WIND VELOCITIES

Determination of Allowable Wind Pressures

Basic Pressure Coefficient 1.3

Location	Basic Wind Speed (m/s)	Basic Wind Pressure (kPa)	Terrain Description	Terrain Category	Peak Louvre Pressure Variation at Screen Height 3m (kPa)	5m (kPa)	10m (kPa)	15m (kPa)	20m (kPa)
● Kuala Lumpur, Malaysia ● Singapore ● Jakarta, Indonesia									
	35	0.74	open	TC2	0.79	0.79	0.96	1.05	1.11
			suburban	TC3	0.66	0.66	0.66	0.76	0.84
			urban	TC4	0.54	0.54	0.54	0.54	0.54
● Adelaide ● Sydney ● Hobart ● Canberra ● Melbourne ● Perth ● Bangkok, Thailand ● Auckland, NZ ● Christchurch, NZ									
	39	0.91	open	TC2	0.98	0.98	1.19	1.31	1.38
			suburban	TC3	0.82	0.82	0.82	0.94	1.05
			urban	TC4	0.67	0.67	0.67	0.67	0.67
● Brisbane ● Wellington, NZ									
	45	1.22	open	TC2	1.31	1.31	1.58	1.74	1.84
			suburban	TC3	1.09	1.09	1.09	1.25	1.40
			urban	TC4	0.89	0.89	0.89	0.89	0.89
● Darwin ● Cairns									
	52	1.62	open	TC2	1.75	1.75	2.11	2.33	2.46
			suburban	TC3	1.45	1.45	1.45	1.67	1.86
			urban	TC4	1.19	1.19	1.19	1.19	1.19
● Hong Kong ● Macau									
	68	2.77	open	TC2	2.99	2.99	3.61	3.98	4.21
			suburban	TC3	2.48	2.48	2.48	2.86	3.19
			urban	TC4	2.03	2.03	2.03	2.03	2.03

NOTES:

The intention of this table and calculation procedure is to provide an estimate of wind pressures on an array of screens, based on a few simplifying assumptions.

1. The basic pressure coefficient is intended to take into account the influence of the shape of the building on the pressure experienced by the screens. It is a conservative approximation and allows the pressures in the table to be applicable for the following cases.
   1.1 Screens placed on any wall of a building.
   1.2 Screens placed horizontally, away from the edge of a building.
2. Screens positioned near building corners within a proximity of 0.2 x smallest building plan dimension will experience pressures up to 2 times the above tabulated pressures *(see diagram A on adjacent page 19)*.
3. The basic wind speed is a peak 3-second gust with a 50-year return period, measured at 10 metres height in a terrain category 2.
4. The basic wind pressure is the freestream pressure at 10m in terrain category 2.
5. Terrain category classifications are based on AS1170.2-2002.
6. Wind speeds are based on data from AS1170.2-2002 and "Wind Loading on Structures" by J.D. Holmes.

For free standing screens or screens located above 20 metres in height
DO NOT use this table - specialist façade engineering advice is required

Examples of Wind Pressure Calculation

- Location is Melbourne, screen height is 15 metres in suburban terrain category (TC3)
  From table above the typical screen peak design pressure = 0.94 kPa
  Screens face-mounted and located around building corners
  Building has a rectangular plan shape of dimension 20m x 50m *(see diagram A on adjacent page 19)*
  Peak design pressure of 2 x 0.94 kPa = 1.88 kPa load to be used when selecting screen profiles from page 16
- Location is Darwin, screen height is 20 metres in open terrain category (TC2)
  From table above, the typical screen peak design pressure = 2.46 kPa
  Screens face-mounted and distanced from building corners a minimum of 0.2 x smallest building plan dimension
  Peak design pressure = 2.46 kPa load to be used when selecting screen profiles from page 16

Hi-Light can provide definitive calculations for project specific designs.