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NOTICE: This standard has either been superseded and replaced by a new version or discontinued.

Contact ASTM International (www.astm.org) for the latest information.**Standard Specification for****RIGID ACRYLONITRILE-BUTADIENE-STYRENE
(ABS) PLASTICS¹**

This standard is issued under the fixed designation D 1788; 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 specification covers rigid thermoplastic compositions which are made from polymers or blends of polymers, or both, produced from the monomers acrylonitrile, butadiene, and styrene (ABS) or their closely related chemical derivatives and which contain a minimum of 13 % acrylonitrile, 5 % butadiene, and 15 % styrene. ABS plastics may also contain a maximum of 10 % of other monomeric or polymeric components. Other necessary compounding ingredients may also be present. These plastic compositions are suitable for injection or compression molding, calendaring, and extrusion.

1.2 The values stated in SI units are to be regarded as the standard.

NOTE 1—This specification includes commercially available compounds meeting the composition requirements given herein and only those cell combinations that are applicable thereto. Materials available at the time of publication, listed by their cell classification, can be found in the appendix. Periodic updating of this listing will be at the request of the seller.

1.3 For pipe applications, other minimum composition requirements for acrylonitrile, butadiene, and styrene apply. For example, see Specification D 1527.

1.4 This specification provides for the division of ABS polymers into groups based on three properties: Izod impact strength, deflection temperature under load, and tensile stress at yield point. These three properties are the most significant in characterizing differences between ABS compounds.

NOTE 2—The properties included in this specification are those required to identify the types and grades of materials covered. There may be other requirements necessary to identify particular char-

acteristics. These will be added to the specification as their inclusion becomes generally desirable and the necessary test data and methods become available.

2. Applicable Documents**2.1 ASTM Standards:**

- D 256 Tests for Impact Resistance of Plastics and Electrical Insulating Materials²
- D 618 Conditioning Plastics and Electrical Insulating Materials for Testing³
- D 638 Test for Tensile Properties of Plastics⁴
- D 648 Test for Deflection Temperature of Plastics Under Flexural Load⁴
- D 792 Tests for Specific Gravity and Density of Plastics by Displacement⁴
- D 883 Definitions of Terms Relating to Plastics⁵
- D 1013 Test for Total Nitrogen in Resins and Plastics.⁶
- D 1527 Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Schedules 40 and 80⁷
- D 1897 Recommended Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials⁴

¹ This specification is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials.

Materials defined in this specification are the basis of pipe and sheeting specifications which are under the jurisdiction of Committee F-17 on Plastic Piping Systems and Subcommittee D20.19.

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² Annual Book of ASTM Standards, Parts 35, 37, and 39.

³ Annual Book of ASTM Standards, Parts 22, 35, and 39.

⁴ Annual Book of ASTM Standards, Part 35.

⁵ Annual Book of ASTM Standards, Parts 34, 35, and 36.

⁶ Annual Book of ASTM Standards, Part 28.

⁷ Annual Book of ASTM Standards, Part 34.