

Victaulic Grooved Couplings Performance Data for PVC Pipe



Style 177N



Style 77



Style 75



Style 72



Style 741

1.0 PRODUCT DESCRIPTION

- Victaulic grooved mechanical couplings may be specified for use on grooved PVC pipe conforming to ASTM D1785-12, Type 1, Grade 1 – PVC 1120 and Grade 2 – PVC 1220.
- Where acceptable to the system design engineer of record, additional Victaulic products such as IPS ductile iron, stainless steel, aluminum or steel grooved end fittings, and ductile iron or stainless steel grooved end valves may be specified.
- Refer to Section 5.0 for rated working pressures.

2.0 CERTIFICATION/LISTINGS



3.0 SPECIFICATIONS – MATERIAL

Gasket:

Victaulic Grade “E” and Grade “EHP” gaskets are suitable for use on water systems within the acceptable service temperature range of PVC pipe. These gaskets are UL Classified in accordance with ANSI/NSF 61 and ANSI/NSF 372 for cold and hot potable water service.

NOTE:

- Refer to the Victaulic product submittal for the Victaulic coupling and/or system component of choice.
- Victaulic Grade “E” and Grade “EHP” gaskets are suitable for use on water systems within the acceptable service temperature range of PVC pipe.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

4.0 DIMENSIONS

Couplings

- 2 – 8"/50 – 200 mm Victaulic Style 177N QuickVic® Flexible Coupling
- 2 – 16"/50 – 400 mm Victaulic Style 77 Standard Flexible Coupling
- 2 – 8"/50 – 200 mm Victaulic Style 75 Flexible Couplings
- 2 – 6"/50 – 150 mm Victaulic Style 72 Outlet Coupling

Pipe Grooving

Schedule 40

- 2 – 8"/50 – 200 mm Schedule 40 – Victaulic Standard Roll Groove Specifications or Victaulic Standard Radius Cut Groove Specifications
- 10 – 16"/250 – 400 mm Schedule 40 – Victaulic Standard Radius Cut Groove Specifications

Schedule 80

- 2 – 6"/50 – 150 mm Schedule 80 – Victaulic Standard Roll Groove Specifications or Victaulic Standard Radius Cut Groove Specifications
- 8 – 16"/200 – 400 mm Schedule 80 – Victaulic Standard Radius Cut Groove Specifications

5.0 PERFORMANCE

- Performance Data applies only to PVC pipe conforming to ASTM D-1785-12.
- External loads should be avoided and additional care taken in providing adequate supports when designing PVC piping systems. PVC piping systems joined with Victaulic couplings may be supported in accordance with the pipe manufacturers' published recommended spacing for solvent cemented systems.
- For the maximum working pressure rating (W.P) of the joint at elevated temperature, multiply the working pressure rating of the coupling at 73°F/23°C, by the appropriate derating factor in the chart below.

Pressure capacity derating factors for operating temperatures above 73°F/23°C		
At 80°F/27°C	Multiply by	0.88
At 90°F/32°C	Multiply by	0.75
At 100°F/37°C	Multiply by	0.62
At 110°F/43°C	Multiply by	0.60
At 120°F/49°C	Multiply by	0.40
At 130°F/54°C	Multiply by	0.30
At 140°F/60°C	Multiply by	0.22

- Maximum rated working pressure for Victaulic couplings is based on non-shock water service. Do not exceed the PVC pipe manufacturer's recommendation for maximum fluid flow rates.
- Refer to the PVC pipe manufacturer prior to introducing chemical treatments or if using PVC pipe on services other than water to ensure there are no degrading effects on the PVC pipe.
- Performance Data is based on PVC pipe stored in accordance with the PVC pipe manufacturer's recommendations and industry standards. Pipe stored outdoors should be covered to prevent extended exposure to UV rays. Pipe that has been weathered or is otherwise damaged should not be grooved.
- The following Performance Data and all information found herein for Victaulic couplings on PVC pipe supersedes the published performance data for Victaulic couplings on steel pipe as found in the appropriate submittal documents, (see reference documents in section 7.0 of this publication).

5.0 PERFORMANCE (Continued)

Size		Schedule 40			Schedule 80		
Nominal Outside Diameter	Actual Outside Diameter	Wall Thickness	Coupling Styles 177N, 77, 75, and 72 Rated Working Pressure	Style 741 Vic-Flange Adapter Rated Working Pressure	Wall Thickness	Coupling Styles 177N, 77, 75, and 72 Rated Working Pressure	Style 741 Vic-Flange Adapter Rated Working Pressure
			psi kPa	psi kPa		psi kPa	psi kPa
2 DN50	2.375 60.3	0.154 3.91	250 1700	250 1700	0.218 5.53	380 2600	250 1700
2½	2.875 73.0	0.203 5.16	260 1800	250 1700	0.276 7.01	380 2600	250 1700
3 DN80	3.500 88.9	0.216 5.49	230 1600	230 1600	0.300 7.62	310 2100	250 1700
4 DN100	4.500 114.3	0.237 6.02	220 1500	200 1400	0.337 8.55	320 2200	240 1600
5	5.563 141.3	0.258 6.55	190 1300	140 1000	0.375 9.52	290 2100	160 1100
6 DN150	6.625 168.3	0.280 7.11	180 1200	140 1000	0.432 10.9	260 1800	160 1100
8 DN200	8.625 219.1	0.322 8.18	140 1000	120 850	0.500 12.7	240 1600	140 1000
10 DN250	10.750 273.0	0.365 9.27	120 850	100 700	0.593 15.0	210 1400	120 850
12 DN300	12.750 323.9	0.406 10.3	110 750	80 600	0.687 17.4	190 1300	100 700
14 DN350	14.00 355.6	0.437 11.1	100 700	50 350	0.750 19.0	200 1400	70 500
16 DN400	16.00 406.4	0.500 12.7	90 650	50 350	0.843 21.4	190 1300	70 500

NOTES

- The 14" and 16" pressure ratings are for Victaulic Style 77 (Non AGS) Couplings.
- Victaulic does not recommend the use of rigid couplings with angle bolt pad design on grooved PVC pipe (IE: Style 07, 107N, etc...)
- Working pressures based on water at 73°F/23°C.

6.0 NOTIFICATIONS

- The use of Victaulic RP series roll sets is required for proper roll grooving of PVC pipe.
- For use of additional Victaulic couplings on PVC pipe, please contact Victaulic.

7.0 REFERENCE MATERIALS

- [06.04: Victaulic Standard Flexible Coupling Style 77](#)
- [06.05: Victaulic Standard Flexible Coupling Style 75](#)
- [06.24: QuickVic Flexible Coupling Style 177N](#)
- [06.10: Outlet Coupling Style 72](#)
- [06.06: Vic-Flange Adapter ANSI Class 125-150 Style 741](#)
- [07.01: Grooved End Fittings](#)
- [17.16: Stainless Steel Fittings](#)
- [24.01: Victaulic Tools](#)
- [25.11 CVPC and PVC Pipe Groove Specifications](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

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Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

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