



## Determination of Resistance of Elastomer Profiles to Transit Coating (Protective Wax) Remover

### 1 Introduction

**Note:** Nothing in this standard supercedes applicable laws and regulations.

**Note:** In the event of conflict between the English and domestic language, the English language shall take precedence.

**1.1 Purpose.** The object of this standard is to determine the resistance of elastomer profiles to transit coating (protective wax) remover.

**1.2 Applicability.** This standard is applicable to all body sealings which can be exposed to transit coating during shipment of the vehicle(s).

**1.3 Remarks.** Not applicable.

### 2 References

**Note:** Only the latest approved standards are applicable unless otherwise specified.

#### 2.1 External Standards/Specifications.

ASTM D56

ASTM D1012

ASTM D1078

ASTM D1298

#### 2.2 GM Standards/Specifications.

None

#### 2.3 Additional References. None.

### 3 Resources

#### 3.1 Facilities.

**3.1.1 Calibration.** The test facilities and equipment shall be in good working order and shall have a valid calibration label.

**3.1.2 Alternatives.** Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

#### 3.2 Equipment.

##### 3.2.1 Test Equipment.

**3.2.1.1** Measuring cylinder, 1.0 L capacity with 0.1 L graduation scale.

**3.2.1.2** Round-bottom flask, 1.0 L capacity with reflux condenser.

**3.2.1.3** Magnetic stirrer with heating plate.

**3.2.1.4** Petroleum or kerosene to meet the following properties:

- Distillation Range (ASTM D1078)
  - a. Initial Boiling Point: 176 °C minimum
  - b. 50%: 225 °C minimum
  - c. End (Dry) Point: 280 °C maximum
- Flash Point (ASTM D56): 62 °C minimum
- Specific Gravity at 25 °C (ASTM D1298): 0.790 to 0.815

- Aniline Point (ASTM D1012): 55 °C to 75 °C
- Fluid can be purchased with Chemical Abstract Service (CAS) No. 180-250

#### 3.2.1.5 Distilled or deionized water

### 3.3 Test Vehicle/Test Piece.

**3.3.1 Test Material.** A section of (approximately) 50 mm length of the elastomer profile shall be used as a test piece. For initial sample approval and arbitration purposes at least three (3) test pieces, and for routine quality control at least one (1) test piece shall be tested.

### 3.4 Test Time.

Calendar time: 0 days  
Test hours: 1 hour  
Coordination hours: 0 hours

**3.5 Test Required Information.** Not applicable.

**3.6 Personnel/Skills.** Conform to GM and/or laboratory requirements. Technician training records must be available upon request.

## 4 Procedure

### 4.1 Preparation.

**4.1.1 Test Sample Preparation.** For initial sample approval and arbitration purposes, the minimum time between vulcanization and testing of elastomers shall be 72 h.

The test pieces shall be maintained at a temperature of 23 °C  $\pm$  5 °C for at least 8 h before the test is made and not be subjected to any kind of strain during this period.

### 4.2 Conditions.

#### 4.2.1 Environmental Conditions.

**4.2.2 Test Conditions.** Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

### 4.3 Instructions.

**4.3.1 Test Procedure.** Prior to testing, a test liquid of 5% by volume of petroleum or kerosene (per 3.2.1.4) to deionized water shall be prepared. Eight hundred milliliters (800 mL) of this test liquid shall be poured into a 1 L round-bottom flask with reflux condenser and heated to a temperature of 67.5 °C  $\pm$  2.5 °C under continuous stirring.

After test temperature has been reached, the test piece shall be immersed in the test liquid under continuous stirring for a period of 5 minutes  $\pm$  0.5 minutes and subsequently evaluated. For each mixture of test liquid prepared, approximately 10 to 12 test pieces can be tested, whereby the appearance of the test liquid should also be considered (when the test liquid is polluted by substances from the elastomer profile, it cannot be used for further testing).

## 5 Data

**5.1 Calculations.** Not applicable.

**5.2 Interpretation of Results.** Not applicable.

### 5.3 Test Documentation.

**5.3.1 Evaluation and Rating.** Examine the elastomer profile for any surface irregularities, such as waviness. Report waviness only if the section of the profile is exposed to transit coating remover on the vehicle. If the part(s) show minor waviness, visual check must be repeated after 2 h. If waviness has disappeared, the test is fulfilled.

**5.4 Report.** Report the results of this test procedure in a test report. Include observations regarding changes in the elastomer.