



Designation: D4070 – 08

# Standard Specification for Adhesive Lubricant for Installation of Preformed Elastomeric Bridge Compression Seals in Concrete Structures<sup>1</sup>

This standard is issued under the fixed designation D4070; 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 specification covers an adhesive lubricant for facilitating the insertion and positioning of preformed elastomeric bridge compression seals in either concrete or steel-faced joints, and which bonds the seal to the joint faces to waterproof the joint.

## 2. Referenced Documents

- 2.1 *ASTM Standards*:<sup>2</sup>  
D1084 Test Methods for Viscosity of Adhesives

## 3. General Requirements

3.1 The adhesive lubricant shall be a one-component, moisture-curing, polyurethane compound extended with aromatic hydrocarbon solvent. The compound shall provide adequate lubrication for insertion of the seal into the joint and, in the actual field application, shall bond the seal to the joint face throughout repeated cycles of expansion and contraction, effectively sealing the joint against infiltration of moisture.

## 4. Physical Requirements

4.1 The material shall conform to the physical properties described in Table 1.

## 5. Sampling

5.1 Samples of the adhesive lubricant shall be 1 L (1 qt) consisting of a composite taken from three or more separate containers chosen at random from the same batch. A batch or lot shall be considered as all finished material that was manufactured simultaneously or continuously as a unit prior to

packaging. Each of the containers sampled shall be resealed and marked for identification.

5.2 Samples shall be taken at the point of manufacture or warehouse prior to delivery, or at the point of delivery from each lot.

## 6. Test Conditions

6.1 Tests shall be conducted at standard laboratory conditions of  $23 \pm 2^\circ\text{C}$  ( $73.4 \pm 3.6^\circ\text{F}$ ). All materials and equipment shall be held at these conditions prior to test for a sufficient time to assure equilibrium.

## 7. Specimen Preparation

7.1 Using a square-tipped spatula, thoroughly hand-mix approximately 500 mL (1 pt) of lubricant adhesive in a round can for 1 min.

## 8. Apparatus

8.1 *Oven*—The oven shall be a circulating air oven capable of maintaining temperature of  $105 \pm 2^\circ\text{C}$  ( $221 \pm 4^\circ\text{F}$ ).

8.2 *Viscometer*—It shall be a Brookfield Model RVT viscometer with helipath stand and, TA, TB, TC, TD and TE spindles.

8.3 *Rubber Strips*—The rubber strips shall be 150 mm (6 in.) long, 25 mm (1 in.) wide and 1.5 mm ( $1/16$  in.) thick, and shall be obtained from an outside wall of preformed elastomeric bridge seal representative of the seal to be bonded with the adhesive lubricant.

8.4 *Concrete Blocks*, 200 by 200 by 75 mm (8 by 8 by 3 in.) and made of concrete similar to the concrete to which the seal is to be bonded. The blocks shall be cured for at least 14 days in a moisture room followed by at least 7 days at normal laboratory air condition. The test surface shall be smooth, freshly sandblasted before testing.

8.5 *Steel Roller*—A suitable 50 mm (2 in.) wide roller weighing 4.5 kg (10 lb).

8.6 *Steel Blocks*, 165 mm ( $6\frac{1}{2}$  in.) long by 50 mm (2 in.) wide weighing 4.5 kg (10 lb).

<sup>1</sup> 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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<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.