

# Victaulic® PGS-300 Grooved End Fittings for CPVC/PVC Pipe



**PGS™-300**

## 1.0 PRODUCT DESCRIPTION

### Available Sizes

- 2 – 12"/DN50 – DN300

### Operating Temperature

- +32°F to +200°F/0°C to +93°C

### Maximum Working Pressure

- See section 5.0 for pressure ratings and temperature reduction factors.

### Function

- Connects pipe sections, provides change in direction, and adapts sizes or components.
- All fittings are supplied with grooved ends in accordance with Victaulic PGS-300 Cut Grooving Specifications for direct use on chlorinated polyvinyl chloride/polyvinyl chloride (CPVC/PVC) pipe joined with Victaulic couplings (see section 7.0 for Reference Materials).

### NOTE

- Contact Victaulic for additional fitting configurations.

## 2.0 CERTIFICATION/LISTINGS



Certified to NSF International Special Engineered Specification NSF SE 17304 (CPVC Fittings for Use with Gasketed Grooved Couplings)

### NOTE

- Fittings are constructed from NSF-certified materials.

## 3.0 SPECIFICATIONS – MATERIAL

**Fittings & Nipples:** Chlorinated polyvinyl chloride (CPVC) conforming to a minimum cell class of 23447 according to ASTM D1784.

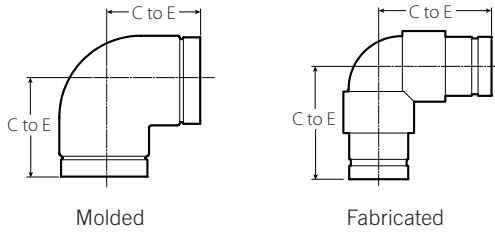
ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

### 4.0 DIMENSIONS

#### No. 350 90° Elbow

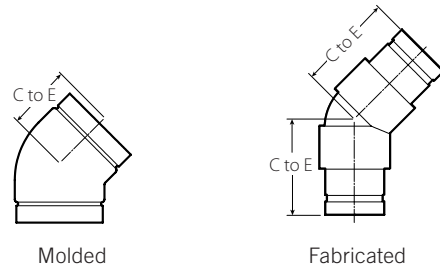


Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	C to E inches mm	Approximate (Each) lb kg
2	2.375	5.00 (f)	1.3
DN50	60.3	127	0.6
2½	2.875	3.75	0.8
	73.0	95	0.4
3	3.500	4.25	1.4
DN80	88.9	108	0.6
4	4.500	5.00	2.1
DN100	114.3	127	1.0
6	6.625	6.50	6.0
DN150	168.3	165	2.7
8	8.625	7.75	10.8
DN200	219.1	197	4.9
10	10.750	13.50 (f)	46.1
DN250	273.0	343	20.9
12	12.750	15.50 (f)	75.8
DN300	323.9	394	34.4

(f) = Fabricated fitting

### 4.1 DIMENSIONS

#### No. 351 45° Elbow

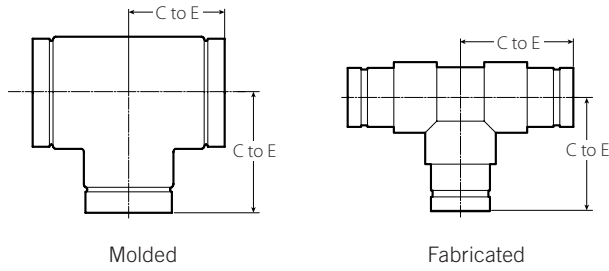


Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	C to E inches mm	Approximate (Each) lb kg
2	2.375	4.38 (f)	1.2
DN50	60.3	111	0.5
2½	2.875	2.25	0.6
	73.0	57	0.3
3	3.500	2.50	0.8
DN80	88.9	64	0.4
4	4.500	3.00	1.3
DN100	114.3	76	0.6
6	6.625	3.50	3.4
DN150	168.3	89	1.5
8	8.625	4.25	6.2
DN200	219.1	108	2.8
10	10.750	10.20 (f)	39.6
DN250	273.0	259	18.0
12	12.750	11.62 (f)	50.7
DN300	323.9	295	23.0

(f) = Fabricated fitting

## 4.2 DIMENSIONS

### No. 352 Tee

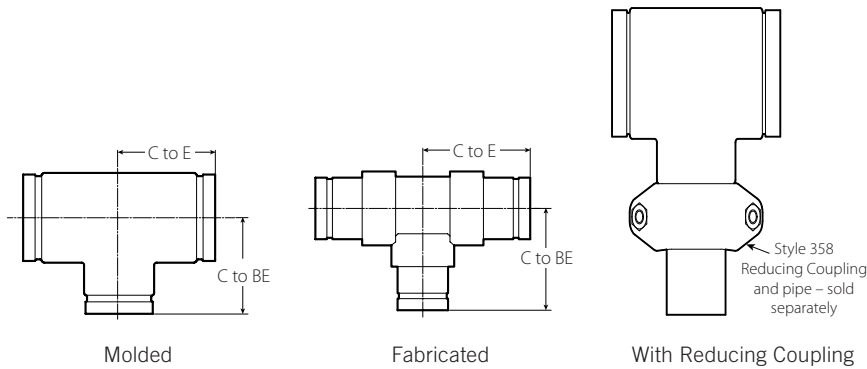


Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	C to E inches mm	Approximate (Each) lb kg
2 DN50	2.375 60.3	5.00 (f) 127	1.9 0.9
2½	2.875 73.0	3.75 95	1.3 0.6
3 DN80	3.500 88.9	4.25 108	1.9 0.9
4 DN100	4.500 114.3	5.00 127	2.8 1.3
6 DN150	6.625 168.3	6.50 165	7.8 3.5
8 DN200	8.625 219.1	7.75 197	13.8 6.3
10 DN250	10.750 273.0	13.50 (f) 343	68.0 30.8
12 DN300	12.750 323.9	15.50 (f) 394	89.4 40.6

(f) = Fabricated fitting

### 4.3 DIMENSIONS

#### No. 353 Reducing Tee (Groove x Groove x Groove)



Size			Dimensions		Weight		Notes		
Nominal inches DN		Actual Outside Diameter inches mm	C to E inches mm	C to BE (Branch) inches mm	Approximate (Each) lb kg				
2 1/2	x 2 1/2	x 2 DN50	2.875 73.0	2.875 73.0	2.375 60.3	±	±	***	Use 2 1/2" Style 352 Tee with 2 1/2" x 2" Style 358 Reducing Coupling
3 DN80	x 3 DN80	x 2 DN50	3.500 88.9	3.500 88.9	2.375 60.3	±	±	***	Use 3" Style 352 Tee with 3" x 2" Style 358 Reducing Coupling
					2.875 73.0	±	±	***	Use 3" Style 352 Tee with 3" x 2 1/2" Style 358 Reducing Coupling
4 DN100	x 4 DN100	x 2 DN50	4.500 114.3	4.500 114.3	2.375 60.3	±	±	***	Use 4" Style 352 Tee with 4" x 2" Style 358 Reducing Coupling
					2.875 73.0	±	±	***	Use 4" Style 352 Tee with 4" x 2 1/2" Style 358 Reducing Coupling
					3.500 88.9	±	±	***	Use 4" Style 352 Tee with 4" x 3" Style 358 Reducing Coupling
6 DN150	x 6 DN150	x 2 DN50	6.625 168.3	6.625 168.3	2.375 60.3	±	±	***	Use 6" x 3" Style 353 Reducing Tee with 3" x 2" Style 358 Reducing Coupling
					2.875 73.0	±	±	***	Use 6" x 3" Style 353 Reducing Tee with 3" x 2 1/2" Style 358 Reducing Coupling
					3.500 88.9	6.50 165	6.50 165	7.1 3.2	-
					4.500 114.3	±	±	***	Use 6" Style 352 Tee with 6" x 4" Style 358 Reducing Coupling
8 DN200	x 8 DN200	x 4 DN100	8.625 219.1	8.625 219.1	4.500 114.3	7.75 197	7.75 197	12.6 5.7	-
					6.625 168.3	±	±	***	Use 8" Style 352 Tee with 8" x 6" Style 358 Reducing Coupling
					10.750 273.0	10.750 273.0	4.500 114.3	±	±
10 DN250	x 10 DN250	x 4 DN100	10.750 273.0	10.750 273.0	6.625 168.3	13.59 (f) 345	13.83 351	54.5 24.7	-
					8.625 219.1	±	±	***	Use 10" Style 352 Tee with 10" x 8" Style 358 Reducing Coupling
					12.750 323.9	12.750 323.9	6.625 168.3	±	±
12 DN300	x 12 DN300	x 6 DN150	12.750 323.9	12.750 323.9	8.625 219.1	15.57 (f) 396	16.08 408	72.4 32.8	-
					10.750 273.0	15.57 (f) 396	16.38 416	104.5 47.4	-
					10.750 273.0	15.57 (f) 396	16.38 416	104.5 47.4	-

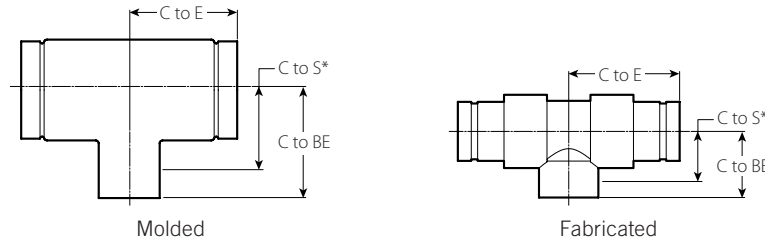
(f) = Fabricated fitting

**NOTES**

- Style 358 Reducing Couplings can be used to create additional fitting configurations not shown here. Consideration should be given when conducting system designs. Contact Victaulic for more information.
- ± The C to E and C to BE for this No. 353 configuration is equivalent to the Tee or Reducing Tee referenced in the accompanying Note.
- \*\*\* The weight for this No. 353 reducing tee can be determined by the weight of the referenced Tee or Reducing Tee in the Note.

## 4.4 DIMENSIONS

### No. 354 Reducing Tee (Groove x Groove x Socket)



Size			Actual Outside Diameter			Dimensions			Weight				
Nominal inches DN			inches	mm		inches	mm	inches	mm	Approximate (Each)			
										lb kg			
2 DN50	x	2 DN50	x	2.375 60.3	x	2.375 60.3	x	1.315 33.7	4.50 (f) 114	1.26 32	2.44 62	1.7 0.8	
								1 1/4 DN32	1.660 42.4	5.00 (f) 127	1.84 (b) 47	3.11 79	1.9 0.9
								1 1/2 DN40	1.900 48.3	4.80 (f) 122	1.29 35	2.69 68	1.7 0.8
								2 DN50	2.375 60.3	5.00 (f) 127	1.32 34	2.82 72	1.5 0.7
								2 1/2 DN80	2.875 73.0	2.875 73.0	1.315 33.7	3.75 95	2.91 (b) 74
3 DN80	x	3 DN80	x	3.500 88.9	x	3.500 88.9	x	1.315 33.7	4.25 108	3.41 (b) 87	4.56 116	2.3 1.0	
								1 1/4 DN32	1.660 42.4	4.25 108	3.31 (b) 84	4.57 116	2.2 1.0
								1 1/2 DN40	1.900 48.3	4.25 108	3.15 (b) 80	4.55 116	2.2 1.0
								2 DN50	2.375 60.3	4.25 108	2.75 70	4.25 108	2.0 0.9
								4 DN100	4.500 114.3	4.500 114.3	1.315 33.7	5.00 127	4.16 (b) 106
6 DN150	x	6 DN150	x	6.625 168.3	x	6.625 168.3	x	1.315 33.7	6.50 165	5.66 (b) 144	6.81 173	8.1 3.7	
								1 1/4 DN32	1.660 42.4	6.50 165	5.56 (b) 141	6.82 173	8.0 3.6
								1 1/2 DN40	1.900 48.3	6.50 165	5.40 (b) 137	6.80 173	8.0 3.6
								2 DN50	2.375 60.3	6.50 165	5.00 127	6.50 165	7.8 3.5

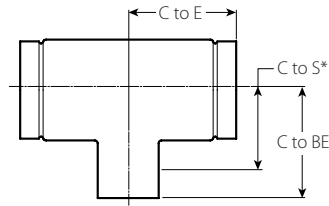
(f) = Fabricated fitting  
(b) = Bushing

#### NOTES

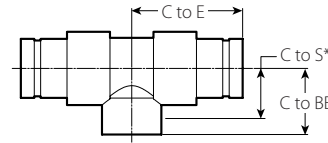
- \*C to S (Socket) is the distance from the center to the branch end minus the socket depth.
- All socket sizes shown are supplied to IPS dimensions
- Style 358 Reducing Couplings can be used to create additional fitting configurations not shown here. Consideration should be given when conducting system designs. Contact Victaulic for more information.
- Custom sizes available. Contact Victaulic.

## 4.5 DIMENSIONS

### No. 354 Reducing Tee (Groove x Groove x Socket)



Molded



Fabricated

Size			Dimensions			Weight	
Nominal inches DN	Actual Outside Diameter		C to E	C to S* (Socket)	C to BE (Branch)	Approximate (Each)	
	inches	mm	inches mm	inches mm	inches mm	lb kg	
8 x 8 x 1 DN200 DN200 DN25	8.625	8.625	1.315	7.75	6.91 (b)	14.0	
	219.1	219.1	33.7	197	176	6.4	
			1.660	7.75	6.81 (b)	13.9	
			42.4	197	173	6.3	
			1.900	7.75	6.65 (b)	13.9	
1 ½ DN40			48.3	197	169	6.3	
			2.375	7.75	6.25	13.7	
2 DN50			60.3	197	159	6.2	
			10.750 x 10.750 x 2.375	13.56 (f)	9.50	11.50	41.2
10 x 10 x 2 DN250 DN250 DN50	273.0	273.0	60.3	344	241	18.7	
			12.750 x 12.750 x 2.375	14.63 (f)	10.75	12.75	55.0
12 x 12 x 2 DN300 DN300 DN50	323.9	323.9	60.3	372	273	324	25.0

(f) = Fabricated fitting

(b) = Bushing

#### NOTES

- \*C to S (Socket) is the distance from the center to the branch end minus the socket depth.
- All socket sizes shown are supplied to IPS dimensions
- Style 358 Reducing Couplings can be used to create additional fitting configurations not shown here. Consideration should be given when conducting system designs. Contact Victaulic for more information.
- Custom sizes available. Contact Victaulic.

## 4.6 DIMENSIONS

### No. 359F Class 150 Flange Adapter (Groove x Flange)



Size		Dimensions						Weight
Nominal inches DN	Actual Outside Diameter inches mm	End to End inches mm	Flange Thickness inches mm	Bolt Circle Diameter inches mm	Flange Diameter inches mm	Number of Holes	Bolt Diameter inches mm	Approximate (Each) lb kg
2 DN50	2.375 60.3	4.00 (f) 102	0.88 22	4.75 121	6.00 152	4	5/8 M16	1.0 0.5
2½	2.875 73.0	4.25 (f) 108	1.00 25	5.50 140	7.00 178	4	5/8 M16	1.5 0.7
3 DN80	3.500 88.9	4.50 (f) 114	1.00 25	6.00 152	7.50 191	4	5/8 M16	1.8 0.8
4 DN100	4.500 114.3	5.13 (f) 130	1.13 29	7.50 191	9.00 229	8	5/8 M16	3.0 1.4
6 DN150	6.625 168.3	6.00 (f) 152	1.25 32	9.50 241	11.00 279	8	3/4 M20	4.8 2.2
8 DN200	8.625 219.1	7.00 (f) 178	1.75 44	11.75 298	13.50 343	8	3/4 M20	7.0 3.2
10 DN250	10.750 273.0	8.38 (f) 213	1.75 44	14.25 362	16.00 406	12	7/8 M22	12.0 5.4
12 DN300	12.750 323.9	9.25 (f) 235	1.75 44	17.00 432	19.00 483	12	7/8 M22	18.5 8.4

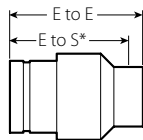
(f) = Fabricated fitting

#### NOTE

- The maximum working pressure for all sizes of the No. 359F Flange Adapter at +73°F/+23°C is 150 psi/1034 kPa.

## 4.7 DIMENSIONS

### No. 361 Reducing Adapter (Groove x Socket)



Fabricated

Size		Dimensions		Weight
Nominal (Groove x Socket) inches DN	Actual Outside Diameter inches mm	E to E inches mm	E to S* (End to Socket) inches mm	Approximate (Each) lb kg
2½ x 2 DN50	2.875 x 2.375 73.0 x 60.3	6.28 (f) 160	4.66 118	0.7 0.3
3 x 2 DN80 DN50	3.500 x 2.375 88.9 x 60.3	5.87 (f) 149	4.40 112	1.0 0.5

(f) = Fabricated fitting

#### NOTES

- \*E to S (Socket) is the distance from end to end minus the socket depth.
- All socket sizes shown are supplied to IPS dimensions
- Custom sizes available. Contact Victaulic.

## 5.0 PERFORMANCE

### Maximum Working Pressure For Victaulic Schedule 80 CPVC Fittings At +73°F/+23°C

Size		Maximum Working Pressure
Nominal inches DN	Actual Outside Diameter inches mm	
2 DN50	2.375 60.3	300 2068
2½	2.875 73.0	300 2068
3 DN80	3.500 88.9	300 2068
4 DN100	4.500 114.3	300 2068
6 DN150	6.625 168.3	280 1931
8 DN200	8.625 219.1	250 1724
10 DN250	10.750 273.0	175 1207
12 DN300	12.750 323.9	175 1207

**NOTES**

- The pressure rating of reducing fittings is based on the lowest diameter rating.
- The maximum working pressure for the No. 359F Flange Adapter at +73°F/+23°C is 150 psi/1034 kPa.

### Maximum Working Pressure For Victaulic Schedule 80 CPVC Fittings At Elevated Temperature

For the maximum working pressure rating 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	1.00
At 90°F/32°C	Multiply By	0.91
At 100°F/37°C	Multiply By	0.82
At 110°F/43°C	Multiply By	0.72
At 120°F/49°C	Multiply By	0.65
At 130°F/54°C	Multiply By	0.57
At 140°F/60°C	Multiply By	0.50
At 150°F/66°C	Multiply By	0.42
At 160°F/71°C	Multiply By	0.40
At 170°F/77°C	Multiply By	0.29
At 180°F/82°C	Multiply By	0.25
At 200°F/93°C	Multiply By	0.20

**NOTE**

- Derating factors are typical per the pipe manufacturers recommendation in accordance with ASTM D-2837 and PPI TR-3.



## 6.0 NOTIFICATIONS

### WARNING

#### Handling of Victaulic CPVC Fittings

- **DO NOT impact or drop Victaulic CPVC fittings. Avoid damage, such as abrasions, scratches, gouging, and cracks, particularly across the fitting's gasket sealing surfaces.**
- **Prior to installation, it is the installer's responsibility to inspect Victaulic CPVC fittings for any abrasions, scratches, gouging, and cracks.**
- **DO NOT attempt to install Victaulic CPVC fittings that show signs of damage. Damaged fittings shall be discarded immediately.**

#### Storage of Victaulic CPVC Fittings

- **To prevent distortion of Victaulic CPVC fittings, DO NOT store next to heaters, boilers, steam lines, engines, etc.**
- **DO NOT subject Victaulic CPVC fittings to temperatures above the maximum operating temperature of 200°F/93°C.**
- **When storing Victaulic CPVC fittings outdoors, protect from direct sunlight exposure by covering with a non-transparent material.**

#### Exposed Installations

- **Victaulic CPVC fittings that are installed in an area exposed to direct sunlight may be painted with a light-colored acrylic or latex paint that is chemically-compatible with CPVC material. Always confirm material compatibility by contacting the paint manufacturer.**
- **DO NOT use oil-based paints on Victaulic CPVC fittings.**

**Failure to follow these instructions could cause system failure, resulting in death or serious personal injury and property damage.**

## 7.0 REFERENCE MATERIALS

- [24.09: Victaulic Cut Grooving Tool for CPVC/PVC Pipe: Model CG1100](#)
- [25.18: Victaulic PGS-300 Cut Groove Specifications](#)
- [33.06: Victaulic Transition Coupling for CPVC Style 356](#)
- [33.07: Victaulic Rigid Coupling for CPVC Style 357](#)
- [33.08: Victaulic Reducing Coupling for CPVC Style 358](#)
- [I-350: Victaulic Field Installation Handbook: CPVC Piping Products](#)

#### **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, and the applicable building codes and related regulations 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.

#### **Intellectual Property Rights**

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

#### **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.

#### **Trademarks**

and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.