

# 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**
  - 2 – 16"/50 – 400 mm Schedule 40 – Victaulic Standard Roll Groove Specifications or Victaulic Standard Radius Cut Groove Specifications
  - 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<br>kPa                                                  | psi<br>kPa                                          |                | psi<br>kPa                                                  | psi<br>kPa                                          |
| 2<br>DN50                | 2.375<br>60.3           | 0.154<br>3.91  | 250<br>1700                                                 | 250<br>1700                                         | 0.218<br>5.53  | 380<br>2600                                                 | 250<br>1700                                         |
| 2½                       | 2.875<br>73.0           | 0.203<br>5.16  | 260<br>1800                                                 | 250<br>1700                                         | 0.276<br>7.01  | 380<br>2600                                                 | 250<br>1700                                         |
| 3<br>DN80                | 3.500<br>88.9           | 0.216<br>5.49  | 230<br>1600                                                 | 230<br>1600                                         | 0.300<br>7.62  | 310<br>2100                                                 | 250<br>1700                                         |
| 4<br>DN100               | 4.500<br>114.3          | 0.237<br>6.02  | 220<br>1500                                                 | 200<br>1400                                         | 0.337<br>8.55  | 320<br>2200                                                 | 240<br>1600                                         |
| 5                        | 5.563<br>141.3          | 0.258<br>6.55  | 190<br>1300                                                 | 140<br>1000                                         | 0.375<br>9.52  | 290<br>2100                                                 | 160<br>1100                                         |
| 6<br>DN150               | 6.625<br>168.3          | 0.280<br>7.11  | 180<br>1200                                                 | 140<br>1000                                         | 0.432<br>10.9  | 260<br>1800                                                 | 160<br>1100                                         |
| 8<br>DN200               | 8.625<br>219.1          | 0.322<br>8.18  | 140<br>1000                                                 | 120<br>850                                          | 0.500<br>12.7  | 240<br>1600                                                 | 140<br>1000                                         |
| 10<br>DN250              | 10.750<br>273.0         | 0.365<br>9.27  | 120<br>850                                                  | 100<br>700                                          | 0.593<br>15.0  | 210<br>1400                                                 | 120<br>850                                          |
| 12<br>DN300              | 12.750<br>323.9         | 0.406<br>10.3  | 110<br>750                                                  | 80<br>600                                           | 0.687<br>17.4  | 190<br>1300                                                 | 100<br>700                                          |
| 14<br>DN350              | 14.00<br>355.6          | 0.437<br>11.1  | 100<br>700                                                  | 50<br>350                                           | 0.750<br>19.0  | 200<br>1400                                                 | 70<br>500                                           |
| 16<br>DN400              | 16.00<br>406.4          | 0.500<br>12.7  | 90<br>650                                                   | 50<br>350                                           | 0.843<br>21.4  | 190<br>1300                                                 | 70<br>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](#)
- [25.01: Victaulic OGS Roll Groove Specifications](#)
- [25.11 Victaulic Radius Cut 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](http://www.victaulic.com).

### Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

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