# SOAP DISPENSING SYSTEMS

## 1. GENERAL

1.01 This practice reviews the arrangements recommended for use in telephone buildings for dispensing liquid and lather toilet soap. The arrangements will vary depending upon the size of the building involved and whether a liquid or lather type of soap dispensing system is selected. The use of lather in soap dispensing systems is more economical because of more washes available per ounce of soap and consequently extending the filling cycle of the soap reservoir.

1.02 This practice is revised and reissued to recommend the consideration of some current approaches to soap dispensing in toilet rooms.

1.03 The soap dispensing systems are generally of an individual unit type or multiple unit and large central tank system. The proper selection of each system is usually based upon the size of the building and the population density, which in turn determines the amount of soap used.

1.04 Marginal arrows are not used because of extensive changes in the text.

## 2. INDIVIDUAL UNITS

2.01 The selection of individual units is usually limited to toilet rooms having up to three washbasins. Where four or more washbasins are planned the use of dual-valved soap dispensers or intermediate tank systems serving one or more washrooms or a central tank system might be considered. These units consist of one or two dispensing valves in combination with a soap reservoir having a capacity of up to 40 ozs. for the single unit and up to 100 ozs. for the dual unit. The metal parts of the dispensing valve should be of stainless steel and the reservoir of metal, plastic or metal enclosed glass. The units should be securely attached to withstand the strain caused by pushing the plunger and so located that the spilled soap drains into the washbasin. Where the thickness of the wall permits, a recessed soap dispenser might be considered. There are also some wall-mounted fixtures featuring a shelf with one reservoir and two dispensing valves, one for each basin.

## 3. CENTRAL TANK SYSTEMS

3.01 With the availability of the efficient and economical two-valve soap dispensing systems, the use of the two and one-half or five-gallon tank is very limited. For the larger multi-storied building, a 55-gallon soap tank strategically located (usually near the top of the building unless the height requires intermediate tanks) is used for serving several or all of the toilet rooms. The tanks should not be mounted on the floor but rather on a platform about 12 to 15 inches above the floor. The tank or tanks should be planned to ensure the minimum length of pipe runs to accommodate the system. Tank size is determined by the number of people to be served and a suitable refill interval. A broad gauge soap allowance for a lather system would be in the order of one quart of diluted soap every three or four days for about 150 persons.

3.02 The liquid soap currently available contains additives which prevent the formation of sediment, thus eliminating the need for dual central tanks formerly needed to allow the soap to settle. The tank or additional tanks needed because of building height should be covered and rest on a platform about 12 to 15 inches above the floor, never directly on the floor. The distance from the bottom of the tank to the supply outlet depends upon the height of the tank and the hardness of the water, information regarding which may be obtained from the municipal water department. The outlet height should be approximately 1 inch for each foot of tank height for water of a hardness not exceeding 10 grains per gallon. The outlet height should be proportionately higher for harder waters. A simple gauge, actuated by a float, should be provided with these tanks. For the two- and three-gallon tanks and the individual units, the soap settling should be cared for in separate vessels in the house service quarters.

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**3.03** Supply lines between the tanks and the soap dispensing valves should be as straight and free from bends and fittings as practicable in order to avoid sediment accumulations. Cleanouts in the supply lines should be provided at suitable intervals. It is also desirable that the lines be so graded that the system may be completely drained. Piping should be concealed as far as practicable, otherwise it should be painted the same color as the walls. A shutoff valve should be located on each floor or in each large toilet room to facilitate maintenance. The soap dispensing valves operate satisfactorily at supply line pressures up to 80 pounds. However, the system should generally be designed so that supply line pressures will not exceed 60 pounds. Where building heights would result in higher pressures if one tank were used, additional tanks should be installed or suitable pressure reducing valves used. In all cases, the tank should be located above the level of the valve outlet as the valve will not draw the liquid soap upward.

## 4. MATERIALS AND FIXTURES USED

**4.01** Tanks of larger capacity, where required, should also be obtained locally. Commercial 35- or 55-gallon steel drums are suitable and should be unpainted on the inside.

**4.02** ***Piping:*** Black iron or black steel piping and fittings should be used for the supply lines and shutoff valves between the tanks and the various soap dispensing valves. Black iron piping and fittings are least affected by liquid soap. Copper or brass should not be used as the soap attacks these metals. If the current Bell System soap is used, copper or brass piping or fittings would not be adversely affected.

**4.03** ***Valves:*** The soap dispensing valve which is a part of the individual dispensing unit and the valves which are used with the tank systems should both be of the type which delivers lather and both should be stainless steel. Individual units including the dispensing valve as mentioned and dispensing valves for use with tank systems are available through the regular supply channels.

**4.04** The valves for use with the tank systems are obtainable either in a vertical type suitable for mounting directly on the washbasin or in a horizontal type. However, the vertical type is preferable from the standpoints of operation of the valve, appearance, draining into the basin and the avoidance of a bumping hazard in washing.