

**407.3 Securing Fixtures.** Floor-outlet or floor-mounted fixtures shall be rigidly secured to the drainage connection and to the floor, when so designed, by screws or bolts of copper, brass, or other equally corrosion-resistant material.

**407.4 Wall-Hung Fixtures.** Wall-hung fixtures shall be rigidly supported by metal supporting members so that no strain is transmitted to the connections. Flush tanks and similar appurtenances shall be secured by approved non-corrosive screws or bolts.

**407.5 Setting.** Fixtures shall be set level and in proper alignment with reference to adjacent walls. No water closet or bidet shall be set closer than 40cm (15 in.) from its center to any side wall or obstruction, nor closer than 80cm (30 in.) center to center to any similar fixture. The clear space in front of any water closet or bidet shall be not less than 60cm (2 ft.). No urinal shall be set closer than 30cm (1 ft.) from its center to any side wall or partition, nor closer than 60cm (2 ft.) center to center.

The installation of paper dispensers or accessibility grab bars shall not be considered obstructions.

Plumbing fixtures for use and their installation shall conform to the requirements of this section and approved by the Authority Having Jurisdiction. Alternate designs for use and installation shall be approved by the Authority Having Jurisdiction in accordance with Section 301.2.

**407.6 Installations for Persons with Disabilities.** Where facilities for persons with disabilities are required in applicable building regulations, the facilities shall be installed in accordance with those regulations.

**407.7 Supply Fittings.** The supply lines and fittings for every plumbing fixture shall be so installed as to prevent backflow as required in Chapter 6.

#### **408.0 Water Closets.**

**408.1** Water closet bowls for public use shall be of the elongated type. In nurseries, schools, and other similar places where plumbing fixtures are provided for the use of children less than 6 years of age, water closets shall be of a size and height suitable for children's use. Water closets shall be equipped with seats as required below.

#### **408.2 Water Closet Seats.**

**408.2.1** Water closet seats shall be of smooth, non-absorbent material. Seats for public use shall conform to the applicable standard referenced in Table 14-1 or equivalent International Standard(s) approved by the Authority Having Jurisdiction.

**408.2.2** Water closet seats for public use shall be of the elongated type and either of the open front type or have an automatic seat cover dispenser.

**408.2.3** Water closet seats shall be properly sized for the water closet bowl type.

**408.3 Securing Floor-Mounted, Back-Outlet Water Closet Bowls.** Floor-mounted, back-outlet water closet bowls shall be set level with an angle equal to 1.6 of a radian (90 degrees) between the floor and wall at the centerline of the fixture outlet. The floor and wall shall have a flat mounting surface not less than 15cm (5 in.) to the right and left of the fixture outlet centerline. The fixture shall be secured to the wall outlet flange or drainage connection and to the floor by corrosion-resistant screws or bolts. The closet flange shall be secured to a firm base.

Where floor-mounted, back-outlet water closets are used, the soil pipe shall be not less than 80mm (3 in.) in diameter. Offset, eccentric, or reducing floor flanges shall not be used.

#### **408.4 Closet Rings (Closet Flanges).**

**408.4.1** Closet rings (closet flanges) for water closets or similar fixtures shall be of an approved type and shall be bronze, copper, hard lead, cast-iron, galvanized malleable iron, ABS, PVC, or other approved materials. Each such closet ring (closet flange) shall be approximately 20cm (7 in.) in diameter and, when installed, shall, together with the soil pipe, present a 40mm (1.5 in.) wide flange or face to receive the fixture gasket or closet seal.

**408.4.2** Caulked-on closet rings (closet flanges) shall be not less than 6mm (0.25 in.) thick and not less than 50mm (2 in.) in overall depth.

**408.4.3** Closet rings (closet flanges) shall be burned or soldered to lead bends or stubs, shall be caulked to cast-iron soil pipe, shall be solvent cemented to ABS and PVC, and shall be screwed or fastened in an approved manner to other materials.

**408.4.4** Closet rings (closet flanges) shall be adequately designed and secured to support fixtures connected thereto.

**408.4.5** Closet screws, bolts, washers, and similar fasteners shall be of brass, copper, or other listed, equally corrosion-resistant materials. Screws and bolts shall be of adequate size and number to properly support the fixture installed.

#### **409.0 Urinals.**

Every water supply to a urinal shall be protected by an approved-type vacuum breaker or other approved backflow prevention device as described in Section 603.4.