

# Virtual Monopoly

How does Ohio's incumbent water pipe material maintain control of supply in certain markets?

All underground straight lengths of pipe larger than 2 inches shall be Class 53 cement lined ductile iron with push-on joints including two brass wedges per joint. Pipe shall be installed with 4 feet 6 inches of cover. See detailed specifications for approved pipe, fittings, bolts, etc., for water line installation (Acc. #14908).

Maintain a 10 foot horizontal clearance from edge of water line to edge of sanitary and storm sewer pipes.

Revised 7/13

Akron, OH

If the in above installed approve

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- A. No broken, cracked, deformed, misshaped, imperfectly coated, or otherwise damaged or defective pipe or fittings shall be used. All such material shall be removed from the site of the work.
- B. Unless otherwise shown on the Drawings or directed by the Engineer, the minimum pipe wall thickness and thickness class of pipe shall be as follows:

Pipe Size	Pressure Class	Metal Wall Thickness in Inches
3-Inch Ductile Iron		
4-Inch Ductile Iron	350	
6-Inch Ductile Iron	350	0.25
8-Inch Ductile Iron	350	0.25
10-Inch Ductile Iron	350	0.25
12-Inch Ductile Iron	350	0.25
14-Inch Ductile Iron	350	0.26
16-Inch Ductile Iron	250	0.28
18-Inch Ductile Iron	250	0.30
20-Inch Ductile Iron	250	0.31
24-Inch Ductile Iron	250	0.33
30-Inch Ductile Iron	250	0.37
36-Inch Ductile Iron	252	0.42
42-Inch Ductile Iron		
48-Inch Ductile Iron		

Cleveland, OH

**802.03 Ductile Iron Pipe.** Pipe shall be manufactured in accordance with AWWA C151 except as herein modified:

Wall Thickness and Class as follows:

Lancaster, OH

All water pipe 4-inch or larger shall be Ductile Iron Special Thickness Class 52 manufactured in accordance with AWWA C151. All Ductile Iron pipe shall be push-on joint pipe internally lined with cement-mortar lining in accordance with AWWA C104.

All ductile iron water pipe shall be installed at each slip seal bell joint for continuity to allow for expansion and contraction. The pipe shall be divided by 2. (For example, a 24 inch pipe shall be 12 inches per bell joint).

## UTILITY FIELD SERVICES GENERAL SPECIFICATIONS

The following specifications are for areas served by the City of Lima, including the Fort Shawnee Service Area. Construction within the Allen Water District shall comply with the District's specifications which also require approval by the City of Lima.

### WATERLINE MATERIAL

NOTE: All American National Standard Institute (ANSI) or American Water Works Association (AWWA), specifications shall be the latest revisions. All materials shall be of American manufacture.

#### Materials:

#### Ductile Iron Pipe:

Lima, OH

All pipe used shall be manufactured of ductile iron in conformance with ANSI A21.51 (AWWA C151) Ductile Iron Pipe, centrifugally cast in metal molds or sand lined molds, for water or other liquids and ANSI A21.50 (AWWA C150) thickness design of iron pipe. The pipe shall be lined with a cement mortar in accordance with ANSI A21.4 (AWWA C104) "Cement-Mortar Lining For Cast Iron And Ductile Iron Pipe And Fittings For Water." Ductile iron pipe shall be with "push-on" rubber gasket joints in accordance with specifications meeting ANSI A21.11 (AWWA C111) and ANSI A21.51 (AWWA C151).

#### APPLICABLE STANDARDS

Standard Designation  
ANSI / AWWA C150/A21.50  
ANSI / AWWA C115/A21.51  
ANSI / AWWA C111/A21.11  
ANSI / AWWA C115/A21.15  
ANSI / AWWA C104/A21.4  
ANSI / AWWA C105/A21.5

Subject Covered  
Design of Ductile Iron Pipe  
Manufacturing of Ductile Iron Pipe  
Rubber Gasket Joints  
Flanged Pipe  
Cement Mortar Lining  
Ductile Iron Pipe Encasement for Installation  
Gravity Sewers  
Grooved & Shouldered Joints

#### SHORT FORM SPECIFICATIONS

Pipe shall be Ductile Iron Pipe as designed by ANSI/AWWA C150/A21.50 and manufactured to ANSI/AWWA C115/A21.51 supplied with rubber gasket push-on joints in accordance with ANSI/AWWA C111/A21.11. Pipe shall be supplied in minimum Pressure Class 250 for 4" through 12" (100 mm through 300 mm), Pressure Class 250 for 14" through 20" (350 mm through 500 mm), Pressure Class 200 for 24" (600 mm), and Pressure Class 150 for 30" (750 mm) and larger, or to the Pressure Class shown on the drawings. All pipe shall be cement-mortar lined in accordance with ANSI/AWWA C104/A21.4 Standard.

#### APPROVALS AND LISTINGS

Pipe  
Underwriters Laboratories  
National Fire Protection Association  
National Sanitation Foundation  
Factory Mutual - PSCIPCO  
ISO 9002  
BNO 3623-085 - Atlantic States

#### MANUFACTURING FACILITIES

Atlantic States Cast Iron Pipe, Phillipsburg, New Jersey  
Clow Water Systems, Coshocton, Ohio  
McWane Cast Iron Pipe, Birmingham, Alabama  
Pacific States Cast Iron Pipe, Provo, Utah

DIPRA, Nat'l Pub

## MATERIAL SPECIFICATIONS

- A. WATER MAIN SHALL BE AWWA C-151 DUCTILE IRON PIPE CLASS 52 FOR 4 INCH TO 16 INCH AND CLASS 54 FOR 20 INCH AND GREATER, WITH SLIP-ON JOINTS AND RUBBER GASKETS.

Piqua, OH