

Victaulic® Rigid Coupling

Style 31R



23.15



14 – 20" Sizes



24 – 36" Sizes

1.0 PRODUCT DESCRIPTION

Available Sizes

- 14 – 36"

Pipe Material

- Ductile Iron with a minimum wall thickness of ANSI/AWWA C151/A21.51, Class 53

Maximum Working Pressure

- Up to 250 psi/1725 kPa

Operating Temperature Range

- +32°F to +150°F / 0°C to +65°C

Function

- Provides a fully restrained pipe joint to the published maximum allowable working pressure
- Provides a rigid pipe joint designed to restrict axial or angular movement

Pipe Preparation

- Rigid radius cut groove in accordance with [publication 23.01](#).

NOTE

- Do not use with flexible radius cut grooves.

2.0 CERTIFICATION/LISTINGS



Coupling design, materials and testing conform to the requirements of AWWA C606 standard for Grooved and Shouldered Joints.

NOTES

- See [Publication 02.06](#): Victaulic Potable Water Approvals ANSI/NSF/CAN for potable water approvals if applicable.
- See [Publication 10.01](#): Victaulic Certification Reference Guide for fire protection ratings and other certification/listing information.
- The Victaulic Grade M gasket supplied with the Style 31R rigid coupling is UL Classified in accordance with NSF/ANSI/CAN 61 and NSF/ANSI/CAN as noted in Section 3.0 Specifications - Material.

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



3.0 SPECIFICATIONS – MATERIAL

Housing: Ductile iron conforming to ASTM A536, Grade 65-45-12. Ductile iron conforming to ASTM A395, Grade 65-45-15, is available upon special request.

Housing Coating: (specify choice)

Standard: Phenolic Alkyd Primer T37H-77 (2.5 mil).

Optional: Two part liquid epoxy conforming to AWWA C210.

Optional: Coal tar epoxy coating (3 mils).

Organic zinc primer (3 mils).

Bituminous coating.

NOTE

- Others available, contact Victaulic.

Gasket: (specify choice¹)

Grade “M” FlushSeal™

Halogenated Butyl (Brown color code). Temperature range –20°F to +200°F/–29°C to +93°C. Specially compounded to conform to ductile pipe surfaces. Recommended for 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 potable water service. NOT RECOMMENDED FOR PETROLEUM SERVICES.

Grade “S” FlushSeal™

Nitrile (Red color code). Temperature range –20°F to +180°F (–29°C to +82°C). Specifically compounded to conform to ductile pipe surfaces. Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range; except hot air over +140° F/+60° C. NOT RECOMMENDED FOR HOT WATER 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.

² Temperature range listed is for the material compound only. See page one for the product operating temperature range.

Bolts/Nuts/Washers: (specify choice)

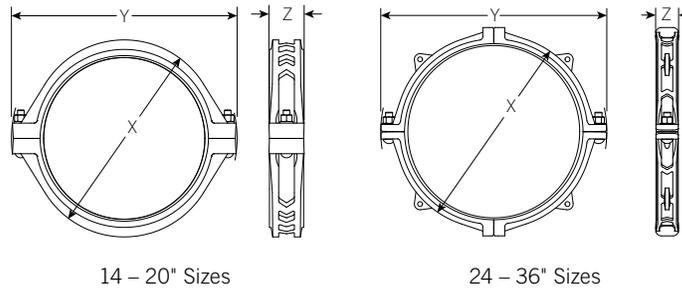
Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449.

Carbon steel heavy hex nuts meeting the mechanical property requirements of ASTM A563 Grade B. Track bolts and heavy hex nuts are zinc electroplated per ASTM B633 Fe/Zn5, finish Type III. Washers are plated carbon steel, flat. SAE high strength conforming to ASTM F436.

Optional: Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM A193 Grade B8M, Class 2 (316 stainless steel). Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM A194 Grade 8M (316 stainless steel), condition CW, with galling reducing coating. Washers are high strength 316 stainless steel.

4.0 DIMENSIONS

Style 31R



Size		Pipe End Separation ³	Bolt/Nut		Dimensions			Nut Torque ft. lbs. N m	Approx. Weight (Each) lb kg
Nominal inches	Actual Outside Diameter inches mm	Max. Allowable inches mm	No. Bolts Required Qty.	Size inches	X inches mm	Y inches mm	Z inches mm		
14	15.300 388.6	0.09 2.3	2	¾ x 5	17.88 454	21.75 552	3.56 90	250 339	46.0 21.0
16	17.400 442.0	0.09 2.3	2	¾ x 5 ¾	20.75 528	24.13 612	4.38 112	250 339	71.0 32.0
18	19.500 495.3	0.09 2.3	2	¾ x 5 ¾	22.88 582	26.50 674	4.38 112	250 339	77.0 35.0
20	21.600 548.6	0.09 2.3	2	7/8 x 6 ¼	24.88 632	28.75 730	4.38 112	375 508	83.0 37.5
24	25.800 655.3	0.09 2.3	2	1 ½ x 5 ½	29.75 756	35.25 896	4.38 112	425 576	130.0 59.0
30	32.000 812.8	0.09 2.3	2	1 ¼ x 5 ½	36.25 920	42.25 1074	5.25 134	500 678	205.0 93.0
36	38.300 972.8	0.13 3.3	2	1 ½ x 5 ¾	42.75 1086	49.00 1244	5.25 134	725 983	250.0 113.5

³ Style 31R 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. For field installation only, Style 31R Couplings when sufficiently pressurized will allow pipe ends to separate to maximum value shown.

5.0 PERFORMANCE

Style 31R

Size		Performance	
Nominal inches	Actual Outside Diameter	Maximum Joint Working Pressure ⁴	Maximum Permissible End Load ⁴
	inches mm		
14	15.300	250	45900
	388.6	1724	204174
16	17.400	250	59000
	442.0	1724	262446
18	19.500	250	74500
	495.3	1724	331392
20	21.600	150	54500
	548.6	1034	242428
24	25.800	150	78000
	655.3	1034	346962
30	32.000	150	120000
	812.8	1034	533786
36	38.300	150	172000
	972.8	1034	765094

⁴ Working Pressure and End Load are total, from all internal and external loads, based on AWWA class 53 or higher ductile iron pipe radius cut grooved in accordance with Victaulic published radius cut groove dimensions.

NOTES

- WARNING: Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

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.

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

7.0 REFERENCE MATERIALS

[23.01: AWWA Ductile Iron Pipe - Grooved System](#)

[23.05: AWWA \(Cast\) Fittings](#)

[25.05: Radius Cut Groove Specifications](#)

[29.01: Terms and Conditions/Warranty](#)

[I-300: Field Installation Handbook](#)

[I-ENDCAP: Victaulic® End Caps Installation Instructions](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for determining the suitability of Victaulic products for their end-use application, in accordance with industry standards, project specifications, and Victaulic's published performance, maintenance, and safety data, as well as all warnings and installation 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, warranty, installation instructions, or this disclaimer.

Installation

Always refer to and follow the [Victaulic Installation Handbook](#) or installation instructions for 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 [victaulic.com](#).

Warranty

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

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Note

All products bearing a Victaulic trademark are manufactured by Victaulic or to Victaulic specifications. All products are to be installed only in accordance with the applicable Victaulic installation instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.