(B) Trenches. The trench shall be graded so that the pipe has a firm, substantially continuous bearing on the bottom of the trench. [NFPA 54:7.1.2.2]

(C) Backfilling. Where flooding of the trench is done to consolidate the backfill, care shall be exercised to see that the pipe is not floated from its firm bearing on the trench bottom. [NFPA 54:7.1.2.3]

1210.1.3 Protection Against Corrosion. Gas piping in contact with earth or other material that could corrode the piping shall be protected against corrosion in an approved manner. When dissimilar metals are joined underground, an insulating coupling or fitting shall be used. Piping shall not be laid in contact with cinders. Uncoated threaded or socket-welded joints shall not be used in piping in contact with soil or where internal or external crevice corrosion is known to occur. [NFPA 54:7.1.3]

1210.1.4 Piping Through Foundation Wall. Underground piping installed through the outer foundation or basement wall of a building shall be encased in a protective sleeve or protected by an approved device or method. The space between the gas piping and the building or sleeve shall be sealed to prevent entry of gas and water. [NFPA 54:7.1.5]

1210.1.5 Piping Underground Beneath Buildings. Where the installation of gas piping underground beneath buildings is unavoidable, the piping shall be encased in an approved conduit designed to withstand the superimposed loads. [NFPA 54:7.1.6] The conduit shall extend into a normally usable and accessible portion of the building and, at the point where the conduit terminates in the building, the space between the conduit and the gas piping shall be sealed to prevent the possible entrance of any gas leakage. Where the end sealing is of a type that will retain the full pressure of the pipe, the conduit shall be designed for the same pressure as the pipe. The conduit shall extend not less than 100mm (4 in.) outside the building, be vented above grade to the outside, and be installed so as to prevent the entrance of water and insects. [NFPA 54:7.1.6.1]

1210.1.6 Plastic Pipe.

(A) Connection of Plastic Piping. Plastic pipe shall be installed outside, underground only. [NFPA 54:7.1.7.1]

Exception No. 1: Plastic pipe shall be permitted to terminate above ground where an anodeless riser is used.

Exception No. 2: Plastic pipe shall be permitted to terminate with a wall head adapter above ground in buildings, including basements, where the plastic pipe is inserted in a piping material permitted for use in buildings.

(B) Connections Between Metallic and Plastic Piping. Connections made between metallic and plastic piping shall be made only with fittings conforming to one of the following:

(1) ASTM D2513, *Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings, Category I Transition Fittings* or equivalent International Standard(s) approved by the Authority Having Jurisdiction.

(2) ASTM F1973, *Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) Fuel Gas Distribution Systems* or equivalent International Standard(s) approved by the Authority Having Jurisdiction.

(3) ASTM F2509, *Standard Specification for Field-Assembled Anodeless Riser Kits for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing* or equivalent International Standard(s) approved by the Authority Having Jurisdiction. [NFPA 54:7.1.7.2]

(C) An electrically continuous corrosion-resistant tracer wire (minimum AWG 14) or tape shall be buried with the plastic pipe to facilitate locating. One end shall be brought above ground at a building wall or riser. [NFPA 54:7.1.7.3]

1210.2 Installation of Piping.

1210.2.1 Piping installed above ground shall be securely supported and located where it will be protected from physical damage (also see 1210.2.5). Where passing through an outside wall, the piping shall also be protected against corrosion by coating or wrapping with an inert material approved for such applications. Where piping is encased in a protective pipe sleeve, the annular space between the gas piping and the sleeve shall be sealed at the wall to prevent the entry of water, insects, or rodents. [NFPA 54:7.2.1]

1210.2.2 Building Structure.

(1) The installation of gas piping shall not cause structural stresses within building components to exceed allowable design limits. [NFPA 54:7.2.2.1]

(2) Approval shall be obtained before any beams or joists are cut or notched. [NFPA