

Victaulic® Duplex Stainless Steel Flexible Coupling

Style 475DX



1.0 PRODUCT DESCRIPTION

Available Sizes

- 1 – 4"/DN25 – DN100

Maximum Working Pressure

- Working pressure dependent on material, wall thickness, and size of pipe.

Application

- Provides a flexible pipe joint designed to accommodate a limited amount of linear and/or angular movement
- This product joins Original Groove System (OGS) roll grooved and cut grooved pipe, as well as grooved fittings, valves and accessories

Pipe Materials

- Stainless steel
 - Austenitic: Type 304 (S30400), Type 316 (S31600)
 - Super Austenitic: 254 SMO® (S31254), AL-6XN (N08367)
 - Duplex: 2205 (S32205)
 - Super Duplex: 2507 (S32750), Zeron® 100 (S32760)

2.0 CERTIFICATION/LISTINGS



EN 10311
CPR (EU)
No. 305/2011



BS EN 10311
CPR (UK)
2019 No. 465

NOTE

- See Victaulic [publication 02.06](#) for potable water approvals if applicable.

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



3.0 SPECIFICATIONS – MATERIAL

Housing:

- ☐ Duplex stainless steel (CE8MN) conforming to material property of ASTM A890 and A995.
 - ☐ Optional Housing: Super Duplex stainless steel (CE3MN) conforming to material property of ASTM A890 and A995.

Housing Coating: None

Gaskets: (specify choice¹)

☐ Grade "EW" EPDM

EPDM (Green W 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. WRAS-certified material with approved microbiological resistance to BS 6920 for cold and hot potable water service up to +149°F/+65°C. UL Classified in accordance with ANSI/NSF/CAN 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF/CAN 372. NOT COMPATIBLE FOR PETROLEUM SERVICES.

☐ Grade "E" EPDM

EPDM (Green stripe color code). Temperature range -30°F to +230°F/-34°C to +110°C. May be specified for cold and 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/CAN 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF/CAN 372. NOT COMPATIBLE FOR PETROLEUM 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 Gasket Selection Guide](#) for specific gasket service guidelines and for a listing of services which are not compatible.

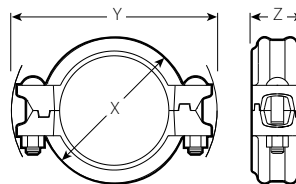
Hardware:

Bolts and Nuts: (specify choice)

- ☐ Standard: ASTM F593, Group 2, Type 316 stainless steel oval neck track bolts. ASTM F594, Group 2, Type 316 stainless steel heavy hex nuts with galling resistant coating.
 - ☐ Optional Nuts: ASME/ANSI B18.22, Type 651 silicon bronze heavy hex nut
- ☐ Optional bolts and nuts: Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM A1082, UNS S32750 (super duplex stainless steel). Stainless steel heavy nuts meeting the mechanical property requirements of ASTM A1082, UNS S32750 (super duplex stainless steel), supplementary requirement S5, with galling reducing coating.

4.0 DIMENSIONS

Style 475DX



Typical for all sizes

Size		Nominal Pipe End Separation ²		Deflection from Centerline		No. Bolts	Bolt/Nut Size	Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches mm	Minimum inches mm	Maximum inches mm	Per Coupling Degrees	Pipe in/ft mm/m	Qty.	Size inches	X inches mm	Y inches mm	Z inches mm	Approx. (Each) lb kg
1 DN25	1.315 33.7	0.00 0.0	0.06 1.5	2° 43'	0.57 47	2	3/8 x 2	2.31 58	4.13 104	1.75 44	1.3 0.6
1 1/4 DN32	1.660 42.4	0.00 0.0	0.06 1.5	2° 10'	0.45 37	2	3/8 x 2	2.63 66	4.38 112	1.88 48	1.4 0.6
1 1/2 DN40	1.900 48.3	0.00 0.0	0.06 1.5	1° 56'	0.40 33	2	3/8 x 2	2.88 74	4.69 120	1.88 48	1.5 0.7
2 DN50	2.375 60.3	0.00 0.0	0.06 1.5	1° 30'	0.32 27	2	3/8 x 2	3.44 88	5.00 128	1.94 50	1.7 0.8
2 1/2 DN65	2.875 73.0	0.00 0.0	0.06 1.5	1° 15'	0.26 22	2	3/8 x 2	4.06 104	5.63 142	1.94 50	1.9 0.9
3 DN80	3.500 88.9	0.00 0.0	0.06 1.5	1° 1'	0.21 17	2	1/2 x 2 3/4	4.63 118	6.50 166	1.94 50	3.0 1.4
4 DN100	4.500 114.3	0.00 0.0	0.13 3.3	1° 35'	0.33 27	2	1/2 x 2 3/4	5.94 150	7.88 200	2.13 54	4.2 1.9

² Allowable Pipe End Separation and Deflection figures show the maximum nominal range of movement available at each joint for standard roll grooved pipe. Figures for standard cut grooved pipe may be doubled. These figures are maximums. For design and installation purposes, these figures should be reduced by 50% for 1 – 3"/DN25 – DN80 sizes and 25% for the 4"/DN100 size.

5.0 PERFORMANCE

Performance on ANSI wall thicknesses (Austenitic Pipe Materials)

Pipe Diameter		Style 475DX				
Nominal Size inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	ANSI Schedule Number	Groove Type	Maximum Working Pressure psi kPa	End Load lbf N
1 DN25	1.315 33.7	0.179 4.5	80S	C	500 3447	700 3114
		0.133 3.4	40S	Std/C	500 3447	700 3114
		0.109 2.8	10S	RX	350 2413	500 2224
		0.065 1.7	5S	RX	225 1551	325 1446
1 ¼ DN32	1.660 42.4	0.191 4.9	80S	C	500 3447	1100 4894
		0.140 3.6	40S	Std/C	500 3447	1100 4894
		0.109 2.8	10S	RX	350 2413	775 3448
		0.065 1.7	5S	RX	225 1551	500 2224
1 ½ DN40	1.900 48.3	0.200 5.1	80S	C	500 3447	1500 6672
		0.145 3.7	40S	Std/C	500 3447	1500 6672
		0.109 2.8	10S	RX	350 2413	1000 4448
		0.065 1.7	5S	RX	225 1551	650 2892
2 DN50	2.375 60.3	0.218 5.5	80S	C	500 3447	2300 10230
		0.154 3.9	40S	Std/C	500 3447	2300 10230
		0.109 2.8	10S	RX	350 2413	1600 7118
		0.065 1.7	5S	RX	225 1551	1000 4448

NOTES

- RX = Roll Set for light wall stainless steel pipe marked with the prefix "RX"
- Std = Standard roll set marked with the prefix "R"
- C = Cut groove
- Working Pressure and End Load are total, from all internal and external loads, based on ANSI austenitic stainless steel pipe in the wall thicknesses published above that is roll or cut grooved to Victaulic specifications.
- Contact Victaulic for performance on other pipe. See [publication 24.01](#) for more information pertaining to cut grooving tools.
- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

5.0 PERFORMANCE (CONTINUED)

Performance on ANSI wall thicknesses (Austenitic Pipe Materials)

Pipe Diameter		Style 475DX				
Nominal Size inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	ANSI Schedule Number	Groove Type	Maximum Working Pressure psi kPa	End Load lbf N
2 ½	2.875 73.0	0.276 7.0	80S	C	500 3447	3300 14680
		0.203 5.2	40S	Std/C	500 3447	3300 14680
		0.120 3.0	10S	RX	350 2413	2300 10230
		0.083 2.1	5S	RX	225 1551	1500 6672
3 DN80	3.500 88.9	0.300 7.6	80S	C	500 3447	4900 21796
		0.216 5.5	40S	Std/C	500 3447	4900 21796
		0.120 3.0	10S	RX	350 2413	3400 15124
		0.083 2.1	5S	RX	225 1551	2200 9786
4 DN100	4.500 114.3	0.337 8.6	80S	C	500 3447	8000 35586
		0.237 6.0	40S	Std/C	500 3447	8000 35586
		0.120 3.0	10S	RX	350 2413	5600 24910
		0.083 2.1	5S	RX	225 1551	3600 16014

NOTES

- RX = Roll Set for light wall stainless steel pipe marked with the prefix "RX"
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- C = Cut groove
- Working Pressure and End Load are total, from all internal and external loads, based on ANSI austenitic stainless steel pipe in the wall thicknesses published above that is roll or cut grooved to Victaulic specifications.
- Contact Victaulic for performance on other pipe. See [publication 24.01](#) for more information pertaining to cut grooving tools.
- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

5.1 PERFORMANCE

Performance on ANSI wall thickness (Super Austenitic, Duplex, and Super Duplex Pipe Materials)

Pipe Diameter		Style 475DX				
Nominal Size inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	ANSI Schedule Number	Groove Type	Maximum Working Pressure psi kPa	End Load lbf N
1 DN25	1.315 33.7	0.133 3.4	40S	C	600 4137	825 3670
1 ¼ DN32	1.660 42.4	0.140 3.6	40S	C	600 4137	1300 5782
1 ½ DN40	1.900 48.3	0.145 3.7	40S	C	600 4137	1800 8006
2 DN50	2.375 60.3	0.154 3.9	40S	C	600 4137	2700 12010
2 ½ DN65	2.875 73.0	0.203 5.2	40S	C	600 4137	3900 17348
3 DN80	3.500 88.9	0.216 5.5	40S	C	600 4137	5800 25800
4 DN100	4.500 114.3	0.237 6.0	40S	C	600 4137	9600 42702

NOTES

- C = Cut groove
- Working Pressure and End Load are total, from all internal and external loads, based on ANSI super austenitic, duplex, and super duplex stainless steel pipe in the minimum wall thicknesses published above that is cut grooved to Victaulic specifications.
- Contact Victaulic for performance on other pipe. See [publication 24.01](#) for more information pertaining to cut grooving tools.
- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

5.2 PERFORMANCE

Performance on ISO wall thicknesses (Austenitic Pipe Materials)

Pipe Diameter		Style 475DX			
Nominal Size inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	Groove Type	Maximum Working Pressure psi kPa	End Load lbf N
1 DN25	1.315 33.7	0.177 4.5	C	500 3447	700 3114
		0.126 3.2	Std	425 2930	600 2668
		0.102 2.6	RX	325 2241	450 2002
		0.091 2.3	RX	300 2068	425 1890
		0.079 2.0	RX	250 1724	350 1556
		0.063 1.6	RX	225 1551	325 1446
1 ¼ DN32	1.660 42.4	0.197 5.0	C	500 3447	1100 4894
		0.142 3.6	Std/C	500 3447	1100 4894
		0.126 3.2	Std	425 2930	925 4114
		0.102 2.6	RX	325 2241	725 3224
		0.079 2.0	RX	250 1724	550 2446
		0.063 1.6	RX	225 1551	500 2224
1 ½ DN40	1.900 48.3	0.197 5.0	C	500 3447	1500 6672
		0.142 3.6	Std/C	500 3447	1500 6672
		0.126 3.2	Std	350 2413	1000 4448
		0.102 2.6	RX	325 2241	925 4114
		0.079 2.0	RX	250 1724	725 3224
		0.063 1.6	RX	225 1551	650 2892

NOTES

- RX = Roll Set for light wall stainless steel pipe marked with the prefix RX
- Std = Standard roll set marked with the prefix R
- C = Cut groove
- Working Pressure and End Load are total, from all internal and external loads, based on ISO austenitic stainless steel pipe in the wall thicknesses published above that is roll or cut grooved to Victaulic specifications.
- Contact Victaulic for performance on other pipe. See [publication 24.01](#) for more information pertaining to cut grooving tools.
- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

5.2 PERFORMANCE (CONTINUED)

Performance on ISO wall thicknesses (Austenitic Pipe Materials)

Pipe Diameter		Style 475DX			
Nominal Size inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	Groove Type	Maximum Working Pressure psi kPa	End Load lbf N
2 DN50	2.375 60.3	0.220 5.6	C	500 3447	2300 10230
		0.157 4.0	Std/C	500 3447	2300 10230
		0.142 3.6	Std	450 3103	2000 8896
		0.126 3.2	Std	400 2758	1800 8006
		0.114 2.9	Std	375 2586	1700 7562
		0.102 2.6	RX	325 2241	1500 6672
		0.091 2.3	RX	300 2068	1400 6228
		0.079 2.0	RX	250 1724	1200 5338
		0.063 1.6	RX	225 1551	1000 4448
		0.280 7.1	C	500 3447	3600 16014
DN65	3.000 76.1	0.252 6.4	C	500 3447	3600 16014
		0.197 5.0	Std/C	425 2930	3100 13790
		0.157 4.0	Std	400 2758	2900 12900
		0.142 3.6	Std	375 2586	2700 12010
		0.122 3.1	Std	350 2413	2500 11120
		0.114 2.9	RX	325 2241	2300 10230
		0.102 2.6	RX	300 2068	2200 9786
		0.091 2.3	RX	250 1724	1800 8006
		0.083 2.1	RX	232 1600	1700 7562
		0.079 2.0	RX	232 1600	1700 7562

NOTES

- RX = Roll Set for light wall stainless steel pipe marked with the prefix RX
- Std = Standard roll set marked with the prefix R
- C = Cut groove
- Working Pressure and End Load are total, from all internal and external loads, based on ISO austenitic stainless steel pipe in the wall thicknesses published above that is roll or cut grooved to Victaulic specifications.
- Contact Victaulic for performance on other pipe. See [publication 24.01](#) for more information pertaining to cut grooving tools.
- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

5.2 PERFORMANCE (CONTINUED)

Performance on ISO wall thicknesses (Austenitic Pipe Materials)

Pipe Diameter		Style 475DX			
Nominal Size inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	Groove Type	Maximum Working Pressure psi kPa	End Load lbf N
3 DN80	3.500 88.9	0.315 8.0	C	500 3447	4900 21796
		0.220 5.6	Std/C	500 3447	4900 21796
		0.157 4.0	Std	400 2758	3900 17348
		0.142 3.6	Std	375 2586	3700 16458
		0.126 3.2	Std	325 2241	3200 14234
		0.114 2.9	RX	325 2241	3200 14234
		0.102 2.6	RX	300 2068	2900 12900
		0.091 2.3	RX	250 1724	2500 11120
		0.079 2.0	RX	232 1600	2300 10230
		0.079 2.0	RX	232 1600	2300 10230
4 DN100	4.500 114.3	0.346 8.8	C	500 3447	8000 35586
		0.248 6.3	C	500 3447	8000 35586
		0.177 4.5	Std	300 2068	4800 21352
		0.142 3.6	Std	300 2068	4800 21352
		0.114 2.9	RX	275 1896	4400 19572
		0.102 2.6	RX	250 1724	4000 17792
		0.079 2.0	RX	232 1600	3700 16458

NOTES

- RX = Roll Set for light wall stainless steel pipe marked with the prefix RX
- Std = Standard roll set marked with the prefix R
- C = Cut groove
- Working Pressure and End Load are total, from all internal and external loads, based on ISO austenitic stainless steel pipe in the wall thicknesses published above that is roll or cut grooved to Victaulic specifications.
- Contact Victaulic for performance on other pipe. See [publication 24.01](#) for more information pertaining to cut grooving tools.
- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

5.3 PERFORMANCE

Performance on ISO wall thicknesses (Super Austenitic Pipe Materials, Duplex, and Super Duplex Pipe Materials)

Pipe Diameter		Style 475DX			
Nominal Size inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	Groove Type	Maximum Working Pressure psi kPa	End Load lbf N
1 DN25	1.315 33.7	0.177 4.5	C	600 4137	825 3670
1 ¼ DN32	1.660 42.4	0.197 5.0	C	600 4137	1300 5782
		0.142 3.6	C	600 4137	1300 5782
1 ½ DN40	1.900 48.3	0.197 5.0	C	600 4137	1800 8006
2 DN50	2.375 60.3	0.220 5.6	C	600 4137	2700 12010
		0.157 4.0	C	600 4137	2700 12010
DN65	3.000 76.1	0.280 7.1	C	600 4137	4300 19128
		0.252 6.4	C	600 4137	4300 19128
3 DN80	3.500 88.9	0.315 8.0	C	600 4137	5800 25800
		0.220 5.6	C	600 4137	5800 25800
4 DN100	4.500 114.3	0.346 8.8	C	600 4137	9600 42702
		0.248 6.3	C	600 4137	9600 42702

NOTE

- C = Cut groove
- Working Pressure and End Load are total, from all internal and external loads, based on ISO super austenitic, duplex, and super duplex stainless steel pipe in the minimum wall thicknesses published above that is cut grooved to Victaulic specifications.
- Contact Victaulic for performance on other pipe. See [publication 24.01](#) for more information pertaining to cut grooving tools.
- 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 any Victaulic products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Always read and follow the I-ENDCAP, Victaulic End Cap Installation Safety Instructions, which can be downloaded at Victaulic.com.
- Wear safety glasses, hardhat, foot protection, and hearing protection.
- It is the system designer's responsibility to verify suitability of stainless steel components for use with the intended fluid media within the piping system and external environment.
- The material specifier shall evaluate the effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on stainless steel components to confirm system life will be acceptable for the intended service.

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

7.0 REFERENCE MATERIALS

[02.06: Victaulic Potable Water Approvals ANSI/NSF](#)

[05.01: Victaulic Seal Selection Guide](#)

[17.01: Victaulic Pipe Preparation for use on Stainless Steel Pipe](#)

[17.16: Victaulic Stainless Steel OGS Fittings](#)

[17.20: Victaulic Style 77DX Duplex Stainless Steel Flexible Coupling](#)

[17.33: Style 489DX Duplex Stainless Steel Rigid Coupling](#)

[24.01: Pipe Preparation Tool Specifications](#)

[25.01: Victaulic Original Groove System \(OGS\) Groove Specifications](#)

[26.01: Victaulic Design Data](#)

[29.01: Victaulic Terms and Conditions of Sale](#)

[I-100: Victaulic Field Installation Handbook](#)

[I-ENDCAP: Victaulic® End Cap Installation Safety 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.

Intellectual Property Rights

No statement concerning the 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 affiliates, 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. 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.

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.