



Designation: D 3204 – 93 (Reapproved 2003)

Standard Specification for Preformed Cellular Plastic Joint Fillers for Relieving Pressure¹

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1. Scope

1.1 This specification covers preformed pressure-relief joint fillers of the following two types made from cellular plastic materials having suitable compressibility and nonextruding characteristics.

1.1.1 Type I, closed cell polyethylene, and

1.1.2 Type II, open cell polyurethane.

1.2 These joint fillers are intended for use in concrete pavements in full-depth joints measuring approximately 4.0 in. (102 mm) in width to relieve stress or avoid potential distress in adjacent structures or pavements.

1.3 The values stated in inch-pound units are to be regarded as the standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

D 545 Test Methods of Testing Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types)

3. Terminology

3.1 *Definition of Term Specific to This Standard*:

3.1.1 *pressure-relief joints*—those joints formed by the removal of a full-depth section of existing pavement to relieve distress or avoid potential distress in adjacent structures or pavements.

4. Manufacture

4.1 *Type I, Closed-Cell Polyethylene*—These fillers shall be made from foamed polyethylene material, and their preformed cross section shall be closed cell and homogeneous without laminations.

4.2 *Type II, Open-Cell Polyurethane*—These fillers shall be made from foamed polyurethane material, and their preformed cross section shall be semi-open cell, homogeneous without laminations.

5. Physical Requirements

5.1 *Compressibility*:

5.1.1 *Minimum*—Load required to compress test specimen by 25 % (to 75 % of original thickness) shall not be less than 3 psi (21 kPa).

5.1.2 *Maximum*—Load required to compress test specimen by 85 % (to 15 % of original thickness) shall not be greater than 300 psi (2070 kPa).

5.2 *Recovery*—After compressing the test specimen to 50 % of its thickness before test, the load shall be released; and 10 min after release of the load, the specimen shall have recovered to at least 95 % of its thickness before test.

5.3 *Extrusion*—When a 1.0-in. (25-mm) thick test specimen is compressed to 50 % of its original thickness with three of its edges restrained, the free edge shall extrude not more than 0.5 in. (13 mm).

5.4 *Structural Characteristics*—Preformed pressure relief joint filler units shall have sufficient strength and resiliency to withstand on-the-job handling without breakage or permanent deformation.

6. Dimensions and Permissible Variations

6.1 Preformed Type I pressure-relief joint filler units shall conform to dimensions as specified.

6.1.1 *Thickness*: +10, –0 %.

6.1.2 *Depth*: +0.8, –0 in. (+20, –0 mm).

6.1.3 *Length*: +3.0, –0 in. (+80, –0 mm).

6.2 Preformed Type II pressure-relief joint filler units shall conform to dimensions as specified.

6.2.1 *Thickness*: ± 5 %.

6.2.2 *Depth*: ± 0.4 in. (± 10 mm).

6.2.3 *Length*: +3.0, –0 in. (+80, –0 mm).

7. Shape

7.1 The cross-section shape shall be as agreed between purchaser and supplier.

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.

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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.