

S. Division 15 - Mechanical

1. Products and systems

- a) All underground ductile iron pipe shall have polyethylene encasement IAW. ANSI/AWWA C105/A21.5.
- b) Plumbing Fixtures: (Crane/American Standard/Kohler):
 - 1) Water Closets shall be wall mounted or wall hung with automatic flush valves.
 - 2) Urinals - wall type Waterless urinals should be considered when appropriate. Use Falcon, Sloan, Zurn or approved equivalent.
 - 3) Lavatories – Minimum 20 inch x 18 inch with automatic flush valves faucets. Comply with ADA required clearances and insulation of exposed hot water line and drain line.
 - 4) Service Sinks - roll rim enameled cast-iron with trap standard, chrome strainer, front rim guard, hose end lever handle bibbs
 - 5) Counter Sinks - stainless steel self rimming with swing spout faucet. Shut-offs on supplies
 - 6) Refrigerated Drinking Fountains - wall hung, stainless steel basin, 8 gph of 50 Deg. F. water, shut-off on supply, ADA compliant. (OASIS; ELKAY)
 - 7) Drinking Fountains - wall hung, shut-off on supply, ADA compliant. (OASIS; ELKAY)
 - 8) Showers - Push Button or infra-red, vandal proof, flow restricted shower head; off push-button control. ADA accessible showers require hand-held shower heads.
- c) Plumbing Accessories
 - 1) Floor Drains - cast-iron body, 6 inch nickel bronze grate, trap primers as required
 - 2) Clean Outs - cast-iron body, nickel bronze access plate flush with floor
 - 3) Roof Drains cast-iron body, gravel guard, removable dome, under deck clamp
 - 4) Hose Bibbs (exterior) non-freeze flush mount wall hydrants nickel bronze face and removable key

- 5) Water heaters (gas-fired) – High-efficiency, condensing type, storage type glass lined, thermometer on outlet
- 6) Water Heating Boilers – High-efficiency, condensing type
- 7) Tankless Water Heater – May be considered for certain applications
- d) Heating/Air Conditioning
 - 1) Equipment
 - a) VAV designed systems will have a Chiller (modulating water valve) for cooling and Boiler or Proportional Gas valve for heating. This is to allow for effective discharge air control on the VAV system.
 - b) Gas furnaces - Spark ignition and at least 90% efficient with sealed combustion. Demand Air Ventilation required with CO2 sensor.
 - c) Roof-top Heating/A.C. Units with economizers and relief air; proportional control on gas heat, CO2 sensors, high pressure and low pressure refrigerate cut-outs; crankcase heaters; and liquid line dryers. Three-phase protection shall be installed on all three-phase RTUs.
 - d) Gas infrared heaters - Modine/Reznor/Detroit radiant or equal.
 - e) Electric infrared heaters - G.E./Modine/Detroit radiant or equal
 - f) Gas unit heaters - force draft units only
 - g) Electric heating equipment – Reznor or equal.
 - h) Gas heating high-efficient boilers - Rheem/Raypak/Laars/Ajax or equal.
 - i) Fans-Quality units with bearings accessible for lubrication and maintenance
 - j) Pumps - Armstrong/Taco (Provide Balance Gauges both sides). Do not use Bell & Cosett.
 - k) Controls - Compatible to Johnson Controls Metasys. (ASC controllers, DX9100) with NEA building Control

- l) Thermostats – Honeywell Commercial Pro 7000 Programmable Multistage Thermostat or Johnson Controls TEC 2104-2, Network T-Stat or Johnson Controls TE-6700NP1N00 Metastat. Line Voltage Thermostat shall be Honeywell Line Voltage Pro 8000.
 - m) Louvres/Grilles - Hart Colley/Titus or equal.
 - n) Radiators/Convectors - Trane/Dunham or equal.
 - o) Redundancy cooling or ventilation shall be required in all computer server and PBX rooms.
- 2. Variable-Speed Drives
The application of inverters to air handlers, fans, pumps, etc. should be considered. Protect units from transient electrical phenomenon.
- 3. The installation of Halon 1301 or Halon 1211 systems or other systems using halogenated hydrocarbons is prohibited.