



Designation: D5132 – 17

Standard Test Method for Horizontal Burning Rate of Polymeric Materials Used in Occupant Compartments of Motor Vehicles¹

This standard is issued under the fixed designation D5132; 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. Scope

1.1 This test method is intended for use as a small-scale laboratory procedure for comparing the relative horizontal burning rates of polymeric materials used in occupant compartments of motor vehicles.

1.2 During the course of combustion, gases or vapors, or both, are evolved that are potentially hazardous to personnel. Adequate precautions shall be taken to protect the operator.

1.3 *Units*—The values stated in SI units are to be regarded as standard.

1.4 This test method, Federal Safety Standard MVSS 302, SAE J369, and ISO 3795 address the same subject matter, but differ in technical content.

1.5 *This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire hazards or fire risk assessment of materials, products, or assemblies under actual fire conditions.*

1.6 *This standard does not purport to address all of the safety concerns, if any, 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. Specific hazard statements are given in Section 7.*

1.7 *Fire testing is inherently hazardous. Adequate safeguards for personnel and property shall be employed in conducting these tests.*

NOTE 1—There is no known ISO equivalent to this standard.

1.8 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

¹ This test method is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.30 on Thermal Properties.

Current edition approved May 1, 2017. Published June 2017. Originally approved in 1990. Last previous edition approved in 2011 as D5132 – 11. DOI: 10.1520/D5132-17.

2. Referenced Documents

2.1 *ASTM Standards*:²

D5025 Specification for Laboratory Burner Used for Small-Scale Burning Tests on Plastic Materials

E176 Terminology of Fire Standards

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

2.2 *Federal Safety Standard*:

MVSS 302 (49 CFR 571.302) Flammability of Interior Materials—Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Buses³

2.3 *SAE Standard*:

SAE J369 Flammability of Polymeric Interior Materials - Horizontal Test Method⁴

2.4 *ISO Standard*:

ISO 3795 Road vehicles, and tractors and machinery for agriculture and forestry—Determination of burning behavior of interior materials⁵

3. Terminology

3.1 *Definitions*—For definitions of fire-related terms used in this test method, refer to Terminology E176.

4. Summary of Test Method

4.1 This test method employs a standard test specimen (100 by 356 mm) with a thickness up to 13 mm, mounted in a U-shaped metal frame. The specimen is ignited by means of a 38 mm high flame from an appropriate burner, and the burning rate of the material is determined.

4.2 The rate of burning is determined by measurements of the horizontal distance burned in relation to the time of burning, and reported for each set of specimens.

² 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.

³ United States Code of Federal Regulations, 49 CFR 571.302, 36 FR 28991, available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

⁴ Available from Society of Automotive Engineers (SAE), 400 Commonwealth Dr., Warrendale, PA 15096-0001.

⁵ Available from International Organization for Standardization (ISO), 1 rue de Varembe, Case postale 56, CH-1211, Geneva 20, Switzerland.

*A Summary of Changes section appears at the end of this standard