

Thickness Design of Ductile Iron Pipe

Nominal Thicknesses for Standard “Pressure Classes” of Ductile Iron Pipe

NOMINAL PIPE SIZE (INCHES)	OUTSIDE DIAMETER (INCHES)	PRESSURE CLASS				
		150	200	250	300	350
		NOMINAL THICKNESS (INCHES)				
3"	3.96	—	—	—	—	0.25*
4"	4.80	—	—	—	—	0.25*
6"	6.90	—	—	—	—	0.25*
8"	9.05	—	—	—	—	0.25*
10"	11.10	—	—	—	—	0.26
12"	13.20	—	—	—	—	0.28
14"	15.30	—	—	0.28	0.30	0.31
16"	17.40	—	—	0.30	0.32	0.34
18"	19.50	—	—	0.31	0.34	0.36
20"	21.60	—	—	0.33	0.36	0.38
24"	25.80	—	0.33	0.37	0.40	0.43
30"	32.00	0.34	0.38	0.42	0.45	0.49
36"	38.30	0.38	0.42	0.47	0.51	0.56
42"	44.50	0.41	0.47	0.52	0.57	0.63
48"	50.80	0.46	0.52	0.58	0.64	0.70
54"	57.56	0.51	0.58	0.65	0.72	0.79
60"	61.61	0.54	0.61	0.68	0.76	0.83
64"	65.67	0.56	0.64	0.72	0.80	0.87

* Calculated thicknesses for these sizes and pressure ratings are less than those shown above. Presently these are the lowest nominal thicknesses available in these sizes.

- “Pressure Classes” are defined as the rated water working pressure of the pipe in pounds per square inch (psi). The thicknesses shown are adequate for the rated water working pressure plus a surge allowance of 100 psi.
- Ductile Iron Pipe is available for water working pressures greater than 350 psi.
- Ductile Iron Pipe is also available with thicknesses greater than Pressure Class 350; see table below. †
- All information is from AWWA/ANSI C150/A21.50-91 Standards, tables 50.5 and 50.15.

Special “Thickness Classes” of Ductile Iron Pipe †

NOMINAL PIPE SIZE (INCHES)	OUTSIDE DIAMETER (INCHES)	THICKNESS CLASS						
		50	51	52	53	54	55	56
		NOMINAL THICKNESS (INCHES)						
3"	3.96	—	0.25	0.28	0.31	0.34	0.37	0.40
4"	4.80	—	0.26	0.29	0.32	0.35	0.38	0.41
6"	6.90	0.25	0.28	0.31	0.34	0.37	0.40	0.43
8"	9.05	0.27	0.30	0.33	0.36	0.39	0.42	0.45
10"	11.10	0.29	0.32	0.35	0.38	0.41	0.44	0.47
12"	13.20	0.31	0.34	0.37	0.40	0.43	0.46	0.49
14"	15.30	0.33	0.36	0.39	0.42	0.45	0.48	0.51
16"	17.40	0.34	0.37	0.40	0.43	0.46	0.49	0.52
18"	19.50	0.35	0.38	0.41	0.44	0.47	0.50	0.53
20"	21.60	0.36	0.39	0.42	0.45	0.48	.051	0.54
24"	25.80	0.38	0.41	0.44	0.47	0.50	0.53	0.56
30"	32.00	0.39	0.43	0.48	0.51	0.55	0.59	0.63
36"	38.30	0.43	0.47	0.53	0.58	0.63	0.68	0.73
42"	44.50	0.47	0.53	0.59	0.65	0.71	0.77	0.83
48"	50.80	0.51	0.58	0.65	0.72	0.79	0.86	0.93
54"	57.56	0.57	0.65	0.73	0.81	0.89	0.97	1.05

† These special thickness classes are designated standard thickness classes by AWWA/ANSI Standard C150/A21.50-81.