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Standard Methods of Testing RUBBER HOSE FOR AUTOMOTIVE AIR CONDITIONING SYSTEMS¹

This standard is issued under the fixed designation D 1680; 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.

¹ NOTE—Section 7 was editorially corrected in August 1986.

1. Scope

1.1 These methods are intended for use in testing the conventional types of hose employed in the air conditioning systems of automotive vehicles² for conducting liquid and gaseous refrigerants. The hose may be assembled with suitable metal end fittings or may be fabricated for use with detachable fittings.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

- 2.1 *ASTM Standards:*
 - D 380 Methods for Testing Rubber Hose³
 - D 471 Test Method for Rubber Property—Effect of Liquids⁴
 - D 573 Test Method for Rubber—Deterioration in an Air Oven⁴
 - E 4 Practice for Load Verification of Testing Machines⁵
- 2.2 *SAE Standard:*
 - J51 Automotive Air Conditioning Hose²

3. Significance and Use

3.1 The purpose of this standard is to provide nationally recognized test methods for automotive air conditioning hose, in particular

the hose specification SAE J51, and to provide producers, distributors, and users with a basis for evaluating the characteristics of these hose products.

4. General Methods

4.1 The special tests described in these methods shall be applied as required by detailed specifications for these types of hose. Otherwise, the general methods in Methods D 380, shall be used and are hereby made a part of these methods.

4.2 In case of conflict between the provisions of these methods and those of detailed specifications or test methods for a particular hose, the latter shall take precedence.

5. Sampling

5.1 Test specimens shall consist of air conditioning hose coupled into hose assemblies having a measured free length of hose exposed between the couplings specified by the detailed specification.

6. Test Conditions

6.1 The temperature of the testing room shall be maintained between $23 \pm 5^\circ\text{C}$ ($73 \pm$

¹ This method is under the jurisdiction of ASTM Committee D-11 on Rubber and is the direct responsibility of Subcommittee D11.31 on Rubber Hose.

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² For specification covering hose of this type, reference should be made to Automotive Air Conditioning Hose, SAE J 51 of the Society of Automotive Engineers, SAE Handbook.

³ Annual Book of ASTM Standards, Vol 09.02.

⁴ Annual Book of ASTM Standards, Vol 09.01.

⁵ Annual Book of ASTM Standards, Vol 03.01.