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## Standard Guide for Application of Asphalt-Based Protection Board<sup>1</sup>

This standard is issued under the fixed designation D6451/D6451M; 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 lists minimum application and installation requirements for semi-rigid protection board when used as protection for below-grade or below wearing surface (like plaza decks) waterproofing.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

1.3 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.* For specific precautionary statements, see Section 8.

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

D1079 Terminology Relating to Roofing and Waterproofing  
D5957 Guide for Flood Testing Horizontal Waterproofing Installations

### 3. Terminology

3.1 *Definitions*—For definitions of terms relating to waterproofing, see Terminology D1079.

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

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

### 4. Significance and Use

4.1 This guide outlines general procedures for the storage and application of semi-rigid protection board to below-grade and below wearing surface waterproofing. The proper application is necessary to prevent damage to the waterproofing membrane during backfilling, paving, or other construction operations, as well as to minimize the effects of soil stresses.

4.2 This guide is intended to supplement instructions from designers and manufacturers.

### 5. Delivery of Materials

5.1 Deliver materials in supplier's original containers and packaging.

### 6. Storage and Handling

6.1 Store adhesive and mastic in tightly closed original containers under conditions as recommended by the manufacturer.

6.2 Store the protection board in supplier's original packaging in a horizontal position to prevent deformation. Protect against exposure to direct sunlight, precipitation, dust, and other such contaminants.

### 7. Materials

7.1 Adhesive, when used, must be acceptable to or have been recommended by the waterproofing membrane manufacturer or supplier and further must be fully compatible with the membrane and the asphalt protection board.

7.2 Mastic or tape, or both (if used on the joints), must be acceptable to or have been recommended by the waterproofing membrane manufacturer or supplier and further be fully compatible with the membrane and the asphalt protection board.

### 8. Safety Precautions

8.1 Store flammable materials in a manner that will not pose a fire hazard. Solvent bearing adhesives may be flammable. Do not use flammable materials near an open flame or equipment that may produce sparks.

### 9. Environmental Conditions at Time of Application

9.1 Environmental conditions under which installation may proceed shall be as recommended by the suppliers of the adhesive and the protection board.

## 10. Substrate Preparation

10.1 The waterproofing membrane must be clean and sufficiently dry so as not to interfere with adhesion of the protection board.

10.2 If a flood test of the membrane is desired, this test should be made before placing the protection course, in accordance with Guide **D5957**.

## 11. Installation

11.1 Install protection board within 24 h of completing the waterproofing membrane installation. Delay installation of the protection board until the waterproofing film cures. If flood testing is conducted, the application should be as soon as possible after the surface is dry and clean.

### 11.2 *On Low-Slope Surfaces:*

11.2.1 Lay protection board on the membrane in common bond brick pattern (so that the joints are aligned in one direction and broken halfway over in the other direction) with the edges butted tightly together. The maximum allowable gap between boards is 3 mm [ $\frac{1}{8}$  in.]. No area of the membrane shall be left uncovered. Lay the board with the weather coating and bond breaking film away from the membrane.

11.2.2 At areas with protrusions and drains, place the board in the desired position to measure the area to be cut out. In drain areas mark an area large enough to cover the membrane and the sealed termination. Mark boards as close to the protrusion as possible while still keeping the board flat. Remove the marked board before cutting (so as not to cut the waterproofing membrane) using a sharp utility knife. Check the cutout by replacing the board in the original location, making sure it will butt all sheets and adequately protect the desired areas before applying adhesive (if being used) for final placing. Avoid damaging the waterproofing membrane or any flashings during application. Boards must lie flat; if necessary, score the bottom of the board to obtain conformance to surface.

11.2.3 Cut and fit boards at inside or outside angles. For gentle or “slow” bends, scoring and folding is acceptable. Use adhesive to hold the protection board in position.

11.2.4 During windy conditions, weigh the individual boards down, even if adhesive is used.

### 11.3 *On Vertical and Steeply Sloped Surfaces:*

11.3.1 The protection board is to be applied with the long axis of the board going up the slope. The joints in the cross-the-slope direction shall be aligned while the up-slope joints shall be in a stacked brick pattern, with joints centered over previously applied boards.

11.3.2 Using adhesive as described in **7.2**, coat the outside 100 mm [4 in.] of the board as well as diagonally from each corner to make an “X” across the center of the surface of each protection board to be installed against the waterproofing membrane. Full adhesive coating of the board is also acceptable when approved by the manufacturers or suppliers of the membrane components.

11.3.3 Immediately place the protection board into position and roll to secure into position. Follow the same procedure with all other boards. Apply in common bond brick course pattern, as described in **11.2.1**. Butt the boards against each other to completely protect the waterproofing surface. As with low-slope installations, the maximum gap between boards shall be 3 mm [ $\frac{1}{8}$  in.].

11.3.4 At penetrations, place the board in the desired position to locate the areas to be cut. Remove the board to avoid damaging the waterproofing membrane and cut out marked areas with a sharp utility knife. Replace the board carefully in its original location.

11.3.5 At sharp inside or outside angles, cut and fit the protection board as specified in **11.2.3**.

11.3.6 For gentle or “slow” corners, scoring and folding is used. Use adhesive to hold the protection board in position.

11.4 Seal butt joints of the protection board with a suitable mastic or tape. Remove the bond breaking film in the area of any joint to be sealed.

11.5 *Inspection and Repair*—Inspect protection board applications to determine that no areas of the waterproofing membrane are left unprotected. Any unprotected areas shall be immediately covered before any backfilling or surfacing is done.

11.6 Backfill vertical installations within 24 h of protection board installation.

## 12. Keywords

12.1 installation; membrane waterproofing; protection board

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