACTURER WARRANTY

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.*

- A. Provide extended warranties in accordance with [Division 01][Section 01 78 36 Warranties].

*DMX MEMBRANES LIMITED SPEC NOTE: Retain all paragraphs unless modified by project-specific conditions. Adjust the duration only when extended warranties are provided by the manufacturer through special written agreement.*

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the following paragraph below to reflect the length of the extended warranty period coverage.*

- B. Warrant the work of this Section against defects in materials and workmanship in accordance with the General Conditions, but for an extended period of thirty (30) years from date of [Substantial Performance of the Work][Ready-for-Takeover].
  - 1. Warranty shall include coverage for manufacturing defects in materials under normal use and service when installed in accordance with the manufacturer's published installation instructions.

2. Defects included but are not limited to the following:
  - a. Material failure or loss of structural integrity of the membrane under normal backfill loads.
  - b. Deterioration of the sheet dampproofing membrane resulting from defects in resin composition or extrusion process.
  - c. Separation or deformation of the flat tab due to manufacturing irregularities.
  - d. Dimensional instability or compressive failure of dimples caused by defective manufacturing.
  - e. Failure of sheet dampproofing membrane to provide water leakage protection to covered foundation walls when properly installed.

## 2 PRODUCTS

### 2.1 MANUFACTURER

- A. Basis-of-Design Products: Products named in this Section were used as the basis-of-design for the project; additional manufacturers offering similar products may be incorporated into the work of this Section provided they meet the performance requirements established by the named products.
- B. Acceptable Materials Manufacturers: Subject to compliance with requirements specified in this Section and as established by the Basis-of-Design Materials, manufacturers offering products that may be incorporated into the Work include; but are not limited to, the following:
  1. DMX MEMBRANES LIMITED  
165 Orenda Road, Brampton, Ontario, L6W 1W3  
Toll Free Tel: [1-855-501-7837](tel:1-855-501-7837)  
Email: [customerservice@dmxmembranes.com](mailto:customerservice@dmxmembranes.com)  
Website: [www.dmxmembranes.com](http://www.dmxmembranes.com)

*DMX MEMBRANES LIMITED SPEC NOTE: Edit the paragraph below based on whether or not Contractor-proposed substitutions are permitted.*

- C. Substitution Limitations: [No further substitutions are acceptable.] [Submit requests for substitution in accordance with requirements of Section 01 25 00 Substitution Procedures.]

*DMX MEMBRANES LIMITED SPEC NOTE: The performance and design criteria are derived directly from manufacturer testing, certification documentation, and published technical data. These values establish the minimum acceptable benchmarks for equivalent products and must be retained to ensure performance parity and warranty compliance.*

*DMX MEMBRANES LIMITED SPEC NOTE: DMX AG Foundation Wrap provides the heaviest roll weight in its class, averaging 55 lbs per 6.5 x 65.5 foot roll, confirming greater material thickness and mechanical durability compared to products of similar dimensions.*

*DMX MEMBRANES LIMITED SPEC NOTE: DMX AG Foundation Wrap is the only product in its category with both CCMC 13169-R and ICC-ES ESR 2896 approvals for installation without a separate termination bar.*

## 2.2 PERFORMANCE / DESIGN CRITERIA

### A. General Performance:

1. Provide a complete dimpled high-density polyethylene (HDPE) sheet dampproofing system designed to control moisture migration at below-grade foundation walls and to relieve hydrostatic pressure through continuous drainage.
2. The sheet dampproofing system shall consist of a high-compressive-strength HDPE sheet with integral dimples, accessories, and mechanical fasteners forming a continuous drainage path from top of wall to perimeter drain.
3. The sheet dampproofing system shall maintain structural and chemical stability when installed in direct contact with soil, concrete, and foundation drainage assemblies.

### B. Performance Criteria:

1. Compressive Strength: Minimum 5 500 lbs/ft<sup>2</sup> when tested in accordance with ASTM D1621.
2. Vapour Permeance: Less than 0.019 perms.
3. Environmental Stress Crack Resistance (ESCR): Pass, achieving 100 percent survival under accelerated test conditions.
4. Tensile Strength: Minimum 56 lbf / 2 inches width when tested in accordance with ASTM D882.
5. Temperature Range: Suitable for service between -13°F to 158°F without material degradation or loss of flexibility.
6. Service Life Expectancy: Minimum 50 years based on accelerated aging and environmental exposure testing.

### C. Drainage Capacity and Function:

1. Sheet dampproofing membrane dimples shall form a continuous air-gap drainage plane allowing unrestricted flow of water to the footing drain tile, preventing build-up of hydrostatic pressure against foundation walls.
2. Dimples shall maintain shape and height under load without collapse or deformation when subjected to backfill pressures up to 5 500 lb/sqft.
3. Drainage path shall remain unobstructed following installation and backfill, confirmed by site inspection prior to concealment.

### D. Design Criteria:

1. Each sheet dampproofing roll is subject to hourly in-house compressive load testing, roll weight verification, and the proprietary "Banana Test" to ensure dimensional stability and installation uniformity across 65 feet.
2. Hourly "Hang Test" performed on a 2 inches strip of membrane to confirm long-term resistance to tear propagation and deformation under simulated backfill load.

### E. Chemical and Biological Resistance:

1. The sheet dampproofing membrane shall be unaffected by contact with alkaline soils, acids, or common groundwater or soil-borne salts.

2. Toxicity: Non-toxic, non-leaching, and free from volatile organic compounds (VOCs).
  - a. The sheet dampproofing membrane shall be inert and non-reactive when in contact with other construction materials such as concrete, insulation, or waterproofing membranes.
- F. Material Compatibility: Ensure compatibility between system components and interfacing materials.
  1. Products specified within this Section must not adversely affect adjacent materials, resulting in visual and/or physical degradation of either product.

*DMX MEMBRANES LIMITED SPEC NOTE: This article defines the primary materials used in the DMX AG Foundation Wrap system. It is intended to identify the membrane composition and fundamental properties without disclosing proprietary manufacturing details.*

*DMX MEMBRANES LIMITED SPEC NOTE: Retain all subparagraphs to ensure that the specified products conform to the required physical characteristics, performance standards, and warranty criteria established in preceding articles.*

## 2.3 MATERIALS

- A. Sheet Dampproofing Membrane:
  1. Provide dimpled sheet dampproofing membrane manufactured from 100 percent virgin high-density polyethylene (HDPE) and comply with CCMC 13169-R, CCMC 13182-R and ICC-ES ESR 2896 certification requirements.
  2. Membrane shall be single-layer construction, free from pinholes, voids, recycled material, and other manufacturing defects that could affect performance.
  3. Membrane shall contain no fillers, or additives that may compromise long-term strength, flexibility, or resistance to environmental stress cracking.
  4. Dimples shall be formed integrally during the extrusion process and shall not be glued or thermally formed after production.
  5. Color: Black, unless otherwise approved by Consultant. Black has the highest UV resistance
  6. Basis-of-Design Product: DMX AG Foundation Wrap by DMX Membranes Limited.
- B. Manufacturing Requirements:
  1. Produced using low-heat, low-shear extrusion technology to prevent polymer degradation and to ensure uniform thickness across the roll.
    - a. Minimum Thickness: 24 mils.
    - b. Dimple Height: 5-8mm

*DMX MEMBRANES LIMITED SPEC NOTE: This article specifies the accessory components required to complete the DMX AG Foundation Wrap system. Retain all subparagraphs to ensure compatibility, continuity of warranty, and proper system integration.*

*DMX MEMBRANES LIMITED SPEC NOTE: Where multiple accessory options exist, this article identifies their purpose and assists the Editor in selecting the most appropriate configuration for project conditions.*

## 2.4 ACCESSORIES

### A. Fasteners and Washers:

*DMX MEMBRANES LIMITED SPEC NOTE: The exclusive use of DMX Accessories is a mandatory warranty requirement. Substitution with generic washers, fasteners, and trims may result in local tearing, stress cracking, and potential voiding of coverage under the 30-year limited warranty.*

1. Provide washers and compatible corrosion-resistant fasteners as supplied or recommended by the sheet dampproofing manufacturer.
2. Washers: High-density polyethylene (HDPE) washers with teeth, specifically designed to secure the sheet dampproofing membrane to the foundation wall without tearing or puncturing the sheet.
  - a. Basis of Design Product: DMX Washers by DMX Membranes Limited.
3. Fasteners: 1-1/4 inch stainless-steel nails or screws suitable for substrate type and shall achieve firm anchorage without deformation of the sheet dampproofing membrane.

*DMX MEMBRANES LIMITED SPEC NOTE: DMX Flex Trim is only required when the manufacturers flat tab is cut away during installation, and therefore the paragraphs below are recommended to ensure installation follows manufacturers warranty requirements.*

### B. Termination Strips:

1. Provide recommended trims for terminating the upper edge of the membrane at finished grade or up to 6 inches below finished grade.
2. Trim shall be a flexible polyethylene termination bar designed to compress the membrane flat tab tightly against the substrate, forming a secure seal.
3. Color: Black.
4. Basis of Design Product: DMX Flex Trim by DMX Membranes Limited.

*DMX MEMBRANES LIMITED SPEC NOTE: Protection accessories are not proprietary DMX Membranes Limited products but are critical for maintaining membrane performance during backfilling. The use of protection boards is typically determined by soil conditions, type of backfill, and project-specific drainage design. Consult the findings and recommendations presented within the soils report for the project.*

### C. Protection and Penetration Accessories:

1. Provide filter fabric, protection board, or insulation panels as specified in related Sections to protect the dampproofing system from physical damage during backfill operations.
2. Ensure protective materials are compatible with HDPE and do not contain solvents, plasticizers, or bituminous compounds.
3. Penetration Sealant:
  - a. Compatible butyl-based or polyurethane sealant, or an asphalt-based sealant, approved by the manufacturer for contact with HDPE.
  - b. Applied in accordance with manufacturer's written instructions to maintain watertight continuity at all penetrations.
  - c. Ensure compatibility with adjacent foundation components and materials.

*DMX MEMBRANES LIMITED SPEC NOTE: The integration between DMX AG Foundation Wrap and the perimeter drain tile system is essential to performance.*

*DMX MEMBRANES LIMITED SPEC NOTE: Confirm coordination under Section 33 40 00 Stormwater Utilities to create a foundation drainage system by connecting both vertical and horizontal drainage systems.*

D. Foundation Drainage Integration Components:

1. Where specified, coordinate with foundation drainage system installer to ensure continuous drainage to footing tile.
2. Maintain clear path between membrane dimples and drainage media to prevent blockage.

*DMX MEMBRANES LIMITED SPEC NOTE: This article outlines fabrication and pre-installation preparation requirements for DMX AG Foundation Wrap. While the product is factory-manufactured, some field fabrication is required for fitting, trimming, and sealing around penetrations, corners, and terminations.*

*DMX MEMBRANES LIMITED SPEC NOTE: The HDPE material has a controlled flexibility designed to accommodate normal foundation wall irregularities. Excessive heating or bending during fabrication can damage dimple structure or reduce long-term compressive strength.*

## 2.5 FABRICATION

A. General Requirements:

1. Fabricate field modifications, cuts, and terminations to ensure a mechanically secure installation in accordance with the manufacturer's Installation Manual and project-specific details.
2. Perform all field cutting and trimming of the sheet dampproofing membrane using sharp utility knives or shears. Do not use torches, heat guns, or power saws that may deform the HDPE surface.
3. Ensure that all components are dry-fit before fastening to verify alignment, overlap dimensions, and termination heights relative to finished grade.
4. Tolerances for installation alignment and fastening spacing shall not exceed  $\pm 3/16$  inch from manufacturer-specified values.

*DMX MEMBRANES LIMITED SPEC NOTE: Dimensional consistency between membrane sheets is verified at the factory. Field tolerances ensure that installers maintain continuous drainage performance and full mechanical fastening coverage without excessive overlap waste.*

B. Dimensional Tolerances:

1. Maintain continuous dimple pattern alignment within  $\pm 3/8$  inch across all adjoining sheets to preserve uninterrupted drainage channels.
2. Overlaps between adjacent membrane sheets shall be minimum 8 inches horizontally and 6 inches to 8 inches vertically, unless otherwise indicated by manufacturer's installation requirements.
3. Termination height tolerance at top of foundation wall shall be in accordance with local building code.

4. Flat tab fastening spacing shall not deviate by more than  $\pm 1$  inch from manufacturer's specified 6 inches to 8 inches on centre spacing.
- C. Field Forming:
  1. Form inside and outside corners by cutting and folding the membrane to maintain dimple alignment. Use additional overlapping membrane sections at corners to ensure a continuous drainage path.
  2. Pre-form membrane around protrusions, window wells, and pipe penetrations using manufacturer-approved accessories or pre-cut sections.
  3. Ensure all fabricated joints and transitions shed water in a downward direction to the foundation drain.
- D. Factory Fabrication Quality:
  1. Sheet dampproofing membrane shall be produced in continuous rolls with consistent dimple height, spacing, and orientation.
  2. Dimples shall be integrally formed during extrusion and shall not exhibit flattening, partial formation, or thermal distortion.
  3. Each roll shall be quality-checked by the manufacturer to confirm conformity with dimensional tolerances of  $\pm 0.004$  inch thickness and  $\pm 2$  percent roll weight variance.
- E. Identification and Labeling:
  1. Each dampproofing membrane roll shall be factory-labeled with product name, lot number, production date, and CCMC/ICC-ES certification numbers.
  2. Do not remove factory labels prior to Consultant review and acceptance.

### 3 EXECUTION

#### 3.1 EXAMINATION

*DMX MEMBRANES LIMITED SPEC NOTE: This article establishes the inspection and verification steps required prior to installation to ensure compliance with manufacturer requirements and warranty conditions. Retain all subparagraphs and supplement with project-specific conditions as necessary.*

- A. Verification of Conditions:
  1. Verify that foundation walls, footings, and substrates are structurally sound, smooth, and free from defects that could damage or puncture the sheet dampproofing membrane.
  2. Confirm that all concrete curing, parging, and patching have been completed and allowed to cure for a minimum of 48 hours before membrane installation.
  3. Verify that surface is dry and free of frost, standing water, oil, grease, laitance, form release agents, sharp projections, or other materials that may impair adhesion or puncture the membrane.
  4. Inspect all form tie holes, honeycombs, and voids. Ensure defects are properly filled and parged flush to surrounding surface before proceeding.
  5. Verify that all mechanical and electrical penetrations through the foundation wall have been installed, sealed, and accepted prior to application of the membrane system.

6. Confirm that footing drains, weeping tile, and granular drainage layers are properly installed, sloped, and free from obstruction to ensure continuous flow from the base of the foundation wall.
7. Verify that substrate conditions meet manufacturer's written installation and warranty requirements.

*DMX MEMBRANES LIMITED SPEC NOTE: The DMX AG Foundation Wrap relies on mechanical fastening and surface contact to achieve proper drainage and structural stability. Any irregularities left uncorrected may create air pockets, gaps, or discontinuities that can compromise long-term performance.*

- B. Substrate Tolerances:
1. Ensure foundation wall surfaces do not vary by more than  $\pm 1/4$  inch in any 4 feet length.
  2. Confirm that sharp offsets or ridges greater than  $1/8$  inch are ground smooth or otherwise repaired prior to installation.
  3. Ensure substrate is true and plumb to prevent membrane bridging or deformation after fastening.
- C. Notification:
1. Do not commence installation of sheet dampproofing membrane until unsatisfactory conditions have been corrected.
  2. Notify the Consultant immediately of any conditions that may adversely affect installation or performance of the membrane system.
  3. Commencement of Work constitutes acceptance of substrate conditions and assumes full responsibility for satisfactory performance of the completed installation.

*DMX MEMBRANES LIMITED SPEC NOTE: This article establishes the minimum surface preparation and site readiness requirements prior to installation of the DMX AG Foundation Wrap system.*

*DMX MEMBRANES LIMITED SPEC NOTE: Retain this heading in all project specifications as the following subparagraphs align with the manufacturer's installation manual and warranty criteria.*

### 3.2 PREPARATION

- A. Clean all foundation wall surfaces of dust, dirt, debris, laitance, grease, curing compounds, and other foreign substances that may interfere with the membrane's performance or attachment.
- B. Fill all form tie holes, honeycombs, and surface voids flush with approved non-shrink grout or compatible cementitious repair material. Allow repairs to cure before applying the membrane.
- C. Remove all sharp projections, ridges, fins, or irregularities from the concrete surface that could puncture or deform the membrane. Grind smooth where required.
- D. Establish final termination height of the sheet dampproofing membrane relative to finished grade prior to installation to avoid subsequent cutting or patching.
- E. Coordinate installation with completion of adjacent work including insulation, drainage, and service penetrations to maintain continuity of the moisture protection system.

- F. Proceed with installation only after substrate preparation has been reviewed and accepted by the Consultant, and when surface moisture content is sufficiently low to ensure complete contact between the membrane and substrate without trapping water behind the membrane.
- G. Protect work areas from standing water and ensure site drainage is established prior to or concurrent with sheet dampproofing installation.
- H. Ensure all trades completing adjacent work are aware of installation sequencing requirements for the sheet dampproofing membrane, perimeter drain tile, and foundation insulation to prevent conflicts and maintain continuity of the moisture protection system.

*DMX MEMBRANES LIMITED SPEC NOTE: This article defines the proper installation sequence and workmanship requirements for the DMX AG Foundation Wrap system.*

*DMX MEMBRANES LIMITED SPEC NOTE: Retain all subparagraphs to ensure installation consistency and compliance with manufacturer warranty requirements.*

### 3.3 INSTALLATION

- A. General Installation Requirements:
  - 1. Install sheet dampproofing membrane strictly in accordance with manufacturer's written instructions, approved shop drawings, and details reviewed by the Consultant.
  - 2. Begin installation at the foundation wall, securing DMX AG with a DMX Washer in the top right corner of the Flat Tab and continue to work leftward with the roll, ensuring continuous drainage to the footing drain tile.
  - 3. Orient dimples toward the foundation creating a continuous air gap between the membrane and the backfill.
  - 4. Unroll membrane horizontally, maintaining consistent overlap direction so all joints shed water downward.
  - 5. Overlaps between adjacent sheets shall be minimum 8 inches horizontally and 6 inches vertically.
  - 6. Ensure membrane is tight to the foundation wall surface without bridging, wrinkles, or trapped air pockets.

*DMX MEMBRANES LIMITED SPEC NOTE: Proper fastening spacing and technique are critical to prevent tearing and to ensure the flat tab compression line remains watertight after backfilling.*

- B. Fastening:
  - 1. Secure membrane at the flat tab along the upper edge using manufacturer's recommended fasteners and washers, spaced maximum 6 inches to 8 inches on centre horizontally.
  - 2. Drive fasteners flush without overdriving or deforming the flat tab.
  - 3. Where additional fastening is required to maintain alignment, use supplementary washers and fasteners located within the upper dimple row only.
  - 4. Ensure top edge of membrane is level and continuous along the foundation perimeter.

- C. Termination:
  - 1. Terminate sheet dampproofing membrane at finished grade, or up to 6 inches below final grade, in accordance with manufacturer's standard detail.
- D. Corners and Transitions:
  - 1. At inside corners, extend membrane a minimum of 12 inches beyond the corner before overlapping the adjoining sheet.
  - 2. At outside corners, wrap membrane continuously without cutting dimples; overlap the adjacent sheet by minimum 12 inches.
  - 3. Reinforce all corners and transitions with additional membrane strips or manufacturers seaming/sealing tape as required to maintain watertight continuity.
- E. Penetrations and Irregular Surfaces:
  - 1. Cut membrane neatly around penetrations, allowing 1 inch clearance.
  - 2. Apply manufacturer-approved butyl-based or polyurethane sealant, or asphalt-based sealant around the penetration to achieve watertight seal.
  - 3. For multiple or clustered penetrations, provide an additional membrane patch extending minimum 6 inches beyond the cutout perimeter, sealed continuously to surrounding dampproofing membrane.
  - 4. Joint Sealing: Only where mechanical fastening is not feasible, embed sheet dampproofing membrane into sealant at seam overlap, to create a watertight seal.

*DMX MEMBRANES LIMITED SPEC NOTE: The sheet dampproofing membrane relies on the free drainage of collected moisture through the air-gap cavity into the footing drainage system. Any obstruction to this flow path will compromise performance and may void the warranty.*

- F. Drainage Integration:
  - 1. Lap the bottom edge of sheet dampproofing membrane over the footing drain tile or granular drainage layer to direct collected water into the system.
  - 2. Ensure continuous contact between sheet dampproofing membrane dimples and the drainage medium; do not backfill until this alignment is verified.
  - 3. Coordinate connection details with Section 33 40 00 Stormwater Utilities to maintain uninterrupted flow to the storm drainage system.

*DMX MEMBRANES LIMITED SPEC NOTE: This article establishes the minimum inspection and verification requirements during and after installation of the DMX AG Foundation Wrap system.*

*DMX MEMBRANES LIMITED SPEC NOTE: Retain all subparagraphs to ensure quality assurance and warranty compliance.*

### 3.4 FIELD QUALITY CONTROL

- A. General:
  - 1. Perform inspection of installed sheet dampproofing membrane to verify continuity, alignment, fastening spacing, and integrity prior to backfilling.
  - 2. Do not conceal or cover membrane until inspection and approval have been completed by the Consultant.

3. Inspect for mechanical damage, misalignment, punctures, or discontinuities that may compromise performance or drainage.
- B. Manufacturer's Field Services:
  1. When required by the Contract Documents or specified by the Consultant, arrange for manufacturer's technical representative to visit the site to verify installation practices and confirm compliance with manufacturer's installation instructions.
  2. Correct deficiencies identified by the manufacturer's representative or Consultant prior to backfilling.
  3. Submit written confirmation from the manufacturer's representative verifying compliance with installation and warranty requirements.
- C. Testing and Inspection:
  1. Conduct visual inspection of all overlaps, terminations, and penetrations to confirm watertight continuity and proper mechanical fastening.
  2. Check fastening spacing and flat tab alignment against manufacturer's specifications; correct any deviations prior to acceptance.
  3. Verify that all seams shed water downward and that the membrane drains freely toward the footing drain tile.
  4. Confirm that all patching and repairs have been completed using the same materials and methods specified for original installation.
- D. Repair of Deficiencies:
  1. Replace or repair damaged membrane in accordance with manufacturer's written repair procedures.
  2. Ensure all repairs extend a minimum of 6 inches beyond damaged areas and are sealed with manufacturers seaming/sealing tape or compatible sealant.
  3. Reinspect repaired areas and obtain Consultant approval prior to proceeding with backfill.

*DMX MEMBRANES LIMITED SPEC NOTE: This article establishes the post-installation cleaning and housekeeping procedures required to maintain system integrity and project quality.*

### 3.5 CLEANING

- A. Cleaning: Maintain clean construction area at the end of each day. When the activities of this Section are complete, remove materials, tools, equipment and rubbish.
- B. Remove debris, packaging materials, fasteners, and unused products from the work area at the end of each workday.
- C. Upon completion of installation, remove all protective coverings, dirt, and foreign matter from the sheet dampproofing membrane surface prior to inspection and backfilling.
- D. Do not use solvents, oils, or cleaning agents that may soften or damage the HDPE sheet dampproofing membrane.
- E. Dispose of waste materials, offcuts, and packaging in accordance with local environmental regulations and recycling programs where available. When required, remove recycling bins and containers from site and dispose of contents at the appropriate waste disposal facilities.

*DMX MEMBRANES LIMITED SPEC NOTE: This article outlines post-installation protection measures to ensure the integrity of the DMX AG Foundation Wrap system until backfilling and completion of adjacent work.*

### 3.6 PROTECTION

- A. Protect installed materials and accessories from damage by weather, construction operations, or other causes until final acceptance.
- B. Prevent contact with open flame, welding sparks, solvents, or petroleum-based products that may damage the sheet dampproofing membrane.
- C. Do not permit traffic, equipment, or materials to be placed directly against installed membrane surfaces.
- D. Backfill immediately after inspection and Consultant approval. Use only free-draining granular material and place carefully to avoid displacement, puncture, or tearing of the membrane.
- E. Maintain a minimum clearance of 12 inches between heavy equipment and foundation walls during backfilling operations.
- F. Do not use frozen soil, clay, or construction debris as backfill.
- G. Protect top terminations, trim, and exposed portions of the membrane from ultraviolet exposure exceeding 30 days. Cover exposed sections promptly after inspection.
- H. Inspect membrane during and after backfilling to ensure no damage has occurred. Repair or replace damaged sections immediately following manufacturer's written repair procedures.
- I. Protect completed Work from damage caused by subsequent trades or site operations. Damaged areas shall be repaired using the same materials and installation methods specified herein.

**END OF SECTION**