

Stainless Steel Rigid Coupling Style 489

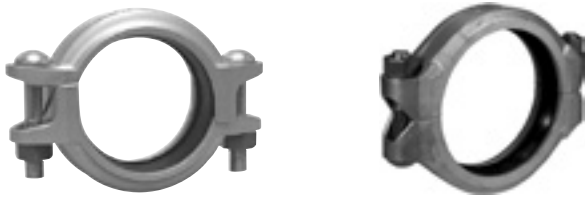


RUNGE-TSN

Tel.: 04193-75196-0
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17.25



Approvals/Listings:

See Victaulic [Publication 02.06](#) for potable water approvals if applicable

Product Description:

Style 489 is designed for 1½ – 12"/40 – 300 mm piping systems and features a heavy stainless steel housing for pressures up to 600 psi/4135 kPa on stainless steel pipe only.

Style 489 will greatly reduce linear or angular movement and is useful for valve connections and other points where rigidity is required. The coupling is provided with stainless steel bolts and nuts.

See page 4 for pressure ratings based on ANSI wall thicknesses and page 5 for pressure ratings for ISO wall thicknesses.

NOTE: For duplex and super duplex options, please see [publication 17.33](#) for the Style 489DX.



WARNING

- Victaulic RX roll sets must be used when grooving light-wall/thin-wall stainless steel pipe for use with Victaulic Couplings.

Failure to use Victaulic RX roll sets when grooving light-wall/thin-wall stainless steel pipe may cause joint failure, resulting in serious personal injury and/or property damage.

NOTICE

- Victaulic RX grooving rolls must be ordered separately. They are identified by a silver color and the designation RX on the front of the roll sets.

Job/Owner

| | |
|------------|--|
| System No. | |
| Location | |

Contractor

| | |
|--------------|--|
| Submitted By | |
| Date | |

Engineer

| | |
|--------------|--|
| Spec Section | |
| Paragraph | |
| Approved | |
| Date | |



Material Specifications:

Housing: Type 316 stainless steel, conforming to ASTM A 351, A 743 and A 744, Grade CF8M

Housing: None

Standard:

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 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372. NOT COMPATIBLE FOR PETROLEUM SERVICES.

Optional Gasket: (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 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372. NOT COMPATIBLE FOR PETROLEUM SERVICES.

Grade "T" nitrile

Nitrile (Orange stripe color code). Temperature range -20°F to +180°F/-29°C to +82°C. May be specified for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not compatible for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C.

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.

Grade "A" white nitrile

White nitrile (White gasket). Temperature range +20°F to +180°F/-7°C to +82°C. No carbon black content. May be used for food services. Meets FDA requirements and conforms to CFR Title 21 Part 177.2600.

Other gaskets are available. Please refer to [publication 05.01](#).

Gaskets:

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:

Track Bolts: ASTM F 593, Group 2 (Type 316 stainless steel), condition CW

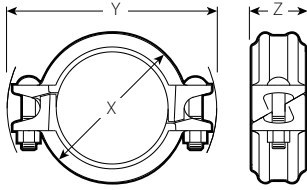
Heavy Hex Nut: ASTM F 594, Group 2, (Type 316 stainless steel), condition CW with galling resistant coating



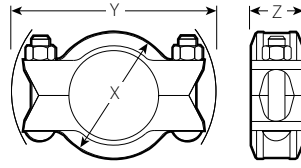
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Dimensions:



1½–4"/100 mm and
76.1 mm sizes



5–12"/125–300 mm, 139.7 mm,
165.1 mm, 216.3 mm, 267.4 mm
and 318.5 mm sizes



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| Nominal Size inches mm | Actual Outside Diameter inches mm | Allow. Pipe End Separation ² inches mm | Bolt/Nut No. – Size ³ inches | Nut Torque ft-lbs N·m | Dimensions | | | Approx. Weight Each lbs. kg |
|------------------------------|---|---|--|-----------------------------|-------------------|-------------------|-------------------|-----------------------------------|
| | | | | | X inches mm | Y inches mm | Z inches mm | |
| 1 ½ 40 | 1.900 48.3 | 0.05 1.3 | 2 – ¾ × 2 ½ | 18 - 22 25 - 30 | 2.86 73 | 4.42 118 | 1.84 47 | 1.6 0.7 |
| 2 50 | 2.375 60.3 | 0.05 1.3 | 2 – ¾ × 2 ½ | 18 - 22 25 - 30 | 3.34 85 | 5.19 132 | 1.86 47 | 1.6 0.7 |
| 2 ½ 65 | 2.875 73.0 | 0.05 1.3 | 2 – ¾ × 2 ½ | 18 - 22 25 - 30 | 3.92 100 | 5.62 143 | 1.86 47 | 1.9 0.9 |
| 76.1 mm | 3.000 76.1 | 0.05 1.3 | 2 – ¾ × 2 ½ | 18 - 22 25 - 30 | 4.02 102 | 5.72 145 | 1.86 47 | 2.0 0.9 |
| 3 80 | 3.500 88.9 | 0.05 1.3 | 2 – ½ × 2 ¾ | 45 - 50 60 - 68 | 4.54 115 | 6.78 172 | 1.86 47 | 2.8 1.3 |
| 4 100 | 4.500 114.3 | 0.19 4.8 | 2 – ½ × 2 ¾ | 45 - 50 60 - 68 | 5.77 147 | 7.90 201 | 2.07 53 | 4.0 1.8 |
| 5 125 | 5.563 141.3 | 0.25 6.4 | 2 – ¾ × 4 ¼ | 85 - 125 115 - 170 | 7.05 179 | 10.63 270 | 2.25 57 | 12.50 5.7 |
| 139.7 mm | 5.500 139.7 | 0.25 6.4 | 2 – ¾ × 4 ¼ | 75 - 100 100 - 135 | 7.07 180 | 11.13 283 | 2.38 60 | 12.0 5.5 |
| 165.1 mm | 6.500 165.1 | 0.25 6.4 | 2 – 7/8 × 5 ½ | 125 - 200 170 - 275 | 8.16 207 | 12.68 321 | 2.50 64 | 15.5 7.0 |
| 6 150 | 6.625 168.3 | 0.25 6.4 | 2 – 7/8 × 5 ½ | 125 - 200 170 - 275 | 8.16 207 | 12.68 321 | 2.50 64 | 15.5 7.0 |
| 216.3 mm | 8.515 216.3 | 0.25 6.4 | 2 – 1 × 5 ½ | 200 - 300 275 - 400 | 10.63 270 | 15.00 381 | 2.75 70 | 24.0 10.9 |
| 8 200 | 8.625 219.1 | 0.25 6.4 | 2 – 1 × 5 ½ | 200 - 300 275 - 400 | 10.63 270 | 15.00 381 | 2.75 70 | 24.0 10.9 |
| 267.4 mm | 10.528 267.4 | 0.25 6.4 | 2 – 1 × 6 ½ | 200 - 300 275 - 400 | 13.09 332 | 17.25 438 | 3.00 76 | 33.0 15.0 |
| 10 250 | 10.750 273.0 | 0.25 6.4 | 2 – 1 × 6 ½ | 200 - 300 275 - 400 | 13.09 332 | 17.25 438 | 3.00 76 | 33.0 15.0 |
| 318.5 mm | 12.539 318.5 | 0.25 6.4 | 2 – 1 × 6 ½ | 200 - 300 275 - 400 | 15.13 384 | 19.13 486 | 3.13 80 | 40.0 18.1 |
| 12 300 | 12.750 323.9 | 0.25 6.4 | 2 – 1 × 6 ½ | 200 - 300 275 - 400 | 15.13 384 | 19.13 486 | 3.13 80 | 40.0 18.1 |

2 For field installation only. Style 489 is essentially rigid and does not permit expansion or contraction.

3 Metric thread size bolts are available for all coupling sizes upon request. Contact Victaulic for details.



Performance on ANSI wall thicknesses:

| Pipe Diameter | | Style 489 | | | | |
|------------------------------|---|---------------------|----------------------------|-------------|-----------------------------------|-------------------------|
| Nominal Size inches mm | Actual Outside Diameter inches mm | Pipe Wall Thickness | | Groove Type | Maximum | |
| | | inches mm | ANSI Schedule Number | | Working Pressure psi kPa | End Load Lbs N |
| 1 1/2 40 | 1.900 48.3 | 0.200 5.1 | 80S | C | 600 4136 | 1701 7566 |
| | | 0.145 3.7 | 40S | Std/C | 600 4136 | 1701 7566 |
| | | 0.109 2.8 | 10S | RX | 300 2065 | 849 3777 |
| | | 0.065 1.7 | 5S | RX | 200 1379 | 567 2522 |
| 2 50 | 2.375 60.3 | 0.218 5.5 | 80S | C | 600 4136 | 2658 11821 |
| | | 0.154 3.9 | 40S | Std/C | 600 4136 | 2658 11821 |
| | | 0.109 2.8 | 10 | RX | 300 2065 | 1327 5902 |
| | | 0.065 1.7 | 5S | RX | 200 1379 | 886 3941 |
| 2 1/2 50 | 2.875 73.0 | 0.276 7.0 | 80S | C | 600 4136 | 3894 17323 |
| | | 0.203 5.2 | 40S | Std/C | 600 4136 | 3894 17323 |
| | | 0.120 3.1 | 10S | RX | 300 2065 | 1944 8649 |
| | | 0.083 2.1 | 5S | RX | 232 1600 | 1506 6699 |
| 3 80 | 3.500 88.9 | 0.300 7.6 | 80S | C | 600 4136 | 5771 25673 |
| | | 0.216 5.5 | 40S | Std/C | 600 4136 | 5771 25673 |
| | | 0.120 3.1 | 10S | RX | 300 2065 | 2882 12818 |
| | | 0.083 2.1 | 5S | RX | 232 1600 | 2232 9929 |
| 4 100 | 4.500 114.3 | 0.337 8.6 | 80S | C | 600 4136 | 9541 42439 |
| | | 0.237 6.0 | 40S | Std/C | 600 4136 | 9541 42439 |
| | | 0.120 3.1 | 10S | RX | 300 2065 | 4763 21189 |
| | | 0.083 2.1 | 5S | RX | 232 1600 | 3690 16413 |
| 5 125 | 5.563 141.3 | 0.375 6.6 | 80S | C | 600 4136 | 14580 64857 |
| | | 0.258 6.6 | 40S | Std/C | 600 4136 | 14580 64857 |
| | | 0.134 3.4 | 10S | RX | 375 2586 | 9115 40544 |
| | | 0.109 2.8 | 5S | RX | 275 1896 | 6684 29732 |
| 6 150 | 6.625 168.3 | 0.432 11.0 | 80S | C | 750 5171 | 25854 115003 |
| | | 0.280 7.1 | 40S | Std/C | 750 5171 | 25854 115003 |
| | | 0.134 3.4 | 10S | RX | 300 2065 | 10324 45925 |
| | | 0.109 2.8 | 5S | RX | 250 1724 | 8618 38334 |

| Pipe Diameter | | Style 489 | | | | |
|------------------------------|---|---------------------|----------------------------|-------------|-----------------------------------|-------------------------|
| Nominal Size inches mm | Actual Outside Diameter inches mm | Pipe Wall Thickness | | Groove Type | Maximum | |
| | | inches mm | ANSI Schedule Number | | Working Pressure psi kPa | End Load Lbs N |
| 8 200 | 8.625 219.1 | 0.500 12.7 | 80S | C | 600 4136 | 35049 155903 |
| | | 0.322 8.2 | 40S | Std/C | 600 4136 | 35049 155903 |
| | | 0.148 3.8 | 10S | RX | 300 2065 | 17499 77838 |
| | | 0.109 2.8 | 5S | RX | 200 1379 | 11686 51980 |
| 10 250 | 10.750 273.0 | 0.500 12.7 | 80S | C | 600 4136 | 54446 242188 |
| | | 0.365 9.3 | 40S | Std/C | 600 4136 | 54446 242188 |
| | | 0.165 4.2 | 10S | RX | 300 2065 | 27184 120918 |
| | | 0.134 3.4 | 5S | RX | 250 1724 | 22691 100933 |
| 12 300 | 12.750 323.9 | 0.500 12.7 | 80S | C | 600 4136 | 76590 340687 |
| | | 0.375 9.5 | 40S | Std/C | 600 4136 | 76590 340687 |
| | | 0.180 4.6 | 10S | RX | 300 2065 | 38239 170097 |
| | | 0.156 4.0 | 5S | RX | 200 1379 | 25536 113590 |

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



Performance on ISO wall thicknesses:

| Pipe Diameter | | Style 489 | | | |
|------------------------------|---|---------------------|--------------|--------------------------------|----------------------|
| Nominal Size mm inches | Actual Outside Diameter mm inches | Pipe Wall Thickness | Groove Type | Maximum | |
| | | mm inches | | Working Pressure kPa psi | End Load N Lbs |
| 40 1½ | 48.3 1.900 | 5.0 0.197 | C | 4136 600 | 7566 1701 |
| | | 3.6 0.142 | Std/C | 3792 550 | 6937 1559 |
| | | 3.2 0.126 | Std | 2930 425 | 5360 1205 |
| | | 2.6 0.102 | RX | 1896 275 | 3468 780 |
| | | 2.0 0.079 | RX | 1600 232 | 2927 658 |
| | | 1.6 0.063 | RX | 1379 200 | 2522 567 |
| 50 2 | 60.3 2.375 | 5.6 0.220 | C | 4136 600 | 11821 2658 |
| | | 4.0 0.157 | Std/C | 4136 600 | 11821 2658 |
| | | 3.6 0.142 | Std | 3620 525 | 10346 2326 |
| | | 3.2 0.126 | Std | 3620 525 | 7882 1772 |
| | | 2.9 0.114 | Std | 2241 325 | 6404 1440 |
| | | 2.6 0.102 | RX | 1896 275 | 5419 1218 |
| | | 2.3 0.091 | RX | 1724 250 | 4927 1108 |
| | | 2.0 0.079 | RX | 1600 232 | 4537 1028 |
| 76.1mm | 76.1 3.000 | 7.1 0.280 | C | 4136 600 | 18862 4240 |
| | | 6.4 0.252 | C | 4136 600 | 18862 4240 |
| | | 5.0 0.197 | Std/C | 3275 475 | 14935 3358 |
| | | 4.0 0.157 | Std | 2586 375 | 11791 2651 |
| | | 3.6 0.142 | Std | 2413 350 | 11005 2474 |
| | | 3.1 0.122 | Std | 2065 300 | 9417 2117 |
| | | 2.9 0.114 | RX | 2065 300 | 9433 2121 |
| | | 2.6 0.102 | RX | 1896 275 | 8647 1944 |
| | | 2.3 0.091 | RX | 1724 250 | 7875 1770 |
| | | 2.1 0.083 | RX | 1600 232 | 7297 1640 |
| 2.0 0.079 | RX | 1600 232 | 7297 1640 | | |

| Pipe Diameter | | Style 489 | | | |
|------------------------------|---|---------------------|-------------|--------------------------------|----------------------|
| Nominal Size mm inches | Actual Outside Diameter mm inches | Pipe Wall Thickness | Groove Type | Maximum | |
| | | mm inches | | Working Pressure kPa psi | End Load N Lbs |
| 80 3 | 88.9 3.500 | 8.0 0.315 | C | 4136 600 | 25673 5771 |
| | | 5.6 0.220 | Std/C | 4136 600 | 25673 5771 |
| | | 4.0 0.157 | Std | 2758 400 | 17119 3848 |
| | | 3.6 0.142 | Std | 2413 350 | 14979 3367 |
| | | 3.2 0.126 | Std | 2065 300 | 12839 2886 |
| | | 2.9 0.114 | RX | 2065 300 | 12839 2886 |
| | | 2.6 0.102 | RX | 1896 275 | 11769 2646 |
| | | 2.3 0.091 | RX | 1724 250 | 10719 2410 |
| 100 4 | 114.3 4.500 | 8.8 0.346 | C | 4136 600 | 42439 9541 |
| | | 6.3 0.248 | C | 4136 600 | 42439 9541 |
| | | 4.5 0.177 | Std | 3103 450 | 31836 7157 |
| | | 3.6 0.142 | Std | 2065 300 | 21224 4771 |
| | | 2.9 0.114 | RX | 2065 300 | 21224 4771 |
| | | 2.6 0.102 | RX | 1896 275 | 19455 4374 |
| | | 2.0 0.079 | RX | 1600 232 | 16417 3691 |

For pressure ratings on wall thicknesses not mentioned please contact Victaulic

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

Performance on ISO wall thicknesses:



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| Pipe Diameter | | Style 489 | | | |
|------------------------------|---|---------------------|----------------|--------------------------------|----------------------|
| Nominal Size mm inches | Actual Outside Diameter mm inches | Pipe Wall Thickness | Groove Type | Maximum | |
| | | mm inches | | Working Pressure kPa psi | End Load N Lbs |
| 139.7mm | 139.7 5.500 | 10.0 0.394 | C | 4136 600 | 63396 14252 |
| | | 7.1 0.280 | C | 4136 600 | 63396 14252 |
| | | 6.6 0.260 | Std/C | 4136 600 | 63396 14252 |
| | | 6.3 0.248 | Std/C | 3964 575 | 60767 13661 |
| | | 5.6 0.220 | Std/C | 3447 500 | 52841 11879 |
| | | 5.0 0.197 | Std | 3101 450 | 47524 10684 |
| | | 4.0 0.157 | Std | 2413 350 | 36989 8315 |
| | | 3.4 0.134 | RX | 2065 300 | 31652 7116 |
| | | 3.2 0.126 | RX | 2065 300 | 31704 7127 |
| | | 3.0 0.118 | RX | 1896 275 | 29062 6534 |
| | | 2.8 0.110 | RX | 1896 275 | 29062 6534 |
| | | 2.6 0.102 | RX | 1724 250 | 26420 5940 |
| | | 2.0 0.079 | RX | 1600 232 | 24525 5513 |
| | | 150 6 | 168.3 6.625 | 11.0 0.433 | C |
| 7.1 0.280 | Std/C | | | 5171 750 | 115003 25854 |
| 5.0 0.197 | Std | | | 3447 500 | 76668 17236 |
| 4.5 0.177 | Std | | | 3101 450 | 69002 15512 |
| 4.0 0.157 | Std | | | 2586 375 | 57501 12927 |
| 3.2 0.126 | RX | | | 1896 275 | 42168 9480 |
| 3.0 0.118 | RX | | | 1896 275 | 42168 9480 |
| 2.6 0.102 | RX | | | 1600 232 | 35583 7999 |
| 2.0 0.079 | RX | | | 1600 232 | 35574 7997 |

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

| Pipe Diameter | | Style 489 | | | | | |
|------------------------------|---|---------------------|-----------------|--------------------------------|----------------------|-------------|-----------------|
| Nominal Size mm inches | Actual Outside Diameter mm inches | Pipe Wall Thickness | Groove Type | Maximum | | | |
| | | mm inches | | Working Pressure kPa psi | End Load N Lbs | | |
| 200 8 | 219.1 8.625 | 12.5 0.492 | C | 4136 600 | 155903 35049 | | |
| | | 8.0 0.315 | Std/C | 4136 600 | 155903 35049 | | |
| | | 6.5 0.256 | Std/C | 3275 475 | 123449 27752 | | |
| | | 6.3 0.248 | Std/C | 3275 475 | 123449 27752 | | |
| | | 5.0 0.197 | Std | 2586 375 | 97459 21910 | | |
| | | 4.0 0.157 | Std | 2241 325 | 84465 18989 | | |
| | | 3.6 0.142 | RX | 1896 275 | 71470 16067 | | |
| | | 3.2 0.126 | RX | 1600 232 | 60295 13555 | | |
| | | 3.0 0.118 | RX | 1551 225 | 58476 13146 | | |
| | | 2.6 0.102 | RX | 1207 175 | 45481 10225 | | |
| | | 2.0 0.079 | RX | 1034 150 | 38984 3764 | | |
| | | 250 10 | 273.0 10.750 | 14.2 0.559 | C | 4136 600 | 242188 54446 |
| | | | | 12.5 0.492 | C | 4136 600 | 242188 54446 |
| | | | | 10.0 0.394 | C | 4136 600 | 242188 54446 |
| 6.3 0.248 | Std/C | | | 2930 425 | 171585 38574 | | |
| 4.0 0.157 | RX | | | 2065 300 | 121119 27229 | | |
| 3.6 0.142 | RX | | | 1724 250 | 100933 22691 | | |
| 3.2 0.126 | RX | | | 1600 232 | 93690 21062 | | |
| 3.0 0.118 | RX | | | 1379 200 | 80746 18153 | | |
| 2.6 0.102 | RX | | | 1034 150 | 60560 13614 | | |
| 2.0 0.079 | RX | | | 689 100 | 40373 9076 | | |
| 300 12 | 323.9 12.750 | 12.5 0.492 | C | 4136 600 | 340687 76590 | | |
| | | 10.0 0.394 | C | 4136 600 | 340687 76590 | | |
| | | 7.1 0.280 | Std/C | 3101 450 | 255568 57454 | | |
| | | 5.0 0.197 | RX | 2241 325 | 184577 41495 | | |
| | | 4.5 0.177 | RX | 2065 300 | 170379 38303 | | |
| | | 4.0 0.157 | RX | 1379 200 | 113590 25536 | | |

For pressure ratings on wall thicknesses not mentioned please contact Victaulic



General Notes:



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Working Pressure and **End Load** are total, from all internal and external loads, based on stainless steel pipe, roll grooved with Victaulic rolls in accordance with Victaulic specifications. “RX” rolls must be used for Schedules 5S, 10S and 10. Standard rolls should be used for Schedule 40S and Standard Weight pipe. Contact Victaulic for performance on other pipe. See [publication 24.01](#) for more information pertaining to tools.

WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

Metric thread size bolts are available for all coupling sizes upon request. Contact Victaulic for details.

WARNING: Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.

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 I-100 Victaulic Field Installation Handbook for the product you are installing. Handbooks are included with each shipment of Victaulic products for 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.

Note

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Trademarks

Victaulic is a registered trademark of Victaulic Company.