



Standard Specification for Poly (Vinyl Chloride) (PVC) Gaskets for Drain, Waste, and Vent (DWV), Sewer, Sanitary, and Storm Plumbing Systems¹

This standard is issued under the fixed designation D5926; 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 describes material and physical requirements for nonrigid poly (vinyl chloride) (PVC) preformed molded and spliced gaskets used in mechanical couplings. These couplings are used in gravity flow drain, waste, and vent (DWV), sewer, sanitary, and storm plumbing systems. They include couplings to join similar and dissimilar piping sizes and piping material.

~~1.2 Recycled materials may be used in this product in accordance with the requirements in Section~~

1.2 It is acceptable to use recycled materials in this product in accordance with the requirements in Section 4.

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.

NOTE 1—There is no known ISO equivalent to this standard.

1.4 The following safety hazards caveat pertains only to the test method portion, Section 7, 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:²

C717 Terminology of Building Seals and Sealants

D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers Tension

D471 Test Method for Rubber Property Effect of Liquids

D573 Test Method for Rubber Deterioration in an Air Oven

D618 Practice for Conditioning Plastics for Testing

D624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers

D746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact

D883 Terminology Relating to Plastics

D1149 Test Methods for Rubber Deterioration Cracking in an Ozone Controlled Environment

D1203 Test Methods for Volatile Loss From Plastics Using Activated Carbon Methods

D1600 Terminology for Abbreviated Terms Relating to Plastics

D2240 Test Method for Rubber Property Durometer Hardness

D2287 Specification for Nonrigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds

D3892 Practice for Packaging/Packing of Plastics ~~D4968~~

D4968 Guide for Annual Review of Test Methods and Specifications for Plastics

D6147 Test Method for Vulcanized Rubber and Thermoplastic Elastomer Determination of Force Decay (Stress Relaxation) in Compression

D7209 Guide for Waste Reduction, Resource Recovery, and Use of Recycled Polymeric Materials and Products

3. Terminology

3.1 *General*—Definitions are in accordance with Terminologies C717, D883 ~~and~~, and D1600, unless otherwise indicated.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *flash*—the excess material protruding from the surface of a molded article at the mold junction.

¹ This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is under the direct responsibility of Subcommittee D20.24 on Plastic Building Products.

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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.

4. Materials and Manufacture

4.1 This specification covers preformed gaskets made principally from virgin nonrigid PVC molding compound conforming to the requirements of Specification D2287 for general purpose, electrical requirements excluded class PVC 30267, 40366 or 50465. Refer to Table 1 in Specification D2287.

4.1.1 This class compound has the following material property requirements:

TABLE 1 Material Property Requirements

Properties Tested	ASTM Method		Requirement	
Durometer hardness, A scale	Test Method D2240	55 to 64	65 to 74	75 to 84
Tensile strength, min, psi (MPa)	Test Method D412	1000 (8.9)	1285 (8.8)	1575 (10.8)
Volatile loss at 105°C, max, %	Test Method D1203	6.0	6.0	6.0
Brittleness temperature, max	Test Method D746	-40°C	-30°C	-20°C
Heat Aging :	Test Method D573			
Hardness increase, max, pts. Shore A		10	10	10
Loss in tensile strength, max, %		25	25	25
Loss in elongation, max, %		35	35	35
Water Absorption, Weight increase,max, %	Test Method D471	20	20	20
Ozone Resistance, No Cracks at 2 times Magnification	Test Method D1149	No Cracks	No Cracks	No Cracks
Oil Immersion in IRM 903 Oil:	Test Method D471			
Max volume increase, %		10	10	10
Max volume decrease, %		50	50	50
Tear Strength, min, lbf/in. (N/cm)	Test Method D624	<u>150</u>	<u>150</u>	<u>150</u>
Stress Relaxation, Min. % Force Retention	Test Method D6147	30	30	30

4.2 The molding compound shall have a minimum percent elongation by Test Method D412 of 250 %.

4.3 The molding compound shall have a minimum tear strength by Test Method D624 of 150 lb/in. (268.5 N/cm).

4.4 Recycled materials, as defined in Guide D7209, shall meet all the requirements in Sections 4 and 5 when used in this product.

4.5 Qualification testing for material physical requirements shall be conducted by the material manufacturer on the specific compound supplied and not on the molded gaskets, since the physical properties do not change on molding.

NOTE 2—The material manufacturer shall reassess the need for requalification of the specific compound supplied any time the compound formulation is changed or the PVC resin or any compound ingredient is changed.

4.6 The compound manufacturer shall certify in writing to the gasket manufacturer that the compound supplied meets all the requirements of this specification.

5. Requirements

5.1 *Dimensions*—Gaskets shall conform to the dimensions and dimensional tolerances as agreed upon between the supplier and the purchaser. All dimensions shall be compatible with the dimensions and tolerances of the specific piping materials and sizes to which it is designed to join.

5.2 *Spliced Gaskets, Stretch Test*— The splice shall withstand the splice test in 7.1 with no visible separation or peeling.

5.2.1 The observance of any peeling or separation in a spliced seam shall be followed by immediate correction of the temperature/time functions in the heat welding operation.

5.3 Gaskets selected for sampling (6.1) shall meet all dimensional requirements (5.1) and workmanship requirements (5.4).

5.4 *Workmanship*: