Designation: D 2828 – 96

Standard Specification for Nonbituminous Inserts for Contraction Joints in Portland Cement Concrete Airfield Pavements, Sawable Type[1]

This standard is issued under the fixed designation D 2828; 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.
The committee responsible for this standard has voted its withdrawal. In the absence of substantial reasons that it should be continued, the Society will approve withdrawal from publication in May 1989.

1. Scope

1.1 This specification covers the composition, physical properties, dimensional tolerances, and sampling for tests of inserts placed in portland cement concrete airfield pavement while the concrete is in an unhardened state to form contraction joints. The insert may be partially or totally removed after the concrete has hardened to provide a suitable space for a sealant.

1.2 The values stated in inch-pound units are to be regarded as the standard. The metric equivalents of inch-pound units may be approximate.

2. Referenced Documents

2.1 *ASTM Standards:*

D 1037 Methods for Evaluating the Properties of Wood-Base Fiber and Particle Panel Materials[2]

3. Manufacture

3.1 The product shall consist of precut strips which have been formed from bonded natural or man-made fibers or granules without the addition of bitumen.

4. Physical Requirements

4.1 *Resistance to Handling*—Strips shall be of such character as not to be deformed or broken during handling and placement in concrete. Pieces of the insert that have been damaged shall be rejected.

4.2 *Water Absorption*—A standard test specimen 4 by 4 in. (100 by 100 mm) in size when submerged horizontally under 1 in. (25.4 mm) of water shall absorb not more than 45.0 mg/cm^2 in 24 h through the six exposed faces.

4.3 *Expansion*—A standard test specimen 4 by 4 in. in size after being submerged horizontally for 24 h shall have a final thickness between 100 and 110 % of the thickness before the test.

4.4 *Resistance to Sawing*—The material shall readily cut and disintegrate under the action of a power-driven diamond-tipped or silicon carbide water-cooled blade at a peripheral speed of 11 000 ± 1000 ft/min (3350 ± 305 m/min).

4.5 *Stiffness*—The modulus of the material of the 3 by t = in. (7.5 by t = mm) (t being the nominal thickness) cross section on a 24-t span with the long dimension the same as used for the insert will be at least:

$$E \geq 80\,000 \text{ psi } (552\ MPa) \text{ in bending} \quad (1)$$

4.6 *Bending Strength*—The modulus of rupture shall be at least 600 psi (4.14 MPa) on specimens prepared with the long dimension the same as used for the inserts.

5. Dimension and Permissible Variations

5.1 The preformed strip shall conform to the dimension of the groove shown on the plan. Strips that do not conform to the specified dimensions within the following permissible variations shall be rejected:

Length = ±¼ in. (± 6.3 mm)
Depth = ±⅛ in. (± 3.2 mm)
Thickness = ± 1⁄16 in. (±1.6 mm)

6. Sampling

6.1 *Size of Samples*—Each sample shall consist of sufficient material to provide at least five test specimens measuring 4½ by 15 in. (120 by 380 mm).

6.2 *Number of Samples*—One representative sample shall be taken from each shipment of 1000 ft^2 (100 m^2) or fraction thereof of each thickness ordered or otherwise specified.

6.3 *Packing of Samples*—Samples shall be packed for transportation in such a manner that they will not be deformed or broken.

7. Test Methods

7.1 Determine the properties prescribed in this specification in accordance with the following sections of Method D 1037:

7.1.1 *Water Absorption and Expansion*—Sections 69 to 73 and 75.

7.1.2 *Stiffness and Bending Strength*—Sections 11, 13, 14, 15, and 19.

[1] This specification is under the jurisdiction of ASTM Committee D-4 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.34 on Preformed Joint Fillers and Sealers.

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[2] *Annual Book of ASTM Standards*, Vol 04.10.