

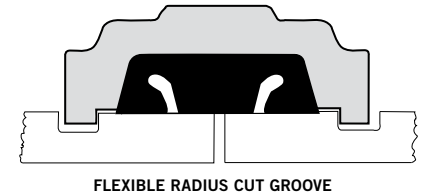
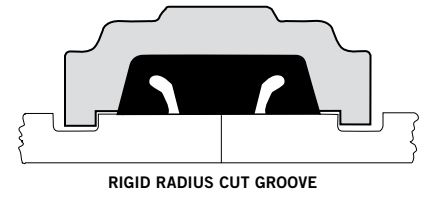
# Radius Cut Groove Specifications

Victaulic groove specifications for cast pipe (gray and ductile) conform to requirements of ANSI/AWWA standard C-606.

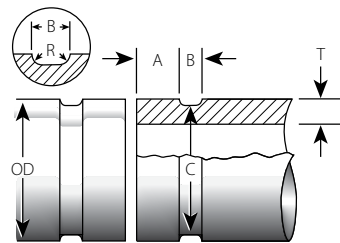
For cast pipe, the groove is cut with a radius ("R" dimension) at the corners of the groove base to reduce stress concentration. Grooving dimensions are the same for any one pipe O.D. regardless of pipe class and pressure.

Standard preparation is with a rigid radius groove. Flexible radius groove dimensions may be used to provide expansion/contraction or angular movement allowance at the joint.

The outside surface of the pipe between the groove and the pipe end must be free and smooth and free from deep pits or swells to provide a leak-tight seat for the Victaulic gasket. All rust, loose scale, oil, grease and dirt shall be removed. Peened surfaces may require corrective action to provide leak-tight gasket seal (refer to ANSI/AWWA C-606).



## RIGID RADIUS CUT GROOVE SPECIFICATIONS – DUCTILE IRON PIPE



COLUMN 1: Nominal AWWA Pipe Size.

COLUMN 2 †: **AWWA outside diameter.** The outside diameter shall not vary more than the tolerance listed. The maximum allowable tolerance from square cut ends is 0.030"/0.8mm for 3"/80mm; 0.045"/1.1mm for 4 – 6"/100 – 150mm and 0.060"/1.524mm for sizes 8" O.D. and above measured from 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.

COLUMN 4: **Groove width.**

COLUMN 5 ‡: **Groove outside diameter.** The groove must be uniform depth for the entire circumference. Groove must be maintained within the "C" diameter tolerance listed.

COLUMN 6: **Groove depth.** For reference only. Groove must conform to the groove diameter "C" listed.

COLUMN 7: **Minimum allowable wall thickness.** This is the minimum wall thickness which may be cut grooved.

† Coatings applied to the interior surfaces, including bolt pad mating surfaces, of our bolted grooved and bolted plain end couplings should not exceed 0.010"/0.25mm. Also, the coating thickness applied to the gasket seating surface and within the groove on the pipe exterior should not exceed 0.010"/0.25mm.

1 Nominal Size Inches mm	2 Pipe Outside Dia. O.D. Inches/mm			3 Gasket Seat A+ +0.000 -0.020	4 Groove Width B +0.031 -0.016	5 Dimensions – Inches/mm			7 Min. Allow. Wall Thick. T#	
						Tolerance*		Groove Dia. C **		Radius R
	Basic	+	-			Basic	Tol. +0.000			
3 80	3.96 100.6	+0.045 +1.14	-0.045 -1.14	0.840 21.34	0.375 9.53	3.723 94.56	-0.020 -0.51	0.120 3.05	0.32 8.1	0.31 7.9
4 100	4.80 121.9	+0.045 +1.14	-0.045 -1.14	0.840 21.34	0.375 9.53	4.563 115.90	-0.020 -0.51	0.120 3.05	0.35 8.9	0.32 8.1
6 150	6.90 175.3	+0.060 +1.52	-0.060 -1.52	0.840 21.34	0.375 9.53	6.656 169.06	-0.020 -0.51	0.120 3.05	0.38 9.7	0.34 8.6
8 200	9.05 229.9	+0.060 +1.52	-0.060 -1.52	0.950 24.13	0.500 12.70	8.781 223.04	-0.025 -0.64	0.145 3.68	0.41 10.4	0.36 9.1
10 250	11.10 281.9	+0.060 +1.52	-0.060 -1.52	1.015 25.78	0.500 12.70	10.813 274.65	-0.025 -0.64	0.145 3.68	0.44 11.2	0.38 9.7
12 300	13.20 335.3	+0.060 +1.52	-0.060 -1.52	1.015 25.78	0.500 12.70	12.906 327.81	-0.030 -0.76	0.145 3.68	0.48 12.2	0.40 10.2
14 350	15.30 388.6	+0.050 +1.27	-0.080 -2.03	1.015 25.78	0.625 15.88	14.969 380.21	-0.030 -0.76	0.165 4.19	0.55 14.0	0.42 10.7
16 400	17.40 442.0	+0.050 +1.27	-0.080 -2.03	1.340 34.04	0.625 15.88	17.063 433.40	-0.030 -0.76	0.165 4.19	0.58 14.7	0.43 10.9
18 450	19.50 495.3	+0.050 +1.27	-0.080 -2.03	1.340 34.04	0.625 15.88	19.125 485.78	-0.030 -0.76	0.185 4.70	0.63 16.0	0.44 11.2
20 500	21.60 548.6	+0.050 +1.27	-0.080 -2.03	1.340 34.04	0.625 15.88	21.219 538.96	-0.030 -0.76	0.185 4.70	0.67 17.0	0.45 11.4
24 600	25.80 655.3	+0.050 +1.27	-0.080 -2.03	1.340 34.04	0.625 15.88	25.406 645.31	-0.030 -0.76	0.185 4.70	0.73 18.5	0.47 11.9
30 750	32.00 812.8	+0.080 +2.03	-0.060 -1.52	1.625 41.28	0.750 19.05	31.550 801.37	-0.035 -0.89	0.215 5.46	0.92 23.4	0.51 13.0
36 900	38.30 972.8	+0.080 +2.03	-0.060 -1.52	1.625 41.28	0.750 19.05	37.850 961.39	-0.035 -0.89	0.215 5.46	1.02 25.9	0.58 14.7

+ Must be smooth and free of deep pits or swells.

\*\* Groove must be of uniform depth for entire pipe circumference. Groove must conform to "C" diameter shown.

\* Ovality, or out-of-roundness, must lie within specified tolerances.

# Min. standard wall thickness that should be grooved. Tolerances are to conform to Class 53 ANSI/AWWA C151/A21.51.

For 18 – 36"/450 – 950mm ductile iron Class 53 pipe may be used. Contact Victaulic for details.

**JOB/OWNER**

System No. \_\_\_\_\_  
Location \_\_\_\_\_

**CONTRACTOR**

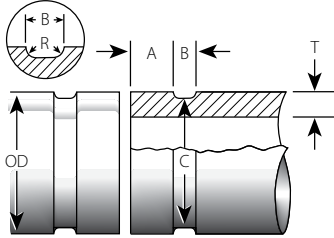
Submitted By \_\_\_\_\_  
Date \_\_\_\_\_

**ENGINEER**

Spec Sect \_\_\_\_\_ Para \_\_\_\_\_  
Approved \_\_\_\_\_  
Date \_\_\_\_\_

# Radius Cut Groove Specifications

## FLEXIBLE RADIUS CUT GROOVE SPECIFICATIONS – DUCTILE IRON PIPE



**COLUMN 1: Nominal AWWA Pipe Size.**

**COLUMN 2: AWWA outside diameter.** The outside diameter shall not vary more than the tolerance listed. The maximum allowable tolerance from square cut ends is 0.030"/0.8 mm for 3"/80 mm; 0.045"/1.1 mm for 4 – 6"/100 – 150 mm and 0.060"/1.524 mm for sizes 8" O.D. and above measured from 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.

**COLUMN 4: Groove width.**

**COLUMN 5: Groove outside diameter.** The groove must be uniform depth for the entire circumference. Groove must be maintained within the "C" diameter tolerance listed.

**COLUMN 6: Groove depth.** For reference only. Groove must conform to the groove diameter "C" listed.

**COLUMN 7: Minimum allowable wall thickness.** This is the minimum wall thickness which may be cut grooved.

1 Nominal Size Inches mm	2 Pipe Outside Dia. O.D. Inches/mm			3 Gasket Seat A+ +0.000 -0.020	4 Groove Width B +0.031 -0.016	5 Groove Dia. C **		6 Radius R	7 Min. Allow. Wall Thick. T#	
	Basic	Tolerance*				Basic	ToI. +0.000		Cast Iron	Ductile Iron
		+	-							
3 80	3.96 100.6	+0.045 +1.14	-0.045 -1.14	0.750 19.05	0.375 9.53	3.723 94.56	-0.020 -0.51	0.120 3.05	0.32 8.1	0.31 7.9
4 100	4.80 121.9	+0.045 +1.14	-0.045 -1.14	0.750 19.05	0.375 9.53	4.563 115.90	-0.020 -0.51	0.120 3.05	0.35 8.9	0.32 8.1
6 150	6.90 175.3	+0.060 +1.52	-0.060 -1.52	0.750 19.05	0.375 9.53	6.656 169.06	-0.020 -0.51	0.120 3.05	0.38 9.7	0.34 8.6
8 200	9.05 229.9	+0.060 +1.52	-0.060 -1.52	0.875 22.23	0.500 12.70	8.781 223.04	-0.025 -0.64	0.145 3.68	0.41 10.4	0.36 9.1
10 250	11.10 281.9	+0.060 +1.52	-0.060 -1.52	0.938 23.83	0.500 12.70	10.813 274.65	-0.025 -0.64	0.145 3.68	0.44 11.2	0.38 9.7
12 300	13.20 335.3	+0.060 +1.52	-0.060 -1.52	0.938 23.83	0.500 12.70	12.906 327.81	-0.030 -0.76	0.145 3.68	0.48 12.2	0.40 10.2
14 350	15.30 388.6	+0.050 +1.27	-0.080 -2.03	0.938 23.83	0.625 15.88	14.969 380.21	-0.030 -0.76	0.165 4.19	0.55 14.0	0.42 10.7
16 400	17.40 442.0	+0.050 +1.27	-0.080 -2.03	1.188 30.18	0.625 15.88	17.063 433.40	-0.030 -0.76	0.165 4.19	0.58 14.7	0.43 10.9
18 450	19.50 495.3	+0.050 +1.27	-0.080 -2.03	1.188 30.18	0.625 15.88	19.125 485.78	-0.030 -0.76	0.185 4.70	0.63 16.0	0.44 11.2
20 500	21.60 548.6	+0.050 +1.27	-0.080 -2.03	1.188 30.18	0.625 15.88	21.219 538.96	-0.030 -0.76	0.185 4.70	0.67 17.0	0.45 11.4
24 600	25.80 655.3	+0.050 +1.27	-0.080 -2.03	1.188 30.18	0.625 15.88	25.406 645.31	-0.030 -0.76	0.185 4.70	0.73 18.5	0.47 11.9
30 750	32.00 812.8	+0.080 +2.03	-0.060 -1.52	1.375 34.93	0.750 19.05	31.550 801.37	-0.035 -0.89	0.215 5.46	0.92 23.4	0.51 13.0
36 900	38.30 972.8	+0.080 +2.03	-0.060 -1.52	1.375 34.93	0.750 19.05	37.850 961.39	-0.035 -0.89	0.215 5.46	1.02 25.9	0.58 14.7

+ Must be smooth and free of deep pits or swells.

\*\* Groove must be of uniform depth for entire pipe circumference. Groove must conform to "C" diameter shown.

\* Ovality, or out-of-roundness, must lie within specified tolerances.

# Min. standard wall thickness that should be grooved. Tolerances are to conform to Class 53 ANSI/AWWA C151/A21.51.

For 18 – 36"/450 – 950 mm ductile iron Class 53 pipe may be used. Contact Victaulic for details.

### 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.

For complete contact information, visit [www.victaulic.com](http://www.victaulic.com)

25.05 1965 REV B UPDATED 8/2009

VICTAULIC IS A REGISTERED TRADEMARK OF VICTAULIC COMPANY. © 2009 VICTAULIC COMPANY. ALL RIGHTS RESERVED.

25.05

