



Designation: D994/D994M – 11 (Reapproved 2022)

Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type)¹

This standard is issued under the fixed designation D994/D994M; 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 (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This specification covers bituminous preformed expansion joint filler for use in concrete construction.

NOTE 1—Attention is called to ASTM Specifications [D1751](#) and [D1752](#).

1.2 *Units*—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 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:*²

[C670 Practice for Preparing Precision and Bias Statements for Test Methods for Construction Materials](#)

[D545 Test Methods for Preformed Expansion Joint Fillers for Concrete Construction \(Nonextruding and Resilient Types\)](#)

[D1751 Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction \(Nonextruding and Resilient Bituminous Types\)](#)

[D1752 Specification for Preformed Sponge Rubber, Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction](#)

¹ This specification is under the jurisdiction of ASTM Committee [D04](#) on Road and Paving Materials and is the direct responsibility of Subcommittee [D04.34](#) on Preformed Joint Fillers, Sealers and Sealing Systems.

Current edition approved June 1, 2022. Published June 2022. Originally approved in 1948. Last previous edition approved in 2016 as D994/D994M – 11 (2016). DOI: 10.1520/D0994_D0994M-11R22.

² 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.

3. Manufacture

3.1 This product shall consist of a bituminous (asphalt or tar) mastic composition, formed and encased between two layers of bituminous impregnated felt or two layers of glass-fiber felt. The mastic shall comprise mineral fillers and reinforcing fibers and may contain thin strips of reinforcing sheet material.

4. General Requirements

4.1 Preformed strips of expansion joint filler shall be of such character as not to be deformed or broken by ordinary handling when exposed to atmospheric conditions and shall not become brittle in cold weather. Pieces of the joint filler that have been damaged shall be rejected.

5. Properties

5.1 *Distortion at 50 °C [125 °F]*—The joint filler shall not show a deflection of more than 1 in. [25 mm] when tested in accordance with [8.2.1](#).

5.2 *Brittleness*—The joint filler shall not crack or shatter when tested in accordance with [8.2.2](#).

NOTE 2—Expansion joint filler having a nominal thickness of 5 mm [$\frac{1}{4}$ in.] or less shall not be subject to a requirement for brittleness.

5.3 *Water Absorption*—The water absorption of the joint filler, when tested in accordance with [8.2.3](#), shall not exceed the following values:

Nominal Thickness of Joint, min, mm [in.]	Absorption, max, weight %
25 [1]	2.5
20 [$\frac{3}{4}$]	3
15 [$\frac{1}{2}$]	4
10 [$\frac{3}{8}$]	5

NOTE 3—Expansion joint filler having a nominal thickness of less than 10 mm [$\frac{3}{8}$ in.] shall not be subject to a requirement for water absorption.

5.4 *Compression*—The load required to compress the test specimen to 50 % of its thickness before test shall not be less than nor more than the following values when the joint filler is tested in accordance with [8.2.4](#).

Nominal Thickness of Joint, mm [in.]	Load Requirements, min–max. kPa [psi]
25 [1]	700–5000 [100–754]
20 [$\frac{3}{4}$]	700–6000 [100–841]
15 [$\frac{1}{2}$]	700–6500 [100–928]