

APPENDIX B

EXPLANATORY NOTES ON COMBINATION WASTE AND VENT SYSTEMS

(See Section 910.0 of the UPC for specific limitations.)

B 1 Combination waste and vent systems, as outlined in Section 910.0 of this code, cover the horizontal wet venting of a series of traps by means of a common waste and vent pipe. Pipe sizes at least two (2) pipe sizes larger than those required for a conventional system are designed to maintain a wetted perimeter or flow line low enough in the waste pipe to allow adequate air movement in the upper portion, thus balancing the system. Sinks, lavatories, and other fixtures that rough in above the floor, should not be permitted on a combination waste and vent system, which, at best, is merely an expedient designed to be used in locations where it would be structurally impractical to provide venting in the conventional manner.

Combination waste and vent systems are intended primarily for extensive floor or shower drain installations where separate venting is not practical, for floor sinks in markets, demonstration or work tables in school buildings, or for similar applications where the fixtures are not adjacent to walls or partitions. Due to its oversize characteristics, such a waste system is not self-scouring and, consequently, care should be exercised as to the type of fixtures connected thereto and to the location of cleanouts. In view of its grease-producing potential, restaurant kitchen equipment should not be connected to a combination waste and vent system.

B 2 Caution must be exercised to exclude appurtenances delivering large quantities or surges of water (such as pumps, sand interceptors, etc.) from combination waste and vent systems in order that adequate venting will be maintained. Small fixtures with a waste-producing potential of less than seven and one-half (7-1/2) gallons per minute (0.5 L/sec.) may be safely assigned a loading value of one (1) unit. Long runs should be laid at the minimum permissible slope in order to keep tailpieces as short as possible. Tailpieces should not exceed two (2) feet (610 mm) in length, which may necessitate slopes up to forty-five (45) degrees (0.79 rad) (see definition of *horizontal pipe*) on some branches.

B 3 It is essential that the pneumatics of such a system be properly engineered, as the air pressure within the line must at all times balance that of outside atmosphere in order to prevent either trap seal loss or air locking between traps. Long mains shall be provided with additional relief vents located at intervals not exceeding one hundred (100) feet (30,480 mm). Each such relief vent should equal at least one-half (1/2) of the inside cross-sectional area of the drainpipe served.

B 4 Trap sizes are required to be equivalent to the branches they serve (two (2) pipe sizes larger than normal), and tailpieces between fixtures or floor drains and such traps should be reduced to normal size.

B 5 Duplicate layout drawings of each such proposed piping system must be presented to the Authority Having Jurisdiction and approval obtained before any installation is made. Complicated layouts should be checked by qualified personnel.

B 5.1 Example of Sizing.

A floor drain normally required two (2) inch (50 mm) trap and waste. On a combination waste and vent system, both trap and waste must be increased two (2) pipe sizes (through 2-1/2" and 3") (65 mm and 80 mm), which would make the trap three (3) inch (76 mm). Pipe sizes recognized for this purpose are 2 in., 2-1/2 in., 3 in., 3-1/2 in., 4 in., 4-1/2 in., 5 in., 6 in., etc. (50 mm, 65 mm, 76 mm, 90 mm, 100 mm, 115 mm, 125 mm, 150 mm, etc.). The tailpiece between the floor drain and its trap should be two (2) inches (51 mm) (or normal size) to ensure that the amount of wastewater entering the trap only partially fills the waste branch. A three (3) inch (76 mm) floor drain would thus require a four (4) inch (100 mm) trap, a four (4) inch (100 mm) floor drain, and five (5) inch (125 mm) trap, etc., for the reasons previously stated.

WHEN IN DOUBT, CHECK WITH YOUR LOCAL Authority Having Jurisdiction.

