Table 11.4: Piping Distribution requirements for LPG Central Tank installations

ITEMS	LPG PIPING DISTRIBUTION, FILLING AND OTHER REQUIREMENTS FOR LPG CENTRAL TANK INSTALLATIONS
2. SHAFTS	i. LPG distribution inside any building shall be through dedicated shafts. ii. LPG shafts for non-highrise buildings shall be 1 hour fire resistance rated shafts. iii. LPG shafts for highrise buildings shall be 2 hour fire resistance rated shafts. iv. Such shafts for LPG either masonry, steel, concrete or tested and approved fire rated particle board. v. Any pipe penetration on the walls and shafts shall be suitably fire stopped to maintain the fire resistance of the walls. vi. Any duct dedicated for gas shall be naturally ventilated to open air.
3. PIPE-IN-PIPE ARRANGEMENT	i. Pipe-in-Pipe (Containment) piping arrangement shall be provided where LPG piping is passing through basements, studio apartments and show kitchens where kitchen is open to living or public spaces. ii. Such Pipe-in-Pipe arrangements shall be with approved CPVC or Steel piping complete with LPG leak detectors monitored by central LPG Control panel. iii. Where LPG piping needs drops from ceiling in the open space of a room, such as in school and research laboratories, shall be provided with steel support columns and steel pipe-in-pipe arrangement complete with leak detectors monitored by central LPG Control panel.
4. FILL LINE AND FILLING POINT	i. Filling connections shall be electrically classified areas without any ignition sources within 7.6 m. ii. LPG filling connection shall be at 1 m from finished ground level. iii. Fill connections shall not be obstructed such that delivery hose connections are executed without obstructions. or wear and tear to the hose. iv. LPG fill line and connection arrangement shall be fully exposed outside the building. Where need arises to cover it aesthetically, fully ventilated or fully perforated enclosure is acceptable. v. Fill connections shall be as close to the LPG Tank as possible. vi. Filling connections shall be located within LPG Tank fenced area. and when this is not possible, the fill connections shall be secured and guarded with lockable ventilated box against the tampering and vandalism. vii. If LPG tanks have top filling arrangements, safe access and platform with standard steps, handrail and guards shall be provided. viii. Filling connections should necessarily have a Vapour equalizing line to take care of any unexpected pressure rise during filling operations and shall be clearly labeled “LIQUID” or “VAPOUR” as appropriate. ix. When Butane, LPG and Propane filling or unloading connections are adjacent, they shall be clearly distinguished by labels and color coding. x. LPG filling point shall by fully protected from vehicle impact by suitable crash barriers and unauthorized access.