

PLUMBING FIXTURES AND EQUIPMENT

1. GENERAL INFORMATION

- 1.1 Columbia University endeavors to provide a consistent approach to all academic and residential buildings. Plumbing fixtures and fittings are selected based on their ability to meet durability, maintainability, sustainability and accessibility requirements.
- 1.2 General toilet room requirements are outlined in Section 00 00 12 – Toilet Room Requirements.
- 1.3 Specific CU-approved products are outlined in Section 22 40 00S – Plumbing Fixture Look Book.

2. DESIGN REQUIREMENTS

- 2.1 Supply to fixtures should be separately controlled by its own stops. Shower supply fixture should have screwdriver stops.
- 2.2 Wall hung fixtures must be securely supported on commercial grade carriers.
- 2.3 Fixture carrier legs should be clear of walls in chases and secured to floor construction with expansion bolts through bolt holes. Carrier feet should not extend beyond the finished face of the partition unless completely recessed in the slab.
- 2.4 Wall hung water closet carrier should be for syphon jet or blowout closet as required, and should include adjustable extension with gasket, studs, hardware and chrome plated cap nuts necessary to secure fixture to the support, and shall be fitted with block base support bolted to the floor so that the carrier will not depend on wall construction for support. The carrier should be used in conjunction with an approved drainage fitting with a 2-inch vent connection.
- 2.5 Urinals should be supported on a chair carrier with block base support bolted to the floor, top plate for supporting concealed fixture hangers and through bolts, steel pipe uprights, adjustable sleeves and alignment truss.
- 2.6 Lavatories except as specifically noted otherwise, should be supported on concealed chair carriers, single or double as required, with block bases bolted to floor, steel pipe uprights, adjustable arms sleeves with concealed arms, and alignment truss. Slab type lavatories should be furnished with 2-inch chrome plated escutcheon with locking device. Carrier arms should be provided with a leveling device and locking device.
- 2.7 Mixing valves shall be of the ganged type.
- 2.8 The re-circulating loop should be located where it can be kept as short as possible and within 10 feet of every fixture wherever possible.

DESIGN REQUIREMENTS

- 2.9 Water Closets – see Plumbing Fixture Look Book
- 2.10 Urinal - see Plumbing Fixture Look Book
- 2.11 Lavatories - see Plumbing Fixture Look Book
- 2.12 Drinking Fountains - see Plumbing Fixture Look Book
- 2.13 Service Sink - Mop Service Basin: Shall be Crane-Fiat Plumbing Products Model No. MSB3624, 36 in. x 24 in. molded stone, single-compartment mop receptor, one-piece design. Provide a combination dome strainer and lint basket and 3 in. trap body. Service faucet shall be Kohler “Knoxford” Model No. K-8905 rough chrome with vacuum breaker, integral stops, pail hook, level handles and 3/4 in. hose thread on spout. Faucet shall be mounted on wall with brace. Include with assembly Fiat Model 889CC mop bracket and Fiat model 832AA hose and bracket.
- 2.14 Showers – Shower base shall be tiled as per Architect’s finish plans and fitted with a 2 in. floor drain as specified on the drain schedule. Crane-Fiat Plumbing Products “Monterey” Model No. 6030 MFTR, 60 in. x 30 in. terrazzo shower floor one-piece design from precast terrazzo. Surface shall be ground and polished. Shower valve shall be Symmons Co. “Safetymix” Model No. 1-100 4-5-X-3/4 anti-scald pressure balancing and mixing valve with adjustable stop screw to limit handle turn, integral service stops and 3/4 in. inlets and outlets. The shower head shall be Delta Faucet Co. Model No. RP46384 with low-flow, 1.6 gpm, polished chrome showerhead with arm, flange and chrome-plated wall escutcheon.
- 2.15 Domestic Hot Water Systems
 - a. Storage tanks should be adequately sized for usage, rated for 150 psig, and be furnished with:
 - 1. Interior lining with NSF 61 barrier materials
 - 2. Drain valve
 - 3. Tank insulation
 - 4. Enameled steel jacket
 - 5. Adjustable thermostat
 - b. Water heaters
 - 1. Electric: The use of Electric hot water heaters requires approval from CUF Plant engineering to verify if this is an appropriate application. Electric instantaneous domestic water heaters “tankless” should comply with UL499 for tankless electric water heater appliances. Unit construction should be of copper piping or tubing complying with NSF 61 barrier materials for potable water. Units should be furnished with 150 psig pressure rating, electric resistance heating element, flow control fitting temperature control, high temperature limit cutoff device, and aluminum or steel jacket with enameled finish.

DESIGN REQUIREMENTS

- a) Storage tanks should be additionally furnished with:
 - 1) Electric, screw-in immersion type heater
 - 2) ASME rated and stamped relief valve
- 2. Gas fired domestic hot water heaters should be provided with draft hood complying with ANSI requirements.
 - a) Storage tanks should be additionally furnished with:
 - 1) Anode rod
 - 2) ASME rated and stamped combination temperature and pressure relief valve
 - 3) Electric, automatic, gas-ignition system.
- 3. Steam Domestic Water Heaters - should be semi instantaneous type, factory assembled, skid mounted, large capacity, vertical tank type with integral controls and circulator. Tanks should be fabricated per ASME pressure vessel code, rated for 150 psig shell pressure, with stainless steel internals and cupro-nickel alloy tube bundles.
ASME rated and stamped relief valve

3. CONSTRUCTION REQUIREMENTS

- 3.1 Each fixture shall be separately trapped.
- 3.2 Protect plumbing fixtures included in these specifications against injury from the building materials, acids, tools and equipment.
- 3.3 Plated or polished fittings, pipes and appliances shall be protected immediately after installation and shall be polished and cleaned of all marks and foreign substances, when directed by the Architect.
- 3.4 Prior to buildings' acceptance by the Owner, remove manufacturer's labels and thoroughly clean all fixtures and make ready for use by building's occupants.

END OF SECTION