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Standard Specification for Vulcanized Rubber Sheets Used in Waterproofing Systems¹

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1. Scope

1.1 This specification covers unreinforced vulcanized rubber sheets made from ethylene propylene diene terpolymer (EPDM) or butyl (IIR), intended for use in preventing water under hydrostatic pressure from entering a structure.

1.2 The tests and property limits used to characterize these sheets are specific for each classification and are minimum values to make the product fit for its intended purpose.

2. Referenced Documents

2.1 ASTM Standards:

- D 412 Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers—Tension²
- D 471 Test Method for Rubber Property—Effect of Liquids²
- D 573 Test Method for Rubber—Deterioration in an Air Oven²
- D 624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers²
- D 746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact³
- D 816 Methods of Testing Rubber Cements²
- D 1204 Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature³
- D 2240 Test Method for Rubber Property—Durometer Hardness²
- D 3083 Specification for Flexible Poly (Vinyl Chloride) Plastic Sheeting for Pond, Canal, and Reservoir Lining⁴
- E 96 Test Methods for Water Vapor Transmission of Materials⁵
- E 154 Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover⁶

¹ This specification is under the jurisdiction of ASTM Committee D-08 on Roofing, Waterproofing, and Bituminous Materials and is the direct responsibility of Subcommittee D08.18 on Nonbituminous Organic Roof Coverings.

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² *Annual Book of ASTM Standards*, Vol 09.01.

³ *Annual Book of ASTM Standards*, Vol 08.01.

⁴ *Annual Book of ASTM Standards*, Vol 04.09.

⁵ *Annual Book of ASTM Standards*, Vol 04.06.

⁶ *Annual Book of ASTM Standards*, Vol 04.11.

3. Classification

3.1 Types used to identify the principal polymer component of the sheet include:

Type I: Ethylene Propylene Diene Terpolymer (EPDM); and,
Type II: Butyl (IIR)

3.2 The mass percentage of the principal polymer in relation to the total polymer shall be greater than 95 %.

4. Materials and Manufacture

4.1 The sheet shall be formulated from the appropriate polymers and other compounding ingredients. The principle polymer used in the sheet shall be one of those listed in 3.1 in accordance with the percentage listed in 3.2.

4.2 The sheet shall be capable of being bonded to itself for making field splices and repairs, and the manufacturer shall recommend bonding methods and materials.

5. Physical Requirements

5.1 The sheet shall conform to the physical requirements prescribed in Table 1. Other requirements shall be agreed upon between the purchaser and the supplier.

6. Dimensions and Permissible Variations

6.1 The width and length of the sheet shall be agreed upon between the purchaser and the supplier. The width and length tolerance shall be +3, 0 %.

6.2 Sheet thickness greater than the minimum shall be agreed upon between the purchaser and the supplier. The thickness tolerance shall be +15, -10 % of the specified thickness, but in no case shall the thickness be less than the minimum listed in Table 1.

7. Workmanship, Finish, and Appearance

7.1 The sheet, including factory seams if present, shall be watertight and visually free of pinholes, particles of foreign matter, undispersed raw material, or other manufacturing defects that might affect serviceability. If irregularities in the form of pock marks (see Note 1) appear excessive on a sheet, or portion thereof, then its rejection should be negotiated between supplier and purchaser.

7.2 Edges of the sheets shall be straight and flat so that they may be seamed to one another without fishmouthing.