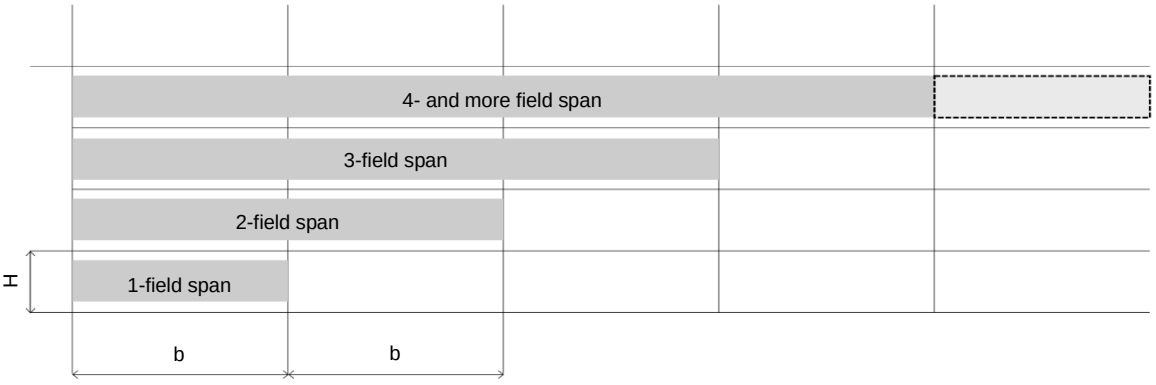
General performance
Rockpanel PlankClip System

The following table provides the ultimate performance values of the PlankClip System under wind load, expressed as the maximum allowable wind load based on varying subframe spacings and panel heights. The distances and corresponding capacities are determined in accordance with European Technical Assessment ETA-24/0911.

All wind load values shown are factored design loads, with the partial safety factor y_Q = 1.5 according to Eurocode already included.

Span		1-field span	2-field span	3-field span	4- and more field span
600	100–145	–1.343 kN/m²	–1.360 kN/m²	–1.545 kN/m²	–1.478 kN/m²
	150–300	–1.798 kN/m²	–1.190 kN/m²	–1.352 kN/m²	–1.293 kN/m²
500	100–145	–1.594 kN/m²	–1.632 kN/m²		
	150–300	–2.134 kN/m²	–1.427 kN/m²		
400	100–145	–1.959 kN/m²	–2.040 kN/m²		
	150–300	–2.623 kN/m²	–1.784 kN/m²		
↑ Spacing subframe b mm	↑ Panel-height H mm				



H: Panel height (mm)
b: Spacing subframe (mm)

Belgium – Loadtable
Rockpanel PlankClip System

The following tables show the designed wind loads acting in the respective areas and the maximum possible spacing (b) for the PlankClip System.

Wind loads are calculated for rectangular buildings according NBN EN 1991-1-4 ANB:2010. The values apply to the entire façade, with wind actions determined for corner zone “A”. All wind loads are factored. The partial safety factor y_Q = 1.5 in accordance with Eurocode is already included.

OK	Combination possible
n/a	Location requires project specific check. Part of worst-case scenario does not comply
OK x)	Suitable, but with limitations (see comments at the end of the table)

The table is to be understood as a recommendation. If no combination is found in the following tables for the planned project, get in touch with your Rockpanel supplier.

→ The following tables are valid, when the reduced wind load (pressure equalization) according NBN EN 1991-1-4 ANB:2010 (paragraph 7.2.10) is considered. See Preconditions - Pressure equalization.

For building heights (z_e) ≤ 6 m

Wind velocity $v_{b,0}$ 1)		**23 m/s**		**24 m/s**		**25 m/s**		**26 m/s**	
Terrain category 2)		**I, II, III, IV**	**I**	**II, III, IV**	**I**	**II, III, IV**	**0**	**I**	**II, III, IV**
Designed wind-load kN/m²		**–1.10**	**–1.20**	**–0.99**	**–1.30**	**–1.07**	**–1.54**	**–1.41**	**–1.16**
600	100–145	OK	OK	OK	OK	OK	n/a	n/a	OK
	150–300	OK	OK 3)	OK	n/a	OK	n/a	n/a	OK
500	100–145	OK	OK	OK	OK	OK	OK	OK	OK
	150–300	OK	OK	OK	OK	OK	n/a	OK	OK
400	100–145	OK	OK	OK	OK	OK	OK	OK	OK
	150–300	OK	OK	OK	OK	OK	OK	OK	OK
↑ Spacing subframe b mm	↑ Panel-height H mm								

1) Annex to Belgium – Windzone map

2) Annex to Belgium – Terrain categories

3) 2- field spans not possible

For building heights (z_e) ≤ 9 m

Wind velocity $v_{b,0}$ [1)]		**23 m/s**	**24 m/s**		**25 m/s**					**26 m/s**
Terrain category [2)]		**I, II, III, IV**	**I**	**II, III, IV**	**I**	**II, III, IV**	**0**	**I**	**II**	**III, IV**
Designed wind-load kN/m²		**–1.21**	**–1.31**	**–1.11**	**–1.43**	**–1.21**	**–1.67**	**–1.54**	**–1.30**	**–0.94**
600	100–145	OK	OK	OK	n/a	OK	n/a	n/a	OK	OK
	150–300	OK	n/a	OK	n/a	OK	n/a	n/a	n/a	OK
500	100–145	OK	OK	OK	OK	OK	n/a	OK	OK	OK
	150–300	OK	OK	OK	OK	OK	n/a	n/a	OK	OK
400	100–145	OK	OK	OK	OK	OK	OK	OK	OK	OK
	150–300	OK	OK	OK	OK	OK	OK	OK	OK	OK
↑ Spacing subframe b mm	↑ Panel-height H mm									

[1)] Annex to Belgium – Windzone map

[2)] Annex to Belgium – Terrain categories

For building heights (z_e) ≤ 12 m

Wind velocity $v_{b,0}$ [1)]		**23 m/s**	**24 m/s**		**25 m/s**			**26 m/s**		
Terrain category [2)]		**I, II, III, IV**	**I**	**II, III, IV**	**I**	**II**	**III, IV**	**0, I**	**II**	**III, IV**
Designed wind-load kN/m²		**–1.28**	**–1.40**	**–1.20**	**–1.52**	**–1.30**	**–0.96**	**–1.76**	**–1.41**	**–1.04**
600	100–145	OK	n/a	OK	n/a	OK	OK	n/a	n/a	OK
	150–300	OK	n/a	OK	n/a	n/a	OK	n/a	n/a	OK
500	100–145	OK	OK	OK	OK	OK	OK	n/a	OK	OK
	150–300	OK	OK	OK	n/a	OK	OK	n/a	OK	OK
400	100–145	OK	OK	OK	OK	OK	OK	OK	OK	OK
	150–300	OK	OK	OK	OK	OK	OK	OK	OK	OK
↑ Spacing subframe b mm	↑ Panel-height H mm									

[1)] Annex to Belgium – Windzone map

[2)] Annex to Belgium – Terrain categories

If it's desired to take no pressure equalization according to NBN EN 1991-1-4 ANB:2010 (paragraph 7.2.10) into account, the following table shall be used.

For building heights (z_e) ≤ 6 m

Wind velocity $v_{b,0}$ [1]		**23 m/s**			**24 m/s**			**25 m/s**		**26 m/s**		
Terrain category [2]		**I**	**II**	**III, IV**	**I**	**II**	**III, IV**	**II**	**III, IV**	**II**	**III**	**IV**
Designed wind-load kN/m²		**–1.72**	**–1.41**	**–0.96**	**–1.87**	**–1.54**	**–1.05**	**–1.67**	**–1.14**	**–1.81**	**–1.23**	**–1.05**
600	100–145	n/a	n/a	OK	n/a	n/a	OK	n/a	OK	n/a	OK	OK
	150–300	n/a	n/a	OK	n/a	n/a	OK	n/a	OK	n/a	OK [3]	OK
500	100–145	n/a	OK	OK	n/a	OK	OK	n/a	OK	n/a	OK	OK
	150–300	n/a	OK	OK	n/a	n/a	OK	n/a	OK	n/a	OK	OK
400	100–145	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	150–300	OK	OK	OK	n/a	OK	OK	OK	OK	n/a	OK	OK
↑ Spacing subframe b mm	↑ Panel-height H mm											

[1] Annex to Belgium – Windzone map

[2] Annex to Belgium – Terrain categories

[3] 2- field spans not possible

For building heights (z_e) ≤ 9 m

Wind velocity $v_{b,0}$ [1]		**23 m/s**			**24 m/s**			**25 m/s**		**26 m/s**		
Terrain category [2]		**I**	**II**	**III, IV**	**II**	**III**	**IV**	**II**	**III**	**IV**	**III**	**IV**
Designed wind-load kN/m²		**–1.88**	**–1.59**	**–1.14**	**–1.73**	**–1.24**	**–0.89**	**–1.88**	**–1.35**	**–0.97**	**–1.46**	**–1.05**
600	100–145	n/a	n/a	OK	n/a	OK	OK	n/a	n/a	OK	n/a	OK
	150–300	n/a	n/a	OK	n/a	OK [3]	OK	n/a	n/a	OK	n/a	OK
500	100–145	n/a	OK	OK	n/a	OK	OK	n/a	OK	OK	OK	OK
	150–300	n/a	n/a	OK	n/a	OK	OK	n/a	OK	OK	n/a	OK
400	100–145	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	150–300	n/a	OK	OK	OK	OK	OK	n/a	OK	OK	OK	OK
↑ Spacing subframe b mm	↑ Panel-height H mm											

[1] Annex to Belgium – Windzone map

[2] Annex to Belgium – Terrain categories

[3] 2- field spans not possible

For building heights (z_e) ≤ 12 m

Wind velocity $v_{b,0}$ [1]		**23 m/s**				**24 m/s**			**25 m/s**		**26 m/s**	
Terrain category [2]		**I**	**II**	**III**	**IV**	**II**	**III**	**IV**	**III**	**IV**	**III**	**IV**
Designed wind-load kN/m²		**–2.00**	**–1.71**	**–1.27**	**–0.90**	**–1.87**	**–1.38**	**–0.98**	**–1.5**	**–1.06**	**–1.62**	**–1.15**
600	100–145	n/a	n/a	OK	OK	n/a	n/a	OK	n/a	OK	n/a	OK
	150–300	n/a	n/a	OK [3]	OK	n/a	n/a	OK	n/a	OK	n/a	OK
500	100–145	n/a	n/a	OK	OK	n/a	OK	OK	OK	OK	n/a	OK
	150–300	n/a	n/a	OK	OK	n/a	OK	OK	n/a	OK	n/a	OK
400	100–145	n/a	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	150–300	n/a	OK	OK	OK	n/a	OK	OK	OK	OK	OK	OK
↑ Spacing subframe b mm	↑ Panel-height H mm											

[1] Annex to Belgium – Windzone map

[2] Annex to Belgium – Terrain categories

[3] 2- field spans not possible

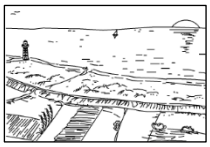
Annex
to Belgium Loadtable

Windzone map

- $v_{b,0}$ = 26 m/s
- $v_{b,0}$ = 25 m/s
- $v_{b,0}$ = 24 m/s
- $v_{b,0}$ = 23 m/s

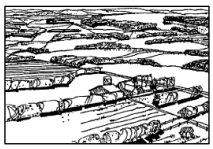
See NBN EN 1991-1-4, Figure 4.3 ANB – Vitesses de reference du vent $v_{b,0}$ définies par zones

Terrain categories



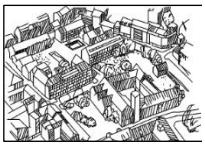
Terrain category 0
Sea, coastal areas exposed to the open sea

Terrain category I
Lakes or areas with low vegetation and no obstacles



Terrain category II
Areas with low vegetation such as grass and individual obstacles (trees, buildings) with distances of at least 20 times the height of the obstacle

Terrain category III
Areas with uniform vegetation or buildings or with individual objects at distances of less than 20 times the obstacle height (e.g. villages, suburban development, wooded areas).



Terrain category IV
Areas in which at least 15% of the surface is covered by buildings with an average height of 15 meters

Preconditions - Pressure equalization

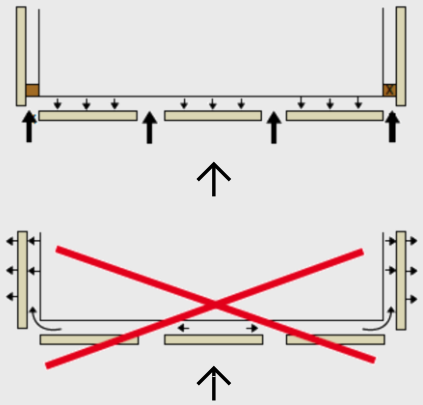


Fig. closed corners

If certain conditions are met, the pressure coefficient (c_{pe}) decreases, resulting in a lower windload. Pressure equalization is specified in Eurocode EN 1991-1-4, with further details in the National Annex.

The following parameters must be met:

- The ratio of open joints to panels area is ≥ 1%. This is achieved by all panel-heights due to the 6 mm joint width.
- The internal pressure within the ventilated cavity must remain undisturbed by air movement between different sides of the building. To ensure this, a cavity closure should separate one building side in corner areas, see figure “closed corners”.
- The cavity depth must be between 40 and 100mm. The minimum of 40 mm is met by using the PlankClip system.

→ Further details are available in the national annex NBN EN 1991-1-4 ANB:2010.