



The main frames are @ 4.80m centres.

The blue line is the cover.

The yellow line represents the frame of constant inertia, with rigid joints, and feet that are fixed.

The self-weight can be considered as 25kg/m.

The applied loading is 2500kgs per main frame.

The design condition for the wind ladders in the rear frame occurs when the screen is in place and the wind is blowing at speed of up to 15m/sec. If the wind speed increases beyond this value, then the screens will be removed except for the shaded areas. The wind ladders are checked for wind blowing from the front or from the back. At 15m/sec,  $q_s = 14.1\text{kg/sqm}$ .

When the rear screens have been removed, the wind blowing from the front or the rear will not impart internal pressures.

Nevertheless, the framework is assessed for the effects of the of the increase in the external pressures as the wind speed rises to 25m/sec. at which speed the value for  $q_s$  rises to 39.1kg/sqm.

The frame is also checked for wind blowing from one side at a speed of up to 25m/sec.

Finally, the frame is assessed for wind blowing at 45 degrees to the front face, and in preparing the values for the pressures on the frame a vectorial allowance of 0.707x the pressures for wind on the front face has been added to 0.707x those on the side face. In addition, an allowance has been made for internal suction on the inside of the windward face, and internal pressure on the inside of the leeward face. This creates a critical design condition.

When considering the front canopy, or "eyebrow", allowance is made for wind forces based on the area of roof cover applicable to the canopy relative to the area of an internal main frame, multiplied by a further factor of 1.33 for enhanced local effects at the leading edge. This effectively allows for an area of 50% of that of a main frame.

