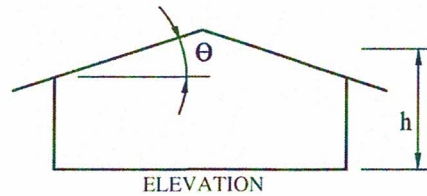
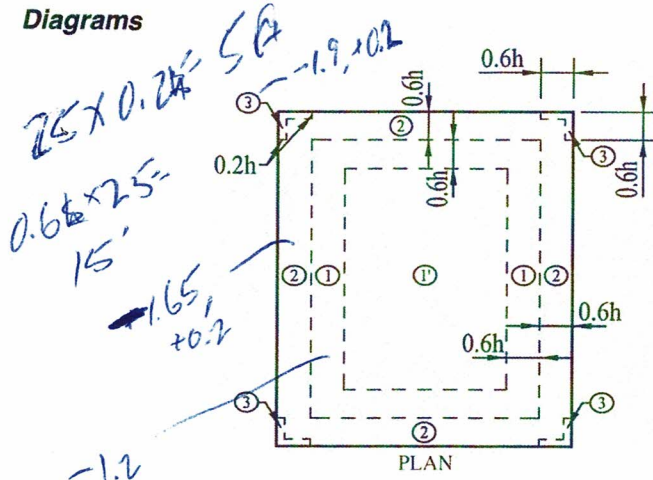


24003

$$31' \times 4.75' = 147.25 \text{ sq ft}$$

Diagrams



use this for typical department store roof

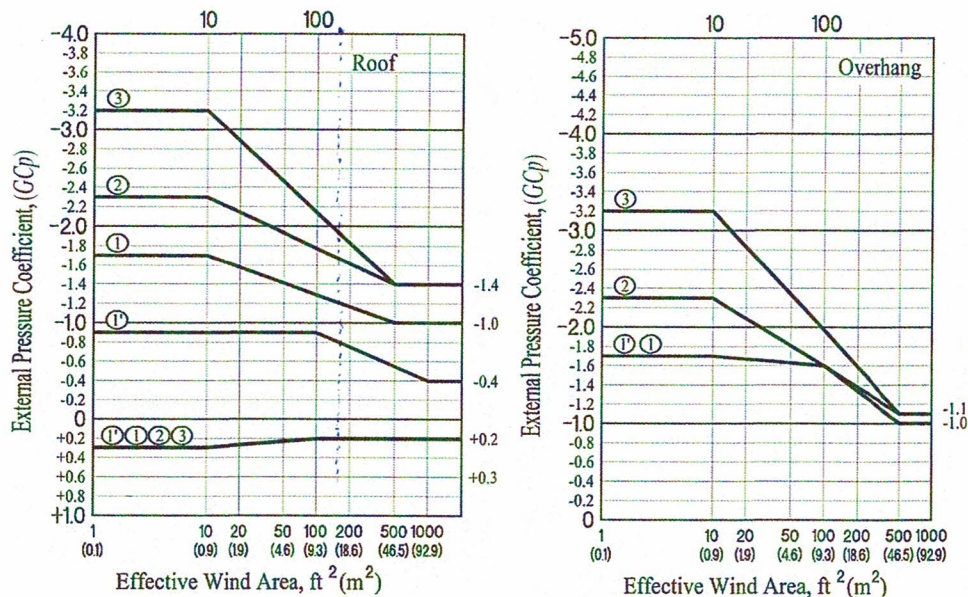
Notation

B = Horizontal dimension of building measured normal to wind direction, ft (m).

h = Eave height shall be used for $\theta = 10^\circ$.

θ = Angle of plane of roof from horizontal, degrees.

External Pressure Coefficients



Notes

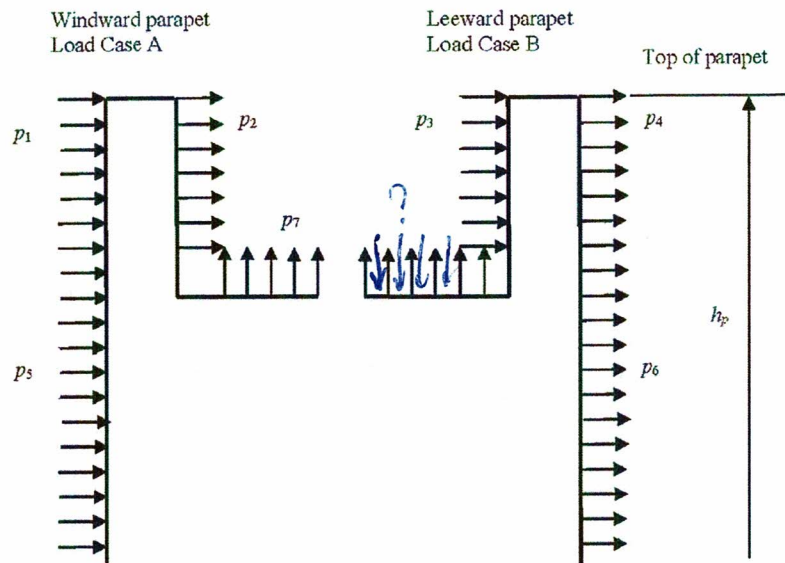
1. Vertical scale denotes (GC_p) to be used with q_h .
2. Horizontal scale denotes effective wind area A , ft^2 (m^2).
3. Plus and minus signs signify pressures acting toward and away from the surfaces, respectively.
4. Each component shall be designed for maximum positive and negative pressures.
5. If a parapet equal to or higher than 3 ft (0.9 m) is provided around the perimeter of the roof with $\theta \leq 7^\circ$, the negative values of (GC_p) in Zone 3 shall be equal to those for Zone 2, and positive values of (GC_p) in Zones 2 and 3 shall be set equal to those for wall Zones 4 and 5, respectively, in Figure 30.3-1. *- values +0.8?*
6. Values of (GC_p) for roof overhangs include pressure contributions from both upper and lower surfaces.
7. If overhangs exist, the lesser horizontal dimension of the building shall not include any overhang dimension, but the edge distance, a , shall be measured from the outside edge of the overhang.

Figure 30.3-2A. Components and cladding [$h \leq 60$ ft ($h \leq 18.3$ m)]: external pressure coefficients (GC_p) for enclosed, partially enclosed, and partially open buildings—gable roofs, $\theta \leq 7^\circ$.

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PARAPET

Diagrams



Notes

Windward Parapet: Load Case A

1. Windward parapet pressure (p_1) is determined using the positive wall pressure (p_5) Zones 4 or 5 from the applicable figure.
2. Leeward parapet pressure (p_2) is determined using the negative roof pressure (p_7) Zones 2 or 3 from the applicable figure.

Leeward Parapet: Load Case B

1. Windward parapet pressure (p_3) is determined using the positive wall pressure (p_5) Zones 4 or 5 from the applicable figure.
2. Leeward parapet pressure (p_4) is determined using the negative wall pressure (p_6) Zones 2 or 3 from the applicable figure.

User Note: See Note 5 in Figure 30.3-2A and Note 7 in Figure 30.5-1 for reductions in component and cladding roof pressures when parapets 3 ft (0.9 m) or higher are present.

Figure 30.6-1. Components and cladding, part 4 (all building heights): parapet wind loads for all building types—parapet wind loads.

Table 30.7-1. Steps to Determine C&C Wind Loads for Roof Overhangs.

- Step 1:** Determine risk category of building; see Table 1.5-1.
- Step 2:** Determine the basic wind speed, V , for applicable risk category; see Fig. 26.5-1.
- Step 3:** Determine wind load parameters:
- Wind directionality factor, K_d ; see Section 26.6 and Table 26.6-1.
 - Exposure Category B, C, or D; see Section 26.7.
 - Topographic factor, K_{zt} ; see Section 26.8 and Figure 26.8-1.
 - Ground elevation factor, K_e ; see Section 26.9 and Table 26.9-1.
 - Enclosure classification; see Section 26.12.
 - Internal pressure coefficient (GC_{pi}); see Section 26.13 and Table 26.13-1.
- Step 4:** Determine velocity pressure exposure coefficient, K_h ; see Table 26.10-1.
- Step 5:** Determine velocity pressure, q_h , at mean roof height h using Equation (26.10-1).

continues

Table 30.7-1 (Continued). Steps to Determine C&C Wind Loads for Roof Overhangs.

- Step 6:** Determine the external pressure coefficient (GC_p) at the overhang, using Figure 30.3-2A for gable roofs $\theta \leq 7^\circ$ [$h \leq 60$ ft (18.3 m)], or calculated as the sum of the GC_p coefficients on the overhang's top and bottom surfaces, as determined by the applicable roof and wall GC_p given in figures:
- Gable roofs $7^\circ < \theta \leq 45^\circ$, hip roofs $\theta \leq 45^\circ$ [$h \leq 60$ ft (18.3 m)]: see Figure 30.3-2B-G.
 - Other roofs [$h \leq 60$ ft (18.3 m)]: see Table 30.3-1 Step 6.
 - Flat roofs $\theta \leq 7^\circ$ [$h > 60$ ft (18.3 m)]: see Figure 30.5-1.
 - Gable and hip roofs [$h > 60$ ft (18.3 m)]: see Figure 30.5-1.
 - Other roofs [$h > 60$ ft (18.3 m)]: see Table 30.5-1 Step 6.
 - Walls [$h \leq 60$ ft (18.3 m)]: see Figure 30.3-1.
 - Walls [$h > 60$ ft (18.3 m)]: see Figure 30.5-1.
- Step 7:** Calculate wind pressure, p , using Equation (30.7-1); refer to Figure 30.7-1.