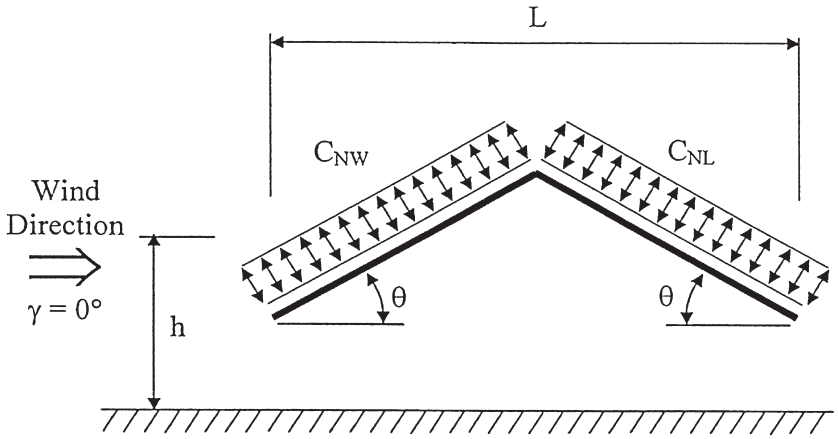
| Main Wind Force Resisting System – Part 1 | | 0.25 ≤ h/L ≤ 1.0 |
|---|---|---|
| Figure 27.4-5 | Net Pressure Coefficient, $C_N$ | **Pitched Free Roofs** $\theta \le 45°, \gamma = 0°, 180°$ |
| Open Buildings | | |




| Roof Angle, θ | Load Case | Wind Direction, γ = 0°, 180° | | | |
|---|---|---|---|---|---|
| | | Clear Wind Flow | | Obstructed Wind Flow | |
| | | $C_{NW}$ | $C_{NL}$ | $C_{NW}$ | $C_{NL}$ |
| 7.5° | A | 1.1 | -0.3 | -1.6 | -1 |
| | B | 0.2 | -1.2 | -0.9 | -1.7 |
| 15° | A | 1.1 | -0.4 | -1.2 | -1 |
| | B | 0.1 | -1.1 | -0.6 | -1.6 |
| 22.5° | A | 1.1 | 0.1 | -1.2 | -1.2 |
| | B | -0.1 | -0.8 | -0.8 | -1.7 |
| 30° | A | 1.3 | 0.3 | -0.7 | -0.7 |
| | B | -0.1 | -0.9 | -0.2 | -1.1 |
| 37.5° | A | 1.3 | 0.6 | -0.6 | -0.6 |
| | B | -0.2 | -0.6 | -0.3 | -0.9 |
| 45° | A | 1.1 | 0.9 | -0.5 | -0.5 |
| | B | -0.3 | -0.5 | -0.3 | -0.7 |

Notes:
1. $C_{NW}$ and $C_{NL}$ denote net pressures (contributions from top and bottom surfaces) for windward and leeward half of roof surfaces, respectively.
2. Clear wind flow denotes relatively unobstructed wind flow with blockage less than or equal to 50%. Obstructed wind flow denotes objects below roof inhibiting wind flow (>50% blockage).
3. For values of θ between 7.5° and 45°, linear interpolation is permitted. For values of θ less than 7.5°, use monoslope roof load coefficients.
4. Plus and minus signs signify pressures acting towards and away from the top roof surface, respectively.
5. All load cases shown for each roof angle shall be investigated.
6. Notation:
   L : horizontal dimension of roof, measured in the along wind direction, ft. (m)
   h : mean roof height, ft. (m)
   γ : direction of wind, degrees
   θ : angle of plane of roof from horizontal, degrees