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An American National Standard

Standard Specification for Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe[1]

This standard is issued under the fixed designation F 913; 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.

ε[1] NOTE—Section 8.7 and Table 1 were editorially revised in September 2006.

1. Scope

1.1 This specification covers thermoplastic elastomeric seals (gaskets) used to seal the joints of plastic pipe and fittings used for gravity and low-pressure applications.[2] This specification refers to push-on joints that require no internal or external pressure to effect the initial seal.

1.2 Requirements are given for thermoplastic elastomers.

1.3 The values in SI units are to be regarded as standard. The values given in parentheses are mathimatical conversions to inch-pound units which are provided for information only and are not considered the standard.

1.4 The following precautionary caveat pertains only to the test methods portion, Section 8, of this specification: *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:* [3]

D 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension

D 471 Test Method for Rubber Property—Effect of Liquids

D 573 Test Method for Rubber—Deterioration in an Air Oven

D 1149 Test Method for Rubber Deterioration—Surface Ozone Cracking in a Chamber

D 1414 Test Methods for Rubber O-Rings

D 1566 Terminology Relating to Rubber

D 1600 Terminology for Abbreviated Terms Relating to Plastics

D 2240 Test Method for Rubber Property—Durometer Hardness

D 6147 Test Method for Vulcanized Rubber and Thermoplastic Elastomer—Determination of Force Decay (Stress Relaxation) in Compression

F 412 Terminology Relating to Plastic Piping Systems

F 118 Definitions of Terms Relating to Gaskets

3. Terminology

3.1 *Definitions—are in accordance with Terminology F 412, and abbreviations are in accordance with Terminology D 1600, unless otherwise specified.*

3.2 Terms relating to rubber or elastomer shall be as defined in Terminology D 1566 and Definitions F 118.

3.3 *Definitions of Terms Specific to This Standard:*

3.3.1 *gravity and low pressure applications, n*—pressure below 150 kPa (21 psi) or (50-ft) head of water.

4. Materials and Manufacture

4.1 The gasket shall be fabricated from a high-grade thermoplastic elastomer meeting the requirements in Table 1.

4.2 The gasket shall meet the force decay (stress relaxation) requirements of 5.1.3.

4.3 The thermoplastic elastomer used must be noncrazing to pipe. The gasket shall not cause craze marks, pits, or blisters in contact with the plastic pipe. Staining of the plastic pipe in the

[1] This specification is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.20 on Joining.

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[2] Supporting data are available at ASTM Headquarters. Request RR:F17-1035.

[3] 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.