313.8 Waterproofing of Openings. Joints at the roof around pipes, ducts, or other appurtenances shall be made watertight by the use of lead, copper, galvanized iron, or other approved flashings or flashing material. Exterior wall openings shall be made watertight. Counterflashing shall not restrict the required internal cross-sectional area of the vent.

313.9 Plastic and copper piping penetrating a framing members to within one (1) inch (25.4 mm) of the exposed framing shall be protected by steel nail plates not less than 0.0478 inches (18 gauge) (1.3mm) in thickness. The steel nail plate shall extend along the framing member a minimum of 1-1/2 inches beyond the outside diameter of the pipe or tubing.

Exception: See Section 1211.3.4.

313.10 Sleeves.

313.10.1 Sleeves shall be provided to protect all piping through concrete and masonry walls and concrete floors.

Exception: Sleeves shall not be required where openings are drilled or bored.

313.10.2 Piping through concrete or masonry walls shall not be subject to any load from building construction.

313.10.3 In exterior walls, annular space between sleeves and pipes shall be sealed and made watertight, as approved by the Authority Having Jurisdiction. Any penetration through fire-resistive construction shall be in accordance with Section 313.7.

313.10.4 Any pipe sleeve through a firewall shall have the space around the pipe completely sealed with an approved fire-resistive material in accordance with all other codes.

313.11 Any structural member weakened or impaired by cutting, notching, or otherwise shall be reinforced, repaired, or replaced so as to be left in a safe structural condition in accordance with the requirements of the Building Code.

313.12 Ratproofing.

313.12.1 Strainer plates on drain inlets shall be designed and installed so that no opening is greater than one-half (1/2) inch (12.7 mm) in the least dimension.

313.12.2 Meter boxes shall be constructed in such a manner that rats cannot enter a building by following the service pipes from the box into the building.

313.12.3 In or on buildings where openings have been made in walls, floors, or ceilings for the passage of pipes, such openings shall be closed and protected by the installation of approved metal collars securely fastened to the adjoining structure.

313.12.4 Tub waste openings in framed construction to crawl spaces at or below the first floor shall be protected by the installation of approved metal collars or metal screen securely fastened to the adjoining structure with no opening greater than one-half (1/2) inch (12.7mm) in the least dimension.

314.0 Hangers and Supports.

314.1 Suspended piping shall be supported at intervals not to exceed those shown in Table 3-2.

314.2 All piping shall be supported in such a manner as to maintain its alignment and prevent sagging.

314.3 Piping in the ground shall be laid on a firm bed for its entire length; where other support is otherwise provided, it shall be approved per Section 301.0 of this code.

314.4 Hangers and anchors shall be of sufficient strength to support the weight of the pipe and its contents. Piping shall be isolated from incompatible materials.

314.5 All piping, fixtures, appliances, and appurtenances shall be adequately supported in accordance with this code, the manufacturer's installation instructions, and as required by the Authority Having Jurisdiction.

314.6 Hanger rod sizes shall be no smaller than those shown in Table 3-1.

314.7 All gas piping shall be supported by metal straps or hooks at intervals not to exceed those shown in Table 3-2.

TABLE 3-1
Hanger Rod Sizes

Pipe and Tube Size		Rod Size	
Inches	mm	Inches	mm
1/2 – 4	12.7 – 102	3/8	9.5
5 – 8	127 – 203	1/2	12.7
10 – 12	254 – 305	5/8	15.9

315.0 Trenching, Excavation, and Backfill.

315.1 All trenches deeper than the footing of any building or structure and paralleling the same shall be at least forty-five (45) degrees (0.79 rad) therefrom, or as approved per Section 301.0 of this code.

315.2 Tunneling and driving may be done in yards, courts, or driveways of any building site. Where