



Designation: D 6622 – 01

## Standard Guide for Application of Fully Adhered Hot-Applied Reinforced Waterproofing Systems<sup>1</sup>

This standard is issued under the fixed designation D 6622; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This guide covers the minimum installation recommendations for fully adhered, hot-applied reinforced waterproofing systems on vertical and low-slope (plaza deck) surfaces.

1.2 For the purpose of this guide, the substrate is assumed to be concrete or masonry, structurally sound, able to accept the weight of anticipated loads, and meets the local building code requirements. Similarly, all components of the waterproofing system are assumed to comply with any federal, state, and local environmental regulations that may be in effect at the time of installation. Expansion joints, insulation, drainage layers, and overburden are beyond the scope of this guide.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- C 981 Guide for Design of Built-Up Bituminous Membrane Waterproofing Systems for Building Decks<sup>2</sup>
- D 41 Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing<sup>3</sup>
- D 43 Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing<sup>3</sup>
- D 173 Specification for Bitumen-Saturated Cotton Fabrics Used in Roofing and Waterproofing<sup>3</sup>
- D 226 Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing<sup>3</sup>
- D 227 Specification for Coal-Tar-Saturated Organic Felt Used in Roofing and Waterproofing<sup>3</sup>
- D 449 Specification for Asphalt Used in Dampproofing and Waterproofing<sup>3</sup>

- D 450 Specification for Coal-Tar Pitch Used in Roofing, Dampproofing, and Waterproofing<sup>3</sup>
- D 1079 Terminology Relating to Roofing, Waterproofing, and Bituminous Materials<sup>3</sup>
- D 1327 Specification for Bitumen-Saturated Woven Burlap Fabrics Used in Roofing and Waterproofing<sup>3</sup>
- D 1668 Specification for Glass Fabrics (Woven and Treated) for Roofing and Waterproofing<sup>3</sup>
- D 2178 Specification for Asphalt Glass Felt Used in Roofing and Waterproofing<sup>3</sup>
- D 2822 Specification for Asphalt Roof Cement<sup>3</sup>
- D 4022 Specification for Coal Tar Roof Cement, Asbestos Containing<sup>3</sup>
- D 4586 Specification for Asphalt Roof Cement, Asbestos-Free<sup>3</sup>
- D 4990 Specification for Coal Tar Glass Felt Used in Roofing and Waterproofing<sup>3</sup>
- D 5295 Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems<sup>3</sup>
- D 5643 Specification for Coal Tar Roof Cement, Asbestos Free<sup>3</sup>
- D 5726 Specification for Thermoplastic Fabrics Used in Hot-Applied Roofing and Waterproofing<sup>3</sup>
- D 5898 Guide for Standard Details for Adhered Sheet Waterproofing<sup>3</sup>
- D 5957 Guide for Flood Testing Horizontal Waterproofing Installations<sup>3</sup>
- D 6152 Specification for SEBS-Modified Mopping Asphalt Used in Roofing<sup>3</sup>
- D 6162 Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcement<sup>3</sup>
- D 6163 Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements<sup>3</sup>
- D 6164 Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements<sup>3</sup>
- D 6451 Guide for Application of Asphalt-Based Protection Board<sup>3</sup>

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee D08 on Roofing, Waterproofing, and Bituminous Materials and is the direct responsibility of Subcommittee D08.22 on Waterproofing and Dampproofing Systems.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.07.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 04.04.

D 6506 Specification for Asphalt-Based Protection Board for Below-Grade Waterproofing<sup>3</sup>

## 2.2 Other Documents:

CAN/CGSB-37.50 Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing<sup>4</sup>

CAN/CGSB-37.51 Application for Hot-Applied Rubberized Asphalt for Roofing and Waterproofing<sup>4</sup>

## 3. Terminology

3.1 *Definitions*—For definitions of terms used in this guide, refer to Terminology D 1079.

## 4. Classification

4.1 The following types are used to identify the waterproofing systems included in this guide.

4.1.1 *Type I*—Membranes consisting of hot-applied coal tar pitch, and two or more layers of organic or inorganic felts or fabrics.

4.1.2 *Type II*—Membranes consisting of hot-applied asphalt, and two or more layers of organic or inorganic felts or fabrics.

4.1.3 *Type III*—Membranes consisting of hot-applied asphalt or polymer-modified asphalt, and one or more polymer-modified bitumen sheets. The sheets are typically SBS-modified bitumen and may be reinforced with fiberglass, or polyester, or both.

4.1.4 *Type IV*—Membranes consisting of hot-applied polymer-modified asphalt, and fabric reinforcement.

## 5. Significance and Use

5.1 This guide outlines general procedures and precautions for the application of fully adhered hot-applied built-up reinforced waterproofing systems.

5.2 This guide is not all inclusive and is intended only to supplement detailed instructions from designers, and the recommendations of manufacturers. Manufacturers of some of the systems addressed by this guide require proprietary products and special procedures not described in this guide. Manufacturers' recommendations should therefore be considered in the application of this guide.

5.3 For design guidelines, consult Guide C 981.

## 6. Delivery of Materials

6.1 Deliver materials in the manufacturer's original unopened packages and containers.

6.2 All materials or material packaging must be clearly marked in a weather-resistant manner with type, stock, or lot number, and other pertinent information, for example, size, manufacturer's name, ASTM specification, flash point, equiviscous temperature, or other application information.

## 7. Storage and Handling of Materials

7.1 Store materials on raised platforms or pallets. Store rolls vertically or horizontally, as recommended by the roll manufacturer. Store materials in a dry, ventilated and weatherproof location. Avoid damage or embedment of foreign materials.

7.2 Store materials to prevent system supplier's markings from being destroyed.

7.3 When used as part of the system, store primer and mastic in tightly closed original containers at temperatures recommended by the system supplier.

## 8. Safety Precautions

8.1 Safety precautions include, but are not limited to: wear protective clothing, vent fumes especially in confined spaces, avoid contact with hot bitumen, do not use flammable materials near an open flame or near equipment that may produce sparks or open flames. Obtain and refer to MSDSs for further safety precautions.

## 9. Environmental Conditions

9.1 Installation can proceed when conditions agreed upon by the owner, producer or system supplier, installer, and specifier are met.

9.2 Conditions that may interfere with the installation and performance of the waterproofing include: inclement weather, wet or frost-covered surfaces, dirty or dusty surfaces, high winds, and temperatures above or below a workable range for the products to be installed.

## 10. Materials

### 10.1 *Type I*:

10.1.1 Coal-tar primer: Specification D 43.

10.1.2 Coal-tar pitch: Specification D 450.

10.1.3 Felts: Specification D 227 or D 4990.

10.1.4 Coal-tar-treated glass fabric: Specification D 1668, Type II.

10.1.5 Coal-tar-saturated cotton fabric: Specification D 173.

10.1.6 Coal-tar-saturated burlap fabric: Specification D 1327.

10.1.7 Coal-tar flashing cement: Specification D 4022 or D 5643.

10.1.8 Protection board: Specification D 6506.

### 10.2 *Type II*:

10.2.1 Asphalt primer: Specification D 41.

10.2.2 Asphalt: Specification D 449.

10.2.3 Felts: Specification D 226 or D 2178.

10.2.4 Bitumen-saturated cotton fabric: Specification D 173.

10.2.5 Treated glass fabric: Specification D 1668, Type I or II.

10.2.6 Bitumen-saturated burlap fabric: Specification D 1327.

10.2.7 Flashing cement: Specification D 2822 or D 4586.

10.2.8 Protection board: Specification D 6506.

### 10.3 *Type III*:

10.3.1 Asphalt primer: Specification D 41.

10.3.2 Asphalt: Specification D 6152 or D 449.

10.3.3 SBS-modified-ply sheets: Specification D 6162, D 6163, or D 6164.

10.3.4 Asphalt-treated glass fabric: Specification D 1668, Type I.

10.3.5 Flashing cement: recommended by the manufacturer.

10.3.6 Protection board: Specification D 6506.

<sup>4</sup> Canadian General Standards Board, Ottawa, Canada K1A 1G6.