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**Test Procedure for****SETTLEMENT OF SEALANTS AND REPAIR MATERIALS****TxDOT Designation: Tex-551-C****Effective Date: December 2011**

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**1. SCOPE**

- 1.1 Use the following procedure to determine the amount of settlement that occurs in a sealant or repair material after storage at specific conditions.
  - 1.2 The values given in parentheses (if provided) are not standard and may not be exact mathematical conversions. Use each system of units separately. Combining values from the two systems may result in nonconformance with the standard.
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**2. APPARATUS**

- 2.1 *Forced draft oven*, capable of maintaining  $250 \pm 5^{\circ}\text{F}$  ( $121 \pm 3^{\circ}\text{C}$ ).
  - 2.2 *Freezer*, capable of maintaining  $10 \pm 5^{\circ}\text{F}$  ( $-12 \pm 3^{\circ}\text{C}$ ).
  - 2.3 *Hydraulic press*, or load frame, capable of slowly applying loads of minimum 30,000 lb. (13,600 kg), and a minimum travel distance of 5 in. (127 mm).
  - 2.4 *Splitting wedge*, steel, minimum width approximately 4 in. (100 mm), with an attachment point compatible with the hydraulic press or load frame.
  - 2.5 *Press base*, steel, with an attachment point compatible with the hydraulic press or load frame, minimum width and height approximately 6 in., minimum thickness approximately 1 in.
  - 2.6 *Cup*, 9 oz. sturdy paper "Hot Cup" with a bottom dimension of approximately 2 in. (50 mm), top dimension of approximately 3 in. (75 mm), and height of approximately 3.5 in. (90 mm), or other paper or waxed paper container of similar shape.  
**Note 1**—Other sample molding methods may be used, provided that the resulting sample has similar dimensions and can be split with the press.
  - 2.7 *Tape*, paper masking type or plastic fiber reinforced packing type.
  - 2.8 *Splitting wedge*, steel, minimum width 4 in. (100 mm), with an attachment point compatible with the load frame or hydraulic press.
  - 2.9 *Spatula*, steel, minimum width 4 in. (100 mm).
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2.10 *Laboratory gas burner, Fisher style.*

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### **3. PROCEDURE**

- 3.1 Obtain and prepare a representative sample of material for testing in accordance with Tex-546-C.
- 3.2 Wrap the paper cup with a layer of tape to help preserve its shape.
- 3.3 Pour the material into the paper cup. Use the spatula, heated on the burner, to remove excess material flush with the top of the cup.
- 3.4 Cool the sample in the cup at room temperature, 70–78°F (21–25°C), for a minimum of 12 hr.
- 3.5 Place the sample in an oven maintained at  $250 \pm 5^\circ\text{F}$  ( $121 \pm 3^\circ\text{C}$ ) for 3 hr.  $\pm$  5 min.
- 3.6 Remove the sample from the oven and place directly into a freezer maintained at  $0 \pm 5^\circ\text{F}$  ( $-18 \pm 3^\circ\text{C}$ ) for 24 hr.  $\pm$  10 min.
- 3.7 Remove the sample from the freezer and immediately place it, largest end up, on the press base in the press or load frame. Split the sample lengthwise along the center axis using the splitting wedge.
- 3.8 Report the distance, to the nearest 1 mm, from the top of the sample to the first visible layer of rock.