



Standard Specification for Manufacture and Joining of Polyethylene (PE) Gas Pressure Pipe With a Peelable Polypropylene (PP) Outer Layer¹

This standard is issued under the fixed designation F2830; 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 standard specification covers manufacturing and joining requirements for peelable (skinned) polyethylene (PE) pipe, which is PE pipe meeting the requirements of Specification **D2513**, with a peelable outer layer of polypropylene (PP). These requirements are in addition to those in Specification **D2513** for the PE pipe.

1.2 The peelable PP layer does not contribute to outside diameter and wall thickness used for pressure rating or tensile loading calculations.

1.3 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in figures and tables) shall not be considered as requirements of the standard.

1.4 *Units*—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.

1.5 *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.*

2. Referenced Documents

2.1 ASTM Standards:²

D1600 Terminology for Abbreviated Terms Relating to Plastics

D2513 Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings

D4101 Specification for Polypropylene Injection and Extrusion Materials

F412 Terminology Relating to Plastic Piping Systems

¹ This specification is under the jurisdiction of ASTM Committee **F17** on Plastic Piping Systems and is the direct responsibility of Subcommittee **F17.60** on Gas. Current edition approved May 1, 2011. Published May 2011. DOI: 10.1520/F2830-11.

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.

F1055 Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing

F1563 Specification for Tools to Squeeze-off Polyethylene (PE) Gas Pipe or Tubing

2.2 ISO Standard:³

ISO 17454 Plastics piping systems - multilayer pipe - test method for the adhesion of the different layers using a pulling rig.

2.3 EN Standard:⁴

EN 1411 - Plastics piping and ducting systems – Thermoplastics pipes – determination of resistance to external blows by the staircase method.

3. Terminology

3.1 *Definitions*—Definitions are in accordance with Terminology **F412**, and abbreviations are in accordance with Terminology **D1600**, unless otherwise specified.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *Peelable pipe, n*—Specification **D2513** polyethylene (PE) pipe coextruded with a peelable outer layer of polypropylene (PP). When the peelable PP layer is removed, the PE pipe is the same as **D2513** PE pipe.

4. PE Pipe and PP Layer Requirements

4.1 PE Pipe Requirements:

4.1.1 The PE pipe shall meet all the requirements of Specification **D2513**, excluding marking, when tested in accordance with **6.1**. Marking shall be in accordance with Section **7**.

4.2 PP Layer Requirements:

4.2.1 The PP peelable layer shall be made from unreinforced PP material in accordance with Specification **D4101**. Any unreinforced PP material may be used as long as the peelable pipe meets the peel force and impact test requirements in **4.2.2** and **4.2.3**.

³ Available from International Organization for Standardization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211, Geneva 20, Switzerland, <http://www.iso.ch>.

⁴ Available from European Committee for Standardization (CEN), 36 rue de Stassart, B-1050, Brussels, Belgium, <http://www.cenorm.be>.