



Standard Specification for Lap-Joint Type Flange Adapters for Polyethylene Pressure Pipe in Nominal Pipe Sizes $\frac{3}{4}$ in. to 65 in.¹

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1. Scope*

1.1 This specification covers the polyethylene material and dimensions applicable to flange adapters (FAs) used to connect polyethylene pipes to other flanged pipe and components such as valves and flanged fittings. This standard describes outside diameter controlled polyethylene (PE) pipe flange adapters (FAs) in diameters ranging from $\frac{3}{4}$ in. through 65 in. (12 mm through 1600 mm). The flange adapters may be manufactured by various methods including injection molding, compression molding, and machining from billet or thick-wall polyethylene pipe.

1.2 The flange adapter (FA) is the principal component of the lap-joint flanged assembly widely used for several decades in low-pressure to high-pressure polyethylene pipe systems for all types of pressurized flow (gas and liquid) applications. The flange adapter's physical shape consists of the pipe-like Neck which is monolithic with its Hub. The Neck is intended to be butt-fused or fusion coupled to the pipe-line; while the Hub face is intended to affect the seal when subjected to the distributed load from the back up ring with its properly torqued bolt-studs and nuts.

NOTE 1—Polyethylene pipe flange adapters with slip on bolt rings are intended for use being bolted to each other or to be bolted to metal flanges having (primarily) Class 150 bolt hole patterns such as those presented in metal flange standards ASME B16.5, ASME B16.47 and AWWA C207.

1.3 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.

1.4 The use of gaskets and gasket selection are often an integral component of the flange adapter assembly. See the Plastic Pipe Institute Technical Note TN-38 for more information regarding HDPE flanged joints.

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

D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

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

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

D3035 Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter

D3261 Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing

D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials

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

F2206 Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE)

F3034 Specification for Billets made by Winding Molten Extruded Stress-Rated High Density Polyethylene (HDPE)

2.2 ASME Standards:³

B16.5 "Pipe Flanges and Flanged Fittings"

B16.47 "Large Diameter Steel Flanges: NPS 26 through NPS 60" Class #150 – Series A

B36.10M Welded and Seamless Wrought Steel Pipe

B36.19M Stainless Steel Pipe

¹ This specification is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.10 on Fittings.

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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 Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990, <http://www.asme.org>.