

# Original and XL Groove Dimensions for Rubber Lining for Abrasive Services

## Rubber or Urethane Lined Pipe

Rubber or urethane lined pipe, connected with Victaulic couplings, has proven to be a most practical and economical method of conveying abrasive fluids and slurries, showing savings in maintenance cost over unlined metal pipe in such services. The use of rubber-lined metal pipe combines abrasive-resistant properties of rubber or urethane with the rigidity and strength of metal.

Provided in this publication are cut groove dimensions for abrasion resistant rubber or urethane lined pipe. Standard "Off the Shelf" Victaulic ductile iron fittings can be directly rubber lined without special machining. Request publication 26.16 for specifications.

Victaulic offers a line of 1½D and 3D XL fittings that provide an additional ¼" thickness of rubber lining. Request publication 07.07 for details.

Lined pipe and fittings are available with Victaulic grooved ends from leading industry lining applicators with different types of lining material for handling a wide range of abrasive materials. The type of lining selected for a particular application is determined by the conditions under which the system will operate.

### Job/Owner

System No.	
Location	

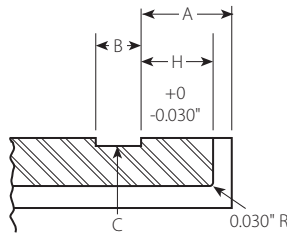
### Contractor

Submitted By	
Date	

### Engineer

Spec Section	
Paragraph	
Approved	
Date	

Dimensions:



For Abrasion Resistance Only

1	2			3							4		5		6	7
				Dimensions – Inches/millimeters							Groove Width B		Groove Dia. C		H	Min. Allow. Wall Thick. T
	Basic	Tolerance		Basic	Tol. +0.000 (+0.00)	Basic	Tol. +0.000 (+0.00)	Basic	Tol. +0.000 (+0.00)	Basic	Tol. +0.000 (+0.00)	+0.000	-0.030			
2 50	2.375 60.3	+0.024 +0.61	-0.024 -0.61	0.562 14.27	-0.030 -0.76	0.312 7.92	-0.030 -0.76	2.250 57.15	-0.015 -0.38	0.437 11.10	0.154 3.91					
2½ 65	2.875 73.0	+0.029 +0.74	-0.029 -0.74	0.562 14.27	-0.030 -0.76	0.312 7.92	-0.030 -0.76	2.720 69.09	-0.018 -0.46	0.437 11.10	0.188 4.78					
3 O.D.	3.000 76.1	+0.030 +0.76	-0.030 -0.76	0.562 14.27	-0.030 -0.76	0.312 7.92	-0.030 -0.76	2.845 72.26	-0.018 -0.46	0.437 11.10	0.188 4.78					
3 80	3.500 88.9	+0.035 +0.89	-0.031 -0.79	0.562 14.27	-0.030 -0.76	0.312 7.92	-0.030 -0.76	3.344 84.94	-0.018 -0.46	0.437 11.10	0.188 4.78					
3½ 90	4.000 101.6	+0.040 +1.02	-0.031 -0.79	0.562 14.27	-0.030 -0.76	0.312 7.92	-0.030 -0.76	3.834 97.38	-0.020 -0.51	0.437 11.10	0.188 4.78					
4 100	4.500 114.3	+0.045 +1.14	-0.031 -0.79	0.562 14.27	-0.030 -0.76	0.344 8.73	-0.030 -0.76	4.334 110.08	-0.020 -0.51	0.437 11.10	0.203 5.16					
5 125	5.563 141.3	+0.056 +1.42	-0.031 -0.79	0.562 14.27	-0.030 -0.76	0.344 8.73	-0.030 -0.76	5.395 137.03	-0.022 -0.56	0.437 11.10	0.203 5.16					
6½ O.D.	6.500 165.1	+0.063 +1.60	-0.031 -0.79	0.562 14.27	-0.030 -0.76	0.344 8.73	-0.030 -0.76	6.330 160.78	-0.022 -0.56	0.437 11.10	0.219 5.56					
6 150	6.625 168.3	+0.063 +1.60	-0.031 -0.79	0.562 14.27	-0.030 -0.76	0.344 8.73	-0.030 -0.76	6.455 163.96	-0.022 -0.56	0.437 11.10	0.219 5.56					
8 200	8.625 219.1	+0.063 +1.60	-0.031 -0.79	0.625 15.88	-0.030 -0.76	0.469 11.91	-0.030 -0.76	8.441 214.40	-0.025 -0.64	0.500 12.70	0.238 6.05					
10 250	10.750 273.0	+0.063 +1.60	-0.031 -0.79	0.625 15.88	-0.030 -0.76	0.469 11.91	-0.030 -0.76	10.562 268.28	-0.027 -0.69	0.500 12.70	0.250 6.35					
12 300	12.750 323.9	+0.063 +1.60	-0.031 -0.79	0.625 15.88	-0.030 -0.76	0.469 11.91	-0.030 -0.76	12.531 318.29	-0.030 -0.76	0.500 12.70	0.279 7.09					
14 350	14.000 355.6	+0.063 +1.60	-0.031 -0.79	0.938 23.83	-0.030 -0.76	0.500 12.70	-0.030 -	13.781 350.04	-0.030 -0.76	0.813 20.65	0.281 7.14					
16 400	16.000 406.4	+0.063 +1.60	-0.031 -0.79	0.938 23.83	-0.030 -0.76	0.500 12.70	-0.030 -0.76	15.781 400.84	-0.030 -0.76	0.813 20.65	0.312 7.92					
18 450	18.000 457.2	+0.063 +1.60	-0.031 -0.79	1.000 25.40	-0.030 -0.76	0.500 12.70	-0.030 -0.76	17.781 451.64	-0.030 -0.76	0.875 22.23	0.312 7.92					
20 500	20.000 508.0	+0.063 +1.60	-0.031 -0.79	1.000 25.40	-0.030 -0.76	0.500 12.70	-0.030 -0.76	19.781 502.44	-0.030 -0.76	0.875 22.23	0.312 7.92					
22 550	22.000 559.0	+0.063 +1.60	-0.031 -0.79	1.000 25.40	-0.060 -1.52	0.500 12.70	-0.030 -0.76	21.656 550.06	-0.030 -0.76	0.875 22.23	0.375 9.53					
24 600	24.000 610.0	+0.063 +1.60	-0.031 -0.79	1.000 25.40	-0.060 -1.52	0.500 12.70	-0.030 -0.76	23.656 600.86	-0.030 -0.76	0.875 22.23	0.375 9.53					

For XL specs. see page 3.

**NOTE:** Dimensions apply to steel pipe and Victaulic fittings. \*Based on nominal dimensions (without tolerances).

**Column 1** – Nominal IPS Pipe Size. Nominal Metric (ISO) Pipe Size.

**Column 2** – IPS Outside Diameter. Metric (ISO) Outside Diameter. The outside diameter of cut grooved pipe shall not vary more than the tolerance listed. For IPS pipe, the maximum allowable tolerance from square cut ends is 0.030" for 2 - 3 ½"; 0.045" for 4 - 6"; and 0.060" for sizes 8" O.D. and above measured from true square line. For (ISO) metric pipe, the maximum allowable tolerance from square cut ends is 0,76 mm for sizes 20 - 80 mm; 1,14 mm for sizes 100 - 150 mm; and 1,52 mm for sizes 200 mm and above, measured from the true square line.

**Column 3** – Gasket Seat. The pipe surface shall be free from indentations and projections from the end of the pipe to the groove, to provide a leak-tight seat for the gasket. All loose paint, scale, dirt, chips, grease, and rust must be removed. Rubber lining must be ground flush with pipe O.D. to a smooth finish for proper gasket seating. It continues to be Victaulic's recommendation that pipe be square cut. Beveled pipe may not be used. Gasket seat "A" is measured from the end of the rubber lining.

**Column 4** – Groove Width. Bottom of groove to be free of loose dirt, chips, rust and scale that may interfere with proper coupling assembly. Maximum permissible radius at bottom of groove is 0.025" (0,64 mm).

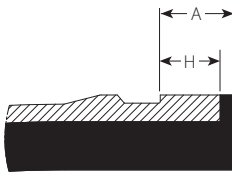
**Column 5** – Groove Diameter. The groove must be of uniform depth for the entire pipe circumference. Groove must be maintained within the "C" diameter tolerance listed.

**Column 6** – Lead edge of groove to end of pipe after machining to allow rubber lining.

**NOTE:** Where corrosion resistance is needed on rubber lined systems contact Victaulic for assistance.

**Dimensions:**

**XL fittings for rubber lined pipe**



Nominal Size inches mm	Pipe Outside Diameter inches mm		Fitting Outside Diameter inches mm	Dimensions – Inches/millimeters		
	Basic	Tolerance		Basic	Gasket Seat A	H
					Basic- Tol +0.031 (+0.79)	+0.031 (+0.79)
3 80	3.500 88.9	+0.035 +0.89	-0.031 -0.79	4.000 101.60	0.750 19.05	0.625 15.88
4 100	4.500 114.3	+0.045 +1.14	-0.031 -0.79	5.000 127.00	0.750 19.05	0.625 15.88
5 125	5.563 141.3	+0.056 +1.42	-0.031 -0.79	6.063 154.00	0.750 19.05	0.625 15.88
6 150	6.625 168.3	+0.063 +1.60	-0.031 -0.79	7.125 180.98	0.750 19.05	0.625 15.88
8 200	8.625 219.1	+0.063 +1.60	-0.031 -0.79	9.125 231.78	0.875 22.23	0.750 19.05
10 250	10.750 273.0	+0.063 +1.60	-0.031 -0.79	11.250 285.75	0.875 22.23	0.750 19.05
12 300	12.750 323.9	+0.063 +1.60	-0.031 -0.79	13.250 336.55	0.875 22.23	0.750 19.05

# Tolerances shown are for fitting-to-fitting connections. For pipe-to-fitting connections use ½ the published values.

**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](http://www.victaulic.com).

**Warranty**

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

**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.

**Trademarks**

Victaulic and Zero-Flex are registered trademarks of Victaulic Company.