

## PARAPET WALLS

### 1. GENERAL

1.01 This section covers general recommendations to be considered in the design and construction of masonry parapet walls and includes suggestions for the treatment of exterior walls where parapet construction is not required. Parapet walls, being subject to most severe exposure, require not only careful designing but particular attention to details and workmanship during construction to assure maximum resistance to the weather.

1.02 This section is reissued principally to modify the height recommendations for parapet walls and to include suggestions for the treatment of exterior walls where parapet construction is not required.

1.03 Construction above the roof level for the protection of fire walls, party walls and exterior walls of masonry, is not generally required on telephone buildings of fire-resistive construction. However, for the safety of personnel having ready access to roof areas and for fire protection in certain locations, parapeted exterior walls or protective fence have been provided where access is normally available to roof.

1.04 Where the procedures recommended in this section do not meet the requirements of local or state codes or ordinances, the legislated requirements are applicable.

### 2. MASONRY WALLS

2.01 Height: To reduce the area of exposure to weather, it is desirable that masonry parapet walls are limited in height consistent with local code requirements and the function of the wall as outlined in Paragraph 1.03. The height is usually limited by ratio to wall thickness and generally is not in excess of three feet.

2.02 Thickness: Parapet walls are usually no thinner than the building wall immediately below, except that a nominal thickness of 12 inches need not be exceeded.

2.03 Provision for Expansion: Where straight runs of parapet walls are of major length without breaks to accommodate movement due to variations in temperature and moisture content, consideration is usually given to the provision of expansion joints at convenient intervals, ex-

tending full height of the parapet. For measures to prevent pressures against parapets due to expansion of the roof fill, reference should be made to B.S.P. Section H32.405 Flat Roof Grading.

2.04 Coping: Material for the coping on parapet walls is usually selected for qualities of durability and appearance. Where used for appearance, natural stone having the permanency of limestone is suggested. In some cases glazed vitrified tile coping having overlapping hub joints or rustless sheet metal may be suitable. Copings of cast stone, reinforced concrete, sandstone or similar soft stone are not normally recommended due to relatively poor weathering characteristics.

2.05 From the standpoint of durability, it has been found that copings about 4 inches thick are generally desirable. They are cut on top to shed water toward the roof, project at least 1-1/2 inches on each side of the wall and overhanging edges are provided with clean-cut continuous drip grooves in the order of 5/8 inch deep. It is desirable that copings be set in a full bed of mortar without voids. Before the stones are set, their abutting edges are coated with such material as white shellac or bakelite varnish to prevent absorption of the elastic caulking compound oils into the stone. Joints are uniformly 3/8 inch wide, and those that occur at intervals of 15 to 18 feet are provided with expansion joint gaskets shaped to fit the stone profile and set back 3/4 inch from sides and top. Intermediate joints are filled solidly with mortar and raked out to a depth of 3/4 inch. All joints are then filled with elastic caulking compound. Consideration might be given to protecting the caulking compound from exposure to weather by providing lead joint shields for the exposed length of each joint. In localities subject to earthquakes, special consideration is given to additional anchoring of the coping stones.

2.06 Tile copings are set generally the same as stone copings, except the overlapping hub joints are solidly filled and pointed with mortar only.

2.07 For suggestions covering construction items of masonry, mortar and joints for parapet walls, reference should be made to B.S.P. Section H32.334, Exterior Walls of Masonry-Moisture Penetration.

2.08 Flashing: Sheet copper not lighter than

16 ounce is suggested for parapet flashing due to its qualities of permanence and workability. The advantages of a relatively low parapet wall and reduced maintenance costs may well justify consideration of protecting its entire back surface with copper. It is important that the cap flashing, after extending up the rear face of parapet, be carried across top of the wall, extended about 1 inch beyond the outer face and bent downward. If the exposed copper lip might cause objectionable staining where light colored brick or stonework is involved, the use of lead coated copper for the exposed lip would be in order. Prior to placing the flashing, it is suggested that the wall upper surface be painted with asphaltum followed with a full bed of elastic compound into which the through flashing is set. The exposed flashing on the rear of the parapet is usually provided with standing seams to accommodate temperature movement, and is placed with sufficient clearance from the wall and open at the bottom to permit "breathing" of the masonry. The overlap at base flashing is made ample to prevent rain from being blown in to the brickwork. Wind weaving is avoided by anchoring the wall flashing at suitable intervals just above the base flashing. Flashing under the coping is usually crimped or otherwise deformed to afford bonding.

2.09 Piers on the roof side of parapet walls where required to encase stub wall columns, pipes, etc., may be extended to the same height as parapets and provided with similar flashing and coping.

2.10 Consideration is usually given to the provision of copper lined scupper openings in parapet walls appropriately located to prevent roof flooding in the event of leader drain stoppage.

2.11 Consistent with architectural limitations, it is desirable from a maintenance stand-

point to either minimize the projection of masonry cornices or avoid their use entirely. The mortar or caulking in vertical joints of masonry cornices is subject to loosening and dropping out, resulting in leakage at these points. To overcome this, the upper surface of cornices might be covered with lead coated sheet copper provided with transverse standing seams to accommodate expansion, and with a drip at outer edges. Cornice decks that occur above roof level are pitched toward the wall, and scupper openings provided at deck level. Decks of cornice that occur below roof level are pitched away from the wall. These provisions, from a cost standpoint, are additional reasons for avoiding the use of cornices.

3. ALTERNATIVE TREATMENT

3.01 A parapet wall effect which does not accentuate building height is obtained by terminating exterior walls as projecting cornice or coping slightly above the roof level. Pitched to turn drainage toward the roof and level with the roof fill at the inside face, the upper surface is finished as part of the roof.

3.02 Buildings designed with the flat roof overhanging the exterior walls are satisfactory in locations where appropriate and permissible.

3.03 Parapet walls have been omitted on the rear of one and two-story buildings where appearance is not controlling. Roof drainage can be provided by a hanging gutter on the rear wall with the entire roof sloped to the gutter.

3.04 It is considered desirable that roof areas are not generally accessible to personnel other than those required for maintenance of roof facilities. Metal railing is used, where considered advisable on low parapeted roofs, particularly to enclose the areas adjacent to roof access.