



NSF International
Special Engineered Specification
NSF SE 12787
PVC DWV Pipe and Fittings





SPECIFICATIONS FOR A SPECIAL ENGINEERED (SE) PRODUCT

NSF SE 12787

PVC DWV Pipe and Fittings

1. Purpose:

This specification defines the product specific requirements for PVC DWV pipe and fittings whose dimensions and construction fall outside of ASTM D2665.

2. Scope of Specification:

This specification identifies the application, reference documents, testing requirements, material requirements, product marking, and in-plant quality control testing for PVC DWV pipe and fittings falling outside the dimensions of ASTM D2665.

3. Application:

Products meeting the requirements of this specification are for use in drain, waste, and vent applications.

4. Reference Documents:

ASTM Standards:

ASTM D618 – Practice for Conditioning Plastics for Testing

ASTM D1600 – Terminology for Abbreviated Terms Relating to Plastics

ASTM D1784 – Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds

ASTM D2122 – Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

ASTM D2444 – Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)

ASTM D2665 – Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings

ASTM D3212 – Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

ASTM D4396 – Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Nonpressure Applications

ASTM F412 – Terminology Relating to Plastic Piping Systems

ASTM F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

ASTM F1498 – Specification for Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings

NSF Standards:

NSF Standard 14 – Plastic Piping System Components and Related Materials

5. Testing Requirements:

5.1– PVC DWV Fittings

5.1.2 - Workmanship and Dimensions

5.1.2.1 – Workmanship – PVC Fittings shall not, upon a visual inspection, contain imperfections that would interfere with the performance of the PVC DWV system it is used with.

5.1.3 – Dimensions – Fittings produced against this specification shall be per the manufacturer’s specifications.

5.1.3.1 – Threads – Tapered threads shall comply with the requirements of ASTM D2665 section 7.5, Straight threads shall comply with ASME B1.20.1

5.1.4 – Deflection Load – PVC DWV fittings shall meet the deflection load requirements specified in ASTM D2665 Section 6.3.2 when tested per ASTM D2412.



5.1.5 – Impact Resistance – PVC DWV Fittings shall meet the impact resistance requirements specified in ASTM D2665 section 6.5 when tested per ASTM D2444.

5.1.6 – Flexible Elastomeric Seals – Systems using joints with flexible watertight elastomeric seals shall meet the requirements specified in ASTM D3212

5.2 – PVC DWV Pipe

5.2.2 - Workmanship and Dimensions

5.2.2.1 – Workmanship – PVC pipe shall not, upon a visual inspection, contain imperfections that would interfere with the performance of the PVC DWV system it is used with.

5.2.3 – Dimensions – Pipe produced against this specification shall be per the manufacturer’s specifications.

5.2.4 – Stiffness, Deflection Load and Flattening – PVC pipe shall meet the requirements specified in ASTM D2665 Section 6.3

5.2.5 – Pipe Impact Resistance – PVC pipe shall meet the requirements specified in ASTM D2665 Section 6.4

5.3 – Joints for DWV Pipe and Fittings

5.3.1 – Flexible Elastomeric Seals – Pipe and Fittings with flexible watertight elastomeric seals shall meet the requirements specified in ASTM D3212.

5.3.2 – Gaskets – Gaskets shall meet the requirements specified in ASTM F477.

6. Materials:

6.1 – PVC DWV Fitting Material Requirements

6.1.1 – Physical Properties Requirements – PVC DWV pipe and fittings produced against this specification shall be produced from materials meeting or exceeding a 12454 cell class when tested against the requirements of ASTM D1784 or 11432 cell class when tested against the requirements of ASTM D4396.

6.1.2 – Rework / Re grind Material – Rework or Re grind material, if used in the production of PVC DWV Fittings under this specification, shall be of the same formulation and from the same plant location as the virgin material used in the production of the fittings.

7. Product Marking:

7.1 - Fittings

7.1.1 – The following minimum requirements shall be permanently and legibly marked on the PVC DWV Fitting:

NSF® dwv SE
PVC
Manufacturer or the manufacturer’s authorized trademark

7.1.2 – If recessed marking is used on the Fittings then the recessed marking shall not cause cracks or reduce the wall thickness below the minimum specified.

7.2 – Pipe

7.2.1 – The following minimum requirements shall be permanently and legibly marked on the PVC DWV pipe:

NSF® dwv SE
PVC



Manufacturer or the manufacturer's authorized trademark
Nominal pipe size

8. In-plant Q.C. Requirements:

The following tests are to be performed at start-up and at the designated frequencies thereafter. These tests shall be performed in accordance with Section 5 of this document:

Test	Frequency	
	Pipe	Fitting
Deflection load and crush	Annually	Annually
Dimensions	2 h	2 h
Impact @ 22.8°C (73°F)	24 h	Weekly
Stiffness	Annually	Annually
Flattening	Annually	Annually
¹ Plug gauges are permitted provided the mold has been qualified by complete dimensioning and performance of appropriate testing on all products from all mold cavities to verify compliance with the referenced standard.		