Victaulic® Installation-Ready™ Rigid Coupling Style 357

33.07

PGS™-300

1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 – 12"/DN50 – DN300

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

- Intended for use in non-potable water systems.
- Joins Schedules 40 and 80 CPVC/PVC pipe prepared with the Victaulic PGS-300 groove profile.
- Provides a rigid pipe joint designed to restrict axial and angular movement.

NOTE

- For use in potable water systems, refer to publication 33.17: Victaulic Installation-Ready™ Rigid Coupling Style 857.

Pipe Preparation

- The Style 357 Rigid Coupling is exclusively for use on pipe and fittings which feature the Victaulic PGS-300 groove profile (see section 7.0 for Reference Materials).

2.0 CERTIFICATION/LISTINGS

UPC®

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.

Gasket[1]: (specify choice)

☐ **Grade "EHP" EPDM**
EPDM (Red and Green stripes color code). Temperature range -30ºF to +250ºF/-34ºC to +120ºC. May be specified for hot water within the specified temperature range. 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.

1 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 Victaulic Seal Selection Guide 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).

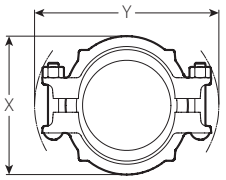
☐ **Optional:**

- ☐ **2 – 12"/DN50 – DN300:** Standard bolts/nuts as listed above, with fluoropolymer top coat.
- ☐ **2 – 8"/DN50 – DN200:[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.
- ☐ **10 – 12"/DN250 – DN300:[2]** 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.

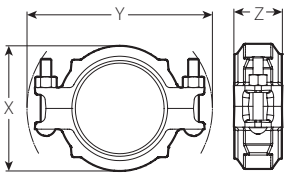
2 Optional bolts/nuts available in imperial size only.

4.0 DIMENSIONS

Style 357 Installation-Ready™ Rigid Coupling



Pre-Assembled



Assembled

Size		Pipe End Separation[3]	Bolt/Nut[4]		Dimensions					Weight
					Pre-Assembled (Installation-Ready™ Condition)		Joint Assembled			
Nominal inches DN	Actual Outside Diameter inches mm	Allowable inches mm	Qty.	Size inches mm	X inches mm	Y inches mm	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
2 DN50	2.375 60.3	0.15 3.8	2	⅜ x 2 ½ M10 x 64	3.93 100	5.73 146	3.54 90	5.81 148	2.40 61	3.3 1.5
2 ½	2.875 73.0	0.15 3.8	2	⅜ x 2 ½ M10 x 64	4.39 112	6.23 158	4.05 103	6.23 158	2.38 60	3.6 1.6
3 DN80	3.500 88.9	0.15 3.8	2	½ x 3 M12 x 76	5.13 130	7.31 186	4.64 118	7.20 183	2.39 61	4.4 2.0
4 DN100	4.500 114.3	0.15 3.8	2	½ x 3 ¼ M12 x 83	6.56 167	8.75 222	5.92 150	8.75 222	2.45 62	6.1 2.8
6 DN150	6.625 168.3	0.15 3.8	2	½ x 3 ¼ M12 x 83	8.64 219	10.71 272	8.02 204	10.54 268	2.85 72	8.8 4.0
8 DN200	8.625 219.1	0.22 5.6	2	¾ x 5 M20 x 127	11.27 286	14.06 357	10.50 267	14.40 366	2.90 74	18.1 8.2
10 DN250	10.750 273.0	0.20 5.1	2	¾ x 6 ¼ M20 x 159	13.35 339	16.94 430	12.66 322	16.94 430	2.92 74	23.5 10.7
12 DN300	12.750 323.9	0.20 5.1	2	¾ x 6 ¼ M20 x 159	15.30 389	18.79 477	14.68 373	18.74 476	2.91 74	25.6 11.6

3 The Allowable Pipe End Separation dimension shown is for system layout purposes only. Style 357 Installation-Ready™ rigid couplings are considered rigid connections and will not accommodate expansion/contraction or angular movement of the piping system. Contact Victaulic for torsional resistance information.

4 Number of bolts required equals number of housing segments.

5.0 PERFORMANCE

Style 357 Installation-Ready™ Rigid Coupling

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

Size		Maximum Working Pressure	Maximum Permissible End Load
Nominal inches DN	Actual Outside Diameter inches mm	psi kPa	lb N
2 DN50	2.375 60.3	400 2758	1772 7882
2 ½	2.875 73.0	420 2896	2726 12126
3 DN80	3.500 88.9	370 2551	3560 15836
4 DN100	4.500 114.3	320 2206	5089 22637
6 DN150	6.625 168.3	280 1931	9652 42934
8 DN200	8.625 219.1	250 1724	14607 64975
10 DN250	10.750 273.0	175 1207	15883 70651
12 DN300	12.750 323.9	175 1207	22343 99387

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

Size		Maximum Working Pressure	Maximum Permissible End Load
Nominal inches DN	Actual Outside Diameter inches mm	psi kPa	lb N
2 DN50	2.375 60.3	280 1931	1240 5516
2 ½	2.875 73.0	260 1793	1688 7509
3 DN80	3.500 88.9	230 1586	2213 9844
4 DN100	4.500 114.3	220 1517	3499 15564
6 DN150	6.625 168.3	180 1241	6205 27601
8 DN200	8.625 219.1	140 965	8180 36386
10 DN250	10.750 273.0	120 827	10892 48450
12 DN300	12.750 323.9	110 758	14044 62471

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

Size		Maximum Working Pressure	Maximum Permissible End Load
Nominal inches DN	Actual Outside Diameter inches mm	psi kPa	lb N
2 DN50	2.375 60.3	380 2620	1683 7486
2 ½	2.875 73.0	380 2620	2467 10974
3 DN80	3.500 88.9	320 2206	3079 13696
4 DN100	4.500 114.3	320 2206	5089 22637
6 DN150	6.625 168.3	260 1793	8963 39869
8 DN200	8.625 219.1	240 1655	14022 62373
10 DN250	10.750 273.0	175 1207	15883 70651
12 DN300	12.750 323.9	175 1207	22343 99387

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 D2837 and PPI TR-3.

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 D2837 and PPI TR-3.

6.0 NOTIFICATIONS

WARNING

- **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.**
- **Victaulic Style 357 Rigid 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.

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 Specifications
33.03: Victaulic CPVC Fittings
33.06: Victaulic Installation-Ready™ Transition Coupling Style 356
33.08: Victaulic Reducing Coupling Style 358
33.16: Victaulic Installation-Ready™ Transition Coupling Style 856
33.17: Victaulic Installation-Ready™ Rigid Coupling Style 857
I-350: Victaulic Field Installation Handbook: CPVC Piping Products
I-357: Victaulic Installation Instructions Style 357 Rigid 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.

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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.

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

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