



DMX AG AIR-GAP MEMBRANE

Section 07 10 00 – Damproofing and Waterproofing

NOTE TO SPECIFIER: These specifications were current at the time of publication but are subject to change at any time without notice. Please confirm the accuracy of these specifications with the manufacturer and/or distributor prior to installation.

PART I GENERAL

1.1 SECTION INCLUDES

- A. Below grade waterproofing and damproofing.

1.2 RELATED SECTIONS

- A. Section 02 80 00 – Facility Remediation
- B. Section 03 31 00 – Cast-In-Place Concrete
- C. Section 31 00 00 – Earthwork
- D. Section 31 23 16 – Excavation
- E. Section 31 23 23 – Fill: Backfilling
- F. Section 33 40 01 – Storm Drainage
- G. Section 33 46 00 – Sub drainage
- H. Section 33 46 13 – Foundation Drainage Piping
- I. Section 07 00 00 – Thermal & Moisture Protection
- J. Section 07 10 00 – Damproofing & Waterproofing
- K. Section 07 13 00 – Sheet Waterproofing
- L. Section 07 25 00 – Weather Barriers
- M. Section 07 26 00 – Vapour Retarders

1.3 REFERENCES

- A. CCMC 13169-R Evaluation Report DMX AG
- B. CCMC Technical Guide for Rigid Polyethylene or Polystyrene Damproofing Membrane. Master Format Section 07 11 19.01 (14-05-2004).
- C. US Green Building Council LEED v3 (04-27-2009).
- D. ICC-ES ESR 1901 Evaluation Report (Drain)
- E. ICC-ES Acceptance Criteria (AC243)
- F. ICC-ES ESR 2896 Evaluation Report
- G. ICC-ES Acceptance Criteria (AC114)

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation instructions.
 - 4. Product warranty.
- C. Samples: 12 by 12 inch (300 by 300 mm) piece of sheet; minimum 12 inch (300 mm) long piece of trim; each type of fastener.
- D. Test Reports: Evaluation service reports or other independent testing agency reports showing compliance with specified requirements.
- E. Installer Qualifications: Include minimum of 5 project references.

- F. Executed warranty.
- G. LEED Submittals: Provide documentation of how the requirements of Credit will be met.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing work of this type and approved by the membrane manufacturer.
- B. Manufacturer's Field Services: Provide the services of a representative accredited by the sheet manufacturer to examine substrates before starting installation, periodically review manufacturers installation guidelines and drawings (when required).

1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver products to project site in original packaging with labels intact.
- B. Store products in manner acceptable to membrane manufacturer.
- C. When products must be stored for extended periods, keep out of direct sunlight and at temperatures above minus 22 degrees F (minus 30 degrees C).
- D. Provide temporary cover for products while stored on site before installation, protected from direct sunlight and UV exposure.
- E. Store and dispose of solvent-based material, or materials used with solvents in accordance with local jurisdiction requirements.

1.7 WARRANTY

- A. Manufacturers 30 year product warranty.
- B. Manufacturers Optional performance warranty.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. All Products of This Section:

1. **DMX Plastics Limited:** 300 Walker Drive, Brampton ON, Canada, L6T 4B3 Tel: 905-458-8998, Fax: 905-458-8994 info@dmxmembranes.com
www.dmxmembranes.com
2. Substitutions: Not permitted.

2.2 MATERIALS

A. Waterproofing or damproofing Membrane. Dimpled high-density polyethylene membrane with a flat tab on one side.

- a. Product: DMX Membranes Limited DMX AG™
- b. Color: Black.
- c. Thickness: 0.9mm in flat area (.035); 1.1mm in dimpled area (.043")
- d. Compressive Strength: 220 kN/m²
- e. Weight: 655 g/m².
- f. Material: Impact Enhanced High Density Polyethylene.
- g. Material Quality: Meeting minimum requirements of CCMC Technical Guide for Rigid Polyethylene or Polystyrene Damproofing Membrane.
- h. Roll dimensions: 20 m long, and up to 2.44 m wide (Dimple height is 8mm (~5/16")).

B. Accessories.

- a. DMX FlexTrim™
- b. DMX Washers™
- c. DMX Clips™
- d. Other accessories including 1 ¼ inch concrete nails (for poured or concrete block foundations) or 1 ½ inch deck or drywall screws (for ICF foundations) as recommended by product manufacturer's installation instructions.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Ensure the foundation is clean at the grade level.
- B. Clear off the footing.
- C. Ensure you have adequate drainage at the footing.
- D. Do not begin installation until substrates have been properly prepared.
- E. If substrate preparation is the responsibility of another trade, notify Architect of unsatisfactory preparation before proceeding.

3.2 INSTALLATION

NOTE TO SPECIFIER: These instructions are a guideline for installation. Experienced installers may choose to use different accessories or install the product in a way that is acceptable to both the owner and themselves, however if these guidelines are not followed, liability for the warranty becomes the responsibility of the installer. **Refer to manufacturer's installation manual for complete instructions.**

A. General Sheet Installation:

1. Snap a chalk line one inch below grade level on the foundation wall.
2. Roll out a small amount of DMX AG with the flat tab lining up with the chalk line. Keep the membrane as smooth as possible.
3. Secure the membrane to the foundation wall with DMX Washers™ and concrete nails.
Please note, steel washers are not recommended for use in the dimpled section of membrane, unless they are installed with a rubber or PVC insert.
4. Position the DMX Washers™ in the flat tab, 6-8 inches apart. Secure in place with 1-1/4 inch concrete nails.
5. Install DMX Washers™ in the dimpled section, approximately 18 – 20 inches below the tab, with the washers spaced 12 – 16 inches apart
6. In heavy clay soil insert a third row of washers 12 inches (30 cm) below the second row of washers, with a spacing of 4 feet (1.9 m).
7. Insert a final row of washers approximately 12 inches (30cm) above the footing spaced 10 feet apart. This final row of washers will prevent the crushed stone from getting under the membrane.

B. Corner Installation:

1. Fit the membrane tightly to corners. Fasten the membrane near the top and bottom by inserting washers at least 6 inches (15 cm) back from outside corners and 6 inches (15 cm) from inside corners. Fastening the membrane too close to outside corners can cause the corner to chip.

C. Joining Rolls:

1. When joining two pieces of DMX AG vertically overlap them by 6 inches (15 cm) and mesh the dimples. It is not necessary to caulk the join. Insert DMX Washers™ along the overlap every 8 inches (20 cm).

2. If you are joining two pieces of membrane horizontally, install the lower piece first. The upper piece must cover the top of the lower membrane, overlapping it by at least 6 inches (15 cm). Install DMX Washers™ every 8 inches along the overlap.

D. Windows:

1. For windows or other openings in the foundation, cut the membrane 6 inches (15 cm) back from the edge. Fasten the membrane to the foundation wall under the opening using DMX Washers™ as usual. Since you have trimmed off the flat tab, you must install DMX FlexTrim™ to seal the cut edges.

E. Service Entrances:

1. Caulk around the service that is penetrating the foundation.
2. Cut the membrane vertically so that it goes past the service at least 6 inches (15 cm).
3. Cut the membrane to fit as tightly as possible around the service.
4. 4. Caulk around the service again. (Now there will be caulking around the service both under the DMX AG and on top of it.)
5. Start the next piece of membrane 6 inches (15 cm) BEFORE the service. (The idea is to have a 12-inch (30 cm) overlap at the service.)
6. Cut the top layer of membrane to fit as tightly as possible around the service.
7. Caulk around the service again. (Now there will be caulking under and on top of each layer for good protection.)
8. Insert DMX Washers™ along the overlapped membrane every 8 inches (20 cm).

3.3 SEALING THE TOP OF THE MEMBRANE

- A. If the flat tab has been cut away, such as on a sloped grade or around windows, use DMX FlexTrim™ to seal this area. Set the DMX FlexTrim™ against the top of the membrane and nail every 8 inches (20cm).

3.4 SEALING THE END OF THE ROLL

- A. If you are not wrapping the entire foundation in DMX AG, such as when there is an attached garage, you need to seal the vertical ends of the DMX AG. Anchor the membrane to the foundation using DMX Washers™. Then install DMX FlexTrim™ on the vertical edge just as you would for cut edges in the top of the membrane.

3.5 FIELD QUALITY CONTROL

- A. Request inspection prior to and immediately after placing membrane and before and after placing backfill.

3.5 PATCHING THE MEMBRANE

- A. If you need to patch the membrane because of a tear, use an extra piece of membrane that is at least 12 inches (30 cm) larger than the tear. Mesh the dimples and install DMX Washers™ in the corners of the patch.

3.6 BACKFILLING

- A. Prior to backfilling, inspect membrane for tears and other damage and repair.
- B. Take care when backfilling to avoid damage to membrane; replace membrane damaged during backfilling.
- C. Cover drainage with approved granular material.
- D. Carefully backfill the balance of the excavated area.
- E. Make sure the finished grade is just 6" (15 cm) above the top of DMX AG™.