



IRON STRONG

McWaneDuctile.com

**GROOVED  
DUCTILE  
IRON PIPE**

**3"-36"**



McWane Ductile is a division of McWane, LLC

For Generations

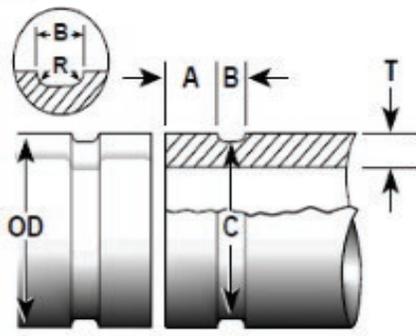
# GROOVED IRON PIPE FROM MCWANE DUCTILE

Grooved Ductile iron pipe (DI pipe) is manufactured in accordance with AWWA/ANSI C606. Grooved DI piping is utilized for air, water, sewage, oil and other situations where owners and specifiers prefer a grooved piping system in place of a flanged piping system.

The grooved Ductile iron pipe meets the standards of AWWA/ANSI C151/A21.51. The minimum, Class 53 DI pipe, is used subject to the manufacturing tolerances and additional wall thickness for larger diameters may be required.

There are two different types of grooves that can be fabricated: rigid and flexible. Unless otherwise specified, Grooved pipe will be fabricated to rigid groove specifications.

## THE VICTAULIC SPECIFICATIONS FOR A GROOVED DUCTILE IRON PIPING SYSTEM



**“A” Dimension** - The “A” dimension, or the distance from the pipe end to the groove, identifies the gasket seating area. This area must be free from indentations, projections, deep pits and swells from the pipe end to the groove to provide a leak-tight seal for the gasket.

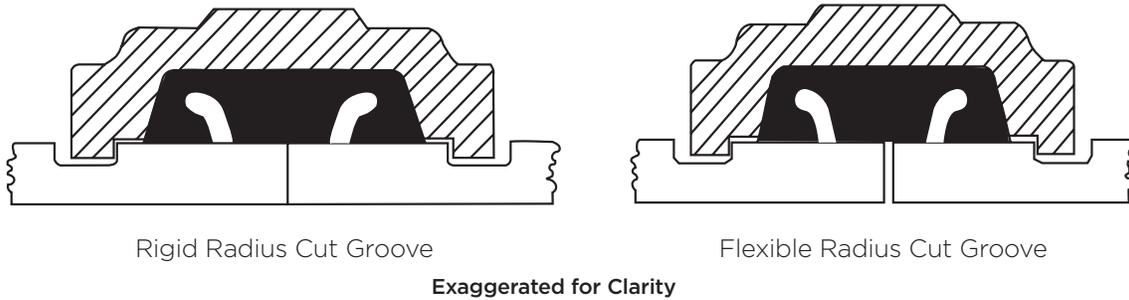
**“B” Dimension** - The “B” dimension, or groove width, controls expansion and angular deflection by the distance it is located from the pipe and its width in relation to the housings’ key width.

**“C” Dimension** - The “C” dimension is the proper diameter at the base of the groove. This dimension must be within the diameter’s tolerance and concentric with the OD for proper coupling fit. The groove must be of uniform depth for the entire pipe circumference.

**“R” Dimension** - The “R” dimension is the radius necessary at the bottom of the groove to eliminate a point of stress concentration.

**“T” Dimension** - The “T” dimension is the minimum wall thickness that can be cut grooved.

## EXPLANATION OF CRITICAL RADIUS CUT GROOVE DIMENSIONS



Victaulic groove specifications for Ductile iron pipe conform to the requirements of ANSI/AWWA Standard C-606.

For DI pipe, the groove is cut with the radius (“R” dimension) at the corners of the groove base to reduce stress concentration. Grooving dimensions are the same for any pipe Outside Diameter (OD), 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.

## RIGID RADIUS-CUT SPECIFICATION FOR DUCTILE IRON PIPE

SIZE	PIPE OUTSIDE DIAMETER (O.D.)			GASKET SEAT WIDTH "A"	GROOVE WIDTH "B"	GROOVE DIAMETER "C"	GROOVE TOLERANCE	RADIUS "R"	MIN. ALLOW WALL THICKNESS "T"
	STANDARD O.D. (IN)	TOLERANCE +	TOLERANCE -						
3"	3.96	0.045	-0.045	0.840	0.375	3.723	-0.020	0.120	0.31
4"	4.80	0.045	-0.045	0.840	0.375	4.563	-0.020	0.120	0.32
6"	6.90	0.060	-0.060	0.840	0.375	6.656	-0.020	0.120	0.34
8"	9.05	0.060	-0.060	0.950	0.500	8.781	-0.025	0.145	0.36
10"	11.10	0.060	-0.060	1.015	0.500	10.813	-0.025	0.145	0.38
12"	13.20	0.060	-0.060	1.015	0.500	12.906	-0.030	0.145	0.40
14"	15.30	0.050	-0.080	1.015	0.625	14.969	-0.030	0.165	0.42
16"	17.40	0.050	-0.080	1.340	0.625	17.063	-0.030	0.165	0.43
18"	19.50	0.050	-0.080	1.340	0.625	19.125	-0.030	0.185	0.44
20"	21.60	0.050	-0.080	1.340	0.625	21.219	-0.030	0.185	0.45
24"	25.80	0.050	-0.080	1.340	0.625	25.406	-0.030	0.185	0.47
30"	32.00	0.080	-0.060	1.625	0.750	31.550	-0.035	0.215	0.51
36"	38.30	0.080	-0.060	1.625	0.750	37.850	-0.035	0.215	0.58

Additional configurations for joint connections are available. Contact a McWane Ductile Sales Representative for details.

## FLEXIBLE RADIUS-CUT SPECIFICATION FOR DUCTILE IRON PIPE

SIZE	PIPE OUTSIDE DIAMETER (O.D.)			GASKET SEAT WIDTH "A"	GROOVE WIDTH "B"	GROOVE DIAMETER "C"	GROOVE TOLERANCE	RADIUS "R"	MIN. ALLOW WALL THICKNESS "T"
	STANDARD O.D. (IN)	TOLERANCE +	TOLERANCE -						
3"	3.96	0.045	-0.045	0.750	0.375	3.723	-0.020	0.120	0.31
4"	4.80	0.045	-0.045	0.750	0.375	4.563	-0.020	0.120	0.32
6"	6.90	0.060	-0.060	0.750	0.375	6.656	-0.020	0.120	0.34
8"	9.05	0.060	-0.060	0.875	0.500	8.781	-0.025	0.145	0.36
10"	11.10	0.060	-0.060	0.938	0.500	10.813	-0.025	0.145	0.38
12"	13.20	0.060	-0.060	0.938	0.500	12.906	-0.030	0.145	0.40
14"	15.30	0.050	-0.080	0.938	0.625	14.969	-0.030	0.165	0.42
16"	17.40	0.050	-0.080	1.188	0.625	17.063	-0.030	0.165	0.43
18"	19.50	0.050	-0.080	1.188	0.625	19.125	-0.030	0.185	0.44
20"	21.60	0.050	-0.080	1.188	0.625	21.219	-0.030	0.185	0.45
24"	25.80	0.050	-0.080	1.188	0.625	25.406	-0.030	0.185	0.47
30"	32.00	0.080	-0.060	1.375	0.750	31.550	-0.035	0.215	0.51
36"	38.30	0.080	-0.060	1.375	0.750	37.850	-0.035	0.215	0.58

Additional configurations for joint connections are available. Contact a McWane Ductile Sales Representative for details.

### WARNING

AWWA pipe dimensions and groove dimensions must be within the tolerances specified in the charts on the preceding pages to ensure proper joint performance.

Failure to follow these specifications could result in serious personal injury, property damage, joint leakage, and /or joint failure.

### NOTICE

Coatings that are applied to the interior surfaces of Victaulic grooved and plain-end pipe couplings must not exceed 0.010 inch (0.25mm). This includes the bold pad mating surfaces.

In addition, the coating thickness applied to the gasket-sealing surface and within the groove on the pipe exterior must not exceed 0.010 inch (0.25mm).



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