Victaulic® Reducing Coupling Style 358







1.0 PRODUCT DESCRIPTION

Available Sizes

• 2½ x 2" to 10 x 8"/73.0 x 60.3 mm to 273.0 x 219.1 mm

Pipe Material

- Schedules 40 and 80 chlorinated polyvinyl chloride (CPVC) pipe per ASTM F441, 23447 minimum cell classification per ASTM D1784.
- Schedules 40 and 80 polyvinyl chloride (PVC) pipe per ASTM D1785, 12454 minimum cell classification per ASTM D1784.

Operating Temperature

- Schedules 40 and 80 CPVC pipe: +32°F to +200°F/0°C to +93°C
- Schedules 40 and 80 PVC pipe: +32°F to +140°F/0°C to +60°C

NOTE

• Operating temperature subject to pipe manufacturer's temperature limits

Maximum Working Pressure

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

Function

- Permits direct reduction on piping run.
- Provides a rigid pipe joint designed to restrict axial and angular movement.

Pipe Preparation

- The Style 358 Reducing Coupling is exclusively for use on pipe and fittings which feature the Victaulic PGS-300 groove profile (see section 7.0 for Reference Materials).
- Assembly washer available upon request to prevent telescoping of the smaller pipe inside the larger pipe during vertical system assembly.

2.0 CERTIFICATION/LISTINGS







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	



3.0 SPECIFICATIONS – MATERIAL

Housing: Ductile iron conforming to ASTM A536, Grade 65-45-12.

Housing Coating: (specify choice)

Standard: Orange enamel.

Optional: Contact Victaulic with your requirements for other coatings.

Gasket1: (specify choice)

Grade "E" EPDM

EPDM (Green stripe color code). Temperature range –30°F to +230°F/–34°C to +110°C. May be specified for hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. UL Classified in accordance with ANSI/NSF 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372. NOT COMPATIBLE FOR USE WITH PETROLEUM SERVICES OR STEAM SERVICES.

Grade "O" Fluoroelastomer

Fluoroelastomer (Blue stripe color code). Temperature range +20°F to +300°F/-7°C to +149°C. May be specified for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids, and air with hydrocarbons. NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM SERVICES.

Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest <u>Victaulic Seal Selection Guide</u> for specific gasket service guidelines and for a listing of services which are not compatible.

NOTE

• The maximum temperature rating listed for the gasket exceeds the temperature ratings for CPVC/PVC pipe. Consult individual pipe manufacturers for specific temperature limits.

Bolts/Nuts: (specify choice)

Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (M10-M16) Class 8.8 (M20 and greater). Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial - Heavy Hex nuts) and ASTM A563M Class 9 (metric - hex nuts). Track bolts and hex nuts are zinc electroplated per ASTM B633 ZN/FE5, finish Type III (imperial) or Type II (metric).

Optional:

2 ½ x 2"/73.0 mm x DN50 to 10 x 8"/DN250 x DN200: Standard bolts/nuts as listed above, with fluoropolymer top coat.

2 ½ x 2"/73.0 mm x DN50 to 3 x 2 ½"/DN80 x 73.0 mm; 6 x 4"/DN160 x DN100:² Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (316 stainless steel), condition CW. Stainless steel Heavy Hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (316 stainless steel), condition CW, with galling reducing coating.

4 x 2"/DN100 x DN50 to 4 x 3"/DN100 x DN80; 8 x 6"/DN200 x DN150; 10 x 8"/DN250 x DN200: Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM A193, Class 2 (316 stainless steel), Grade B8M. Stainless steel Heavy Hex nuts meeting the mechanical property requirements of ASTM A194 Grade 8M Heavy Hex, with galling reducing coating.

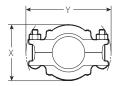
Anti-Telescoping Vertical Assembly Washer (Optional): Galvanized, carbon steel.



² Optional bolts/nuts available in imperial size only.

4.0 DIMENSIONS

Style 358 Reducing Coupling





Size				Pipe End Separation ³	Bolt/Nut ⁴ Dimensions				Weight			
Actual Outside Nominal Diameter inches inches		Allowable inches	Qty.	Size inches	X inches	Y inches	Z inches	Approximate (Each)				
2.1/	DN	2	2.875	mm	2.375	mm 0.18		mm 3/8 x 2 ½	mm	mm	mm	kg 3.8
2 ½	Х	DN50	73.0	Х	60.3	4.6	2	% x 2 ½ M10 x 64	3.96 101	5.05 128	2.36 60	1.7
3 DN80	Х	2 DN50	3.500 88.9	х	2.375 60.3	0.18 4.6	2	½ x 3 M12 x 76	4.55 116	7.17 182	2.43 62	5.1 2.3
		2 ½		_	2.875 73.0	0.18 4.6	2	½ x 3 M12 x 76	4.55 116	7.13 181	2.41 61	4.8 2.2
4 DN100	Х	2 DN50	4.500 114.3	Х	2.375	0.20	2	½ x 3 ¼ M12 x 83	5.83 148	8.50 216	2.46 62	6.8
	_	2 ½			2.875 73.0	0.20 5.1	2	½ x 3 ¼ M12 x 83	5.84 148	8.50 216	2.46 62	6.8 3.1
	_	3 DN80			3.500 88.9	0.20 5.1	2	½ x 3 ¼ M12 x 83	5.78 147	8.50 216	2.47 63	6.9 3.1
6 DN150	Х	4 DN100	6.625 168.3	Х	4.500 114.3	0.23 5.8	2	% x 3 ¼ M16 x 83	7.96 202	10.94 278	2.65 67	11.1 5.0
8 DN200	Х	6 DN150	8.625 219.1	Х	6.625	0.23	2	³ / ₄ x 5 M20 x 127	10.49 266	14.16 360	2.92	22.5 10.2
10 DN250	х	8 DN200	10.750 273.0	х	8.625 219.1	0.23 5.8	2	³ / ₄ x 6 ¹ / ₄ M20 x 159	12.59 320	16.76 426	2.96 75	29.2 13.2

³ Allowable pipe end separation dimension shown is for system layout purposes only. Style 358 reducing couplings are considered rigid connections and will not accommodate expansion or contraction of the piping system.



<u>victaulic.com</u>

⁴ Number of bolts required equals number of housing segments.

5.0 PERFORMANCE

Style 358 Reducing Coupling

Maximum Working Pressure For Schedule 80 CPVC Pipe At +73°F/+23°C

No	omir	nal	Actual Outside Diameter			Maximum Working Pressure	Maximum Permissible End Load
ir	nche DN	·S	inches mm			psi kPa	lb N
2 ½	Х	2 DN50	2.875 73.0	Х	2.375 60.3	400 2758	1772 7882
3 DN80	Х	2 DN50	3.500 88.9	Х	2.375 60.3	370 2551	1639 7291
		2 ½			2.875 73.0	370 2551	2402 10685
4 DN100	X	2 DN50	4.500 114.3	X	2.375 60.3	320 2206	1418 6308
	_	2 ½		_	2.875 73.0	320 2206	2077 9239
		3 DN80			3.500 88.9	320 2206	3079 13696
6 DN150	Х	4 DN100	6.625 168.3	х	4.500 114.3	280 1931	4453 19808
8 DN200	Х	6 DN150	8.625 219.1	Х	6.625 168.3	250 1724	8618 38335
10 DN250	Х	8 DN200	10.750 273.0	Х	8.625 219.1	175 1207	10225 45483

Maximum Working Pressure For Schedule 40 CPVC/PVC Pipe At +73°F/+23°C

No	omin	ıal	Actual Outside Diameter			Maximum Working Pressure	Maximum Permissible End Load
ir	nche DN	S	inches mm			psi kPa	lb N
2 1/2	Х	2	2.875	Х	2.375	280	1240
		DN50	73.0		60.3	1931	5516
3	Х	2	3.500	Х	2.375	230	1019
DN80		DN50	88.9		60.3	1586	4533
		2 ½			2.875	230	1493
					73.0	1586	6641
4	Х	2	4.500	Х	2.375	220	975
DN100		DN50	114.3		60.3	1517	4337
		2 ½			2.875	220	1428
					73.0	1517	6352
		3			3.500	220	2117
		DN80			88.9	1517	9417
6	Х	4	6.625	Х	4.500	180	2863
DN150		DN100	168.3		114.3	1241	12735
8	Х	6	8.625	Х	6.625	140	4826
DN200		DN150	219.1		168.3	965	21467
10	Х	8	10.750	Х	8.625	120	7011
DN250		DN200	273.0		219.1	827	31186



5.0 PERFORMANCE (CONTINUED)

Maximum Working Pressure For Schedule 80 PVC Pipe At +73°F/+23°C

Size							
No	omir	nal	Actual Outside Diameter			Maximum Working Pressure	Maximum Permissible End Load
ir	nche DN	es .	inches mm			psi kPa	lb N
2 ½	Х	2 DN50	2.875 73.0	Х	2.375 60.3	380 2620	1683 7486
3 DN80	Х	2 DN50	3.500 88.9	Х	2.375	320 2206	1418 6308
DINOU	-	2 ½	00.9	-	2.875 73.0	320 2206	2077 9239
4 DN100	х	2 DN50	4.500 114.3	Х	2.375 60.3	320 2206	1418 6308
		2 ½			2.875 73.0	320 2206	2077 9239
		3 DN80			3.500 88.9	320 2206	3079 13696
6 DN150	Х	4 DN100	6.625 168.3	Х	4.500 114.3	260 1793	4135 18393
8 DN200	Х	6 DN150	8.625 219.1	Х	6.625 168.3	240 1655	8273 36800
10 DN250	Х	8 DN200	10.750 273.0	Х	8.625 219.1	175 1207	10225 45483

5.1 PERFORMANCE

Maximum Working Pressure For Schedules 40 and 80 CPVC Pipe 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 manufacturer's recommendation in accordance with ASTM D-2837 and PPI TR-3.



<u>victaulic.com</u> 5

5.1 PERFORMANCE (CONTINUED)

Maximum Working Pressure for Schedules 40 and 80 PVC Pipe 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	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	0.51						
At 120°F/49°C	Multiply By	0.40						
At 130°F/54°C	Multiply By	0.31						
At 140°F/60°C	Multiply By	0.22						

NOTE

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

6.0 NOTIFICATIONS















- · Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- . Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- . Wear safety glasses, hardhat, and foot protection.
- . DO NOT attempt to install Victaulic couplings on pipe or fittings that show signs of damage.
- Consult with the pipe manufacturer for service recommendations and for questions concerning compatibility between the fluid media and pipe material.

6

- . Victaulic Style 358 Reducing Couplings SHALL NOT be used in systems containing compressed air or other gases.
- Compressed air or other gases SHALL NOT be used for system acceptance testing.

Failure to follow these instructions could result in death or serious personal injury and property damage.



victaulic.com

7.0 REFERENCE MATERIALS

05.01: Victaulic Seal Selection Guide

24.09: Victaulic Cut Grooving Tool for CPVC/PVC Pipe: Model CG1100

25.18: Victaulic PGS-300 Cut Groove Specfications

33.03: Victaulic CPVC Fittings

33.06: Victaulic Transition Coupling Style 356

33.07: Victaulic Rigid Coupling Style 357

I-350: Victaulic Field Installation Handbook: CPVC Piping Products

I-358: Victaulic Installation Instructions Style 358 Reducing Coupling

I-ENDCAP: Victaulic End Cap Installation Safety Instructions

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.

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 constructed, 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.

Warranty

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

Trademarks

7

Victaulic 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.

33.08 10215 Rev F Updated 11/2018 © 2018 Victaulic Company. All rights reserved.

