

AMERICAN NATIONAL
STANDARD

ANSI/ASTM D 1433 - 77

AMERICAN SOCIETY FOR TESTING AND MATERIALS

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Standard Test Method for RATE OF BURNING AND/OR EXTENT AND TIME OF BURNING OF FLEXIBLE THIN PLASTIC SHEETING SUPPORTED ON A 45-DEG INCLINE¹

This Standard is issued under the fixed designation D 1433; 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.

1. Scope

1.1 This method covers the determination of the relative rate of burning and/or extent and time of burning of flexible plastics in the form of film or thin sheeting. Materials that shrink excessively upon ignition, or that melt to cause the flame to be carried away while dripping, cannot be evaluated by this method. Although the test is primarily intended for non-rigid plastic films, it may be used on rigid or nonrigid sheeting which can be bent through the 45-deg angle specified in the test procedure.

1.2 **Caution**—During the course of combustion, gases or vapors, or both, are evolved which may be hazardous to personnel. Adequate precautions should be taken to protect the operator.

NOTE 1—Method D 568, Test for Rate of Burning and/or Extent and Time of Burning of Flexible Plastics in a Vertical Position² may also be used to test flexible thin sheets or films. Self-supporting plastics are tested by Method D 635, Test for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position.³

1.3 *This standard should be used to measure and describe the properties of materials, products, or systems in response to heat and flame under controlled laboratory conditions and should not be used for the description or appraisal of the fire hazard of materials, products, or systems under actual fire conditions.³*

NOTE 2—The values stated in SI units are to be regarded as the standard.

2. Applicable Documents

2.1 ASTM Standards:

D 618 Conditioning Plastics and Electrical Insulating Materials for Testing²

3. Significance

3.1 This method is not intended to be a criterion for fire hazard. The fire hazard created by materials depends upon the form and end use of the material. Assessment of fire hazard includes, but is not limited to, many factors, such as, ease of ignition, burning rate, flame spread, fuel contribution, intensity of burning, and products of combustion.

3.2 This method is intended to provide data for comparing the relative burning rates of thin plastic sheeting under the conditions of this test. The rate of burning will vary with thickness. Test data should be compared with data for a control material of known performance and of comparable thickness. Correlation with burning characteristics under actual use conditions is not necessarily implied.

3.3 Even though the test reproducibility within a laboratory will generally be within 5 to

¹ This method is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D-20.30 on Thermal Properties.

There are differences between CS 192 - 53 and Method D 1433, although the apparatus is identical.

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² Annual Book of ASTM Standards, Part 35.

³ This caveat has been placed in the standard in accordance with a policy established by the ASTM Board of Directors in September 1973. The caveat will remain in this standard until Committee E-39 on Fire Hazard Standards has approved it as a fire hazard standard.

⁴ Available through Custom Scientific Instruments, Inc., Whippany, N. J. 07981.