

BUILDING SERVICES PIPING TESTING REQUIREMENTS (Nov 2011)

This summary was created by the Ohio Board of Building Standards (BBS) staff as a reference tool for code users. The content of this document is not adopted material and, therefore, is not enforceable.

List of abbreviations used in this table:

- IFGC-International Fuel Gas Code
- NFPA-National Fire Protection Association
- OBC-Ohio Building Code
- OMC-Ohio Mechanical Code
- OPC-Ohio Plumbing Code

TYPE OF PIPING SYSTEM	TEST or PROCEDURE REQUIRED	TEST PRESSURE or METHOD	TEST DURATION	LEAKAGE PERMITTED or RESULT	CODE SECTION REFERENCE	
Drainage and Vent	Water pressure test	10-foot head of water	15 minutes	None	OPC 312.2	
	or	Air pressure test (not for plastic pipe)	5 psi or sufficient to balance a 10-inch column of mercury	15 minutes	None	OPC 312.3
	Final air test (after fixtures are connected) maybe with smoke or peppermint	1 inch water column	15 minutes prior to inspection	None	OPC 312.4	
	Shower Liner	Plug shower drain. Fill floor/receptor to 2 inch depth	15 minutes	None	OPC 312.9	
Plumbing Fixture Water Supply	Water pressure test	10% > working pressure	15 minutes	None	OPC 312.5	
	or	Air pressure test (not for plastic pipe)	50 psi	15 minutes	None	OPC 312.5
	Disinfection	Flush with potable water until clear, fill with water/chlorine solution, stand for designated time, flush with potable water	Standing time is 3 hours or 24 hours (depending upon water/chlorine solution concentration)	N/A	OPC 610.1	
Storm Drainage	Water pressure test	10-foot head of water	15 minutes	None	OPC 312.2	
	or	Air pressure test (not for plastic pipe)	5 psi	15 minutes	None	OPC 312.3
Underground Fire Protection Water Supply	Water flow tests	Record static pressure on hydrant A, then open hydrant B and use pitot tube to measure flow pressure from hydrant B, measure residual pressure at hydrant A while flowing hydrant B	Until pressure stabilizes	Record residual pressure	OBC 901.5, 2010 NFPA 13: A.23.2.1	
	Flushing	Flow need to achieve 10 ft/sec	Until clear	N/A	OBC 901.5, 2010 NFPA 13:10.10.2.1	
	Hydrostatic test (water)	200 psi or 50 psi above working pressure (whichever is larger)	2 hours (+ or - 5 psi)	See NFPA 13 Table 10.10.2.2.6	OBC 901.5, 2010 NFPA 13:10.10.2.2.1 & 2010 NFPA 13:10.10.2.2.6	

All Aboveground Fire Protection Water Supply (including dry pipe systems)	Hydrostatic test (water)	200 psi or 50 psi above working pressure in excess of 150 psi (whichever is larger)	2 hours	None	OBC 901.5, 2010 NFPA 13: 24.2.1
	Operating test (wet pipe systems only)	Open inspector's test connection	5 minutes	Alarm received	OBC 901.5, 2010 NFPA 13:24.2.3.1
	Main drain test	Record static pressure, then open main drain valve	Until pressure stabilizes	Record residual pressures	OBC 901.5, 2010 NFPA 13:24.2.3.4.1
Dry Pipe Fire Protection Water Supply	Pneumatic (air) test	40 psi	24 hours	1.5 psi	OBC 901.5, 2010 NFPA 13: 24.2.2.1
	Operating test	Open inspector's test connection	TBD	Record elapsed time & pressure for the valve to trip and time for water to reach test outlet; ensure alarm received	OBC 901.5, 2010 NFPA 13: 24.2.3.2.2 & 7.2.3.1
Field constructed Refrigerant piping	Field test of high-pressure and low-pressure sides using an inert test gas such as nitrogen or carbon dioxide (air is permitted only for R-717 ammonia ...never use oxygen	Not less than the lower of the design pressures on the compressor/condensing unit or the setting of the relief device(s)	N/A	None	OMC 1108.1
Hydronic piping (hot water heating, chilled water cooling, dual temperature water, condenser and cooling tower water, steam and steam condensate, and solar heating)	Hydrostatic test (water)	1.5 times the maximum system design pressure but not less than 100 psi	15 minutes	None	OMC 1208.1
Ground source heat pump loops	Hydrostatic test (water)	100 psi	30 minutes	None	OMC 1208.1.1
Fuel oil	Hydrostatic test (water)	150 percent the max pressure, not less than 5 psi. Not to impose a pressure >5 psi on a connected tank	30 minutes	None	OMC 1308, 2006 NFPA 31: 8.9
	or Pneumatic test (air)	110 percent the max pressure, not less than 5 psi. Not to impose a pressure >5 psi on a connected tank	30 minutes	None	OMC 1308, 2006 NFPA 31: 8.9
	or Vacuum test for suction lines	20 inches of mercury	30 minutes	None	OMC 1308, 2006 NFPA 31: 8.9.1.6
Fuel gas	Pressure test using air, nitrogen, carbon dioxide or an inert test gas ...never oxygen	1.5 times the maximum working pressure but not less than 3 psig. (Where the test pressure >125 psig, the test pressure shall not exceed a value that produces a hoop stress in the piping >50% of the min. yield strength of the pipe)	30 minutes for each 500 cubic feet of pipe or fraction thereof, but not more than 24 hours. If system has a volume <10 cubic feet or a single family dwelling, 10 minutes.	None	OMC 301.3, 2009 IFGC 406.4
	Leakage test with fuel gas in piping	Design pressure	N/A	None	OMC 301.3, 2009 IFGC 406.6