

on each branch or riser and using the permissible friction loss computed in Section A 3.0.

A 5.2 Fixture branches to the building supply, if they are sized for the same permissible friction loss per 100m (328 ft.) of pipe as the branches and risers to the highest level in the building, may lead to inadequate water supply to the upper floor of a building. This may be controlled by (1) selecting the sizes of pipe for the different branches so that the total friction loss in each lower branch is approximately equal to the total loss in the riser, including both friction loss and loss in static pressure; (2) throttling each such branch by means of a valve until the preceding balance is obtained; (3) increasing the size of the building supply and risers above the minimum required to meet the maximum permissible friction loss.

A 5.3 The size of branches and mains serving flushometer tanks shall be consistent with sizing procedures for flush tank water closets.

A 6.0 General.

A 6.1 Velocities shall not exceed 2.4m/s (8 ft./s) or the maximum values given in the appropriate UPC-AD Installation Standard, except as otherwise approved by the Authority Having Jurisdiction.

A 6.2 If a pressure-reducing valve is used in the building supply, the developed length of supply piping and the permissible friction loss should be computed from the building side of the valve.

A 6.3 The allowances in Table A-3 for fittings are based on nonrecessed threaded fittings. For recessed threaded fittings and streamlined soldered fittings, 1/2 of the allowances given in the table will be ample.

A 7.0 Example.

A 7.1 Assume an office building of 4 stories and basement; pressure on the building side of the pressure-reducing valve of 3.8bar (55 psi) (after an allowance for reduced pressure falloff at peak demand); an elevation of highest fixture above the pressure-reducing valve of 14m (45 ft.); a developed length of pipe from the pressure-reducing valve to the most distant fixture of 60m (200 ft.); and fixtures to be installed with flush valves for water closets and urinals as follows:

If the pipe material and water supply are such that Chart A-5 applies, the required diameter of the building supply is 90mm (3-1/2 in.) and the required diameter of the branch to the hot-water heater is 40mm (1-1/2 in.).

The sizes of the various branches and risers shall be permitted to be determined in the same manner

as the size of the building supply or the branch to the hot-water system, by estimating the demand for the riser or branch from Chart A-2 or A-3 and applying the total demand estimate from the branch, riser, or section thereof to the appropriate flowchart.