



Standard Classification for Suffixes to the PE Thermoplastic Pipe Material Designation (TPMD) Code for Polyethylene Pressure¹

This standard is issued under the fixed designation F3753; 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 reappraisal. A superscript epsilon (ε) indicates an editorial change since the last revision or reappraisal.

ε¹ NOTE—The title of Table 2 was editorially corrected in August 2025.

1. Scope

1.1 This standard covers the classification of PE pressure piping compounds using the PE Thermoplastic Material Designation Code (TPMD Code) as defined in Terminology F412 with supplemental suffixes that provide additional performance property requirements. PE compounds are to be selected by personnel with expertise in the plastics field where, the inherent properties of the PE compounds, the part design, the part performance required, the manufacturing process to be employed and the environment to be encountered all enter into the selection.

1.1.1 Stress-rated compounds for pressure piping applications that utilize the PE TPMD Code rely on a defined formulation. When the stress-rated compound requires the combination of two (2) or more components prior to use, the composition of the defined formulation is to be obtained from the formulation owner.

NOTE 1—Deviations from the defined formulation may affect the Hydrostatic Design Basis or other characteristics specified in this classification.

NOTE 2—ISO 1043-1 allows for the addition of supplemental suffixes to basic polymer designations to identify special characteristics. For example, a PE-RT is a polyethylene with raised temperature (RT) characteristics. The meaning of the letters identifying special characteristics in ISO 1043-1 may differ from the letters used in this classification.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standard-*

ization 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.

2. Referenced Documents

2.1 ASTM Standards:²

D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement

D1505 Test Method for Density of Plastics by the Density-Gradient Technique

D2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products

D2839 Practice for Use of a Melt Index Strand for Determining Density of Polyethylene

D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials

D4883 Test Method for Density of Polyethylene by the Ultrasound Technique

F412 Terminology Relating to Plastic Piping Systems

F714 Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter

F1473 Test Method for Notch Tensile Test to Measure the Resistance to Slow Crack Growth of Polyethylene Pipes and Resins

F2263 Test Method for Evaluating the Oxidative Resistance of Polyethylene (PE) Pipe to Chlorinated Water

2.2 ISO Standards³

ISO 1043-1 Plastics – Symbols and Abbreviated Items

ISO 15494 Plastics piping systems for industrial applications - Polybutene (PB), polyethylene (PE), polyethylene of raised temperature resistance (PERT), crosslinked polyethylene (PE-X), polypropylene (PP) - Metric series for

¹ This test method is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.26 on Olefin Based Pipe.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from International Organization for Standardization (ISO), ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, <http://www.iso.org>.