

CHAPTER 7

SANITARY DRAINAGE

Preamble.

Chapter 7 of the UPC-AD on Sanitary Drainage covers the design, materials, construction, and installation of sanitary drainage systems. Every structure having plumbing fixtures installed and intended for human occupancy shall have a dual plumbed gray water system in accordance with the provisions in Chapter 16, Nonpotable Water Reuse, unless approved by the Authority Having Jurisdiction.

Part I Drainage Systems.

701.0 Materials.

701.1 Materials for drainage piping shall be in accordance with the applicable standards referenced in Table 7-1 or equivalent International Standard(s) approved by the Authority Having Jurisdiction, except that:

701.1.1 ABS and PVC DWV piping installations shall be installed in accordance with the applicable standards referenced in Table 14-1 or equivalent International Standard(s) approved by the Authority Having Jurisdiction and Chapter 15, "Firestop Protection." Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more than 25 and a smoke-developed index of not more than 50, when tested in accordance with NFPA 255, *Test for Surface Burning Characteristics of the Building Materials* or equivalent International Standard(s) approved by the Authority Having Jurisdiction.

701.2 Materials for drainage fittings shall be in accordance with the applicable standards referenced in Table 7-1 or equivalent International Standard(s) approved by the Authority Having Jurisdiction of the same diameter as the piping served, and such fittings shall be compatible with the type of pipe used.

701.2.1 Fittings on screwed pipe shall be of the recessed drainage type. Burred ends shall be reamed to the full bore of the pipe.

701.2.2 The threads (either parallel or tapered type) of drainage fittings shall be of the tapped type so as to allow a grade of 20mm/m (1/4 in./ft.).

701.2.3 Fittings used for drainage shall be of the drainage type, have a smooth interior waterway, and be constructed so as to allow a grade of 20mm/m (1/4 in./ft.).

702.0 Fixture Unit Equivalents.

702.1 The unit equivalent of plumbing fixtures shown in Table 7-3 shall be based on the size of the trap required, and the unit equivalent of fixtures and devices not shown in Table 7-3 shall be based on the size of trap or trap arm.

Maximum drainage fixture units for a fixture trap and trap arm loadings for sizes up to 100mm (4 in.) are as follows:

| Size of Trap and Trap Arm | Drainage Fixture Unit Values (dfu) |
|---------------------------|------------------------------------|
| 32mm | 1 unit |
| 40mm | 3 units |
| 50mm | 4 units |
| 75mm | 6 units |
| 100mm | 8 units |

SI: 1mm = 0.04 in.

Exception: On self-service laundries.

702.2 Drainage fixture units for intermittent flow into the drainage system shall be computed on the rated discharge capacity in litres per second, in accordance with Table 7-2.

702.3 For a continuous flow into a drainage system, such as from a pump, sump ejector, air conditioning equipment, or similar device, 2 fixture units shall be allowed for each 0.06L/s (1 gpm) of flow.

702.4 Discharge capacity exceeding 3.2L/s (50 gpm) shall be determined by the Authority Having Jurisdiction.

703.0 Drainage System Sizing.

703.1 Drainage Fixture Units. Drainage fixture units shall be sized in accordance with Table 7-3 and Section 702.0.

703.2 Size of Building Drain and Building Sewer. The maximum number of drainage fixture units allowed on the building drain shall be in accordance with Table 7-4 and building sewers shall be in accordance with Table 7-7. The minimum size of any building drain or building sewer serving a water closet shall be 80mm (3 in.).

703.3 Size of Horizontal Branches and Vertical Stacks for Three Branch Intervals or Less. The maximum number of drainage fixture units allowed on any vertical or horizontal drainage pipe of a given size; horizontal branch or vertical stack, three branch