

ISU STANDARD PIPE SCHEDULE

Inside Building

	Service		Material
1.	Sanitary and vent, underground		Cast iron soil pipe. SPEC. NO. 7
2.	Sanitary and vent, above ground		1 1/2" and under: Galvanized steel pipe. SPEC. NO. 5 or Copper tube, type L SPEC. NO. 12 2" and over: Cast iron soil pipe. SPEC. NO. 7 or Cast iron soil pipe. SPEC. NO. 17
3.	Storm underground		Cast iron soil pipe. SPEC. NO. 7
4.	Storm above ground		Cast iron soil pipe. SPEC. NO. 7 or Galvanized steel pipe. SPEC. NO. 5 or Galvanized steel pipe. SPEC. NO. 6 or Cast iron soil pipe. SPEC. NO. 17
5.	Potable hot and cold water		2 1/2" and under: Copper tube, type L SPEC. NO. 1 or Copper tube, type L, grooved SPEC. NO. 25
6.	Potable hot and cold water underground		Copper tube, type K SPEC. NO. 2
7.	Heating hot water		Branches: Copper tube, type L. SPEC. NO. 1 Mains: Black steel pipe, schedule 40. SPEC. NO. 3
8.	Chilled water branches:		Copper tube, type L. SPEC. NO. 1 Mains: Black steel pipe, schedule 40. SPEC. NO. 3 or Black steel pipe, schedule 40. SPEC. NO. 18
9.	Condensate drain		Copper tube, type L. SPEC. NO. 9

10.	Steam low pressure 5 PSIG		ASTM A53 or A106 Grade B Black steel pipe, schedule 40 SPEC. NO. 3
11.	Steam high pressure 90 PSIG		Black steel pipe, schedule 40. SPEC. NO. 3
12.	Steam condensate return		Black steel pipe, schedule 80. SPEC. NO. 4
13.	Pure water		Verify material required for each project.
14.	Natural gas		Exposed: Black steel pipe, schedule 40. SPEC. NO. 3 Concealed: Black steel pipe, schedule 40. SPEC. NO. 16
15.	Acid waste and vent, including traps		Polypropylene. SPEC. NO. 10
16.	Compressed air		Copper tube, type L SPEC. NO 1
17.	Compressed air medical and lab		Copper tube, type L SPEC. NO. 1
18.	Vacuum		Copper tube, type L. SPEC. NO. 1.
19.	Sprinkler – Wet Pipe		Black steel pipe, schedule 40. SPEC. NO. 15
20.	Sprinkler – Dry Pipe		Galvanized steel pipe, schedule 40. SPEC. NO. 14

ISU STANDARD PIPE SPECIFICATIONS

Inside Building

SPEC. NO. 1		
Pipe:		Type L hard temper copper, ASTM B88.
Joints:		Solder type with 95-5 solder.
Fittings:		Wrought copper solder joint, ANSI B16.22.
SPEC. NO. 2		
Pipe:		Type K soft temper copper, ASTM B88.
Joints:		Solder type with "sil-fos", or flared type.
Fittings:		Wrought copper solder joint, ANSI B16.22, or brass flared fittings, ANSI B16.26.
SPEC. NO. 3		
Pipe:		Schedule 40 black steel, ASTM A106 Grade B
Joints:		2" and under: Screwed. 2 1/2" and over: Welded and flanged.
Fittings:		2" and under: Malleable iron screwed fittings, ANSI B16.3, 125 lb. (S) 175 lb. (WOG). 2 1/2" and over: Butt weld schedule 40 steel fittings, ANSI B16.9.
Unions:		2" and under: Malleable iron ground joint with brass seat, 250 lb. (S) 500 lb. (WOG).
Flanges:		2 1/2" and over: Forged steel welding neck or slipon, 150 PSIG, ANSI B16.5.
SPEC. NO. 4		
Pipe:		Schedule 80 black steel, ASTM A106 Grade B.
Joints:		2" and under: Screwed. 2 1/2" and over: Welded and flanged.
Fittings:		2" and under: Malleable iron screwed fittings, ANSI B16.3, 125 lb. (S) 175 lb. (WOG). 2 1/2" and over: Butt weld schedule 80 steel fittings, ANSI B16.9
Unions:		2" and under: Malleable iron ground joint with brass seat, 250 lb. (S) 500 lb. (WOG).
Flanges:		2 1/2" and over: Forged steel welding neck or slip-on, 150 PSIG, ANSI B16.5.
SPEC. NO. 5		
Pipe:		Schedule 40, galvanized steel, ASTM A53.
Joints:		Screwed.
Fittings:		Galvanized cast iron drainage type, ANSI B16.12.
SPEC. NO. 6		
Pipe:		Schedule 40, galvanized steel, ASTM A53.
Joints:		Bolted clamp type coupling with grooved end lock. Victaulic or equal.
Fittings:		Galvanized malleable iron, grooved ends, ASTM A47. Use drainage type for storm lines.
SPEC. NO. 7		
Pipe:		Cast iron soil pipe, service weight, coated inside and out, ASTM A74.
Joints:		Bell and spigot, lead and oakum caulked type, or molded elastomeric gasket type with push-on joints.
SPEC. NO. 8		NOT USED

SPEC. NO. 9		
Pipe:		Ductile iron pipe ANSI/AWWA - A21.51/C151 wall thickness class shall be selected per AWWA C600. Provided with exterior tar coating and cement lining per ANSI/AWWA - A21.4/C104. Joints shall be ANSI/AWWA - A21.11/C111 push on type.
Fittings:		Mechanical joint 250 psig gray cast iron per ANSI/AWWA - C110/A21.10. Provide with cement lining per ANSI/AWWA - A21.4/C104 and retaining glands for each fitting.
SPEC. NO. 10		
Pipe:		Polypropylene flame retardant pipe, schedule 40, Fuseal or equal.
Joints:		Electrical fusion type.
Fittings:		Socket type to match piping.
SPEC. NO. 11		NOT USED
SPEC. NO. 12		
Piping:		Type L hard temper copper, ASTM B88.
Joints:		Solder type with 95-5 solder.
Fittings:		Cast brass solder joint drainage type ANSI B16.23 or wrought copper solder joint drainage type, ANSI B16.29.
SPEC. NO. 13		NOT USED
SPEC. NO. 14		
Pipe:		Schedule 40 steel, galvanized, ASTM A53/A53M.
Joints:		1 1/2" and under: screwed. 2" and over: flanged, or cut grooved.
Fittings:		Screwed: cast iron, galvanized, 125 lb. class, ANSI B16.4 and ASTM A123/A123M.
Flanged:		Cast iron, galvanized, 125 lb. class, ANSI B16.1 and ASTM A123/A123M.
Grooved:		Ductile iron, galvanized, ASTM A133 and A536, UL listed and FM approved. Furnish couplings and fittings by same manufacturer.
Note:	1.	Plain end fittings and couplings are not approved.
	2.	No field welding per NFPA 13.
SPEC. NO. 15		
Pipe:		Schedule 40 black steel, ASTM A53/A53M.
Joints:		1 1/2" and under: screwed. 2" and over: flanged, or cut grooved.
Fittings:		Screwed: cast iron 125 lb. class, ANSI B16.4.
Flanged:		Cast iron 125 lb. class, ANSI B16.1
Grooved:		Ductile iron, ASTM A133 and A536, U.L. listed and FM approved. Furnish couplings and fittings by same manufacturer.
Note:	1.	Plain end fittings and couplings are not approved.
	2.	No field welding per NFPA 13.

SPEC. NO. 16		
Pipe:		Schedule 40 black steel, ASTM A120.
Joints:		2" and under: Welded 2 1/2" and over: Welded and flanged.
Fittings:		2" and under: Socket weld steel fittings, ANSI B16.11, 2000 lb. 2 1/2" and over: Butt weld schedule 40 steel, fittings, ANSIB16.9.
Unions:		2" and under: Malleable iron ground joint with brass seat, 50 lbs.(S) 500 lb. (WOG).
Flanges:		2 1/2" and over: Forged steel welding neck or slipon, 150 PSIG, ANSI B16.5.
SPEC. NO. 17		
Pipe:		Cast iron soil pipe, service weight, coated inside and out, "No Hub".
Joints:		Neoprene sealing sleeve with Type 301 stainless steel shield and screw type clamps.
SPEC. NO. 18		
Pipe:		Schedule 40, black steel, ASTM A120.
Joints:		Bolted clamp type coupling with grooved end lock. Victaulic or equal.
Fittings:		Black malleable iron, grooved ends, ASTM-A47.
SPEC. NO. 19		NOT USED
SPEC. NO. 20		NOT USED
SPEC. NO. 21		NOT USED
SPEC. NO. 22		NOT USED
SPEC. NO. 23		NOT USED
SPEC. NO. 24		NOT USED
SPEC. NO. 25		
Pipe:		Type L hard temper copper, ASTM B88.
Joints:		Bolted clamp type coupling with grooved end lock, ASTM A-536. Victaulic or equal.
Fittings:		Cast bronze, grooved ends, ASTM B-584-87, or wrought copper, grooved ends ASTM B-75. PIPE SCHEDULE AND SPECIFICATIONS NOTES

General Notes:

- A. This information is given as a general guide only. The Professional Consultant is responsible that piping, fittings, etc. are suitable for the service intended.
- B. All welding shall conform to workmanship, testing and general requirements of welding section ANSI B31.1 "Power Piping".