

UNIVERSITY OF NEW HAMPSHIRE
CONSTRUCTION AND RENOVATION STANDARDS

DIVISION 15 - MECHANICAL

SECTION 15400 - PLUMBING

PART 1 – GENERAL

1. Lavatory hot water supply and drainage piping including architectural millwork and/or other protective systems designed to protect against scalding by exposed piping shall provide knee and toe clearances to the first obstruction as provided for by applicable regulation except that knee clearances shall be increased to no less than 9”.

PART 2 - PRODUCTS

Underground Services to new construction or additions:

1. Water supply from the main
 - a. Pipe - ductile iron
 - b. Valves - non-rising stem gate valves, bronze trim, flanged connections, **OPEN LEFT**, 150 PSI with curb box.
2. Steam supply from the main
 - a.. Pipe - Schedule 80, Black Iron, welded joints.
 - b. Valves - Gate valve, flanged connections, 150 psi, **OPEN LEFT**.
 - c. Insulation - pre-insulated pipe or foam glass insulation with Pit Wrap II jacket.
 - d. Expansion joints - externally pressurized preferred with flanged connections, temp. 400 degrees F, 150 psi - Pathway Brand only, model "X-:Press".
3. Condensate return to main
 - a. Pipe - Schedule 80, Black Iron pipe, welded joints.
 - b. Valves - non-rising stem gate valves, bronze trim, flanged connections, **OPEN LEFT**, 150 psi.
 - c. Insulation - pre-insulated pipe or foam glass insulation with Pit Wrap II jacket.
 - d. Expansion joints - externally pressurized expansion joints preferred with flanged connections, temp. 200 degrees F, 150 psi - Pathway Brand only, model "X-Press".
 - e. Meter with flanged connections, temp. 200 degrees F.
4. Hot water supply for heating and return
 - a. Pipe - Schedule 80, Black Iron pipe, welded joints.
 - b. Valves - non-rising stem gate valves, bronze trim, flanged connection, **OPEN LEFT**, 150 psi.
 - c. Insulation - pre-insulated pipe or foam glass insulation with Pit Wrap II jacket.

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- d. Expansion Joints - externally pressurized expansion joints preferred, flanged connections, temp. 200 degrees F, 150 psi - Pathway Brand only, model "X-Press".
5. Gas supply (Propane)
- a. Pipe - Schedule 80, Black Iron pipe, plastic jacket, welded joints
 - b. Pipe fittings - malleable.
 - c. Valves - gas cock, 150 psi.
 - d. Cathodic protection to be installed as necessary
 - e. Polyethylene Pipe - Plexo Yellowpipe PE 2406 for Gas Distribution (ASTM D 2513)

Utility Services inside building:

1. Water supply
- a. Isolation valve at exterior wall, gate valve, bronze trim, flanged connections, **OPEN LEFT**, 150 psi.
 - b. Piping after the isolation valve shall - type "K" copper, **lead-free-solder**.
 - c. Meter - flanged connections, capability of connecting a remote reading unit, reads in gallons, sized to manufacturer's specs, provide a by-pass line around meter.
 - d. Back-flow preventers - one on down stream side of meter and on by-pass.
 - e. Valves - all other valves down stream of meter to be of the ball type, 125 psi at branches and fixtures.
 - f. Ground rods to be connected before valve and meter (upstream).
2. Steam supply
- a. Isolation valve at exterior wall, gate valve with flanged connections, **OPEN LEFT**, 150 PSI.
 - b. Piping - Schedule 80, Black Iron.
 - c. Insulation - fiberglass insulation with covering jacket, also pre-formed jacket pieces at elbows, tees, reducers, valves, etc.
 - d. Reducing valves - such as in dining halls, sized according to equipment specs, with threaded connections, insulation re-useable blanket.
3. Condensate return
- a. Isolation valve at exterior wall, gate valve, bronze trim. flanged connections, **OPEN LEFT**, 150 psi.
 - b. Piping after isolation valve Schedule 40, Black Iron.
 - c. Insulation - fiberglass insulation with covering jacket, also pre-formed jacket pieces and elbows, tees, reducers, valves, etc.
 - d. Duplex pumps on receiver with minimum of 60 psi output pressure.
4. Hot Water (Heating)
- a. }same as condensate return
 - b. }same as condensate return
 - c. }same as condensate return

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5. Gas (Propane)
 - a. Isolation valve - Gas cock 150 psi.
 - b. Meter - threaded connections, reads in cubic ft., remote reading unit capability..
 - c. Piping - threaded joints, Schedule 40, malleable fittings
 - d. Reducing valve - sized according to equipment specs

6. Domestic Hot Water Systems
 - a. Electric - copper lined tanks, 460 VAC immersion heaters
 - b. Exchanger - plate type
 - c. Steam converter
 - d. propane fired gas units - Lochnivar preferred
 - e. Piping - Type "L" copper, **lead free solder**
 - f. Mixing valves - bronze, flanged connections, maintain 130 system temperature.
 - g. Captive air shock absorbers on all lines with solenoid valves, hot or cold.

Building Fixtures and Hardware

1. Lavatories
 - a. Wall hung type
 - b. Ball valves on both hot and cold supplies
 - c. Hardware of the heavy duty, hard-use type
 - d. WATER SAVER FIXTURES

2. Toilets
 - a. Wall hung type
 - b. Tankless
 - c. WATER SAVER TYPE FLUSH VALVE
 - d. Tank type - WATER SAVER

3. Urinals
 - a. Wall hung type
 - b. 1" MINIMUM supply with ball valve
 - c. WATER SAVER TYPE FLUSH VALVE

4. Shower Hardware
 - a. Integral Stops
 - b. No scald
 - c. All metal construction, **NO PLASTIC**
 - d. Shower heads - WATER SAVER

5. Sill Cocks (Hose Bibb)
 - a. Built-in atmospheric vacuum breaker
 - b. Frost proof

6. Floor Drains

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- a. A minimum of one per toilet room
 - b. A minimum of one per shower room
7. Faucets
- a. One each hot and cold per toilet room
8. Specialties
- a. Unions required on all hard-piped specialties

PREFERRED BRANDS

- 1. DHW Systems
 - Propane fires gas units Lochnivar
- 2. Meters
 - Water Hersey w/remote readout
Badger w/remote readout
American (in cubic ft.)
 - Gas (Propane)
- 3. Valves
 - DHW Mixing Leonard, Type TM
Sarco Spirex
 - Ball Type Jamesbury
 - Gate Lunkenheimer
 - Globe Lunkenheimer
 - Gas Pr. Reducing Fisher
 - Flush Sloan, WATER SAVER
 - Shower Powers #410, no scald
Simmons, no scald
 - Water Service Clow, Model C-509 Resilient Seated Gate
Valve, **OPEN LEFT**
- 4. Back Flow Preventors Watts, Beeco
- 5. Fire Hydrants H.B. Smith #205, **OPEN LEFT**
- 6. Sill Cocks Zurn
- 7. Plumbing Kohler, American Standard, Crane
- 8. Showerheads Sloan, Simmons, Powers - WATER SAVER
without turn-off control
- 9. Floor Drains Josam, Zurn
- 10. Solder **LEAD FREE ONLY**
- 11. Shock Absorbers Josam
- 12. Heating Specialties Yarway, Bell & Gossett, Warren, Webster
- 13. Condensate Pumps Skidmore Duplex
- 14. Faucets Kohler, 4" on center (lavatories)
American Standard (kitchen)
- 15. Pumps Armstrong, Bell and Gossett

END OF SECTION