

**SECTION 07 53 23
EPDM WATERPROOFING**

PART 1 – GENERAL

1.1 DESCRIPTION:

This section specifies Ethylene Propylene Diene M-Class (EPDM) rubber sheet material used for waterproofing.

1.2 MANUFACTURER'S QUALIFICATIONS:

- A. Approval by Contracting Officer is required of products and services of proposed manufacturers, and installers, and will be based upon submission by Contractor that:
 - 1. Manufacturer regularly and presently manufactures EPDM sheet waterproofing as one of its principal products.
 - 2. Installer has technical qualifications, experience, trained personnel and facilities to install specified items.
 - 3. Manufacturer's product submitted has been in satisfactory and efficient operation on similar installations.

1.3 SUBMITTALS:

- A. Submit the following:
- B. Manufacturer's Literature and Data:
 - 1. EPDM sheet.
 - 2. Adhesive.
- C. ASTM Testing:
 - 1. Submit proof of ASTM testing per the requirements of this specification.
- D. Material Safety Data Sheets (MSDS).

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Deliver materials to job in manufacturer's original unopened container.
- B. Do not store material in areas where temperature is lower than 50 degrees F, or where prolonged temperature is above 90 degrees F.

1.5 ENVIRONMENTAL REQUIREMENTS:

Ambient Surface and Material Temperature: Not less than 40 degrees F, during application of waterproofing.

1.6 WARRANTY:

Warrant EPDM sheet waterproofing installation against moisture leaks for a period of two years.

1.7 APPLICABLE PUBLICATIONS:

A. Publications listed below form a part of this specification to the extent referenced.

Publications are referenced by basic designation only.

B. Federal Specifications (Fed. Spec.):

UU-B-790A Building Paper, Vegetable Fiber: (Kraft, Water-
INT AMD 1 Proof, Water Repellent and Fire Resistant)

C. American Society for Testing and Materials (ASTM):

C578-01 Rigid Cellular Polystyrene Thermal Insulation

D41-94 (R2000)..... Asphalt Primer Used in Roofing, Dampproofing and
Waterproofing

D2822-91 (R1997)..... Asphalt Roof Cement

D6380-02 Asphalt Roll Roofing (Organic Felt)

D. American Hardboard Association (AMA):

A135.4-1995..... Basic Hardboard

PART 2 - PRODUCTS

2.1 EPDM SHEET (GENERAL):

A. Fire retardant (FR), cured single-ply membrane that can be used in ballasted roofing systems exposed to weather.

B. Prefabricated Ethylene Propylene Diene M-Class (EPDM) rubber sheet material used for waterproofing.

C. Sheet reinforced with fibers at manufacturer's option.

D. Thickness of EPDM FR sheet: 0.060 inch (1.5 mm), plus or minus .005 inches (0.13 mm). Weight: 0.42 lb/sf.

E. Provide with a release sheet to prevent bonding of EPDM sheet to itself.

2.2 EPDM CERTIFICATIONS:

- A. Underwriter's Laboratories (UL) classified membrane for roofing systems as to an external fire exposure.
- B. Factory Mutual (FM).
- C. Cool Roof Rating Council (CRRC).

2.3 EPDM TESTING PER ASTM:

PROPERTY	TEST METHOD	MINIMUM ASTM PERFORMANCE
Thickness	ASTM D 412	0.060 inch (1.5 mm)
Tensile Strength, min	ASTM D 412 (Die C)	1305 psi
Elongation, ultimate	ASTM D 412 (Die C)	300%
Tear resistance, min	ASTM D 624 (Die C)	150 lbf/in
Brittleness point, max	ASTM D 2137	49 deg F
Heat Aging:	ASTM D 573	Per Document
Tensile strength, min	ASTM D 412 (Die C)	1205 psi
Elongation, ultimate	ASTM D 412 (Die C)	200%
Tear resistance, min	ASTM D 624 (Die C)	125 lbf/in
Factory Seam Strength	ASTM D 816 (Method B)	50 lbf/in or sheet failure
Weather resistance:	ASTM D 518	Per Document
Visual inspection:	ASTM D 518	Pass
Elongation, ultimate	ASTM D 412 (Die C)	200%

2.4 ADHESIVE:

- A. Furnished or approved by manufacturer of EPDM sheet as required for particular application in accordance with sheet manufacturer's instructions.
- B. Factory Mutual (FM) approved.

PART 3 - EXECUTION**3.1 PREPARATION:**

- A. Surface Condition:
 1. Before applying waterproofing materials, ensure surfaces are smooth, clean, dry, and free from loose and foreign particles and other deterrents to adhesion.
 2. Do not puncture ductwork for any reason.

3.2 APPLICATION:

A. Priming:

1. Amount of adhesive before installation of EPDM sheet (if required) as recommended by EPDM manufacturer.
2. Re-apply when required in accordance with manufacturer's instructions.

B. EPDM Sheet Installation:

1. Remove release sheet prior to application.
2. Lay bituminous sheet from low point to high point so that laps shed water.
3. Treat expansion, construction and control joints and evident working cracks as expansion joints. Apply bituminous sheet in double thickness over joint by first applying a strip of bituminous sheet not less than 8 inches wide, centered over joint.
4. Lap seams not less than 2 inches.
5. Lay succeeding sheet with laps, and roll or press into place.
6. Repair misaligned or inadequately lapped seams in accordance with manufacturer's instructions.
7. Seal seams and terminations in accordance with sheet manufacturer's instructions.

C. Corner Treatment:

1. Insure that EPDM is installed so prevent cracks and premature aging.

D. Projection Treatment (Roof Supports on bottom of duct):

1. Insure that application will retard water absorption.

3.3 INSPECTION:

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