

Notes

Peak velocity pressure calculation to BS EN 1991-1-4:2005+A1:2010 and UK national annex

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Description	Value
Site location	53.478867°N -2.251380°E
Fundamental basic wind velocity, $V_{b,map}$ (m/s)	22.7
Site altitude, A (m)	40
Seasonal factor is based on all year.	
Probability factor, C_{prob}	0.80
Altitude factor, C_{alt}	1.038
Orography	Not significant
The site is in town terrain	
Distance inside town terrain (km)	0.74
Effective height, z_e (m)	22.0
Exposure correction factor, $C_{e,T}$	1.00
Peak velocity, V_p (m/s)	32.2

(Figure NA.1)

(NA.2.8)

(NA.2.5)

(A.5)

(Figure NA.8)

Description	Value
OS grid reference	SJ 83414 98045
Structure height, h (m)	22.00
Structure orientation from North (°N)	0
Seasonal factor, C_{season}	1.00
Directional factor, C_{dir}	1.00
Local effects factor, K_f	1.00
Orography factor, C_o	1.000
Distance to shoreline (km)	31.70
Displacement height, h_{dis} (m)	0.0
Exposure factor, C_e	2.93
Zone for size factor, C_s	B
Peak velocity pressure, q_p (kN/m²)	0.636

(Table NA.2)

(Table NA.1)

(A.3(4))

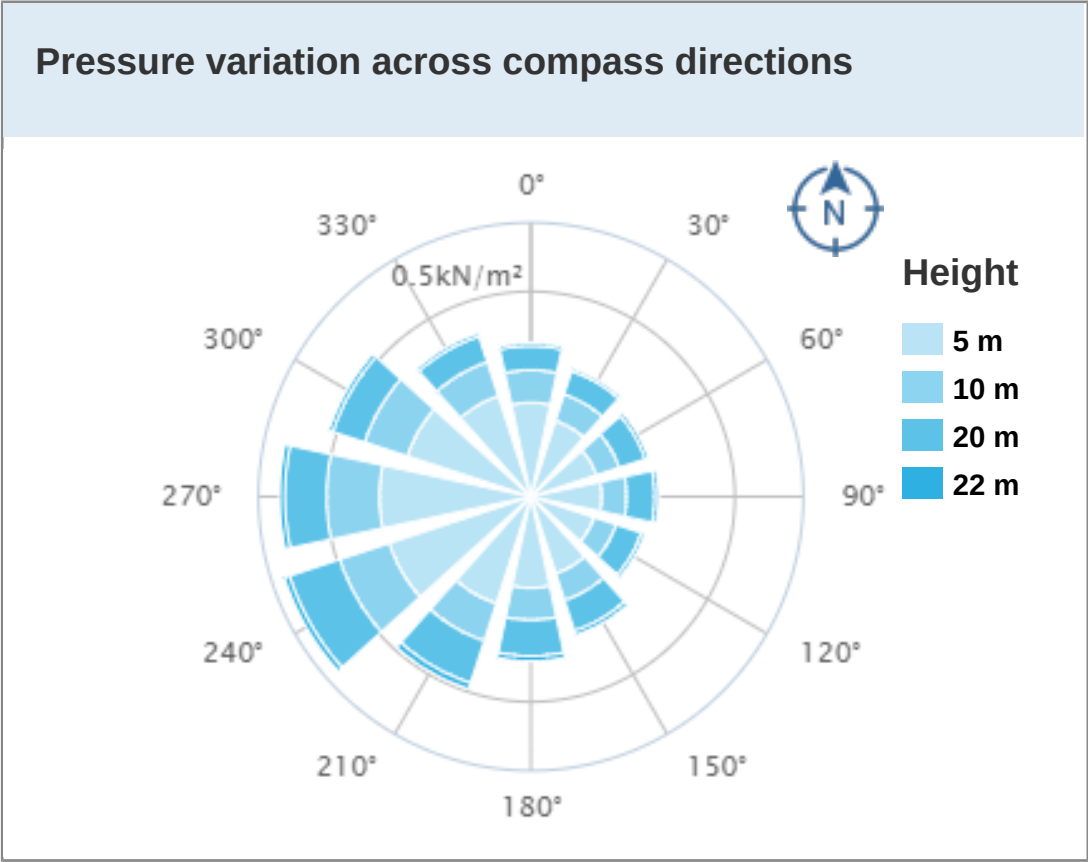
(A.3)

(A.5)

(Figure NA.7)

(NA.8)

(NA.2.17)



Peak velocity pressure variation with height across all wind directions



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Structure height/Direction	Peak velocity pressure (kN/m²)											
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
5.0 m	0.229	0.194	0.169	0.174	0.163	0.197	0.223	0.274	0.365	0.372	0.319	0.258
10.0 m	0.308	0.262	0.228	0.235	0.220	0.266	0.300	0.369	0.493	0.501	0.428	0.345
20.0 m	0.367	0.322	0.294	0.303	0.284	0.344	0.388	0.478	0.623	0.603	0.510	0.411
22.0 m	0.375	0.329	0.304	0.313	0.293	0.355	0.401	0.493	0.636	0.616	0.521	0.420