



Designation: D 4070 – 91 (Reapproved 1996)^{ε1}

Standard Specification for Adhesive Lubricant for Installation of Preformed Elastomeric Bridge Compression Seals in Concrete Structures¹

This standard is issued under the fixed designation D 4070; 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.

^{ε1} NOTE—Keywords were added editorially in July 1996.

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:*

D 1084 Test Methods for Viscosity of Adhesives²

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.

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 15.06.

TABLE 1 Physical Requirements

Property	Requirements	Test Method Section
Solids content, min %	60	9.1
Homogeneity	shall be uniform, no lumps or agglomerates, no settlement in the container	None
Viscosity, cP	20 000 to 300 000	9.2
Shear ratio, min, for viscosity in the range of:		9.2
20 000 to 100 000 cP	1.5	
100 001 to 200 000 cP	2.0	
200 001 to 300 000 cP	2.5	
Shear ratio, max	4.0	9.2
Lubricating life, min, h	2	9.3
Sag	no sagging	9.4
Peel strength test	maximum length peeled from concrete within 3 min	9.5
500-g load	none	
1000-g load	12 mm (½ in.)	
Shelf life	for 6 months after manufacture, no skinning over and settling in the container to the extent that it cannot be brought to a smooth uniform product by stirring	

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 ± 2°C (73.4 ± 3.6°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.