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TNO report

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Wind loads on large solar arrays on flat roofs (2)

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Contents

1 Introduction

The market for building added solar energy systems is developing rapidly. As a result new products appear constantly on the market. Solar energy systems should be designed to withstand the loads that act on them during their lifetime. Wind loads are often the most dominant load for the design of fixings or added ballast weight. The European standard for wind loads does not provide specific values for solar energy systems on buildings. Since 2000, codes and guidelines have been developed and values based on existing knowledge have been incorporated into guidelines, internationally as well as in the Netherlands.

The Dutch NVN 7250, published in 2003, was the first pre-standard concerning the building integration of solar energy systems. Up until now it has the status of pre-standard. The NVN 7250 is currently being updated to an official standard, NEN 7250. The wind loading values included in the pre-standard are based on full scale and wind tunnel experiments from TNO, done in 2002, [8]. A frequently asked question by the industry is whether the wind loading data could be updated to cover more types of systems and to provide more specific information for their systems.

Wind tunnel research is found costly for individual suppliers and manufacturers of solar energy systems. Also, results of research for individual parties are not publicly available to be used by others and in new guidelines or standards. In a joint initiative of suppliers and manufacturers of solar energy systems and Agentschap NL a parametric wind tunnel experiment has been performed to provide new wind loading data for solar energy systems places on flat roofs. The results of this research will be included in the new NEN 7250.

1.1 Research objective

The objective of this research is to obtain additional values for pressure coefficients for solar panels on flat roofs for a number of different configurations with respect to angle, back panel etc. These values will be incorporated in the new Dutch standard, NEN 7250, which follows from the pre-standard NVN 7250, [5].

This research is an extension of the research performed in 2002, [8], and is not intended to be a replacement.

1.2 Research set-up

To investigate the wind loads on solar energy panels on flat roofs wind tunnel measurements have been performed. This research aims to provide pressure coefficients for solar energy panels taking into account the following:

- Building size;
- shielding effects by upstream solar panels;
- Effect of a parapet at the roof edge;
- Location of panels on the roof, effect of zoning into corner, edge and middle zone;
- Tilt angle of panels;
- Application of a back panel (or deflector).

The wind tunnel research was performed according to the procedures of CUR 103, [3].

The wind tunnel measurements setup is described in Chapter 2. Chapter 4 and Chapter 5 describe the resulting minimum and maximum pressure coefficients following from the measurements. The report ends with conclusions and recommendations for further research, Chapter 6. Background information such as illustrations, photos from the model in the wind tunnel and data from the measurements is given in the appendices. A part of this project consists of providing a draft text for the new NEN 7250. This draft text will be a separate document (written in Dutch) based on the results presented in this report.

2 Set-up wind tunnel research

The aim of the research is to gain new insight into wind loads on solar energy systems on flat roofs. This insight has to be applicable to a great variety of solar energy systems on flat roofs. In 2002 TNO performed a similar extensive research which was used as input for NVN 7250 [5]. Since then, mounting systems have developed. Amongst these developments are the application of a lower inclination angle and the use of so called deflectors.

The focus of this research concerns the effects that the following situations have on the wind load:

1. Building size;
2. Shielding by upstream solar panels;
3. A parapet at the roof edge;
4. Location of panels on the roof;
5. Tilt angle of panels;
6. Application of a back panel (or deflector).

2.1 Wind tunnel

The wind tunnel research has been performed in the atmospheric boundary layer wind tunnel of TNO in Apeldoorn. The tunnel has a cross section of 2m x 3m. The length of the upstream section is 15m and the length of the test section is 11.5m. Figure 2.1 shows a top and side view of the wind tunnel of TNO.

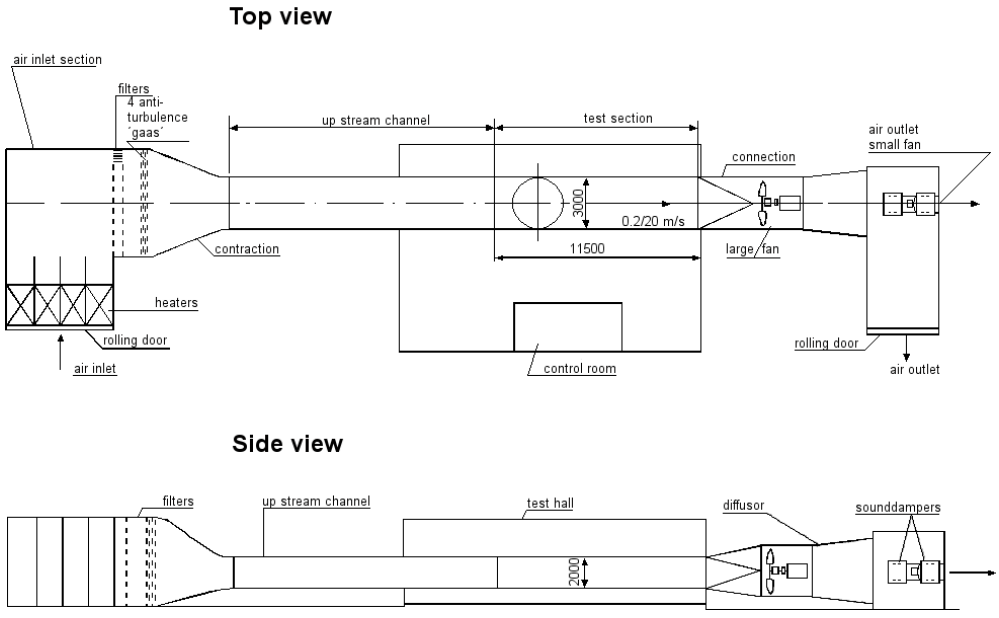


Figure 2.1: Cross section of the wind tunnel of TNO.

2.2 Model

To assess the effect of different situations concerning solar energy systems on flat roofs, several scale-models of differently shaped buildings with solar panels are made.

Paragraph 2.3 gives a description of the models.

To ascertain that the results from the wind tunnel research are comparable to a full scale situation the following has to be taken into account:

- The correct geometrical scaling has to be chosen.
- The surrounding environment need to be modelled on scale as well.
- The ratio between the time scale, the length scale and the scaling of the wind speed needs to be modelled correctly.

These and other demands are described in CUR guideline 103.

The models in the present research are modelled at a scale of 1:50.

For this research the roughness of the surrounding area is simulated with a lego board (giving a roughness length $z_0 = 0.02$m at full scale).

The scaled turbulence intensity in the wind tunnel has to be smaller than in a full scale situation according to CUR Recommendation 103 [3]. The turbulence intensity in the wind tunnel, with a roughness of $z_0 = 0.02$m and at a roof height of 12 meter is approximately 10%. In full scale the turbulence intensity for a similar situation is 17%, [9] ($\frac{1}{\ln(\frac{z}{z_0})}$). This means that the measurement set-up with respect to the turbulence intensity is in accordance with CUR Recommendation 103.

The blockage of the models has a minimum value of 6% and a maximum value of 8%. This means that the blockage is higher than the usual maximum applied value of 5%. Although this will effect the results to a minor extent, no correction has been applied. Correction factors or formulas for blockage effects are not available due to the complexity of the flow. It is assumed that the values found in this study are conservative values.

Most of the models in the research have a height of 25cm (12.5m at full scale) including panels at an angle of 25°. The boundary layer in the wind tunnel is approximately 1.2m, which is more than 4 times the height of the model. This is in accordance with [3].

The details of the TNO wind tunnel in Apeldoorn and the properties of the simulated boundary layer are described in detail in [1].

The photograph in Figure 2.2 shows the wind tunnel model of one of the models used in this research. Figure 2.3 shows the orientation of the wind directions that is used in the analysis.

Figure 2.2: Photograph of a model with the roof covered with solar panels in the TNO wind tunnel in Apeldoorn.

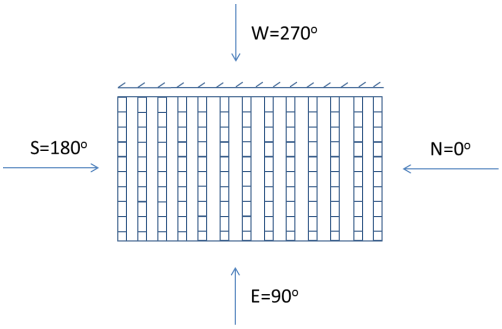


Figure 2.3: Wind directions for the model; the high side of the solar panel is defined as North.

2.3 Configurations

This paragraph describes the model configurations for which pressure measurements have been performed in the TNO wind tunnel. The general characteristics that apply to all models are:

- Scale of model 1:50
- Roughness length 0.02m (full scale)
- Panels placed in landscape position
- Length of panel: 1.0m (full scale)
- Width of panel: 1.60m (full scale)
- Distance to roof: 100mm (full scale)
- Gap size between panels: 20mm (full scale)
- Whole roof covered with panels

Detailed dimensions are given in Figure 2.4 and Figure 2.5.

2.3.1 Building 60mx80mx12m, open system, panels 10°, no parapet

The first configuration that has been tested has the following characteristics:

- Building dimensions (LxWxH): 80x60x12 m
- Open systems
- Angle of panels: 10° relative to the roof
- No parapet

- Row distance: 1.46m (hoh)

The row distance between two rows of solar panels is defined by taking into account the optimal angle of the sun, at 20° relative to the roof. For panels at an angle of 10° relative to the roof a row distance of 1.46m is found, see Figure 2.4. Since the whole roof is covered with solar panels this configuration contains 55 rows.

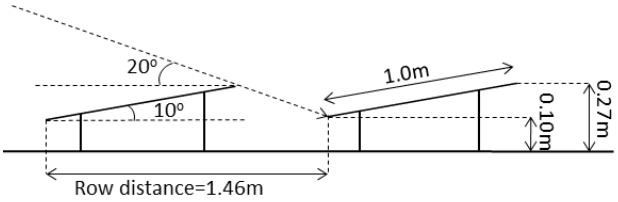


Figure 2.4: Section of panels at an angle of 10° relative to the roof.

2.3.2 *Building 60mx80mx12m, open systems, panels 25°, no parapet*

The first investigated effect is the tilt angle of the panels relative to the roof. This configuration considers panels at an angle of 25° relative to the roof. Since the optimal angle of the sunlight determines the distance between rows, the row distance has to be adjusted accordingly for this configuration to 2.08m, see Figure 2.5. This results in an decrease of the number of rows of solar panels on the roof (39 rows) compared to the previous configuration with panels at an angle of 10° (55 rows).

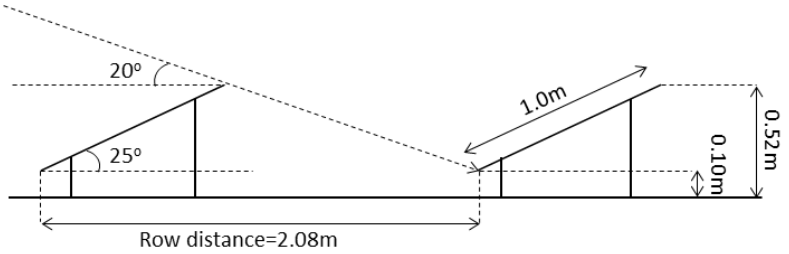


Figure 2.5: Section of panels at an angle of 25° relative to the roof

2.3.3 *Building 60mx80mx12m, open systems, panels 25°, with parapet*

The effect of a parapet on the wind load on the solar panels is tested by adding a parapet to the configuration described in the previous paragraph. The full scale parapet is 0.52m high, derived from the height of a panel at an angle of 25° relative to the roof and the distance between the bottom of the panel and the roof, see Figure 2.5. .

2.3.4 *Building 60mx80mx12m, semi open system, panels 25°, deflector at 90°, no parapet*

The effect of a deflector is investigated for two situations. At first a situation in which a deflector it attached to the solar energy systems, having an angle of 90° relative to the roof, as shown in Figure 2.6. The solar panels have a tilt angle of 25° relative to roof and the number of rows is 39.

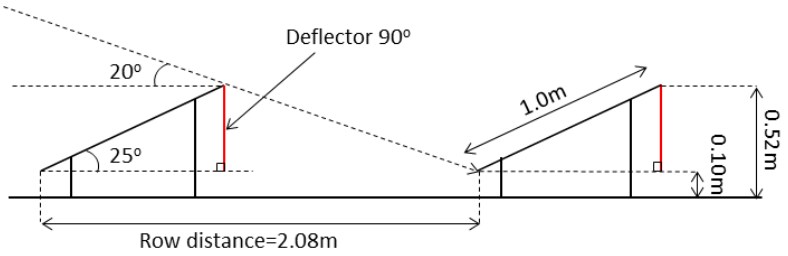


Figure 2.6: Section of panels at an angle of 25° relative to the roof, including a deflector at 90° relative to the roof.

2.3.5 *Building 60mx80mx12m, semi open system, panels 25°, deflector at 60°, no parapet*

And secondly, Figure 2.7 shows the situation in which a deflector is used with an angle of 60° relative to the roof. The solar panels have a tilt angle of 25° relative to the roof and the number of rows is 39.

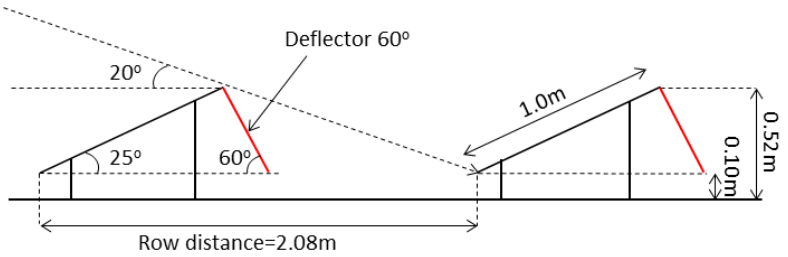


Figure 2.7: Section of panels at an angle of 25° relative to the roof, including a deflector at 60° relative to the roof.

2.3.6 *Building 15mx40mx12m, open system, panels 25°, no parapet*

The building dimensions also affect the wind load on the solar energy systems. In this configuration the building dimensions length and width are decreased compared to the configurations in the previous paragraphs, but the building height remains the same. The solar panels have a tilt angle of 25° relative to the roof and the number of rows is 20.

2.3.7 *Building 15mx40mx25m, open system, panels 25°, no parapet*

To study the effect of the building height, the height is increased with a factor 2 to 25m. The solar panels have a tilt angle of 25° relative to the roof and the number of rows is 20.

2.4 Pressure measurements

The aim of the pressure measurements is to define local design wind loads on solar panels and the roof. Fluctuating wind pressures have been measured using a pressure measuring system for a maximum of 72 positions, depending on the configuration. Pressure measurements have been performed for 24 wind directions, i.e. every 15 degrees from 0° until 345°, where 0° is Northern wind and 90° is Eastern wind etcetera.

2.4.1 *Pressure taps*

The locations of the pressure taps are described in Appendix B. The odd pressure taps 1-31 and 37-67 are located at the upper side of the solar panels. The even pressure taps 2-32 and 38-68 are located at the bottom side of the panels. On the roof, underneath the panels the pressure taps 33-36 and 69-72 are located.

Each measured solar panel is equipped with four pressure taps on either side. Figure 2.8 shows the distribution of pressure points on the upper side of a panel. The pressure taps on the bottom side are positioned as close to the upper location as possible, in order to define a net pressure per location. The photograph in Figure 2.9 shows one of the panels of the model.

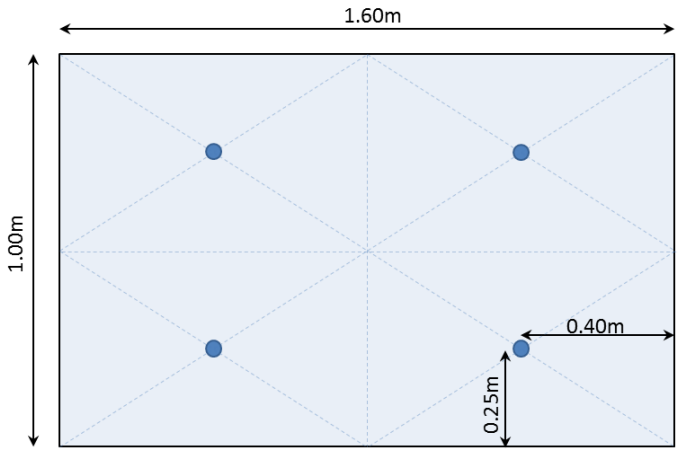


Figure 2.8: Pressure tap locations on the upper side of a solar panel.

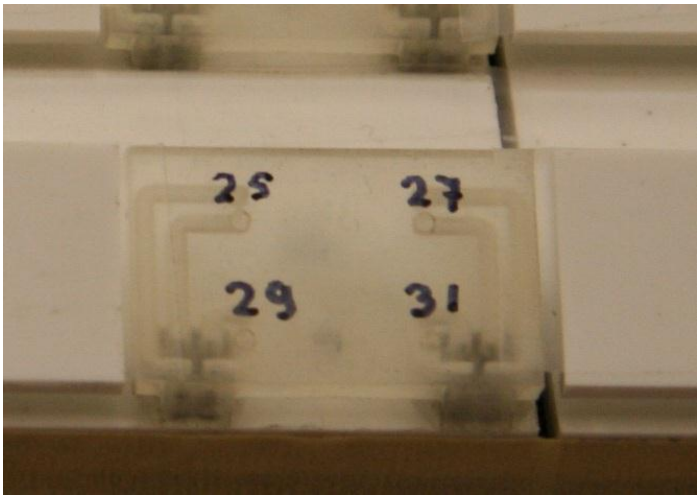


Figure 2.9: Pressure taps on one of the panels of the wind tunnel model locations on the upper side of a solar panel.

At the locations of the pressure points small holes are made in the solar panels and in the roof of the model. These holes are connected to the pressure measuring system by flexible tubes.

3 Procedure data analysis

This chapter describes the extreme value analysis of the time signals of the measured pressures, according to method B of CUR Recommendation 103 [3]. Method B derives values for the loads per wind direction.

3.1 Measurement set up

Before and after measuring the model, the measurement system is checked by putting three known pressures (tuned with a calibrated Betz manometer) on the measuring system and comparing those to each other. The accuracy of the measured pressures is $\pm$ 2%.

Besides the pressures on the solar panels and the roof, the static pressure in the wind tunnel (p_{bar}) is being measured continuously at a location 1m before the turn table at an height of 1.25m. This pressure is comparable to the real barometer pressure. With this the pressure difference $p - p_{bar}$ is defined.

All measurements are performed with a sample frequency of 400 Hz and a measuring time of approximately 20.5 seconds (8192 samples). The wind speed at the height of the roof in the undisturbed flow was 11.6 m/s. This wind speed is obtained using a pitot tube at roof height at a distance of 2m in front of the model.

3.2 Analysis procedure

The analysis procedure leads to pressure coefficients that are applicable for EN 1991-1-4. The Dutch National Annex of NEN EN 1991-1-4 refers to CUR Recommendation 103 [3] for the application of wind tunnel experiments. Procedure B of this recommendation is used to determine the pressure coefficients. This method uses extreme value analysis and takes into account the local statistics of the wind speed and the wind direction. The values for the wind load defined by the extreme value analysis satisfy the required reliability level as given by NEN EN 1990 [2].

The analysis procedure is described below.

3.2.1 Non dimensional parameters

The pressures $p_{WT}(\theta, t)$ measured in the windtunnel are made dimensionless by:

$$C_p(\theta, t) = \frac{p_{WT}(\theta, t)}{\frac{1}{2}\rho v_{ref}^2}$$

In which θ is the wind direction. The wind speed v_{ref} is the mean wind velocity at reference height in the wind tunnel $v_{ref} = 11.6m/s$ at 12 metres in full scale or 25 centimetres in the wind tunnel.

3.2.2 Translation to full scale values

The dimensionless parameters are translated to full scale values according to the geometric, velocity and frequency scaling. The pressures are averaged over a 0.5 second interval around each sampling point. This is done to filter out measured peaks which have a duration that is too short to have an effect on the measured structure. The statistical distribution of the mean wind speed for every wind direction is not taken

into account to assure that the results are applicable as a standard. Therefore, the pressures are defined independent of the wind direction.

3.2.3 Extreme value analysis of the pressure coefficients

Per wind direction the time-independent extreme value distributions of the coefficients $C_p(\theta)$, are determined. The mode U_p and standard deviation a_p of the Gumbel distribution are obtained by fitting the maximum and minimum values of the samples to the general expression of the Gumbel distribution. The mode $U_{p,3600}$ for the extreme value distribution of the pressures for an interval of one hour is defined as:

$$U_{p,3600} = U_{p,T} + \ln(3600/T)/a_p$$

In which T is the full scale time duration of a sample. This procedure results for each wind direction in two sets of $U_{p,3600}$ and a_p, one set for the maximum values and one for the minimum values.

3.2.4 Wind loading per wind direction

Per wind direction, the representative values for the loading are determined by:

$$C_p(\theta) = U_{p,3600} + 2.9\frac{1}{a_p}$$

These pressure coefficients correspond to a value with a probability of non-exceedance of 90%. The pressure coefficients are normalised with the peak velocity pressure q_p. The peak pressure, q_p is determined according to the Dutch national annex of EN 1991-1-4 [4, 6] for wind area I, unbuilt terrain and at a building height of 12 metres resulting in $q_p = 1083$ N/m^2.

3.3 Data analysis

The extreme value analysis is carried out according to the procedure described in Section 3.2. The analysis is applied for the following data sets:

1. Time traces of the individual signals.
2. Time traces of pressures on both sides of a solar panel have been combined to new time traces of the pressure differences over the panel, by transforming 8 time signals per panel to 4 time signals (of the pressure differences between upside and downside of the panel for 4 locations).
3. The time traces of the previous step are combined for each set of two positions on the same half of a single panel, either the top half, or the bottom half. This leaves 2 new time series per panel.
4. The time traces of the first step are combined for each set of two positions on the same half of a single panel, either the left half, or the right half. This leaves 2 new time series per panel.
5. The time traces of step one are again combined for each set of four positions to obtain the area-averaged values for the whole panel under consideration.

Application of the extreme value analysis procedure results in net pressure coefficients for each measured position on the panel, each half of every panel (top/bottom and left/right) and each total panel, respectively. These data are presented in the tables in the appendices to this report. A discussion of the results is given in the next chapter.

4 Results for negative net pressure coefficients

This chapter gives the results for the minimum net pressure coefficients per panel. The positive net pressure coefficients are given by Chapter 5. Negative net pressure coefficients correspond to an uplift load on the solar energy panels. A more detailed presentation of the results is shown by the tables in Appendix B and Appendix C.

Paragraph 4.1 shows values of minimum net pressure coefficients for the configuration of a building of 60mx80mx12m, with open panels at an angle of 10° relative to the roof and no parapet. Paragraph 4.2 shows the results for a similar case, with the solar panels under an angle of 25° relative to the roof. For these configurations also the effect of coupling is taken into account in paragraph sec:P1H3smin. In Paragraph 4.3 the results are shown for this configuration including a parapet of the same height as the panels. The results of cases with a back panel are presented in Paragraph 4.4 and 4.5. Paragraph 2.3.7 consists of the results of a higher and smaller building. The last paragraphs concern only a smaller building, with a similar height as the standard building.

4.1 Building 60x80x12 m, open, panels 10°, no parapet

This paragraph presents the pressure coefficients per panel for a building, with open systems, panels at an angle of 10° relative to the roof and without parapet. Figure 4.1 illustrates with colored blocks the highest wind load (suction) over all wind directions on the panels. Due to graphical reasons, the position of the blocks is an indication of the position of the panels on the roof, but not the exact position. The panels are positioned at the edge of the roof as shown in the legend of figure 4.1. Figure 4.2 shows the coloured parts of Figure 4.1 in more detail together with the values of $c_{p,net}^{-}$. These values per panel can also be found in Appendix B.

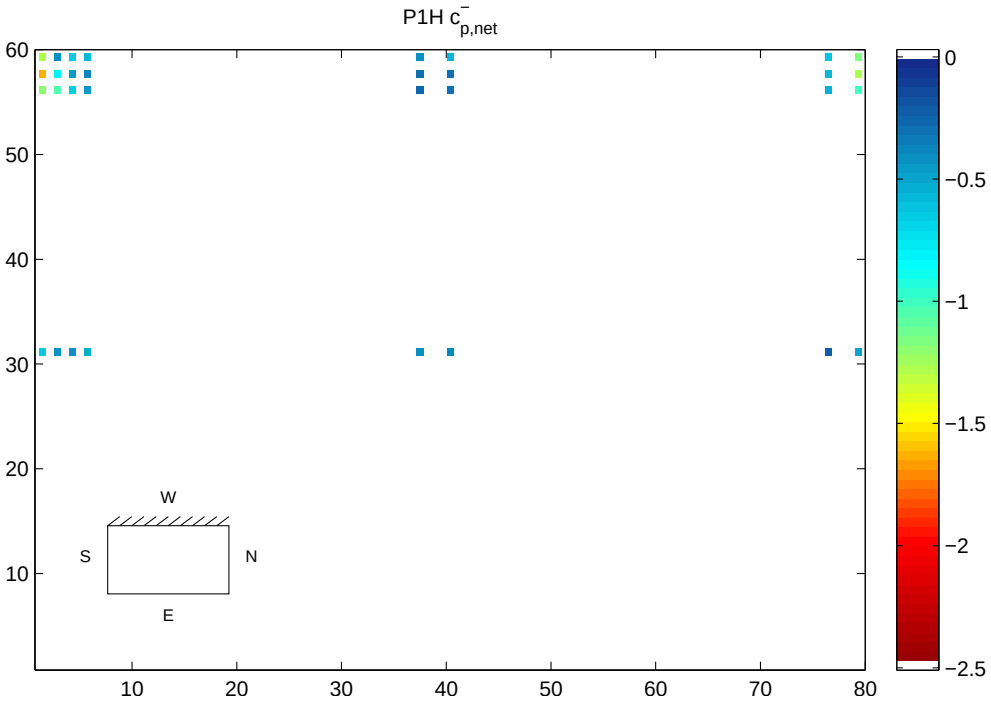
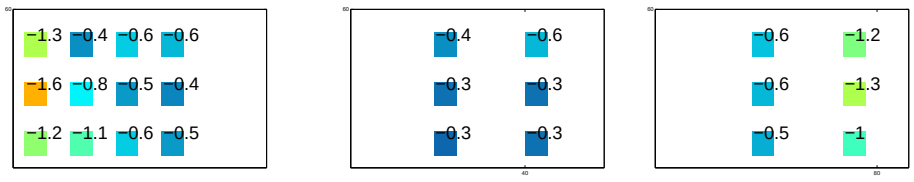
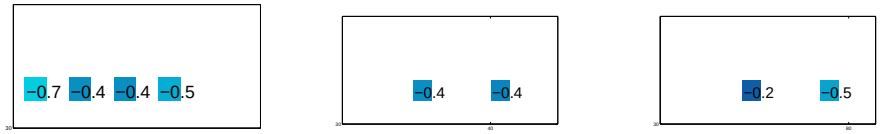


Figure 4.1: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, open systems, panels at angle 10°, no parapet.



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 4.2: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, open systems, panels at angle 10°, no parapet.

4.2 Building 60x80x12 m, open, panels 25°, no parapet

This paragraph presents the pressure coefficients per panel for a building, with open systems, panels at an angle of 25° relative to the roof and without parapet. Figure 4.3 shows the highest wind loads (suction) over all wind directions and Figure 4.4 gives a more detailed view.

There are two clear differences between the results with panels at an angle of 10° (Paragraph 4.1) and 25°. At an angle of 25° relative to the roof the panels on the North side experienced $c_{p,net}^{-}$ values of -2 and lower. The values in the previous paragraph, where panels are placed at an angle of 10°, are much lower, around -1.2. However, at the South corner zone, the panels under 10° experience much higher loads, around -1.6, where the 25° panels only reached -1.1.

The figures show that the highest negative value for $c_{p,net}^{-}$ occurs at the North side of the building, where the panels are placed with their high side to the edge of the building.

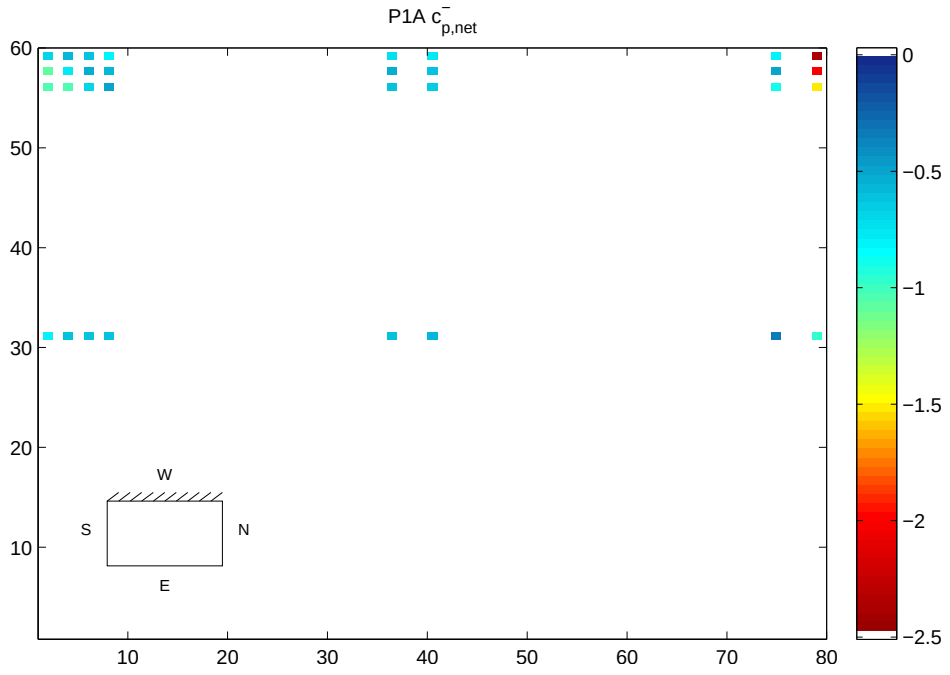
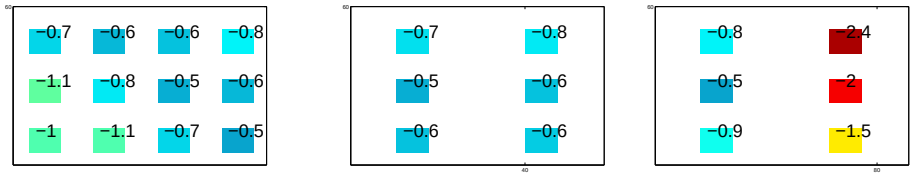
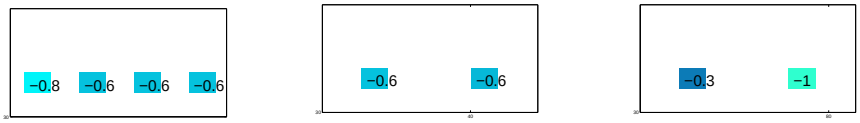


Figure 4.3: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, open systems, panels at angle 25°, no parapet



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 4.4: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, open systems, panels at angle 25°, no parapet.

4.3 Building 60x80x12 m, open, panels 25°, with parapet

The pressure coefficients presented in this paragraph show the influence of a parapet of the same height as the top of the panels. This influence is visible by comparing Figure 4.5 and 4.6 to the two figures in the previous paragraph.

A clear difference is that the high loads on the last row of panels at the North side of the building, that were present in the case without parapet, don't occur anymore. However, the pressure coefficients in the South corner have increased slightly. In the middle area there is no great difference between the two cases.

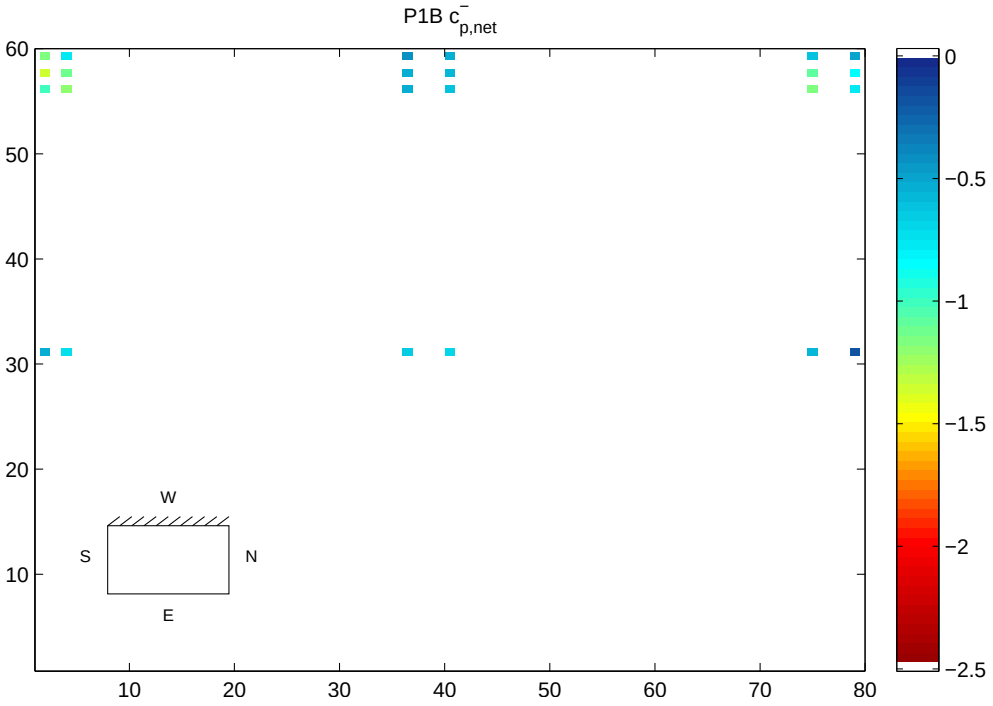
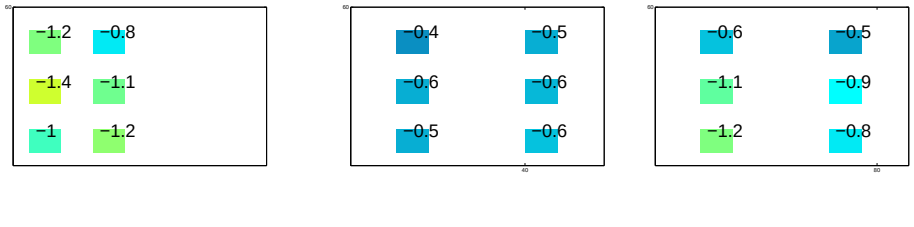
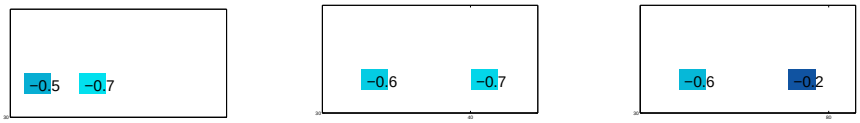


Figure 4.5: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, open systems, panels at angle 25°, with parapet



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 4.6: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, open systems, panels at angle 25°, with parapet.

4.4 Building 60x80x12 m, semi open, panels 25°, deflector 90°, no parapet

In the following paragraphs configurations without parapet but with back panels are shown. The configuration in this paragraph contains back panels with an angle of 90° relative to the roof.

Figure 4.7 and 4.8 present the effect on the pressure coefficients of the solar panels. The values reduce significantly in comparison to the values in Figure 4.3 and 4.4. The values for the back panel are given in Appendix C.

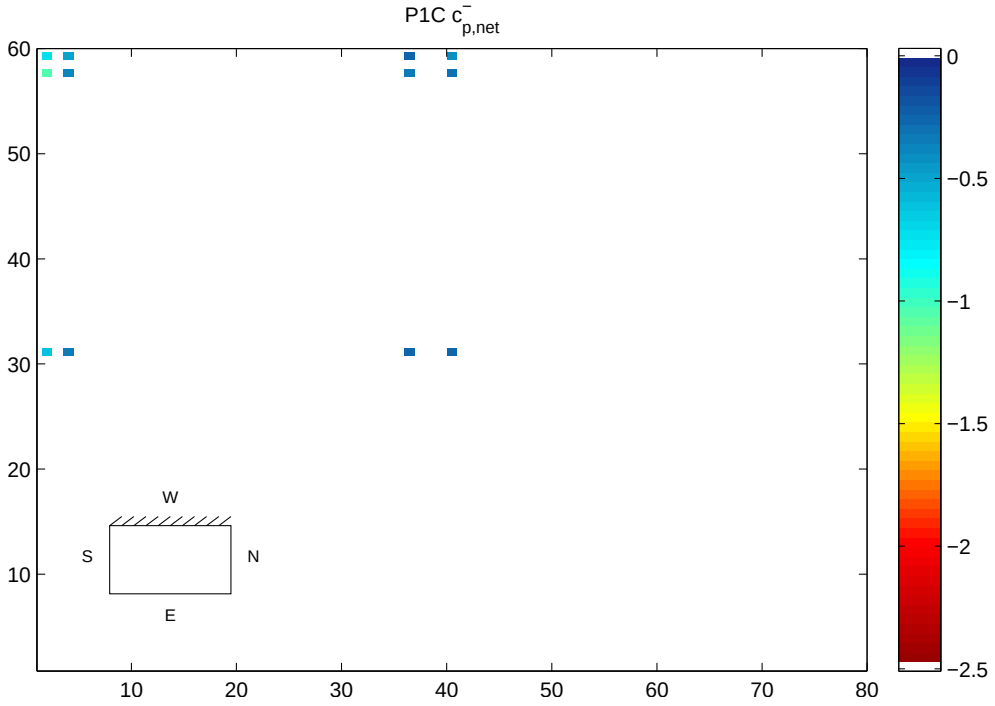
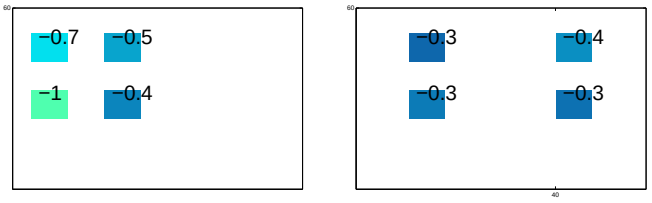
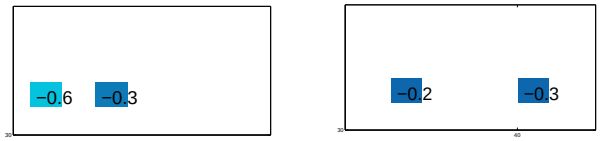


Figure 4.7: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, semi open systems, panels at angle 25°, deflector 90°, no parapet.



(a) South corner (b) West edge



(c) South edge (d) Middle middle

Figure 4.8: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, semi open systems, panels at angle 25°, deflector 90°, no parapet.

4.5 Building 60x80x12 m, semi open, panels 25°, deflector 60°, no parapet

This paragraph shows the pressure coefficients of a configuration with a back panel with an angle of 60° relative to the roof.

The results shown in Figure 4.9 and 4.10 are very similar to the results shown by Paragraph 4.4. The loads on the solar panels do not change with the angle of the back panel. The values for the back panel are given in Appendix C.

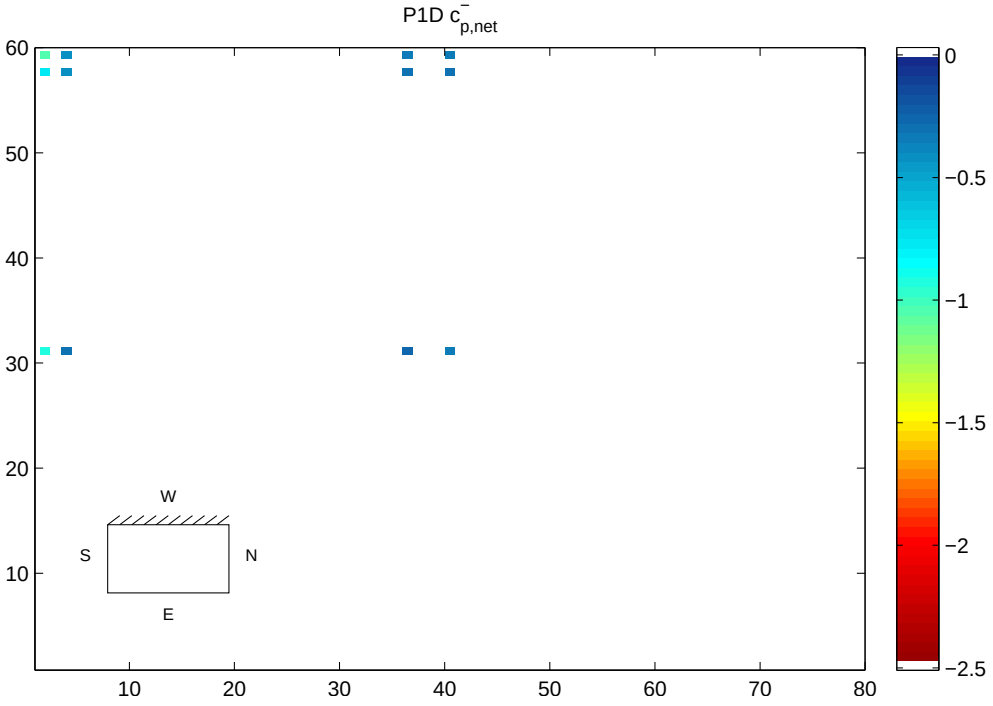
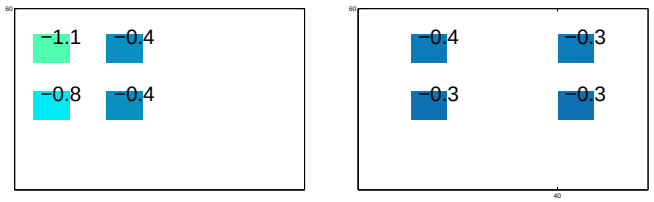
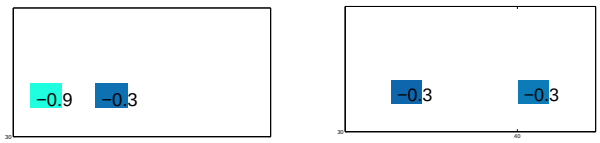


Figure 4.9: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, semi open systems, panels at angle 25°, deflector 60°, no parapet.



(a) South corner (b) West edge



(c) South edge (d) Middle middle

Figure 4.10: Net pressure coefficients $c_{p,net}^{-}$ for a building 60mx80mx12m, semi open systems, panels at angle 25°, deflector 60°, no parapet.

4.6 Building 60x80x12 m, open, panels 10°, no parapet, coupled systems

This paragraph shows the pressure coefficients of coupled systems with a reference area of 10 m^2.

The values shown in Figure 4.11 and 4.12 are lower compared to the values shown by Paragraph 4.1.

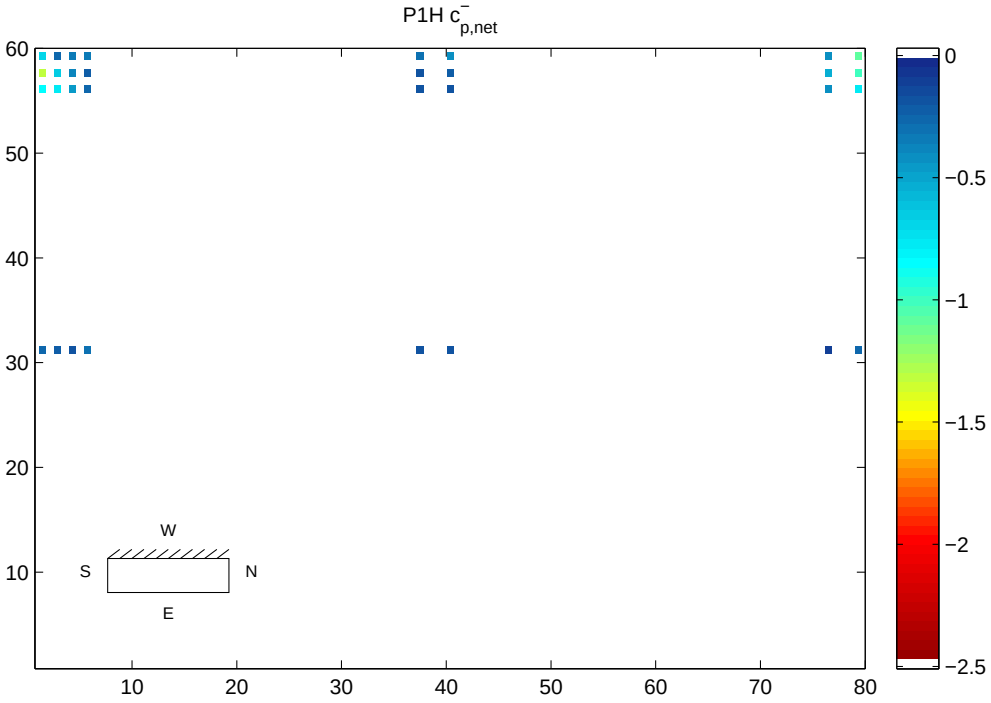
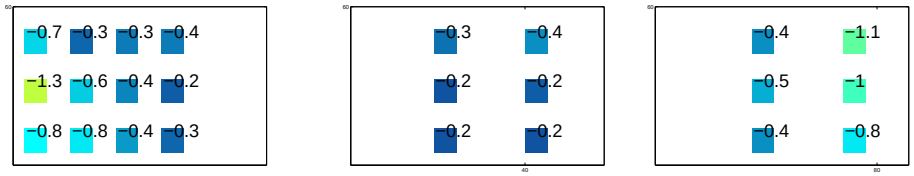
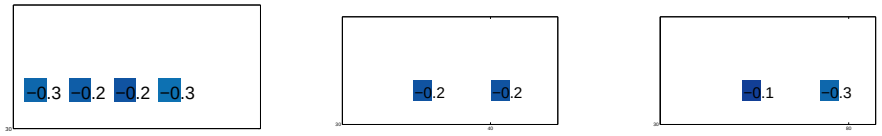


Figure 4.11: Net pressure coefficients $c_{p,net}^-$ for a building 60mx80mx12m, open systems, panels at angle 10°, no parapet, coupled systems.



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 4.12: Net pressure coefficients $c_{p,net}^-$ for a building 60mx80mx12m, open systems, panels at angle 10°, no parapet, coupled systems.

4.7 Building 60x80x12 m, open, panels 25°, no parapet, coupled systems

This paragraph shows the pressure coefficients of coupled systems with a reference area of 10 m^2.

The values shown in Figure 4.13 and 4.14 are lower compared to the values shown by Paragraph 4.2.

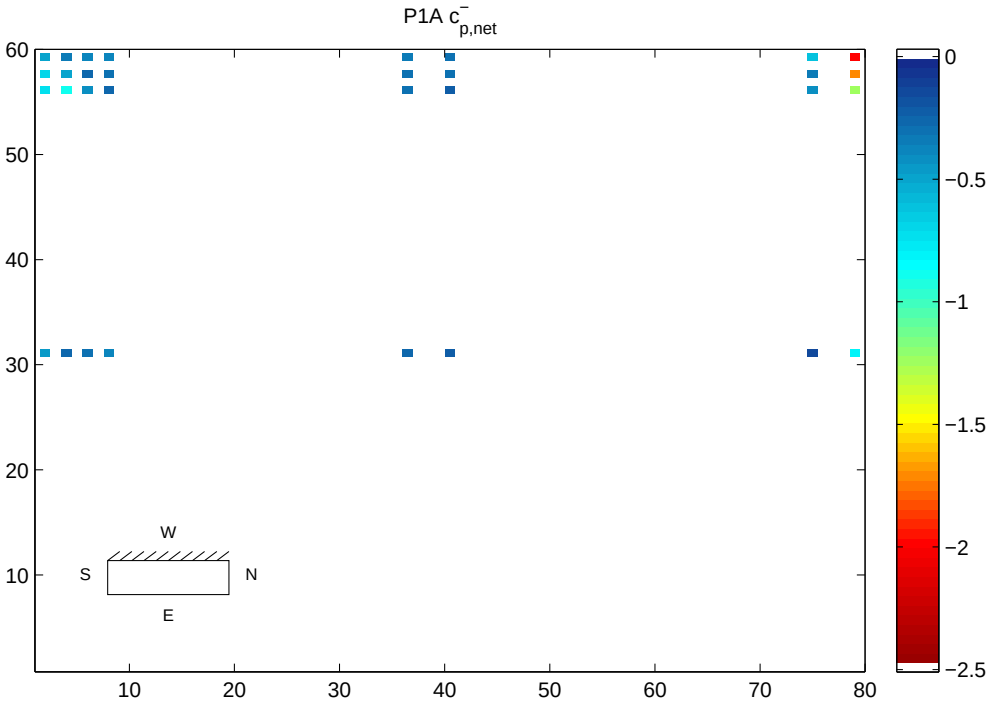
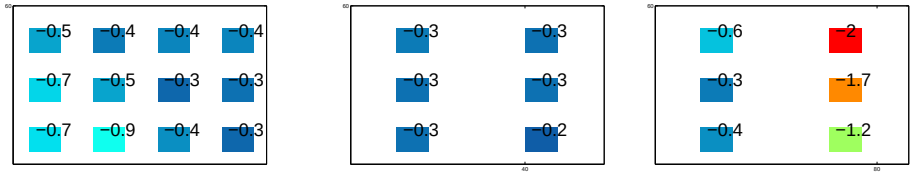
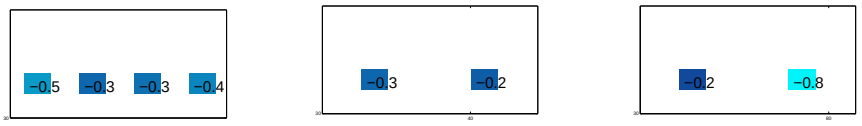


Figure 4.13: Net pressure coefficients $c^-_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 25°, no parapet, coupled systems.



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 4.14: Net pressure coefficients $c^-_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 25°, no parapet, coupled systems.

4.8 Building 15x40x25 m, open, panels 25°, no parapet

The two figures in the following paragraphs show the pressure coefficients for a roof covered with solar panels for two small buildings, the length and width are much smaller than the building in the previous paragraphs, 15m x 40m x 25m compared to 60m x 80m x 12m. The second configuration considers a building with dimensions 15m x 40m x 12m.

The results of these two smaller buildings differ only slightly from each other and a little from the results shown in Paragraph 4.2. The area with the highest load is the back row on the North side. The value for the pressure coefficient reaches a value of -2.4 on the corner panel.

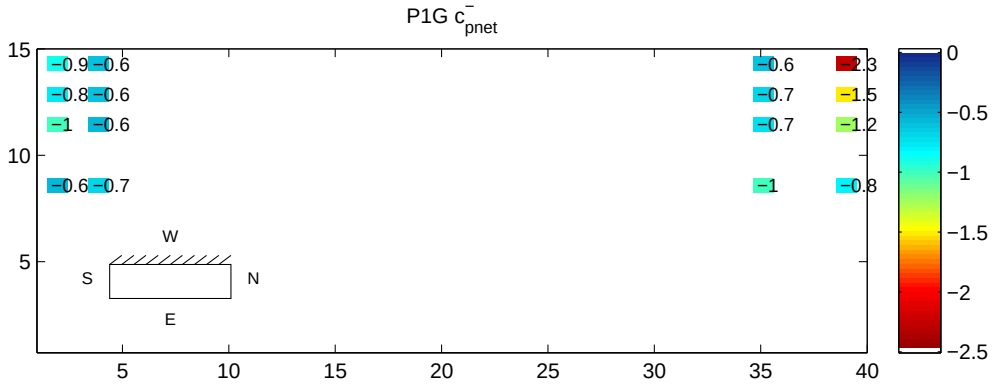


Figure 4.15: Net pressure coefficients $c^{-}_{p,net}$ for a building 15mx40mx25m, open systems, panels at angle 25°, no parapet.

4.9 Building 15x40x12 m, open, panels 25°, no parapet

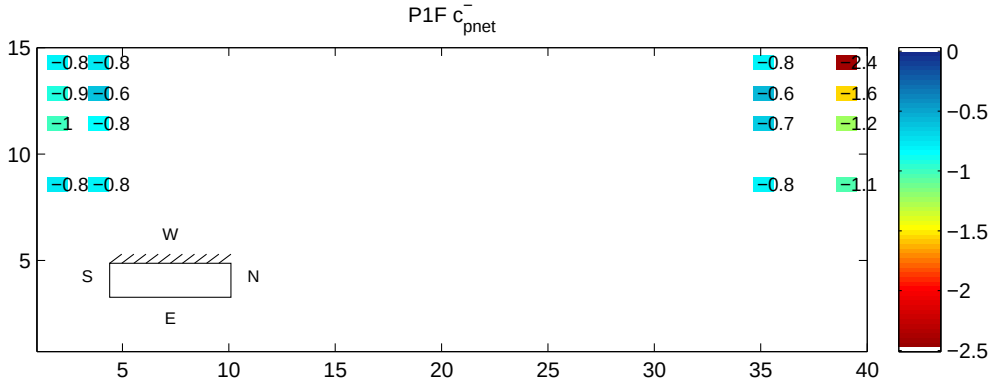
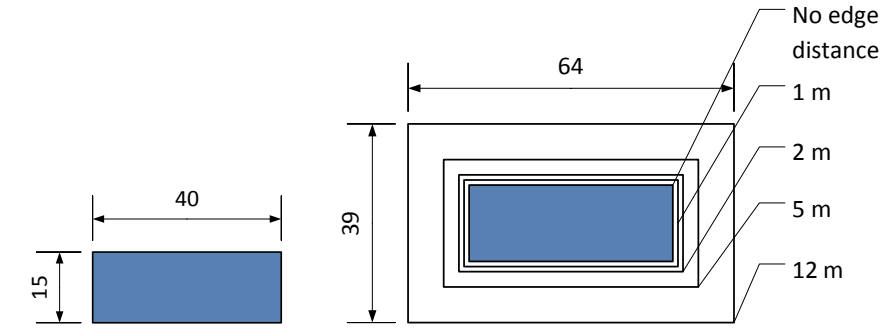


Figure 4.16: Net pressure coefficients $c^{-}_{p,net}$ for a building 15mx40mx12m, open systems, panels at angle 25°, no parapet.

4.10 Building 17x42x12 m, open, panels 25°, no parapet, edge distance 1 m

The following paragraphs show pressure coefficients for partly covered roofs with solar panels on different edge distances. The covered area of the panels remains the same for all configurations, see Figure 4.17a. As a result the building dimensions are adjusted for each configuration as shown in Figure 4.17b. As a basis the small building is used. The first has panels at 1m distance of the roof edge. The building dimensions are accordingly adjusted to 17m x 42m x 12m. The second has panels at 2m on a building of 19m x 44m x 12m. The third has panels at 5m on a building of 25m x 50m x 12m. And the fourth has panels at 12m on a building of 39m x 64m x 12m.



(a) Original small building (b) Increasing edge distance

The results of these configurations with partly covered roofs are similar to the results shown in Paragraph 4.9. Only the high suction of the first panel in the North corner disappeared.

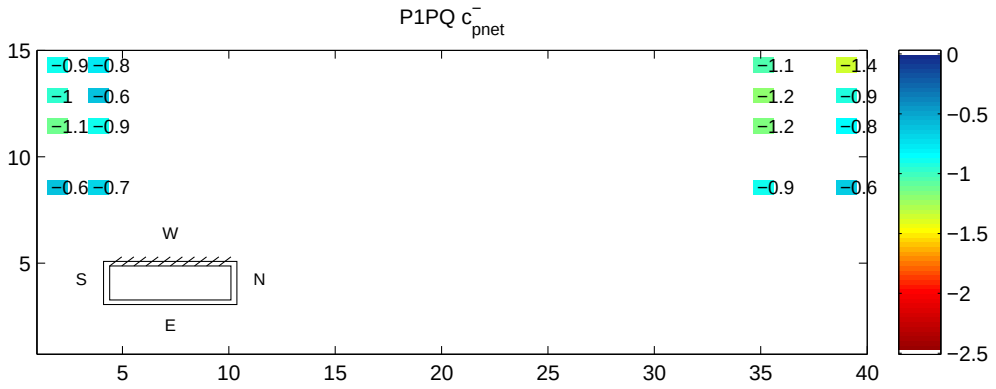


Figure 4.17: Net pressure coefficients $c_{p,net}^{-}$ for a building 17mx42mx12m, open systems, panels at angle 25°, no parapet, edge distance 1m.

4.11 Building 19x44x12 m, open, panels 25°, no parapet, edge distance 2 m

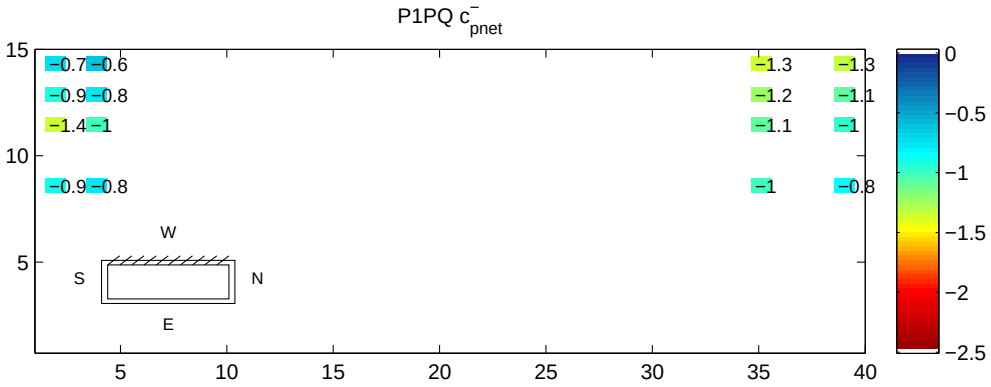


Figure 4.18: Net pressure coefficients $c_{p,net}^{-}$ for a building 19mx44mx12m, open systems, panels at angle 25°, no parapet, edge distance 2m.

4.12 Building 25x50x12 m, open, panels 25°, no parapet, edge distance 5 m

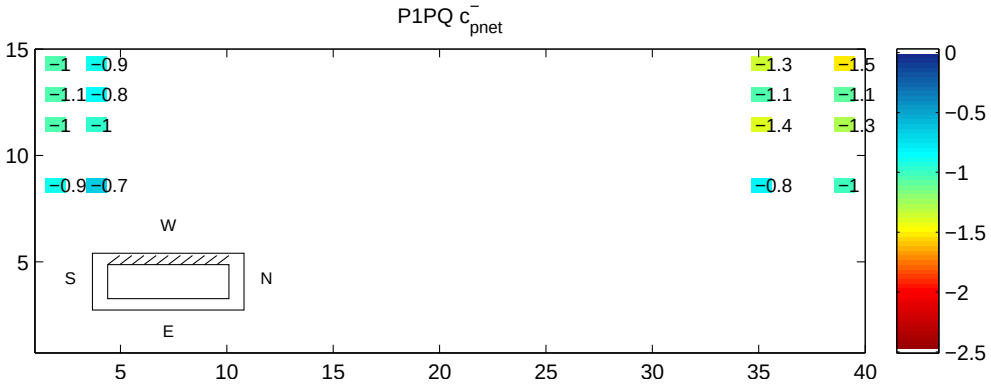


Figure 4.19: Net pressure coefficients $c_{p,net}^{-}$ for a building 25mx50mx12m, open systems, panels at angle 25°, no parapet, edge distance 5m.

4.13 Building 39x64x12 m, open, panels 25°, no parapet, edge distance 12 m

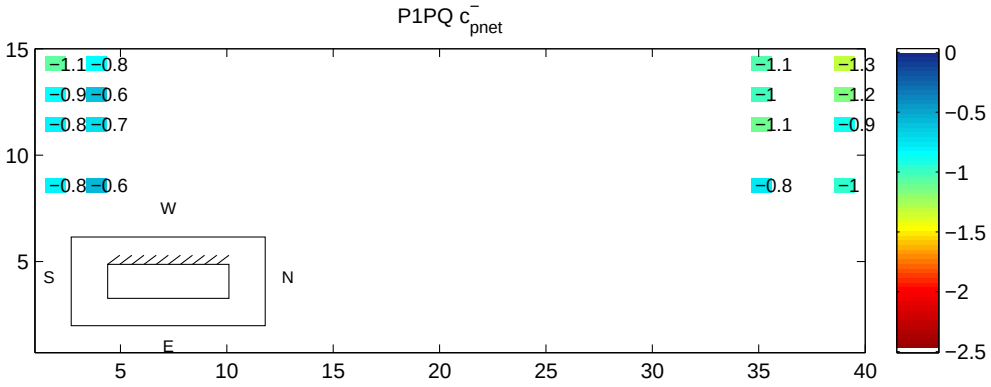


Figure 4.20: Net pressure coefficients $c_{p,net}^{-}$ for a building 39mx64mx12m, open systems, panels at angle 25°, no parapet, edge distance 12m.

5 Results for positive net pressure coefficients

5.1 Building 60x80x12 m, open, panels 10°, no parapet

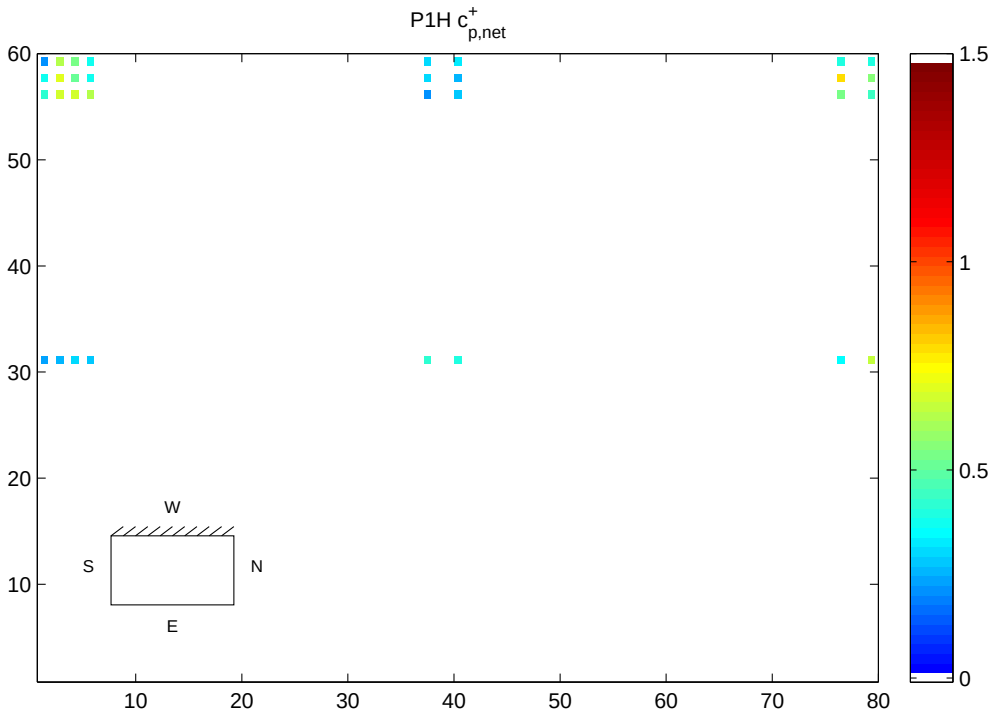
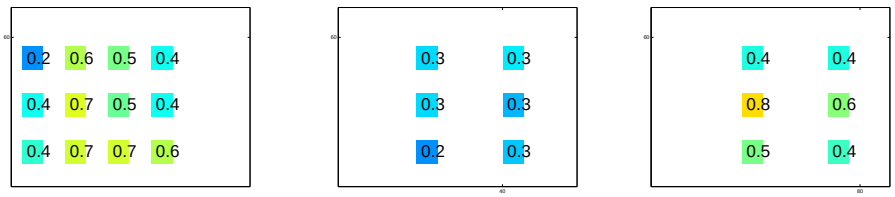
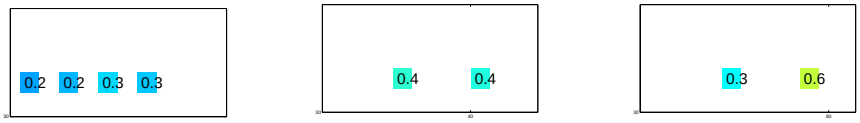


Figure 5.1: Net pressure coefficients $c^+_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 10°, no parapet



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 5.2: Net pressure coefficients $c^+_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 10°, no parapet

5.2 Building 60x80x12 m, open, panels 25°, no parapet

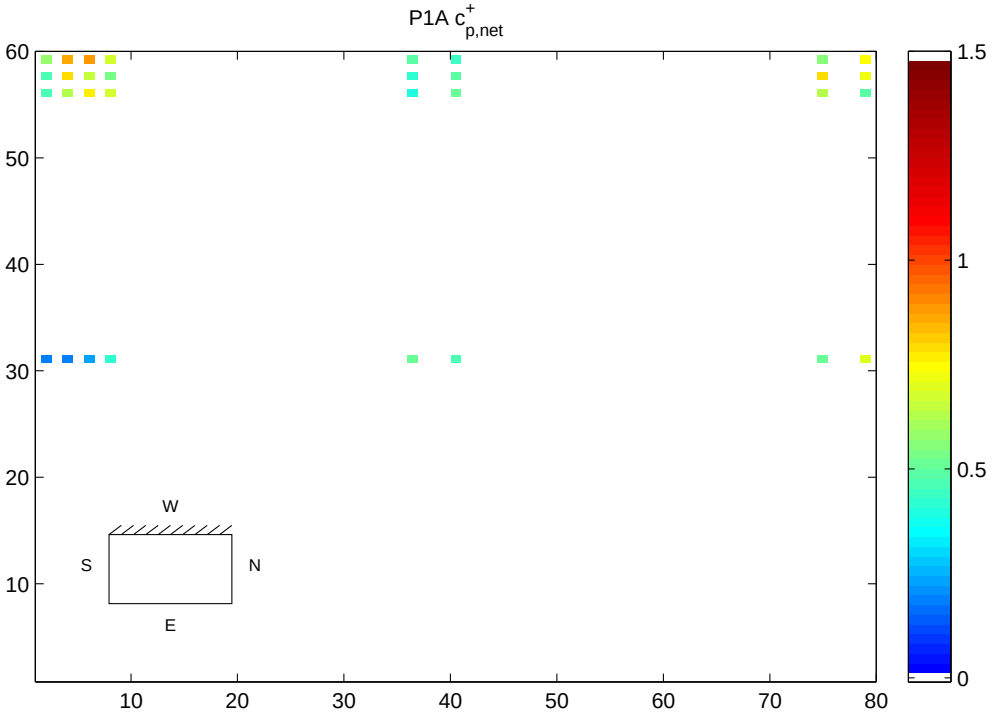
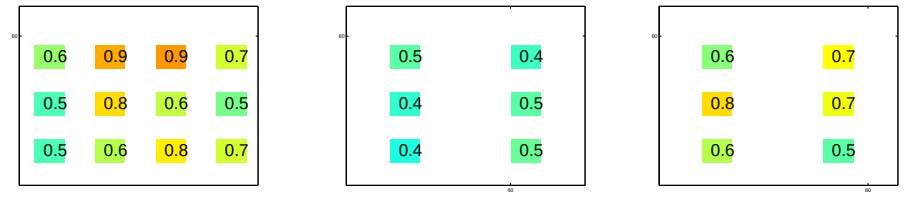
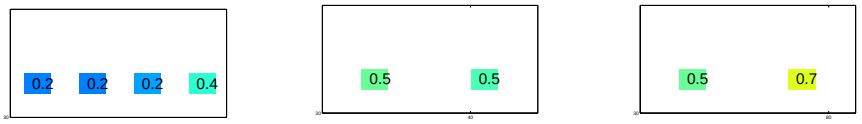


Figure 5.3: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 25°, no parapet



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 5.4: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 25°, no parapet.

5.3 Building 60x80x12 m, open, panels 25°, with parapet

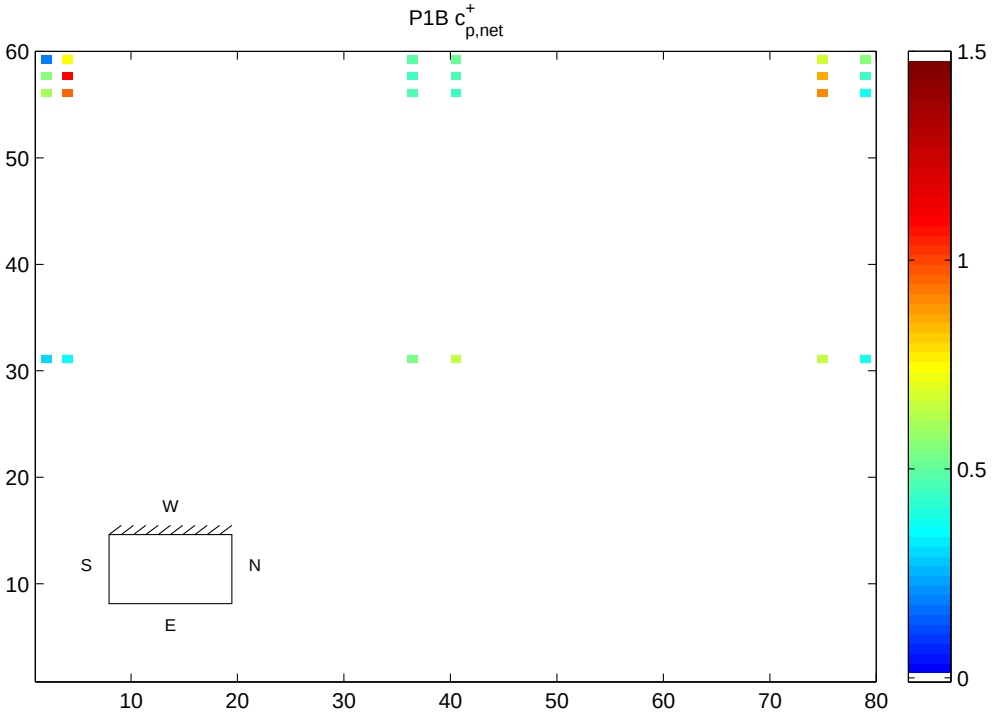
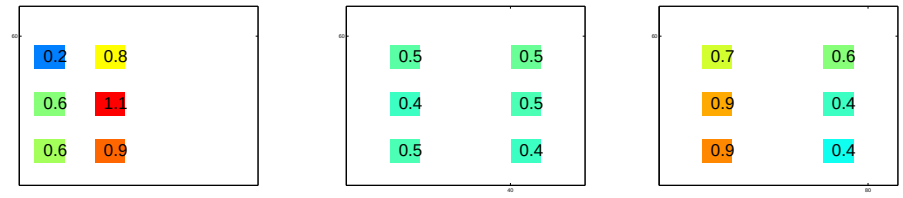
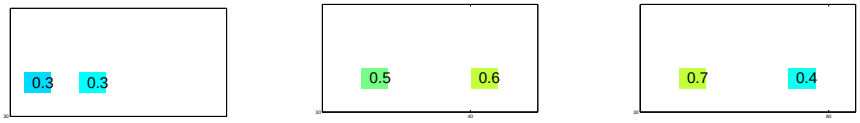


Figure 5.5: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 25°, with parapet



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 5.6: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 25°, with parapet.

5.4 Building 60x80x12 m, semi open, panels 25°, deflector 90°, no parapet

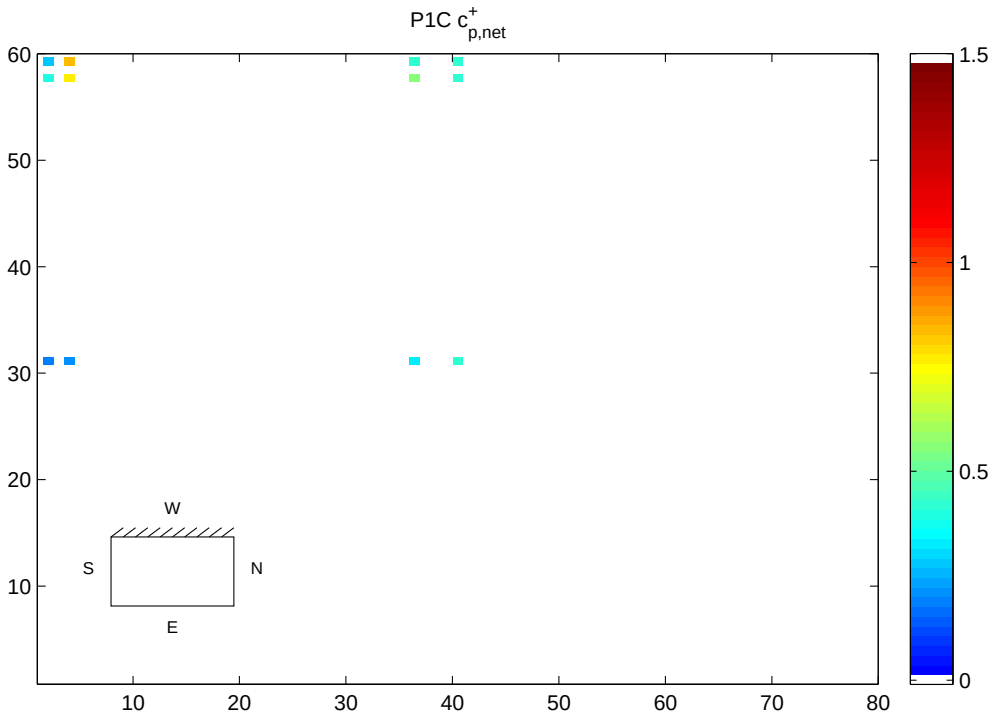
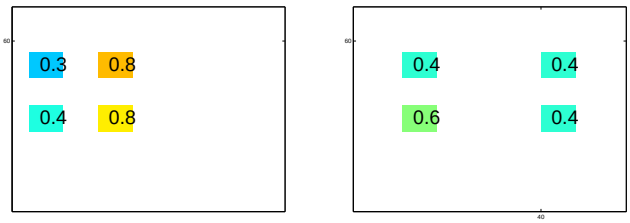
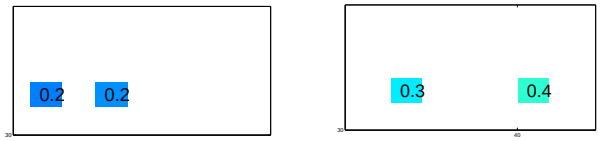


Figure 5.7: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, semi open systems, panels at angle 25°, deflector 90°, no parapet



(a) South corner (b) West edge



(c) South edge (d) Middle middle

Figure 5.8: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, semi open systems, panels at angle 25°, deflector 90°, no parapet.

5.5 Building 60x80x12 m, semi open, panels 25°, deflector 60°, no parapet

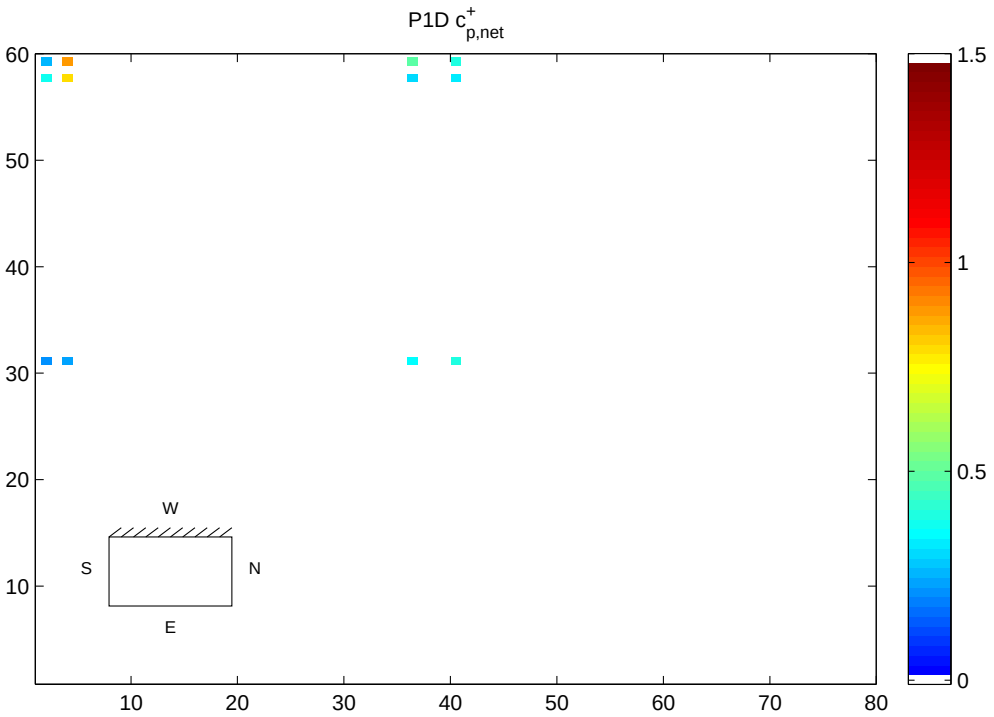
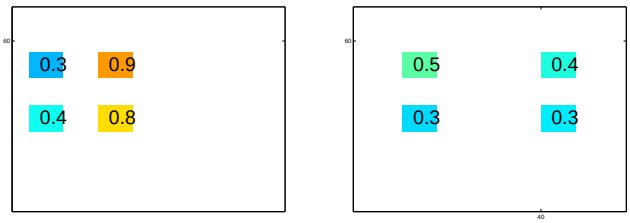
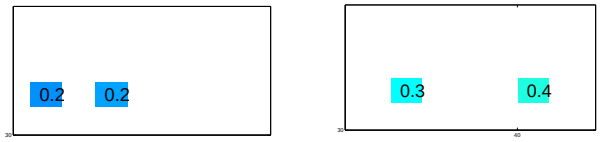


Figure 5.9: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, semi open systems, panels at angle 25°, deflector 60°, no parapet.



(a) South corner (b) West edge



(c) South edge (d) Middle middle

Figure 5.10: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, semi open systems, panels at angle 25°, deflector 60°, no parapet.

5.6 Building 60x80x12 m, open, panels 10°, no parapet, coupled systems

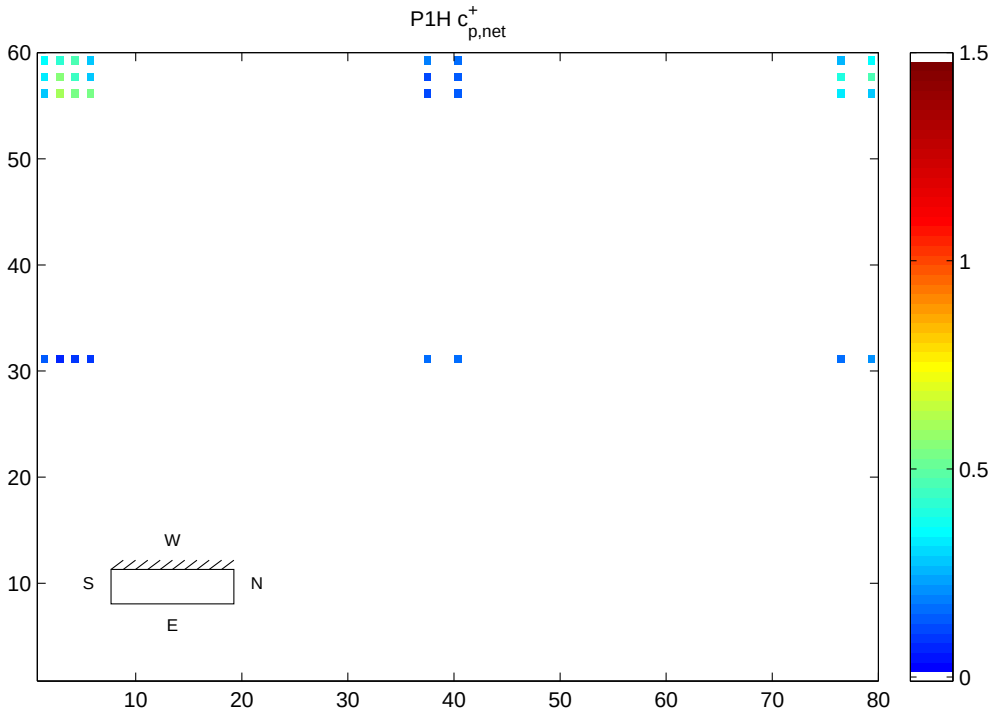
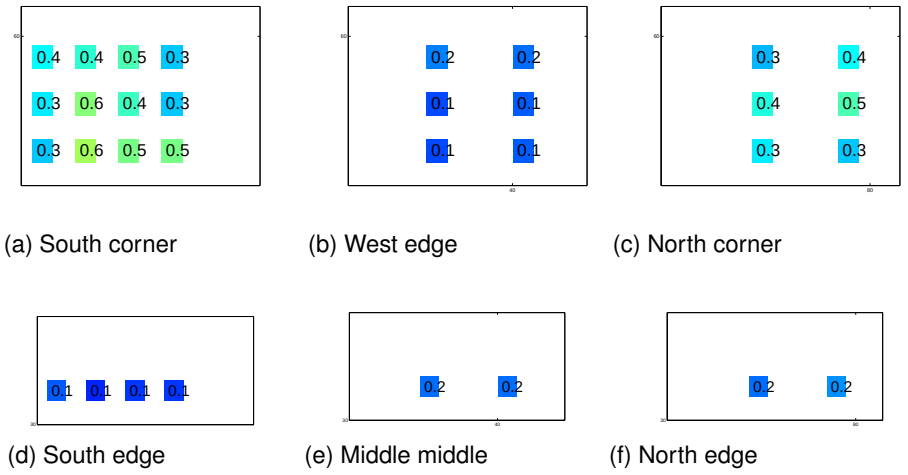


Figure 5.11: Net pressure coefficients $c^+_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 10°, no parapet, coupled systems.



(a) South corner (b) West edge (c) North corner

(d) South edge (e) Middle middle (f) North edge

Figure 5.12: Net pressure coefficients $c^+_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 10°, no parapet, coupled systems

5.7 Building 60x80x12 m, open, panels 25°, no parapet, coupled systems

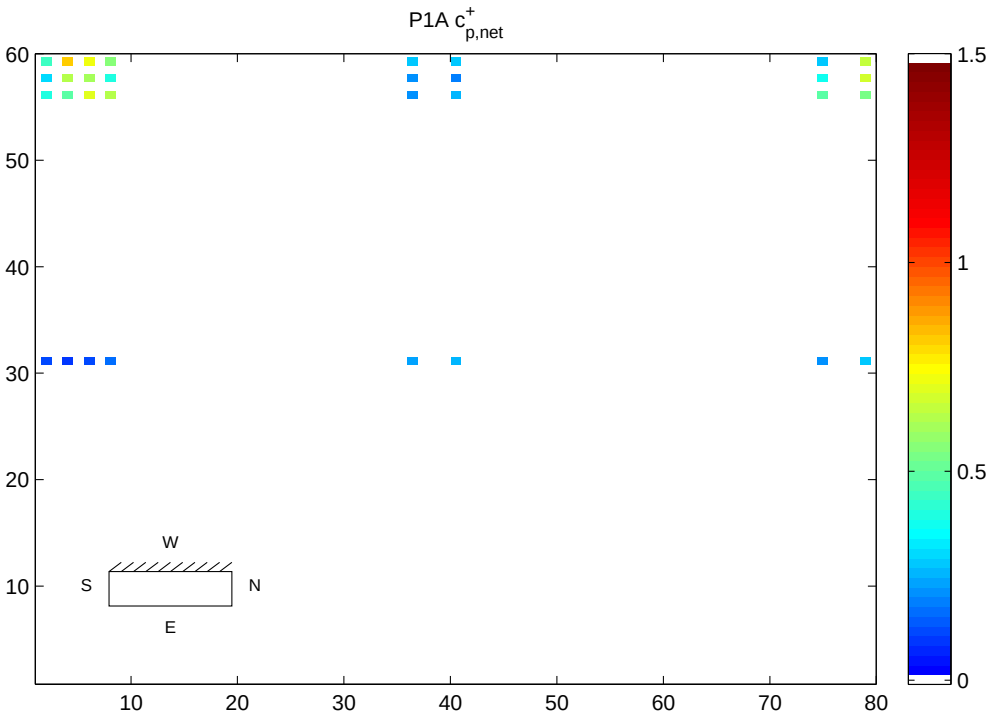
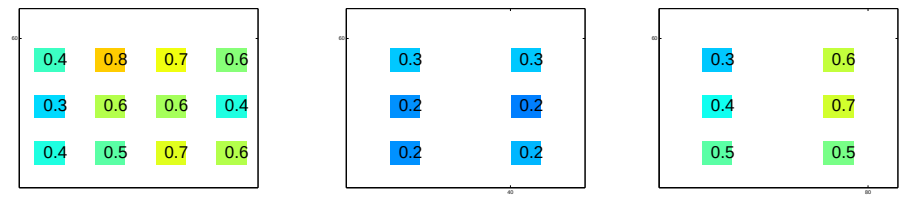
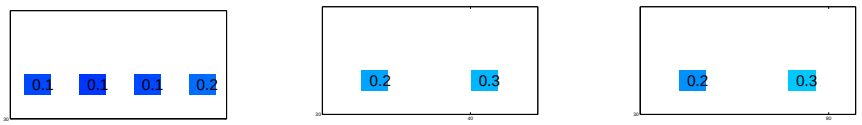


Figure 5.13: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 25°, no parapet, coupled systems.



(a) South corner (b) West edge (c) North corner



(d) South edge (e) Middle middle (f) North edge

Figure 5.14: Net pressure coefficients $c^{+}_{p,net}$ for a building 60mx80mx12m, open systems, panels at angle 25°, no parapet, coupled systems.

5.8 Building 15x40x25 m, open, panels 25°, no parapet

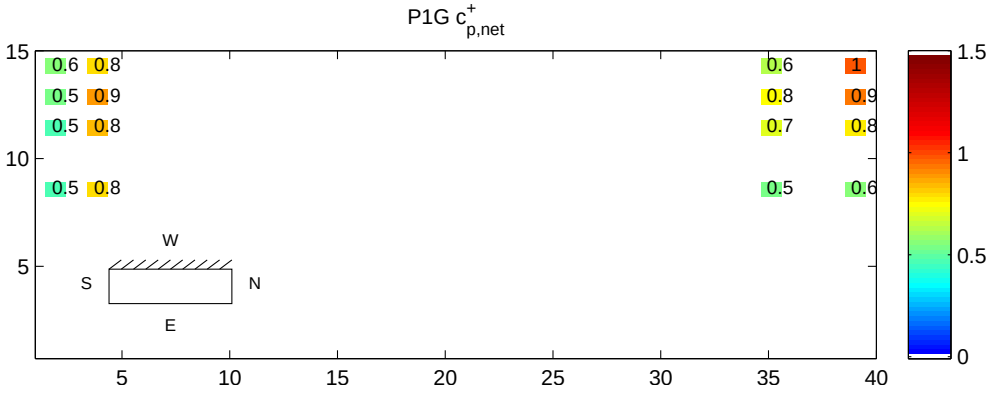


Figure 5.15: Net pressure coefficients $c^{+}_{p,net}$ for a building 15mx40mx25m, open systems, panels at angle 25°, no parapet.

5.9 Building 15x40x12 m, open, panels 25°, no parapet

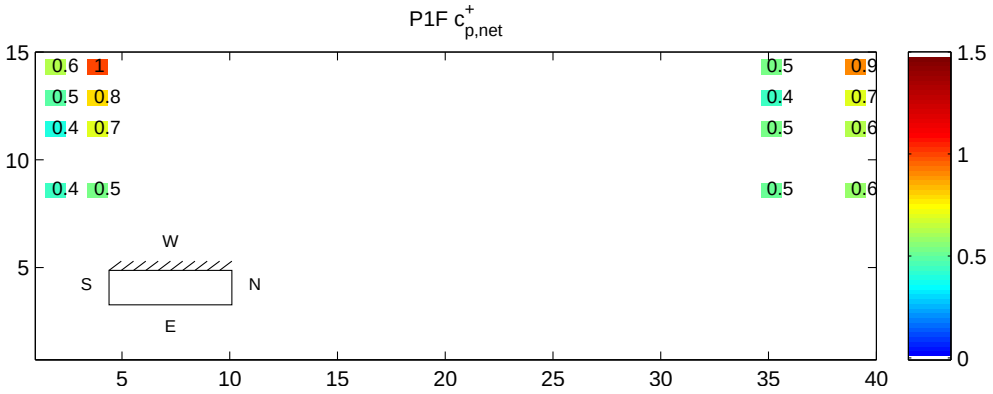


Figure 5.16: Net pressure coefficients $c^{+}_{p,net}$ for a building 15mx40mx12m, open systems, panels at angle 25°, no parapet.

5.10 Building 17x42x12 m, open, panels 25°, no parapet, edge distance 1 m

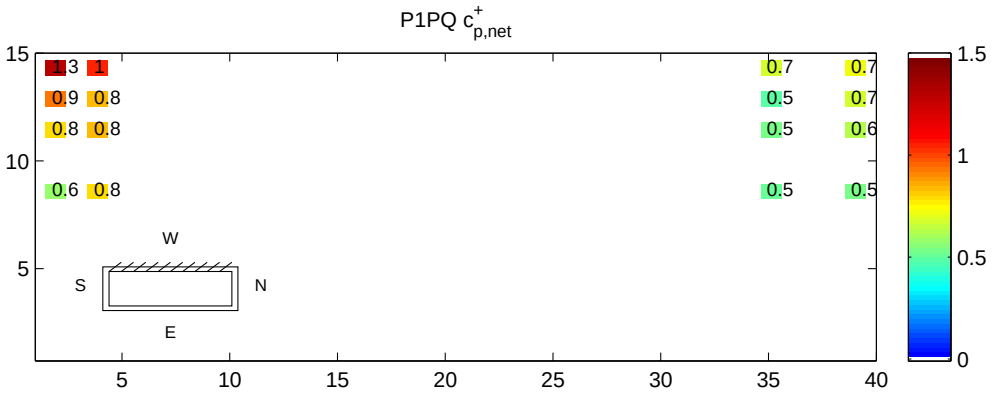


Figure 5.17: Net pressure coefficients $c^{-}_{p,net}$ for a building 17mx42mx12m, open systems, panels at angle 25°, no parapet, edge distance 1m.

5.11 Building 19x44x12 m, open, panels 25°, no parapet, edge distance 2 m

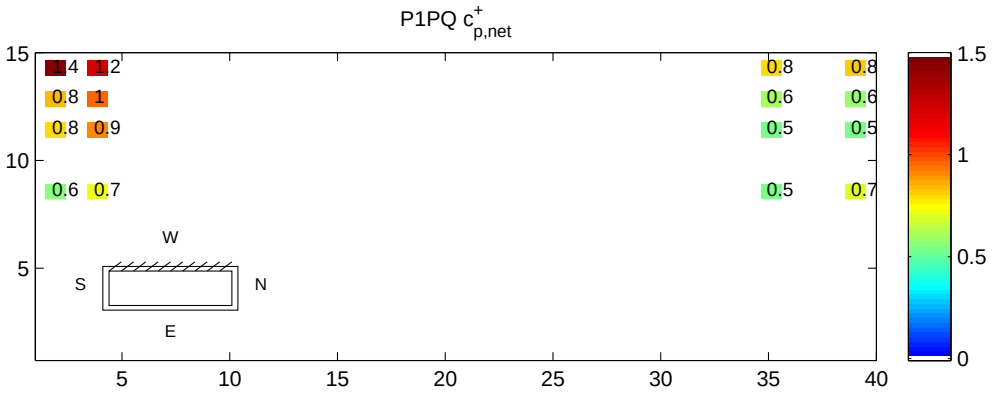


Figure 5.18: Net pressure coefficients $c^{-}_{p,net}$ for a building 19mx44mx12m, open systems, panels at angle 25°, no parapet, edge distance 2m.

5.12 Building 25x50x12 m, open, panels 25°, no parapet, edge distance 5 m

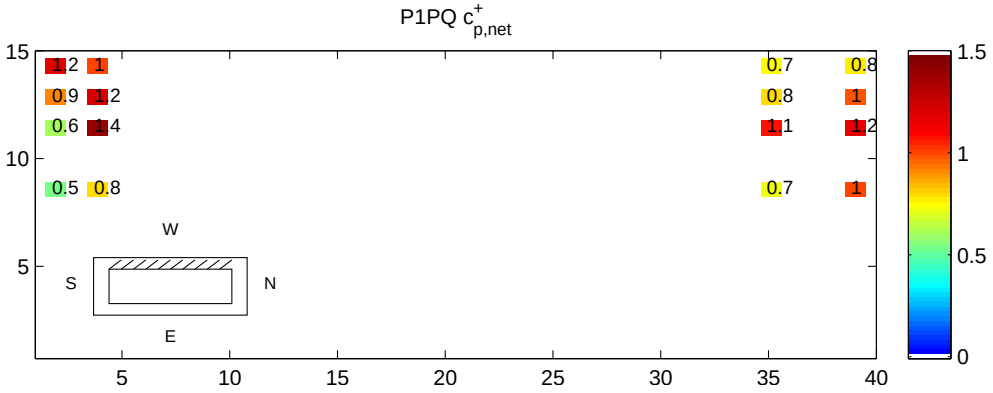


Figure 5.19: Net pressure coefficients $c_{p,net}^{-}$ for a building 25mx50mx12m, open systems, panels at angle 25°, no parapet, edge distance 5m.

5.13 Building 39x64x12 m, open, panels 25°, no parapet, edge distance 12 m

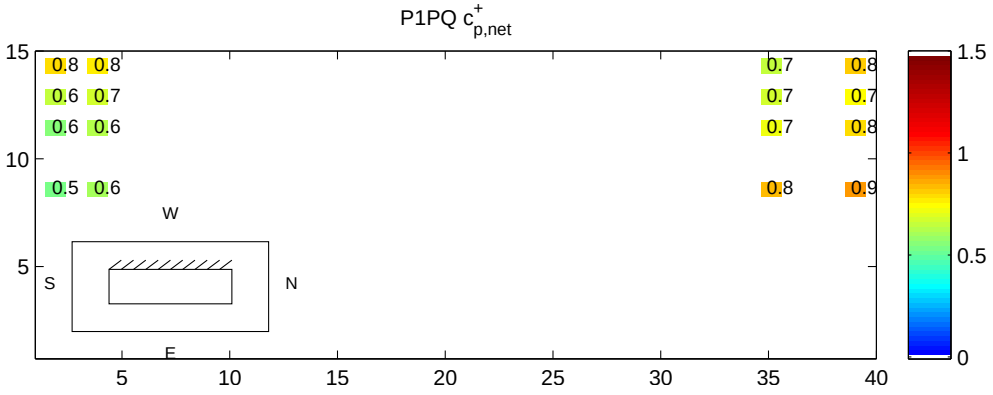


Figure 5.20: Net pressure coefficients $c_{p,net}^{-}$ for a building 39mx64mx12m, open systems, panels at angle 25°, no parapet, edge distance 12m.

6 Application in codes of practice

This report describes the results of wind tunnel measurements on large array solar energy systems on flat roofs. The results are presented in two ways:

- as a basic pressure coefficient with correction coefficients;
- in tables with net pressure coefficients.

6.1 Net pressure coefficients for large solar arrays

This paragraph contains the first approach. The pressure coefficients are presented corresponding to this formula:

$$c_{p,net} = C_1\, C_2\, C_3\, C_4\, C_5\, c_{p,net,b} \tag{6.1}$$

with

$c_{p,net,b}$	Basic net pressure coefficient.
C_1	Correction factor with respect to roof zone.
C_2	Correction factor with respect to exposure of first panel or row.
C_3	Correction factor with respect to the presence of a deflector.
C_4	Correction factor with respect to presence of a parapet.
C_5	Correction factor for coupled systems.

The basic net pressure coefficient and correction coefficients are given in Table 6.1. Values of $c_{p,net,b}-$ and $c_{p,net,b}+$ respectively represent the basic values of the uplift and downward pressure coefficients.

Table 6.1: Values of the factors C_1 to C_6.

Factor	Description	10°		25°	
		c_p-	c_p+	c_p-	c_p+
$c_{p,net,b}$	Net pressure coefficient	-0.4	0.4	-0.6	0.5
C_1	**Zones**				
	Corner zone North side	1.5	2.0	1.5	1.6
Distance systems	Corner zone South side	2.8	1.8	1.8	1.5
to edge roof: $s = 0.0m$	Edge zone	1.0	1.0	1.0	1.0
	Middle area	1.0	1.0	1.0	1.0
	Covered area corner zone North	*3.8*	*3.0*	2.5	2.4
Distance systems	Covered area edge zone North	*2.8*	*2.5*	1.8	2.0
to edge roof: $s \geq 2d_s$	Covered area edge zone South	*2.8*	*3.5*	1.8	2.8
	Covered area edge zone East-West	*1.8*	*1.5*	1.3	1.4
	Covered area edge shielded zone	*1.0*	*1.0*	1.0	1.0
C_2	**Exposure first panel or first row in roof zones**				
Without parapet,	Corner zone North side	2.2	1.0	2.6	1.1
distance systems	Corner zone South side	1.5	1.0	1.0	1.0
to edge roof: $s = 0.0m$	Edge zone	1.8	1.0	1.4	1.0
With parapet,	Corner zone North side			0.8	0.8
distance systems	Corner zone South side			1.2	0.7
to edge roof: $s = 0.0m$	Edge zone			0.8	1.0
Without parapet, distance systems , to edge roof: $s \geq 2d_s$	Covered area	*1.0*	*1.0*	1.0	1.0
C_3	**Deflector**				
	No deflector			1.0	1.0
	Corner zone North side			*0.5*	*0.8*
	Corner zone South side			0.5	0.8
	Edge zone			0.5	1.0
	Middle area			0.5	0.8
	Covered area			1.0	1.0
C_4	**Parapet**				
	No parapet			1.0	1.0
	Corner zone North side			1.3	1.1
	Corner zone South side			1.1	1.2
	Edge zone			1.0	1.0
	Middle area			1.0	1.0
	Covered area			1.0	1.0
C_5	**Coupled systems** $A_{ref} > 10$ **m**^{2}				
	Corner zone North side	0.9	0.9	0.9	0.9
	Corner zone South side	0.9	0.9	0.9	0.9
	Edge zone	0.7	0.7	0.7	0.7
	Middle area	0.7	0.7	0.7	0.7
	Covered area	0.7	0.7	0.7	0.7

NOTE The italic values have been estimated by further interpretation and interpolation of these and other measurements.

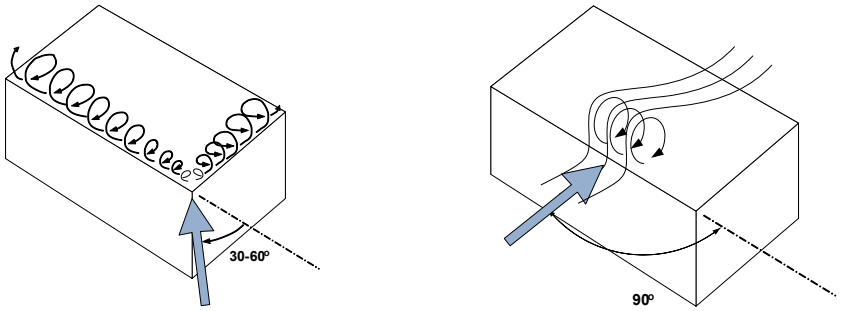
6.2 Remarks

The zones from NVN7250 (based on NEN6702) are taken as basis, since the Eurocode zones seem too small for buildings for which the height is less than the width and breath, which is very common for solar energy systems on flat roofs. Additionaly zones for the covered area are defined. The backgrounds for the zoning are given in paragraph 6.4. For the determination of the values in the different zones the following panels have been used:

- Corner zone South side, first row: Panels 11, 12, 13, 21, 31, 41
- Corner zone North side, first row: Panels 71, 81, 82, 83
- Corner zone South side: Panels 22, 23, 32, 33, 42, 43
- Corner zone North side: Panels 72, 73
- Edge zone, first row: Panels 14, 51, 61, 84
- Edge zone: Panels 24, 34, 44, 52, 53, 62, 63, 74
- Middle zone: Panels 54, 64
- Covered area, Corner North: Panels 71, 72, 73, 81, 82, 83
- Covered area, Edge North: Panels 74, 84
- Covered area, Edge South: Panels 11, 12, 13, 14, 21, 22, 23, 24
- Covered area, Edge East-West: Values edge roof zone

The width of the edge zone for building 60x80x12m is 5.4m, the width of the corner zone 10.8m. For a building size 15x40x12m the zones are 2.25m and 4.5m respectively. The edge zones of the covered area are respectively 1.62m and 3.24m for the 10° and 25° tilt angles. The width of the North corner zone of the covered area depends on the building size and is 4.25m by 8.5m for the smallest building with an edge distance of 1m and 9.75m by 19.5m for the largest building with the edge distance of 12m.

For a flat roof without any solar energy systems the corner zones are determined by the corner vortex that occurs at an angle of attack between 30°-60°, see Figure 6.1. The sizes of the corner vortex are determined by the sizes of the building. The edge zones are determined by the separation bubble that occurs at an perpendicular angle of attack (90°) as can be seen in Figure 6.1.



(a) Corner vortex. (b) Separation bubble.

Figure 6.1: Flow patterns on a flat roof.

For a roof with solar energy systems these flow phenomena still occur, however the effect of the corner vortex is also determined by the positions of the systems on the roof, the height of the systems and the distance between the systems. The rolling vortex will push down some panels and lift others.

The corner vortex of the North-West corner has the strongest effect. The solar panel postioned at the corner of the roof, edge distances to both edges 0.0m, is strongly lifted by the corner vortex. It shows that an edge distance of 1.0m (being twice the height of a system) prevents the full attack of the corner vortex and reduces the lift forces significantly. The values for the corner panels do not change much with increasing edge distance.

The factor C_1 takes into account the effects of the corner vortices and the separation bubble. The exposure of the first row of panels or the first panel that is positioned at the roof edge, with an edge distance 0.0m, is calculated with the factor C_2.

In this research two kinds of deflectors were investigated. The results showed no significant difference between deflectors placed at an angle of 60° relative to the roof or at an angle of 90° relative to the roof. The factor C_3 can be used for any kind of deflector as long as the system remains semi-open.

A parapet shields the first row, but it doesn't break the corner vortex that occurs at the building corner. With a parapet therefore not the first row, but the panels a bit further away are hit by this corner vortex. As a result C_4 shows values higher than 1 in the corner zones, while factor C_2 for the first rows is lower.

Factor C_5 for coupled systems has been determined by applying a running average (3s) over the peak loads. The other results have been determined for 0.5s peaks, which are relevant for a loaded area of one panel. The 3s peak can be used for systems with a reference area larger than $10m^2$.

The results for different building heights showed no significant differences. Therefore, no factor is applied for buildings with a height less than 25m.

6.3 Proposal implementation NEN 7250

The formula to determine the net pressure coefficients derived in the previous section is quite complicated in practice. Therefore, for the new Dutch code NEN 7250 concise tables with net pressure coefficients on solar energy systems are proposed.

Table 6.2: Proposal NEN 7250.

Zone	Without parapet		With parapet $h_p = 500mm$		Multiplier deflector		Multiplier coupled systems	
	c_p-	c_p+	c_p-	c_p+	m_p-	m_p+	m_p-	m_p+
System 10°, panel								
Corner zone North side	-1.6	0.8	-	-	-	-	0.9	0.9
Corner zone South side	-1.6	0.8	-	-	-	-	0.9	0.9
Edge zone	-0.7	0.6	-	-	-	-	0.7	0.7
Covered area corner North	-1.5	1.2	-	-	-	-	0.7	0.7
Covered area edge North	-1.1	1.0	-	-	-	-	0.7	0.7
Covered area edge South	-1.1	1.4	-	-	-	-	0.7	0.7
Covered area edge East	-0.7	0.6	-	-	-	-	0.7	0.7
Covered area edge West	-0.7	0.6	-	-	-	-	0.7	0.7
Covered area shielded	-0.4	0.4	-	-	-	-	0.7	0.7
Near roof obstacle	-0.7	0.6	-	-	-	-	0.7	0.7
System 25°, panel								
Corner zone North side	-2.4	0.9	-1.2	1.1	1	1	0.9	0.9
Corner zone South side	-1.1	0.9	-1.4	1.1	1	1	0.9	0.9
Edge zone	-0.8	0.7	-0.7	0.7	0.5	1	0.7	0.7
Covered area corner North	-1.5	1.2	-	-	-	-	0.7	0.7
Covered area edge North	-1.1	1.0	-	-	-	-	0.7	0.7
Covered area edge South	-1.1	1.4	-	-	-	-	0.7	0.7
Covered area edge East	-0.8	0.7	-	-	-	-	0.7	0.7
Covered area edge West	-0.8	0.7	-	-	-	-	0.7	0.7
Covered area shielded	-0.6	0.5	-0.6	0.5	0.5	0.66	0.7	0.7
Near roof obstacle	-0.8	0.7	-0.7	0.6	1	1	0.7	0.7
System 25°, deflector								
Corner zone North side	-1.0	0.1	-1.0	0.1				
Corner zone South side	-1.0	0.1	-1.0	0.1				
Edge zone	-0.5	0.1	-0.5	0.1				
Covered area exposed	-0.2	0.1	-0.2	0.1				
Covered area shielded	-0.2	0.1	-0.2	0.1				
Near roof obstacle	-0.5	0.1	-0.5	0.1				

NOTE (-) means no values available

6.4 Background for the choices made for the roof zones in NEN 7250, for wind loads on solar energy systems on flat roofs

6.4.1 Introduction

The current wind tunnel study provides information on the wind loads on solar energy systems, however gives only little information on the definition of roof zones. Based on international literature, an attempt is made to come to a reasonable, simple and safe zoning of flat roofs.

6.4.2 Principle

Two types of roof zones are being defined: First a zoning based on the shape and dimensions of the building, giving corner, edge and middle zones. Secondly a zoning which is based on the area covered with solar energy panels. For this area, the North and South side are treated differently. Being on the Northern hemisphere, the North side is usually the high side of the solar energy systems and the South side is de lower part. In the seldom case where the systems are not oriented to the South, the high side of the panels should be treated as the North side, consequently the low side as the Southn side.

6.4.3 Zoning of the flat roof

For the roof zones, the roof zoning figure and numbers of the former NEN 6702 are used as a basis. This differs from the rules set in EN 1991-1-4 with which smaller zones are found for buildings for which the height is less than the width and breath, which is very common for solar energy systems on flat roofs. It is very likely that EN 1991-1-4 is not safe for these situations. A further simplification is made that the sizes a_1 and a_2 are taken equal to $2a$.

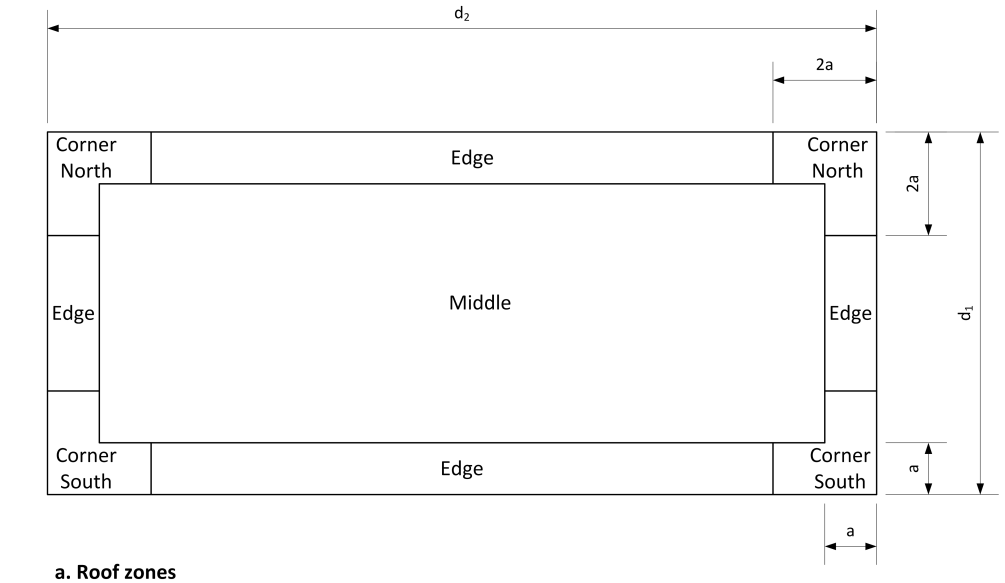
6.4.4 Zoning of the covered area

There is a number of studies available, yet there is no agreement found in literature about the way the covered area should be zoned. The SEAOC guideline, issued in California [7], proposed a rather complicated calculation rule. Backgrounds are given by Banks in a number of documents, available through the internet. Only few results published in peer reviewed articles are available, often dealing with specific situations. Based on the available literature, we propose to divide the covered area in to the following zones:

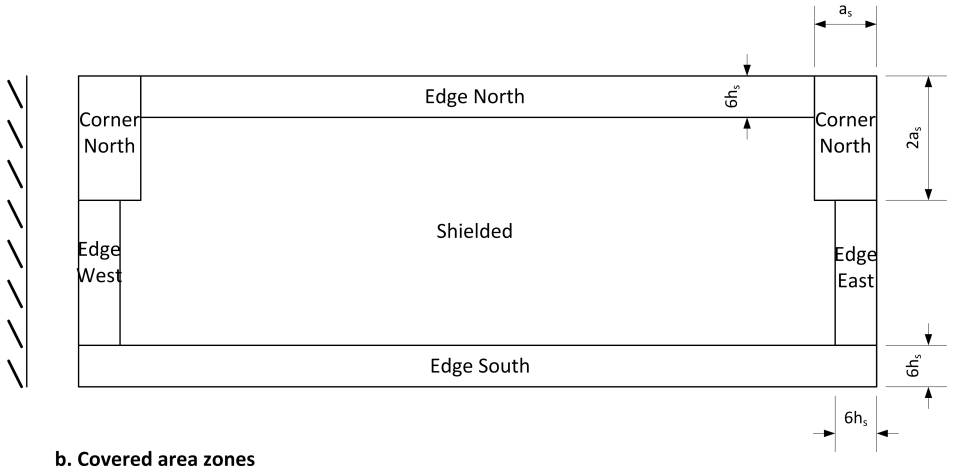
- Two corners at the northern side; these corners have a rectangular size, which extends $0.5d_1$ from North to South and $0.25d_1$ to East or West, with a maximum dimension of $2h$ for the longest side and h for the shorter side.
- An edge zone at the North, with a width of $6h_s$.
- An edge zone at the South, with a width of $6h_s$.
- An edge zone at East and West side, with a width of $6h_s$.

The size d_1 is defined according to the definition given for the zoning of the flat roof (all dimensions see Figure 6.2).

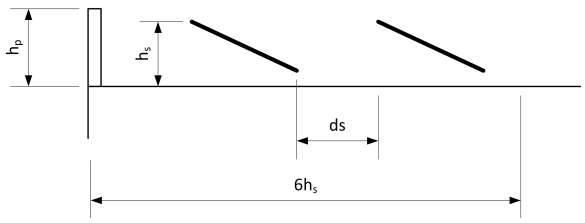
All panels in the corner and edge zones of the covered area are considered exposed. As a rule, solar energy panels are assumed to be shielded, if the distance d_s, between panels, or between panels and a parapet, is smaller than $2h_s$ or $2h_p$, where h_s is the highest level of a panel above roof surface.



a. Roof zones



b. Covered area zones



$d_1<d_2$	
$d_1 \leq 3h$	$a=0.15d_1$ $a \geq 1$ m
$d_1>3h$	$a=0.45h$ $a \geq 0.04d_1$ $a \geq 1$ m
All d_1	$a_s=0.25d_1$ $a_s \leq h$

Figure 6.2: Zoning.

When the covered area overlaps the corner or edge regions of the roof, for the solar elements in the overlapping area, the most onerous values for c_{pnet} need to be taken into account.

The point of application of the resulting force on the solar panels is in the centre of the panels, except for the panels in the Northern roof corner zones, where 1/3 of the top should be taken. All forces act perpendicular to the solar panels.

7 References

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8 Authentication

Name and address of assignor

Agentschap NL, IBC SOLAR BV, Flamco Group, Van der Valk Solar Systems BV, SolarNRG, SolarAccess, Oskomera Solar Power Solutions B.V., ZEN Renewables, Mounting Systems GmbH, Renusol GmbH, Energiebau Solar Power Benelux bv, Derbigum

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C.P.W. Geurts, scientific researcher
C.A. van Bentum, scientific researcher
W.W.R. Koch, technical expert
F.C. Balster, technical expert

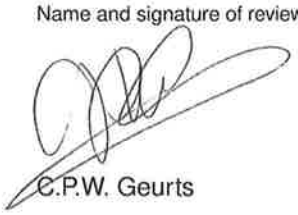
Names and establishments to which parts of the research was put out to contract

Not applicable

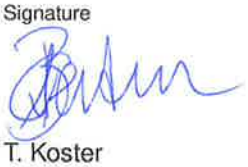
Date upon which, or period in which the research took place

January 2012 - March 2013

Name and signature of reviewer



C.P.W. Geurts

Signature	Released
	
T. Koster C.A. van Bentum C.P.W. Geurts	P.P. van 't Veen
Author(s)	Manager Structural Dynamics

A Photographs wind tunnel model

This appendix shows photographs of the different wind tunnel models placed in the wind tunnel.

A.1 Building 60mx80mx12m, open system, panels 10°, no parapet

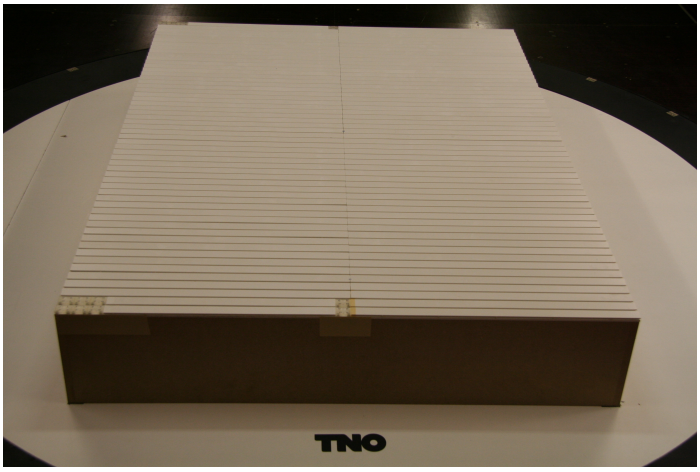


Figure A.1: Photograph of the model with building dimensions 60mx80mx12m, open systems, panels 10°, no parapet.

A.2 Building 60mx80mx12m, open systems, panels 25°, no parapet

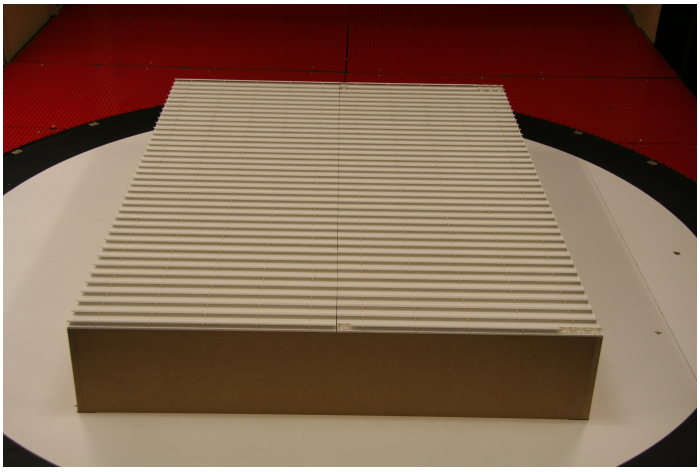


Figure A.2: Photograph of the model with building dimensions 60mx80mx12m, open systems, panels 25°, no parapet.

A.3 Building 60mx80mx12m, open systems, panels 25°, with parapet

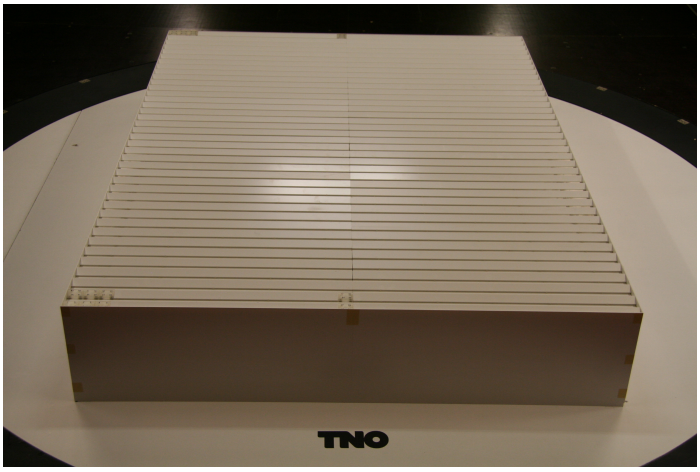


Figure A.3: Photograph of the model with building dimensions 60mx80mx12m, open systems, panels 25°, with parapet.

A.4 Building 60mx80mx12m, semi open system, panels 25°, deflector at 90°, no parapet

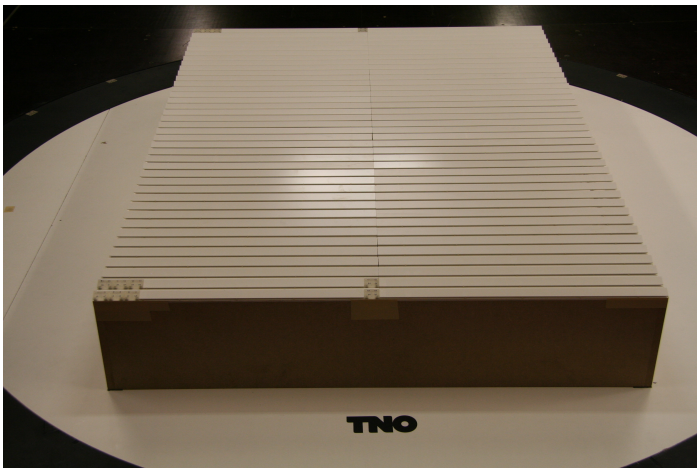


Figure A.4: Photograph of the model with building dimensions 60mx80mx12m, semi open system, panels 25°, deflector at 90°, no parapet.

A.5 Building 60mx80mx12m, semi open system, panels 25°, deflector at 60°, no parapet

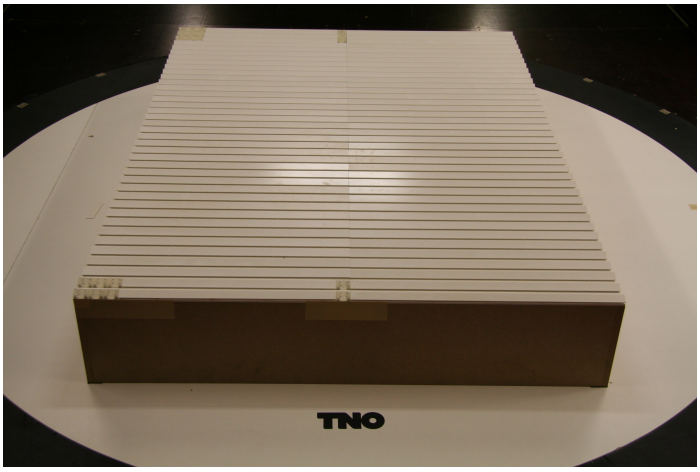


Figure A.5: Photograph of the model with building dimensions 60mx80mx12m, semi open system, panels 25°, deflector at 60°, no parapet.

A.6 Building 15mx40mx12m, open system, panels 25°, no parapet

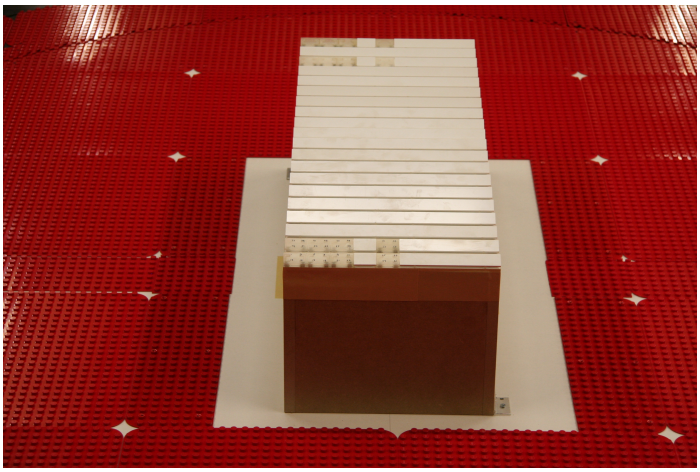


Figure A.6: Photograph of the model with building dimensions 15mx40mx12m, open system, panels 25°, no parapet.

A.7 Building 15mx40mx25m, open system, panels 25°, no parapet

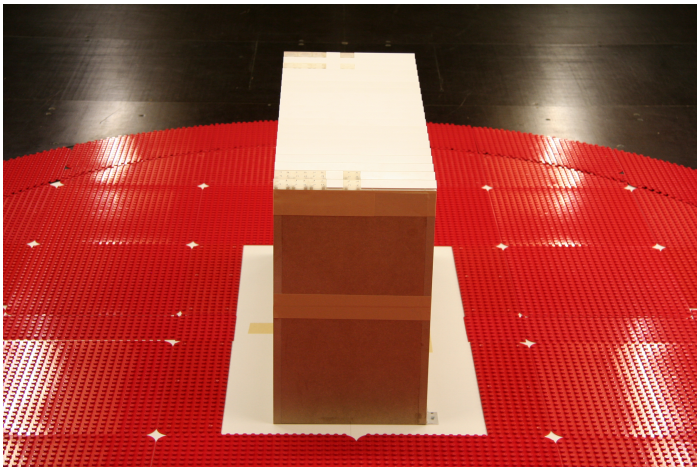


Figure A.7: Photograph of the model with building dimensions 15mx40mx25m, open system, panels 25°, no parapet.

A.8 Building 15mx40mx12m, open system, panels 25°, no parapet, edge distance 0m

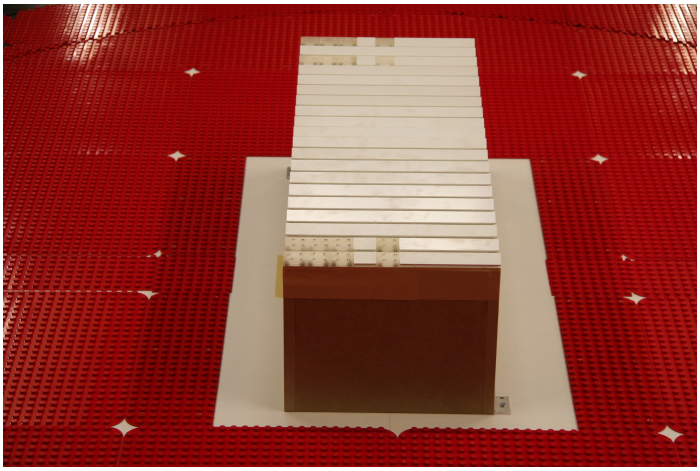


Figure A.8: Photograph of the model with building dimensions 15mx40mx12m, open systems, panels 25°, no parapet, edge distance 0m.

A.9 Building 17mx42mx12m, open system, panels 25°, no parapet, edge distance 1m

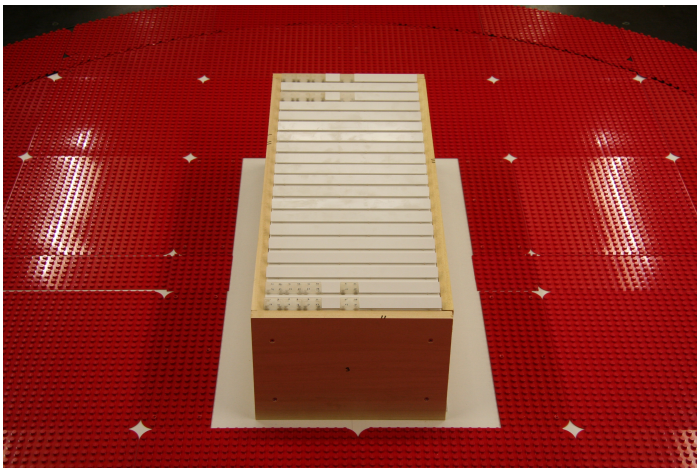


Figure A.9: Photograph of the model with building dimensions 17mx42mx12m, open systems, panels 25°, no parapet, edge distance 1m.

A.10 Building 19mx44mx12m, open system, panels 25°, no parapet, edge distance 2m

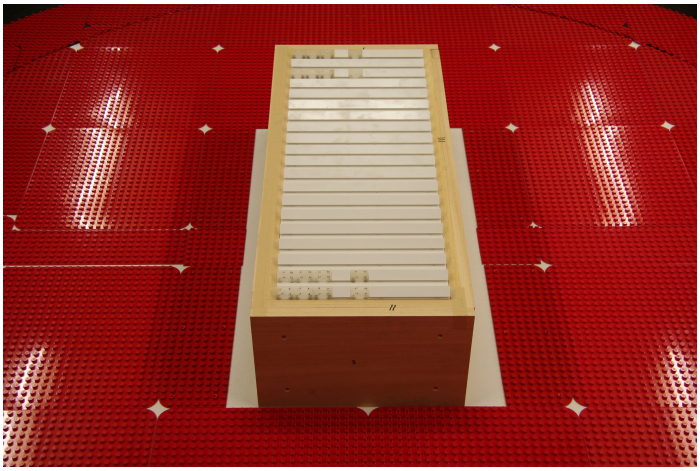


Figure A.10: Photograph of the model with building dimensions 19mx44mx12m, open systems, panels 25°, no parapet, edge distance 2m.

A.11 Building 25mx50mx12m, open system, panels 25°, no parapet, edge distance 5m

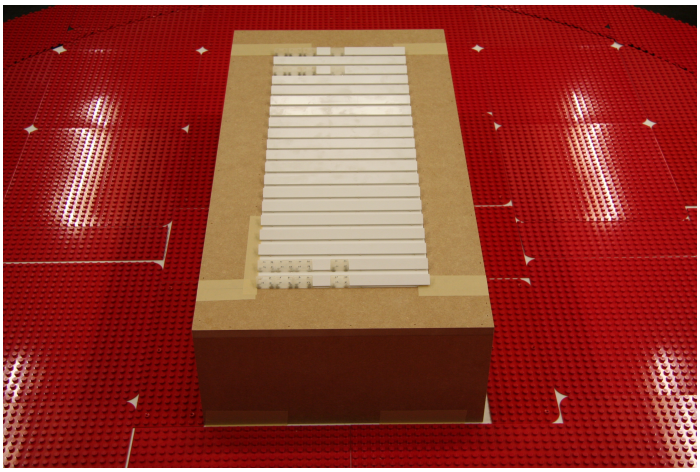


Figure A.11: Photograph of the model with building dimensions 25mx50mx12m, open systems, panels 25°, no parapet, edge distance 5m.

A.12 Building 39mx64mx12m, open system, panels 25°, no parapet, edge distance 12m

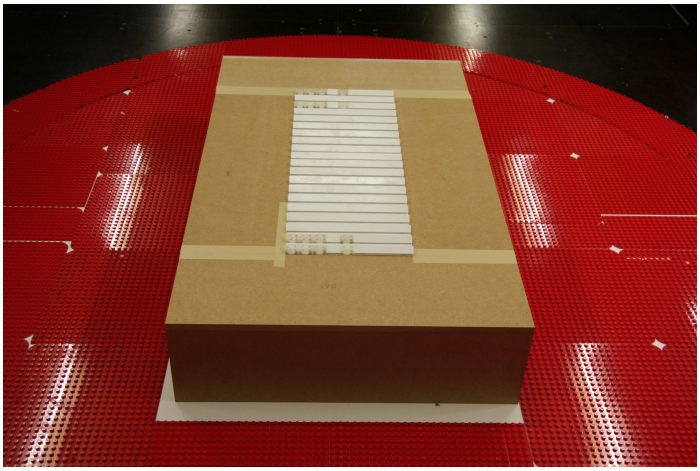


Figure A.12: Photograph of the model with building dimensions 39mx64mx12m, open systems, panels 25°, no parapet, edge distance 12m.

B Measurement results for building 60x80x12 m

This chapter gives the values of the (net) pressure coefficients per panel for the following configurations for a building with dimensions 80x60x12 (LxWxH):

- Model with panels at an angle of 10° relative to the roof.
- Standard model with panels at an angle of 25° relative to the roof.
- Model with panels at an angle of 25° relative to the roof with an eave of 0.52m high, i.e. height of the panels.
- Model with panels at an angle of 25° relative to the roof and a deflector at an angle of 90° relative to the roof.
- Model with panels at an angle of 25° relative to the roof and a deflector at an angle of 60° relative to the roof.

All measured panels have been given a reference number. Figures B.1 and B.2 shows the panel numbering.

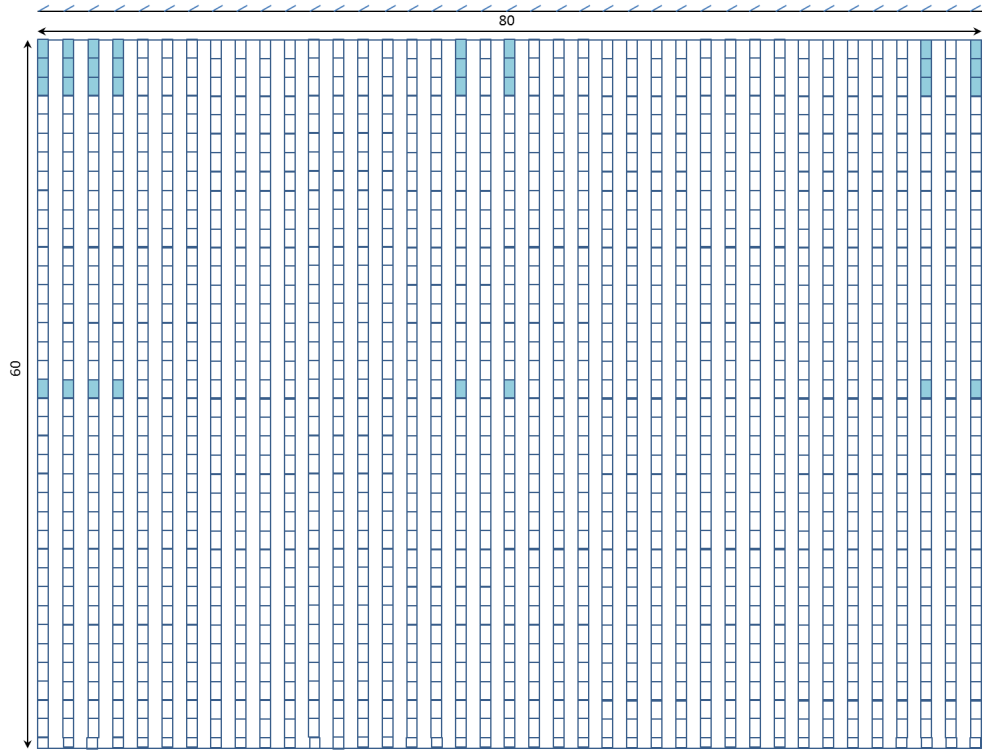
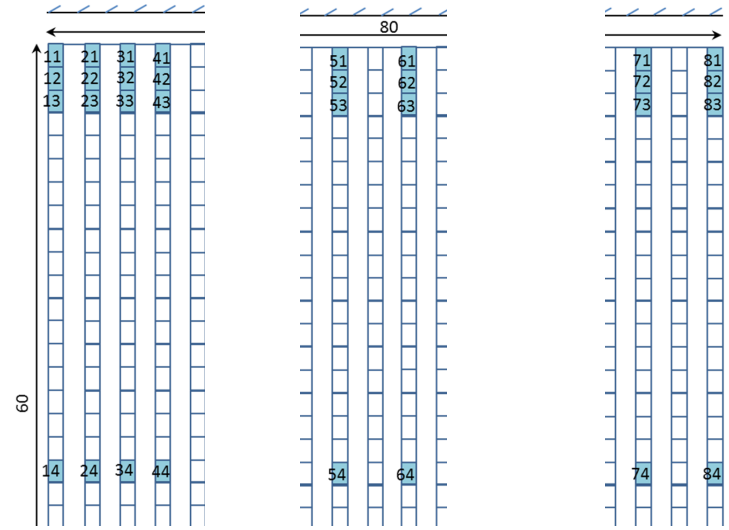


Figure B.1: Model



(a) South (b) West (c) North

Figure B.2: Numbering of the measured panels of a building with dimensions 80x60x12 (LxWxH).

The tables presented by this chapter give the pressure coefficients per panel. These are presented as follows:

- pressure coefficient, c_p, per channel (upside of the panel, downside of the panel and the pressure point on the roof), this is illustrated for panel 11 by Figure B.3,
- net pressure coefficient, $c_{p,net}$, i.e. difference per position between upside and downside of panel, Figure B.4a,
- net pressure coefficient, $c_{p,net}$, of top half and bottom half of panel, i.e. averaged difference over the pressure points in top half and bottom half, Figure B.4b,
- net pressure coefficient, $c_{p,net}$, of left side and right side of panel, i.e. averaged difference over the pressure points in left side and right side, Figure B.4c,
- net pressure coefficient of the full panel, $c_{p,net}$, i.e. averaged difference over all pressure points, Figure B.4d.

For all pressure coefficients a minimum value, c_p^- or $c_{p,net}^-$, and maximum value, c_p^+ or $c_{p,net}^+$, is given.

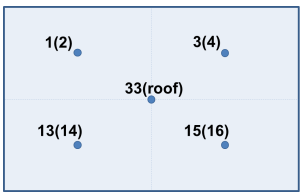
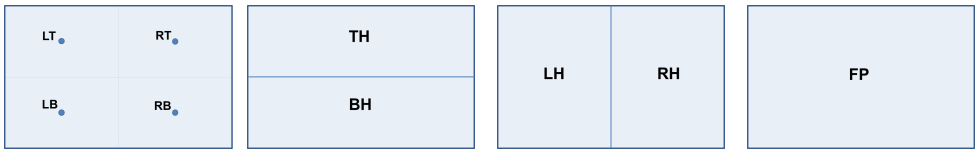


Figure B.3: Positions of pressure coefficients c_p for panel 11. The values in brackets represent the number of the channels on the down side of the panel. The position on the roof is located under the centre point of the panel.



(a) Positions (b) Top, bottom (c) Left, right (d) Full panel

Figure B.4: Positions on panel for which $c_{p,net}$ values are defined.

Table B.1: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 11 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 11	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
1	-1.91	+0.67	-1.44	+0.31	-1.89	+0.80	-1.57	+0.38	-1.54	+0.30
2	-1.56	+0.42	-1.22	+0.34	-1.35	+0.51	-1.28	+0.39	-1.04	+0.29
3	-2.24	+0.52	-2.29	+0.46	-2.36	+0.80	-2.35	+0.57	-1.67	+0.37
4	-1.48	+0.46	-1.37	+0.36	-1.65	+0.59	-1.27	+0.37	-1.18	+0.42
13	-4.25	+1.12	-3.19	+0.57	-2.25	+0.80	-1.16	+0.32	-2.92	+0.66
14	-1.59	+0.48	-1.39	+0.70	-1.34	+0.49	-2.65	+0.94	-1.10	+0.28
15	-2.72	+1.20	-1.69	+0.44	-1.76	+0.67	-1.29	+0.36	-2.12	+0.61
16	-1.73	+0.48	-1.29	+0.51	-1.43	+0.52	-1.44	+0.52	-1.07	+0.36
33 (roof)	-1.62	+0.43	-1.33	+0.37	-1.37	+0.51	-2.05	+0.33	-1.12	+0.31
109 (defl)							-1.07	+0.06	-1.66	+0.08
110 (defl)							-1.13	+0.07	-1.54	+0.07
111 (defl)							-1.62	+0.07	-2.03	+0.08
112 (defl)							-1.25	+0.05	-1.12	+0.07
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.61	+0.77	-1.07	+0.94	-1.37	+1.36	-0.93	+0.73	-0.99	+0.45
RT	-1.09	+0.68	-0.85	+0.83	-1.71	+1.11	-1.18	+0.50	-0.90	+0.48
LB	-3.46	+1.20	-2.10	+0.89	-1.40	+0.30	-1.85	+0.55	-2.37	+0.55
RB	-1.87	+0.86	-0.63	+0.53	-1.01	+0.20	-0.78	+0.36	-1.63	+0.48
L (defl)							-1.21	+0.02	-1.41	+0.03
R (defl)							-0.83	+0.02	-1.64	+0.03
TH	-0.47	+0.52	-0.81	+0.79	-1.53	+0.57	-0.68	+0.43	-0.66	+0.36
BH	-2.39	+0.48	-1.42	+0.55	-1.10	+0.21	-1.18	+0.36	-1.78	+0.37
LH	-1.65	+0.87	-0.79	+0.84	-1.13	+0.64	-0.94	+0.46	-1.26	+0.34
RH	-1.04	+0.36	-0.65	+0.54	-1.23	+0.49	-0.73	+0.34	-0.83	+0.34
FP	-1.28	+0.21	-0.70	+0.58	-1.15	+0.18	-0.72	+0.28	-1.06	+0.26
WindDir	(225)	(210)	(210)	(225)	(210)	(210)	(210)	(270)	(225)	(180)
FP (defl)							-0.91	+0.02	-1.42	+0.02
WindDir							(210)	(15)	(210)	(15)

Table B.2: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 12 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 12	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
5	-2.91	+0.50	-1.99	+0.58	-2.47	+1.40	-1.57	+0.66	-1.73	+0.48
6	-1.56	+0.37	-1.24	+0.29	-1.72	+0.68	-1.13	+0.29	-0.96	+0.28
7	-2.59	+0.53	-1.85	+0.65	-2.22	+0.71	-1.64	+0.66	-0.92	+0.25
8	-1.47	+0.39	-1.19	+0.28	-1.44	+0.58	-1.64	+0.66	-0.92	+0.25
17	-2.43	+0.80	-2.51	+0.60	-2.16	+0.60	-1.21	+0.41	-2.23	+0.56
18	-1.54	+0.47	-1.34	+0.35	-1.42	+0.55	-2.24	+0.76	-0.98	+0.30
19	-1.98	+0.62	-2.04	+0.58	-2.08	+0.63	-1.23	+0.38	-1.78	+0.44
20	-1.68	+0.41	-1.26	+0.33	-1.34	+0.51	-1.23	+0.38	-1.78	+0.44
34 (roof)	-1.60	+0.36	-1.20	+0.32	-1.41	+0.59	-1.29	+0.30	-1.10	+0.29
113 (defl)							-1.71	+0.06	-1.54	+0.07
114 (defl)							-1.27	+0.06	-0.90	+0.05
115 (defl)							-1.16	+0.06	-1.59	+0.08
116 (defl)							-1.10	+0.05	-0.86	+0.06
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.99	+0.52	-1.01	+0.72	-1.48	+1.02	-0.86	+0.38	-1.20	+0.34
RT	-2.39	+0.41	-1.31	+0.54	-1.13	+0.90	-1.02	+0.29	-0.00	-0.00
LB	-1.55	+0.54	-1.64	+0.56	-1.43	+0.49	-1.56	+0.43	-1.78	+0.42
RB	-1.43	+0.36	-1.11	+0.58	-1.51	+0.56	-1.23	+0.43	-0.00	-0.00
L (defl)							-0.72	+0.01	-1.03	+0.03
R (defl)							-0.75	+0.01	-1.12	+0.02
TH	-1.87	+0.46	-1.10	+0.55	-1.32	+0.92	-0.86	+0.40	-0.67	+0.69
BH	-1.38	+0.38	-1.32	+0.52	-1.39	+0.51	-1.56	+0.44	-1.28	+0.36
LH	-1.78	+0.51	-1.14	+0.59	-1.42	+0.56	-1.01	+0.39	-1.25	+0.43
RH	-1.90	+0.37	-1.12	+0.46	-1.31	+0.63	-0.96	+0.30	-0.00	+0.00
FP	-1.62	+0.37	-1.08	+0.47	-1.36	+0.55	-1.04	+0.40	-0.78	+0.37
WindDir	(210)	(240)	(210)	(240)	(210)	(240)	(225)	(210)	(225)	(255)
FP (defl)							-0.61	+0.01	-1.06	+0.02
WindDir							(210)	(0)	(225)	(0)

Table B.3: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 13 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 13	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet 0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
9	-1.92	+0.71	-1.76	+0.59	-1.89	+0.59
10	-1.39	+0.41	-1.32	+0.29	-1.53	+0.50
11	-1.70	+0.62	-1.81	+0.78	-1.75	+0.53
12	-1.46	+0.39	-1.16	+0.30	-1.25	+0.41
21	-1.89	+0.51	-2.10	+0.61	-1.94	+0.60
22	-1.60	+0.50	-1.54	+0.30	-1.34	+0.39
23	-1.62	+0.54	-1.93	+0.50	-1.84	+0.56
24	-1.71	+0.45	-1.15	+0.29	-1.28	+0.41
35 (roof)	-1.68	+0.44	-1.54	+0.25	-1.28	+0.34
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-1.34	+0.41	-1.23	+0.48	-1.14	+0.91
RT	-1.21	+0.47	-1.15	+0.55	-1.19	+0.86
LB	-1.39	+0.57	-1.39	+0.63	-1.07	+0.56
RB	-1.02	+0.49	-1.37	+0.54	-1.26	+0.42
TH	-1.14	+0.40	-1.07	+0.48	-1.06	+0.73
BH	-1.25	+0.49	-1.34	+0.54	-1.07	+0.43
LH	-1.36	+0.49	-1.09	+0.56	-1.00	+0.73
RH	-1.09	+0.42	-1.14	+0.51	-1.14	+0.62
FP	-1.21	+0.41	-1.04	+0.48	-1.01	+0.61
WindDir	(30)	(75)	(45)	(75)	(45)	(75)

Table B.4: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 14 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 14	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
25	-1.55	+0.24	-1.59	+0.38	-1.10	+0.30	-2.06	+0.55	-1.52	+0.34
26	-1.23	+0.28	-1.13	+0.30	-0.96	+0.26	-1.24	+0.35	-1.03	+0.24
27	-1.29	+0.23	-1.52	+0.39	-1.19	+0.27	-1.64	+0.33	-1.57	+0.30
28	-1.12	+0.29	-1.16	+0.26	-0.97	+0.31	-1.08	+0.27	-0.90	+0.21
29	-1.51	+0.26	-2.06	+0.41	-1.14	+0.30	-1.80	+0.35	-2.25	+0.33
30	-1.33	+0.33	-1.27	+0.28	-0.97	+0.36	-1.24	+0.27	-0.93	+0.21
31	-1.91	+0.25	-2.60	+0.37	-1.10	+0.25	-1.70	+0.37	-2.01	+0.31
32	-1.11	+0.27	-1.21	+0.36	-0.96	+0.31	-1.30	+0.34	-1.08	+0.25
36 (roof)	-1.35	+0.29	-1.30	+0.28	-0.97	+0.34	-1.29	+0.38	-1.06	+0.27
121 (defl)							-1.38	+0.07	-1.21	+0.08
122 (defl)							-1.29	+0.05	-0.98	+0.05
123 (defl)							-0.79	+0.06	-1.18	+0.09
124 (defl)							-1.17	+0.06	-0.93	+0.05
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.63	+0.37	-0.86	+0.50	-0.58	+0.42	-0.86	+0.34	-0.90	+0.25
RT	-0.56	+0.30	-0.86	+0.45	-0.82	+0.25	-0.75	+0.20	-0.91	+0.24
LB	-0.81	+0.40	-1.47	+0.23	-0.45	+0.41	-0.89	+0.44	-1.46	+0.18
RB	-1.32	+0.36	-1.78	+0.27	-0.56	+0.27	-1.28	+0.25	-1.33	+0.28
L (defl)							-0.45	+0.13	-0.78	+0.03
R (defl)							-0.30	+0.03	-0.70	+0.03
TH	-0.53	+0.25	-0.73	+0.38	-0.62	+0.32	-0.72	+0.18	-0.79	+0.26
BH	-0.88	+0.29	-1.51	+0.22	-0.49	+0.33	-0.83	+0.33	-1.29	+0.16
LH	-0.64	+0.29	-0.76	+0.21	-0.52	+0.40	-0.67	+0.27	-0.92	+0.22
RH	-0.82	+0.27	-1.00	+0.19	-0.65	+0.26	-0.90	+0.22	-0.88	+0.21
FP	-0.67	+0.24	-0.83	+0.18	-0.53	+0.30	-0.61	+0.19	-0.91	+0.22
WindDir	(165)	(75)	(180)	(75)	(285)	(285)	(195)	(195)	(180)	(75)
FP (defl)							-0.24	+0.06	-0.50	+0.02
WindDir							(180)	(300)	(165)	(300)

Table B.5: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 21 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 21	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
37	-1.74	+0.48	-1.49	+0.43	-1.90	+0.98	-1.54	+0.37	-1.33	+0.47
38	-1.63	+0.55	-1.23	+0.39	-1.11	+0.37	-1.52	+0.33	-1.08	+0.28
39	-1.40	+0.40	-1.46	+0.45	-1.67	+0.90	-1.61	+0.46	-1.25	+0.46
40	-1.22	+0.43	-1.37	+0.47	-1.25	+0.42	-1.36	+0.33	-1.26	+0.31
49	-1.73	+0.56	-1.30	+0.52	-1.68	+1.16	-1.47	+0.44	-1.41	+0.41
50	-1.46	+0.39	-1.33	+0.44	-1.18	+0.38	-1.18	+0.34	-1.35	+0.38
51	-1.40	+0.47	-1.66	+0.55	-1.44	+0.95	-1.43	+0.46	-1.36	+0.67
52	-1.13	+0.46	-1.16	+0.44	-1.14	+0.35	-1.31	+0.45	-1.23	+0.40
69 (roof)	-1.37	+0.52	-1.35	+0.58	-1.17	+0.38	-1.25	+0.31	-1.41	+0.38
125 (defl)							-1.22	+0.11	-1.93	+0.07
126 (defl)							-1.22	+0.06	-1.62	+0.05
127 (defl)							-1.71	+0.07	-1.95	+0.08
128 (defl)							-1.47	+0.05	-1.44	+0.05
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.66	+0.91	-0.89	+1.10	-0.97	+1.59	-0.95	+0.80	-0.81	+0.89
RT	-0.52	+0.56	-0.72	+1.12	-0.92	+1.55	-0.55	+1.08	-0.52	+1.11
LB	-0.82	+0.88	-0.71	+1.22	-1.32	+0.68	-0.51	+1.47	-0.54	+1.43
RB	-0.84	+0.70	-0.76	+0.74	-0.87	+1.33	-0.68	+1.35	-0.73	+1.20
L (defl)							-1.45	+0.05	-1.37	+0.04
R (defl)							-0.59	+0.04	-1.20	+0.02
TH	-0.47	+0.63	-0.62	+1.03	-0.89	+1.34	-0.56	+0.78	-0.55	+0.89
BH	-0.50	+0.76	-0.64	+0.84	-1.02	+0.60	-0.46	+1.19	-0.42	+1.11
LH	-0.52	+0.73	-0.65	+1.05	-1.05	+1.06	-0.62	+1.10	-0.67	+1.06
RH	-0.49	+0.56	-0.61	+0.69	-0.72	+1.24	-0.56	+1.04	-0.46	+0.95
FP	-0.41	+0.63	-0.58	+0.87	-0.79	+0.75	-0.49	+0.83	-0.40	+0.88
WindDir	(315)	(195)	(0)	(210)	(195)	(210)	(225)	(195)	(270)	(195)
FP (defl)							-0.88	+0.04	-1.32	+0.03
WindDir							(195)	(180)	(210)	(0)

Table B.6: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 22 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 22	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
41	-1.35	+0.46	-1.30	+0.33	-1.79	+0.76	-1.44	+0.46	-1.22	+0.57
42	-1.14	+0.35	-1.20	+0.40	-1.25	+0.45	-1.26	+0.42	-1.16	+0.27
43	-1.40	+0.47	-1.33	+0.36	-1.87	+0.46	-1.25	+0.61	-1.33	+0.35
44	-0.96	+0.31	-1.10	+0.37	-1.22	+0.42	-1.19	+0.35	-0.99	+0.27
53	-1.65	+0.50	-1.39	+0.39	-1.80	+0.63	-1.47	+0.67	-1.29	+0.53
54	-1.15	+0.32	-1.07	+0.36	-1.31	+0.46	-1.21	+0.45	-1.18	+0.26
55	-1.85	+0.47	-1.65	+0.35	-1.67	+0.41	-1.34	+0.45	-1.44	+0.33
56	-0.95	+0.37	-0.97	+0.35	-1.37	+0.42	-1.21	+0.37	-0.96	+0.26
70 (roof)	-1.15	+0.36	-1.07	+0.37	-1.30	+0.42	-1.07	+0.27	-1.19	+0.30
129 (defl)							-1.26	+0.06	-1.17	+0.07
130 (defl)							-1.24	+0.05	-1.02	+0.06
131 (defl)							-1.21	+0.06	-1.23	+0.07
132 (defl)							-1.24	+0.06	-1.01	+0.07
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.75	+0.72	-0.67	+0.91	-1.21	+1.49	-0.57	+1.04	-0.64	+0.99
RT	-0.87	+0.61	-0.76	+0.70	-1.03	+1.34	-0.55	+0.92	-0.48	+0.78
LB	-0.87	+0.82	-0.95	+0.91	-1.23	+1.70	-0.58	+1.08	-0.66	+1.18
RB	-1.34	+1.00	-1.43	+0.80	-1.45	+1.54	-0.98	+0.76	-0.84	+0.77
L (defl)							-0.61	+0.04	-0.60	+0.03
R (defl)							-0.58	+0.04	-0.73	+0.03
TH	-0.69	+0.62	-0.55	+0.82	-1.05	+1.15	-0.47	+0.90	-0.54	+0.72
BH	-1.01	+0.79	-1.15	+0.79	-1.18	+1.05	-0.61	+0.84	-0.61	+0.94
LH	-0.71	+0.64	-0.63	+0.84	-1.21	+1.50	-0.50	+1.00	-0.61	+0.92
RH	-1.09	+0.68	-0.96	+0.79	-1.23	+1.42	-0.57	+0.63	-0.66	+0.71
FP	-0.81	+0.69	-0.76	+0.79	-1.12	+1.10	-0.37	+0.78	-0.44	+0.79
WindDir	(210)	(240)	(210)	(240)	(210)	(225)	(285)	(225)	(225)	(210)
FP (defl)							-0.48	+0.04	-0.62	+0.03
WindDir							(240)	(210)	(240)	(0)

Table B.7: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 23 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 23	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet 0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
45	-1.78	+0.39	-1.70	+0.29	-1.75	+0.44
46	-1.03	+0.33	-1.06	+0.33	-1.36	+0.42
47	-2.05	+0.62	-1.64	+0.35	-1.82	+0.44
48	-0.99	+0.31	-0.91	+0.30	-1.39	+0.38
57	-2.02	+0.71	-2.08	+0.33	-1.70	+0.72
58	-1.16	+0.33	-1.03	+0.30	-1.34	+0.44
59	-1.92	+0.49	-2.08	+0.38	-1.93	+0.60
60	-0.94	+0.33	-0.95	+0.30	-1.52	+0.33
71 (roof)	-0.97	+0.32	-0.99	+0.32	-1.34	+0.37
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-1.02	+0.77	-0.89	+0.71	-1.12	+1.27
RT	-1.04	+0.76	-0.97	+0.68	-1.26	+1.06
LB	-1.02	+1.13	-1.69	+0.76	-1.48	+1.36
RB	-1.54	+0.64	-1.94	+0.80	-1.87	+1.57
TH	-0.96	+0.73	-0.78	+0.63	-1.17	+0.94
BH	-1.18	+0.81	-1.89	+0.76	-1.63	+1.14
LH	-0.93	+0.98	-0.86	+0.74	-1.00	+1.24
RH	-1.23	+0.55	-1.40	+0.69	-1.40	+1.24
FP	-1.05	+0.66	-1.06	+0.63	-1.19	+0.95
WindDir	(45)	(75)	(30)	(75)	(30)	(60)

Table B.8: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 24 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 24	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
61	-1.10	+0.25	-1.19	+0.26	-1.33	+0.25	-1.84	+0.42	-1.30	+0.32
62	-0.87	+0.24	-0.91	+0.22	-0.93	+0.26	-0.99	+0.33	-1.03	+0.25
63	-1.09	+0.25	-1.15	+0.24	-1.32	+0.26	-1.29	+0.28	-1.28	+0.28
64	-0.93	+0.24	-0.93	+0.22	-0.91	+0.26	-1.13	+0.26	-1.09	+0.26
65	-1.17	+0.25	-1.23	+0.27	-1.17	+0.28	-1.37	+0.29	-1.19	+0.29
66	-0.90	+0.23	-0.88	+0.25	-0.92	+0.28	-1.15	+0.27	-0.96	+0.25
67	-1.12	+0.27	-1.21	+0.26	-1.18	+0.27	-1.29	+0.29	-1.30	+0.29
68	-0.89	+0.25	-0.99	+0.24	-0.90	+0.28	-1.16	+0.24	-1.10	+0.26
72 (roof)	-0.91	+0.24	-0.90	+0.22	-0.92	+0.25	-1.34	+0.54	-1.04	+0.26
137 (defl)							-1.11	+0.07	-1.03	+0.08
138 (defl)							-1.21	+0.06	-1.07	+0.06
139 (defl)							-1.04	+0.08	-1.03	+0.08
140 (defl)							-1.17	+0.06	-1.07	+0.06
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.57	+0.20	-0.65	+0.22	-0.78	+0.28	-0.41	+0.29	-0.47	+0.44
RT	-0.55	+0.22	-0.72	+0.19	-0.91	+0.35	-0.43	+0.40	-0.39	+0.31
LB	-0.43	+0.26	-0.59	+0.23	-0.64	+0.46	-0.45	+0.23	-0.39	+0.26
RB	-0.45	+0.36	-0.68	+0.28	-0.77	+0.39	-0.53	+0.28	-0.41	+0.32
L (defl)							-0.17	+0.11	-0.19	+0.07
R (defl)							-0.18	+0.11	-0.16	+0.06
TH	-0.49	+0.20	-0.65	+0.20	-0.83	+0.27	-0.42	+0.32	-0.34	+0.35
BH	-0.41	+0.29	-0.60	+0.22	-0.70	+0.44	-0.45	+0.26	-0.36	+0.28
LH	-0.45	+0.21	-0.58	+0.22	-0.68	+0.37	-0.34	+0.18	-0.40	+0.20
RH	-0.50	+0.29	-0.70	+0.21	-0.81	+0.34	-0.41	+0.23	-0.39	+0.23
FP	-0.43	+0.25	-0.61	+0.19	-0.74	+0.34	-0.33	+0.21	-0.31	+0.22
WindDir	(195)	(75)	(300)	(285)	(180)	(285)	(180)	(75)	(195)	(75)
FP (defl)							-0.16	+0.10	-0.18	+0.07
WindDir							(90)	(180)	(270)	(0)

Table B.9: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 31 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 31	Building: 80x60x12 (LxBxH)			
System	open		open	
Angle	10°		25°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
37	-1.68	+0.59	-1.36	+0.42
38	-1.67	+0.44	-1.31	+0.33
39	-1.35	+0.35	-1.48	+0.41
40	-1.19	+0.40	-1.51	+0.36
49	-1.68	+0.47	-1.27	+0.52
50	-1.38	+0.44	-1.33	+0.33
51	-1.35	+0.42	-1.33	+0.53
52	-1.24	+0.41	-1.22	+0.42
69 (roof)	-1.38	+0.42	-1.30	+0.49
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.96	+0.74	-0.73	+0.95
RT	-0.58	+0.41	-0.66	+0.86
LB	-0.63	+0.88	-0.65	+1.12
RB	-0.80	+0.59	-0.82	+0.92
TH	-0.71	+0.55	-0.62	+0.85
BH	-0.55	+0.71	-0.57	+1.01
LH	-0.71	+0.63	-0.61	+0.92
RH	-0.63	+0.44	-0.75	+0.83
FP	-0.65	+0.53	-0.60	+0.89
WindDir	(300)	(195)	(300)	(195)

Table B.10: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 32 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 32	Building: 80x60x12 (LxBxH)			
System	open		open	
Angle	10°		25°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
41	-1.19	+0.31	-1.28	+0.35
42	-1.08	+0.32	-1.18	+0.31
43	-1.31	+0.37	-1.09	+0.35
44	-1.05	+0.32	-1.07	+0.27
53	-1.46	+0.46	-1.20	+0.36
54	-1.10	+0.34	-1.06	+0.32
55	-1.40	+0.56	-1.07	+0.37
56	-1.10	+0.33	-1.03	+0.30
70 (roof)	-1.06	+0.32	-1.03	+0.31
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.49	+0.47	-0.64	+0.76
RT	-0.53	+0.49	-0.61	+0.61
LB	-0.63	+0.79	-0.53	+0.89
RB	-1.03	+1.02	-0.76	+0.92
TH	-0.51	+0.42	-0.59	+0.68
BH	-0.60	+0.68	-0.54	+0.78
LH	-0.45	+0.61	-0.55	+0.71
RH	-0.69	+0.71	-0.56	+0.72
FP	-0.47	+0.52	-0.52	+0.64
WindDir	(195)	(225)	(345)	(195)

Table B.11: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 33 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 33	Building: 80x60x12 (LxBxH)			
System	open		open	
Angle	10°		25°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
45	-1.42	+0.52	-1.13	+0.33
46	-1.12	+0.33	-0.96	+0.28
47	-1.53	+0.58	-1.14	+0.34
48	-1.03	+0.34	-0.94	+0.29
57	-1.45	+0.55	-1.02	+0.49
58	-1.09	+0.42	-0.97	+0.30
59	-1.46	+0.62	-1.26	+0.45
60	-1.11	+0.33	-0.93	+0.27
71 (roof)	-1.02	+0.35	-0.94	+0.29
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.65	+0.71	-0.55	+0.79
RT	-0.68	+0.70	-0.65	+0.93
LB	-0.49	+1.01	-0.60	+0.97
RB	-1.07	+1.25	-1.08	+1.10
TH	-0.60	+0.58	-0.59	+0.80
BH	-0.73	+0.87	-0.83	+0.86
LH	-0.55	+0.86	-0.54	+0.87
RH	-0.78	+0.98	-0.83	+0.91
FP	-0.64	+0.68	-0.68	+0.76
WindDir	(210)	(240)	(195)	(240)

Table B.12: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 34 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 34	Building: 80x60x12 (LxBxH)			
System	open		open	
Angle	10°		25°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
61	-1.15	+0.28	-1.37	+0.42
62	-0.82	+0.24	-0.79	+0.22
63	-1.13	+0.28	-1.24	+0.47
64	-0.86	+0.25	-0.79	+0.22
65	-1.13	+0.26	-1.17	+0.34
66	-0.87	+0.27	-0.82	+0.24
67	-1.12	+0.27	-1.18	+0.36
68	-0.88	+0.25	-0.82	+0.26
72 (roof)	-0.82	+0.23	-0.83	+0.21
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.52	+0.29	-0.87	+0.26
RT	-0.55	+0.25	-0.73	+0.25
LB	-0.45	+0.45	-0.65	+0.31
RB	-0.48	+0.34	-0.68	+0.25
TH	-0.47	+0.25	-0.75	+0.24
BH	-0.38	+0.39	-0.64	+0.26
LH	-0.45	+0.39	-0.69	+0.28
RH	-0.49	+0.28	-0.65	+0.23
FP	-0.43	+0.31	-0.63	+0.24
WindDir	(195)	(285)	(180)	(270)

Table B.13: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 41 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 41	Building: 80x60x12 (LxBxH)			
System	open		open	
Angle	10°		25°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
37	-1.50	+0.62	-1.36	+0.35
38	-1.71	+0.49	-1.37	+0.36
39	-1.38	+0.40	-1.52	+0.47
40	-1.43	+0.50	-1.49	+0.37
49	-1.72	+0.52	-1.33	+0.37
50	-1.32	+0.44	-1.42	+0.51
51	-1.34	+0.44	-1.48	+0.44
52	-1.37	+0.55	-1.32	+0.55
69 (roof)	-1.29	+0.45	-1.48	+0.58
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.00	+0.67	-0.97	+0.84
RT	-0.63	+0.34	-0.73	+0.62
LB	-0.83	+0.62	-0.69	+1.07
RB	-0.78	+0.49	-0.86	+0.57
TH	-0.73	+0.40	-0.86	+0.66
BH	-0.56	+0.46	-0.71	+0.72
LH	-0.87	+0.51	-0.83	+0.86
RH	-0.65	+0.39	-0.77	+0.53
FP	-0.58	+0.38	-0.82	+0.68
WindDir	(285)	(195)	(0)	(195)

Table B.14: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 42 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 42	Building: 80x60x12 (LxBxH)			
System	open		open	
Angle	10°		25°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
41	-1.17	+0.36	-1.28	+0.40
42	-1.12	+0.42	-1.11	+0.33
43	-1.08	+0.36	-1.07	+0.36
44	-0.98	+0.41	-0.99	+0.33
53	-1.15	+0.36	-1.32	+0.43
54	-1.14	+0.35	-1.16	+0.30
55	-1.15	+0.40	-1.15	+0.41
56	-0.92	+0.35	-0.99	+0.36
70 (roof)	-1.12	+0.38	-0.96	+0.30
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.38	+0.41	-0.66	+0.61
RT	-0.53	+0.40	-0.71	+0.67
LB	-0.56	+0.72	-0.50	+0.68
RB	-0.64	+0.72	-0.59	+0.70
TH	-0.43	+0.34	-0.62	+0.61
BH	-0.43	+0.54	-0.49	+0.53
LH	-0.38	+0.46	-0.55	+0.61
RH	-0.45	+0.52	-0.63	+0.57
FP	-0.38	+0.37	-0.56	+0.55
WindDir	(180)	(210)	(0)	(180)

Table B.15: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 43 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 43	Building: 80x60x12 (LxBxH)			
System	open		open	
Angle	10°		25°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
45	-1.12	+0.39	-0.97	+0.36
46	-1.05	+0.38	-1.03	+0.30
47	-1.22	+0.42	-1.00	+0.36
48	-1.02	+0.34	-0.93	+0.30
57	-1.15	+0.42	-0.99	+0.38
58	-1.00	+0.31	-0.96	+0.30
59	-1.18	+0.46	-1.08	+0.41
60	-1.00	+0.35	-0.87	+0.30
71 (roof)	-1.00	+0.36	-0.94	+0.32
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.61	+0.50	-0.62	+0.74
RT	-0.52	+0.59	-0.57	+0.65
LB	-0.44	+0.86	-0.42	+0.81
RB	-0.83	+0.93	-0.51	+0.93
TH	-0.53	+0.53	-0.57	+0.67
BH	-0.46	+0.75	-0.41	+0.75
LH	-0.44	+0.67	-0.56	+0.73
RH	-0.58	+0.77	-0.55	+0.77
FP	-0.46	+0.62	-0.52	+0.68
WindDir	(195)	(225)	(0)	(225)

Table B.16: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 44 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 44	Building: 80x60x12 (LxBxH)			
System	open		open	
Angle	10°		25°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
61	-1.13	+0.34	-1.20	+0.44
62	-0.82	+0.29	-0.82	+0.25
63	-1.13	+0.35	-1.15	+0.47
64	-0.85	+0.29	-0.80	+0.29
65	-1.05	+0.36	-1.07	+0.49
66	-0.86	+0.28	-0.76	+0.26
67	-1.04	+0.37	-1.13	+0.47
68	-0.84	+0.30	-0.81	+0.27
72 (roof)	-0.83	+0.28	-0.80	+0.26
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.65	+0.17	-0.91	+0.42
RT	-0.64	+0.25	-0.87	+0.43
LB	-0.60	+0.40	-0.63	+0.49
RB	-0.56	+0.40	-0.71	+0.46
TH	-0.63	+0.20	-0.86	+0.38
BH	-0.45	+0.39	-0.61	+0.46
LH	-0.61	+0.27	-0.71	+0.45
RH	-0.49	+0.32	-0.72	+0.46
FP	-0.53	+0.29	-0.62	+0.41
WindDir	(135)	(270)	(75)	(165)

Table B.17: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 51 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 51	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
1	-1.40	+0.28	-1.50	+0.38	-1.00	+0.48	-1.16	+0.49	-1.30	+0.31
2	-1.41	+0.37	-1.27	+0.42	-0.73	+0.35	-1.22	+0.25	-1.02	+0.28
3	-1.12	+0.29	-1.20	+0.40	-1.02	+0.48	-1.11	+0.51	-1.35	+0.26
4	-1.16	+0.28	-1.30	+0.35	-0.78	+0.28	-1.02	+0.25	-1.13	+0.27
13	-1.71	+0.29	-1.32	+0.33	-0.95	+0.33	-0.84	+0.24	-1.39	+0.39
14	-1.11	+0.34	-1.22	+0.52	-0.74	+0.45	-1.04	+0.27	-1.40	+0.27
15	-1.13	+0.29	-1.14	+0.31	-0.85	+0.30	-1.12	+0.29	-1.26	+0.36
16	-1.07	+0.34	-1.18	+0.48	-0.77	+0.29	-1.02	+0.24	-1.33	+0.35
33 (roof)	-1.20	+0.34	-1.24	+0.53	-0.76	+0.33	-0.59	+0.23	-1.45	+0.29
109 (defl)							-0.87	+0.05	-1.16	+0.06
110 (defl)							-0.52	+0.07	-1.43	+0.05
111 (defl)							-1.35	+0.07	-1.18	+0.06
112 (defl)							-1.13	+0.05	-1.20	+0.05
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.88	+0.53	-0.81	+0.56	-0.45	+0.61	-0.79	+0.64	-0.82	+0.46
RT	-0.42	+0.27	-0.80	+0.54	-0.50	+0.48	-0.51	+0.63	-0.48	+0.46
LB	-0.82	+0.40	-0.67	+0.74	-0.53	+0.51	-0.36	+0.49	-0.49	+0.66
RB	-0.62	+0.42	-0.65	+0.47	-0.39	+0.44	-0.47	+0.45	-0.59	+0.49
L (defl)							-0.62	+0.04	-0.47	+0.05
R (defl)							-0.42	+0.03	-0.43	+0.04
TH	-0.44	+0.31	-0.76	+0.49	-0.43	+0.53	-0.37	+0.67	-0.46	+0.43
BH	-0.44	+0.38	-0.64	+0.51	-0.40	+0.40	-0.27	+0.45	-0.44	+0.55
LH	-0.73	+0.34	-0.83	+0.63	-0.48	+0.52	-0.42	+0.41	-0.40	+0.49
RH	-0.48	+0.31	-0.66	+0.44	-0.45	+0.44	-0.42	+0.45	-0.48	+0.46
FP	-0.41	+0.31	-0.73	+0.49	-0.42	+0.48	-0.27	+0.41	-0.36	+0.48
WindDir	(240)	(165)	(0)	(180)	(15)	(180)	(330)	(165)	(285)	(180)
FP (defl)							-0.42	+0.03	-0.32	+0.04
WindDir							(255)	(0)	(240)	(0)

Table B.18: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 52 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 52	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
5	-1.00	+0.27	-1.12	+0.34	-0.98	+0.30	-0.98	+0.55	-1.28	+0.30
6	-0.94	+0.25	-0.97	+0.33	-0.86	+0.31	-1.08	+0.27	-1.00	+0.23
7	-0.97	+0.29	-0.94	+0.48	-1.03	+0.30	-0.94	+0.41	-0.93	+0.21
8	-0.90	+0.30	-0.87	+0.28	-0.84	+0.39	-0.94	+0.41	-0.93	+0.21
17	-1.11	+0.26	-1.00	+0.30	-0.98	+0.25	-1.03	+0.30	-1.23	+0.31
18	-0.93	+0.27	-1.00	+0.39	-0.79	+0.38	-1.03	+0.37	-0.98	+0.22
19	-1.06	+0.28	-0.90	+0.30	-0.95	+0.38	-0.90	+0.28	-1.08	+0.44
20	-0.91	+0.27	-0.84	+0.42	-0.88	+0.37	-0.90	+0.28	-1.08	+0.44
34 (roof)	-0.96	+0.31	-0.87	+0.40	-0.83	+0.38	-0.52	+0.20	-1.02	+0.25
113 (defl)							-1.11	+0.07	-1.06	+0.06
114 (defl)							-1.04	+0.04	-1.08	+0.03
115 (defl)							-1.00	+0.07	-1.04	+0.06
116 (defl)							-0.98	+0.05	-0.89	+0.04
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.41	+0.24	-0.63	+0.47	-0.69	+0.55	-0.46	+0.65	-0.49	+0.44
RT	-0.40	+0.25	-0.65	+0.59	-0.71	+0.49	-0.37	+0.53	-0.00	-0.00
LB	-0.37	+0.44	-0.59	+0.43	-0.49	+0.34	-0.31	+0.47	-0.49	+0.46
RB	-0.38	+0.40	-0.57	+0.43	-0.65	+0.60	-0.37	+0.41	-0.00	-0.00
L (defl)							-0.27	+0.03	-0.41	+0.03
R (defl)							-0.35	+0.03	-0.34	+0.02
TH	-0.38	+0.24	-0.63	+0.49	-0.65	+0.48	-0.42	+0.65	-0.37	+0.41
BH	-0.27	+0.38	-0.52	+0.39	-0.53	+0.44	-0.33	+0.48	-0.44	+0.31
LH	-0.31	+0.33	-0.62	+0.39	-0.54	+0.39	-0.32	+0.56	-0.43	+0.43
RH	-0.39	+0.30	-0.53	+0.46	-0.62	+0.51	-0.37	+0.43	-0.00	+0.00
FP	-0.31	+0.30	-0.54	+0.43	-0.56	+0.44	-0.34	+0.56	-0.32	+0.31
WindDir	(0)	(165)	(0)	(180)	(0)	(165)	(300)	(180)	(285)	(165)
FP (defl)							-0.28	+0.02	-0.28	+0.02
WindDir							(285)	(0)	(285)	(15)

Table B.19: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 53 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 53	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet 0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
9	-0.92	+0.30	-0.86	+0.40	-1.07	+0.37
10	-0.86	+0.30	-0.91	+0.25	-0.93	+0.30
11	-0.93	+0.29	-0.92	+0.34	-1.09	+0.53
12	-0.87	+0.31	-0.90	+0.29	-1.05	+0.28
21	-0.97	+0.31	-0.87	+0.33	-1.01	+0.30
22	-0.86	+0.30	-0.90	+0.31	-0.90	+0.36
23	-0.95	+0.32	-0.90	+0.31	-0.99	+0.38
24	-0.89	+0.30	-0.84	+0.39	-0.95	+0.37
35 (roof)	-0.91	+0.30	-0.83	+0.35	-0.94	+0.32
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-0.41	+0.25	-0.74	+0.50	-0.57	+0.56
RT	-0.38	+0.25	-0.76	+0.50	-0.59	+0.54
LB	-0.27	+0.28	-0.50	+0.46	-0.49	+0.58
RB	-0.26	+0.41	-0.62	+0.41	-0.75	+0.52
TH	-0.38	+0.25	-0.70	+0.47	-0.59	+0.50
BH	-0.22	+0.30	-0.52	+0.40	-0.63	+0.51
LH	-0.32	+0.23	-0.57	+0.47	-0.47	+0.55
RH	-0.28	+0.27	-0.63	+0.42	-0.60	+0.47
FP	-0.26	+0.22	-0.60	+0.39	-0.53	+0.47
WindDir	(165)	(345)	(195)	(15)	(180)	(345)

Table B.20: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 54 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 54	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
25	-0.58	+0.19	-0.73	+0.28	-0.82	+0.33	-0.96	+0.29	-0.49	+0.27
26	-0.51	+0.30	-0.51	+0.35	-0.70	+0.32	-0.84	+0.25	-0.44	+0.18
27	-0.56	+0.19	-0.65	+0.28	-0.72	+0.34	-0.70	+0.25	-0.54	+0.31
28	-0.52	+0.27	-0.49	+0.37	-0.61	+0.26	-0.47	+0.17	-0.43	+0.16
29	-0.50	+0.28	-0.56	+0.38	-0.62	+0.34	-0.60	+0.27	-0.45	+0.24
30	-0.52	+0.27	-0.54	+0.43	-0.74	+0.36	-0.50	+0.22	-0.40	+0.17
31	-0.52	+0.24	-0.53	+0.39	-0.69	+0.36	-0.38	+0.13	-0.51	+0.28
32	-0.54	+0.33	-0.49	+0.43	-0.69	+0.35	-0.54	+0.21	-0.47	+0.19
36 (roof)	-0.56	+0.29	-0.50	+0.41	-0.66	+0.36	-1.13	+0.29	-0.47	+0.17
121 (defl)							-0.98	+0.06	-0.49	+0.06
122 (defl)							-0.89	+0.06	-0.46	+0.06
123 (defl)							-0.30	+0.06	-0.47	+0.06
124 (defl)							-0.50	+0.06	-0.47	+0.05
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.58	+0.39	-0.76	+0.50	-0.72	+0.54	-0.39	+0.44	-0.36	+0.39
RT	-0.52	+0.34	-0.73	+0.37	-0.83	+0.45	-0.36	+0.49	-0.47	+0.46
LB	-0.31	+0.60	-0.55	+0.74	-0.60	+0.69	-0.33	+0.42	-0.31	+0.39
RB	-0.35	+0.48	-0.58	+0.52	-0.57	+0.59	-0.30	+0.43	-0.27	+0.49
L (defl)							-0.30	+0.09	-0.23	+0.04
R (defl)							-0.22	+0.04	-0.21	+0.03
TH	-0.54	+0.36	-0.70	+0.37	-0.75	+0.49	-0.32	+0.44	-0.37	+0.39
BH	-0.34	+0.51	-0.56	+0.62	-0.54	+0.62	-0.21	+0.36	-0.27	+0.37
LH	-0.45	+0.51	-0.64	+0.58	-0.63	+0.58	-0.25	+0.32	-0.29	+0.35
RH	-0.42	+0.38	-0.61	+0.44	-0.66	+0.50	-0.32	+0.36	-0.33	+0.41
FP	-0.41	+0.43	-0.63	+0.50	-0.65	+0.55	-0.25	+0.33	-0.26	+0.35
WindDir	(270)	(270)	(60)	(240)	(90)	(270)	(75)	(195)	(300)	(240)
FP (defl)							-0.16	+0.06	-0.19	+0.02
WindDir							(90)	(300)	(270)	(0)

Table B.21: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 61 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 61	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
37	-1.64	+0.28	-1.46	+0.38	-0.92	+0.33	-0.89	+0.27	-1.25	+0.34
38	-1.62	+0.34	-1.27	+0.34	-0.86	+0.36	-0.51	+0.22	-1.24	+0.26
39	-1.28	+0.27	-1.28	+0.36	-0.95	+0.38	-1.35	+0.41	-1.30	+0.29
40	-1.25	+0.29	-1.24	+0.31	-0.89	+0.32	-1.34	+0.27	-1.29	+0.26
49	-1.52	+0.29	-1.29	+0.33	-0.88	+0.36	-1.07	+0.30	-1.27	+0.37
50	-1.24	+0.28	-1.33	+0.40	-0.90	+0.40	-0.88	+0.24	-1.49	+0.31
51	-1.36	+0.25	-1.37	+0.34	-0.92	+0.45	-1.44	+0.25	-1.18	+0.27
52	-1.16	+0.37	-1.07	+0.40	-0.82	+0.28	-1.15	+0.25	-1.25	+0.39
69 (roof)	-1.36	+0.32	-1.27	+0.44	-0.89	+0.36	-0.63	+0.33	-1.43	+0.29
125 (defl)							-0.54	+0.06	-1.67	+0.08
126 (defl)							-0.49	+0.07	-1.46	+0.07
127 (defl)							-1.33	+0.06	-1.24	+0.08
128 (defl)							-1.20	+0.06	-1.23	+0.07
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.88	+0.70	-1.03	+0.52	-0.57	+0.50	-0.81	+0.69	-0.74	+0.45
RT	-0.52	+0.28	-0.85	+0.51	-0.71	+0.58	-0.57	+0.54	-0.52	+0.46
LB	-0.74	+0.46	-0.64	+0.66	-0.50	+0.46	-0.37	+0.54	-0.31	+0.57
RB	-0.77	+0.51	-0.75	+0.46	-0.55	+0.60	-0.57	+0.40	-0.58	+0.50
L (defl)							-0.77	+0.05	-0.50	+0.03
R (defl)							-0.38	+0.03	-0.48	+0.03
TH	-0.71	+0.41	-0.85	+0.55	-0.61	+0.50	-0.43	+0.48	-0.35	+0.44
BH	-0.51	+0.44	-0.67	+0.48	-0.51	+0.53	-0.36	+0.39	-0.37	+0.44
LH	-0.74	+0.40	-0.78	+0.53	-0.52	+0.45	-0.43	+0.48	-0.37	+0.45
RH	-0.58	+0.38	-0.74	+0.39	-0.60	+0.59	-0.52	+0.46	-0.54	+0.42
FP	-0.57	+0.32	-0.75	+0.45	-0.52	+0.52	-0.41	+0.43	-0.34	+0.39
WindDir	(300)	(180)	(0)	(180)	(15)	(180)	(300)	(180)	(315)	(180)
FP (defl)							-0.45	+0.03	-0.37	+0.03
WindDir							(255)	(0)	(270)	(0)

Table B.22: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 62 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 62	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
41	-1.09	+0.27	-1.15	+0.29	-1.13	+0.41	-1.30	+0.38	-1.12	+0.28
42	-1.12	+0.27	-1.07	+0.34	-0.93	+0.26	-1.08	+0.32	-1.01	+0.27
43	-1.04	+0.26	-1.03	+0.33	-1.07	+0.32	-1.09	+0.33	-1.06	+0.27
44	-1.00	+0.25	-0.97	+0.32	-0.97	+0.27	-1.03	+0.29	-0.96	+0.24
53	-1.13	+0.28	-1.12	+0.44	-1.07	+0.42	-1.40	+0.27	-1.16	+0.28
54	-1.05	+0.25	-1.07	+0.34	-0.94	+0.33	-1.15	+0.34	-1.02	+0.24
55	-1.07	+0.28	-1.06	+0.47	-1.02	+0.31	-1.12	+0.30	-1.05	+0.26
56	-1.02	+0.29	-0.96	+0.34	-0.96	+0.30	-1.00	+0.32	-0.93	+0.27
70 (roof)	-1.01	+0.26	-1.00	+0.35	-0.93	+0.30	-0.55	+0.20	-1.08	+0.26
129 (defl)							-1.21	+0.07	-1.05	+0.07
130 (defl)							-1.09	+0.07	-1.02	+0.06
131 (defl)							-1.13	+0.06	-0.99	+0.07
132 (defl)							-1.02	+0.06	-0.93	+0.07
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.41	+0.21	-0.77	+0.42	-0.69	+0.61	-0.43	+0.48	-0.44	+0.42
RT	-0.35	+0.27	-0.74	+0.47	-0.70	+0.41	-0.39	+0.49	-0.38	+0.43
LB	-0.30	+0.35	-0.55	+0.59	-0.54	+0.57	-0.29	+0.42	-0.35	+0.43
RB	-0.36	+0.31	-0.63	+0.58	-0.57	+0.41	-0.37	+0.41	-0.39	+0.32
L (defl)							-0.36	+0.03	-0.34	+0.02
R (defl)							-0.35	+0.03	-0.34	+0.02
TH	-0.34	+0.23	-0.73	+0.46	-0.67	+0.46	-0.32	+0.48	-0.41	+0.40
BH	-0.28	+0.33	-0.58	+0.53	-0.55	+0.51	-0.26	+0.40	-0.31	+0.34
LH	-0.30	+0.26	-0.59	+0.48	-0.58	+0.58	-0.33	+0.43	-0.34	+0.41
RH	-0.31	+0.26	-0.69	+0.51	-0.56	+0.39	-0.34	+0.40	-0.35	+0.35
FP	-0.29	+0.25	-0.63	+0.48	-0.56	+0.47	-0.29	+0.41	-0.31	+0.33
WindDir	(300)	(180)	(0)	(165)	(0)	(180)	(285)	(180)	(315)	(180)
FP (defl)							-0.34	+0.02	-0.31	+0.01
WindDir							(255)	(0)	(255)	(0)

Table B.23: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 63 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 63	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet 0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
45	-1.06	+0.27	-1.04	+0.46	-1.00	+0.33
46	-0.92	+0.24	-0.93	+0.24	-1.02	+0.27
47	-0.98	+0.32	-1.08	+0.33	-1.07	+0.36
48	-0.90	+0.27	-0.93	+0.25	-0.98	+0.26
57	-1.05	+0.26	-0.98	+0.39	-0.97	+0.44
58	-0.93	+0.24	-0.99	+0.30	-0.96	+0.35
59	-1.01	+0.31	-1.00	+0.47	-1.07	+0.46
60	-0.98	+0.26	-0.95	+0.31	-0.92	+0.31
71 (roof)	-0.87	+0.25	-0.91	+0.27	-0.95	+0.34
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-0.37	+0.26	-0.79	+0.55	-0.78	+0.50
RT	-0.37	+0.29	-0.84	+0.48	-0.63	+0.55
LB	-0.28	+0.35	-0.47	+0.50	-0.59	+0.54
RB	-0.34	+0.33	-0.75	+0.58	-0.51	+0.59
TH	-0.38	+0.27	-0.78	+0.50	-0.66	+0.51
BH	-0.26	+0.31	-0.55	+0.51	-0.55	+0.54
LH	-0.29	+0.29	-0.61	+0.51	-0.65	+0.47
RH	-0.37	+0.29	-0.69	+0.52	-0.55	+0.49
FP	-0.31	+0.27	-0.65	+0.50	-0.60	+0.45
WindDir	(195)	(345)	(180)	(0)	(195)	(0)

Table B.24: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 64 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 64	Building: 80x60x12 (LxBxH)									
System	open		open		open		semi-open		semi-open	
Angle	10°		25°		25°		25°		25°	
Config					parapet		deflector		deflector	
					0.52m		angle 90°		angle 60°	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
61	-0.61	+0.26	-0.73	+0.30	-0.85	+0.35	-0.99	+0.29	-0.61	+0.23
62	-0.57	+0.25	-0.54	+0.29	-0.71	+0.26	-0.85	+0.26	-0.48	+0.17
63	-0.59	+0.24	-0.70	+0.27	-0.88	+0.35	-0.75	+0.24	-0.66	+0.24
64	-0.54	+0.24	-0.54	+0.34	-0.67	+0.29	-0.57	+0.20	-0.49	+0.19
65	-0.58	+0.24	-0.66	+0.33	-0.72	+0.41	-0.68	+0.27	-0.59	+0.27
66	-0.59	+0.27	-0.54	+0.44	-0.77	+0.34	-0.53	+0.21	-0.48	+0.18
67	-0.72	+0.25	-0.65	+0.32	-0.81	+0.45	-0.67	+0.27	-0.56	+0.31
68	-0.57	+0.32	-0.55	+0.38	-0.68	+0.34	-0.54	+0.19	-0.49	+0.19
72 (roof)	-0.55	+0.25	-0.54	+0.42	-0.70	+0.37	-1.20	+0.27	-0.49	+0.19
137 (defl)							-1.04	+0.07	-0.50	+0.06
138 (defl)							-0.91	+0.06	-0.49	+0.05
139 (defl)							-0.58	+0.06	-0.52	+0.05
140 (defl)							-0.58	+0.07	-0.49	+0.05
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.48	+0.31	-0.71	+0.52	-0.75	+0.56	-0.38	+0.46	-0.34	+0.46
RT	-0.46	+0.34	-0.68	+0.49	-0.80	+0.58	-0.37	+0.54	-0.35	+0.46
LB	-0.34	+0.51	-0.62	+0.62	-0.63	+0.78	-0.29	+0.49	-0.35	+0.52
RB	-0.36	+0.50	-0.55	+0.58	-0.70	+0.72	-0.35	+0.57	-0.34	+0.47
L (defl)							-0.24	+0.05	-0.27	+0.03
R (defl)							-0.18	+0.06	-0.24	+0.02
TH	-0.47	+0.32	-0.65	+0.46	-0.77	+0.59	-0.31	+0.49	-0.34	+0.44
BH	-0.35	+0.50	-0.59	+0.54	-0.63	+0.73	-0.30	+0.53	-0.34	+0.47
LH	-0.40	+0.40	-0.64	+0.47	-0.67	+0.61	-0.28	+0.46	-0.31	+0.39
RH	-0.40	+0.43	-0.62	+0.49	-0.75	+0.69	-0.30	+0.45	-0.32	+0.42
FP	-0.39	+0.41	-0.59	+0.47	-0.71	+0.65	-0.25	+0.42	-0.33	+0.40
WindDir	(285)	(255)	(75)	(240)	(270)	(240)	(300)	(240)	(0)	(255)
FP (defl)							-0.19	+0.05	-0.24	+0.02
WindDir							(270)	(300)	(255)	(0)

Table B.25: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 71 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 71	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet 0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
1	-1.73	+0.38	-1.61	+0.50	-1.10	+0.33
2	-1.38	+0.61	-1.10	+0.39	-1.15	+0.49
3	-1.24	+0.33	-1.31	+0.36	-1.18	+0.32
4	-1.10	+0.32	-1.09	+0.35	-1.12	+0.75
13	-1.69	+0.38	-1.27	+0.38	-1.05	+0.34
14	-1.22	+0.35	-1.14	+0.42	-1.29	+0.62
15	-1.16	+0.39	-1.17	+0.36	-0.98	+0.27
16	-1.10	+0.36	-1.06	+0.44	-1.26	+0.55
33 (roof)	-1.27	+0.36	-1.33	+0.42	-1.27	+0.64
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-0.92	+0.45	-0.87	+0.57	-0.59	+0.64
RT	-0.70	+0.46	-0.75	+0.52	-0.96	+1.15
LB	-0.84	+0.49	-0.82	+0.59	-0.68	+0.78
RB	-0.85	+0.54	-0.87	+0.71	-0.61	+0.74
TH	-0.75	+0.41	-0.81	+0.49	-0.62	+0.81
BH	-0.56	+0.47	-0.86	+0.64	-0.58	+0.75
LH	-0.81	+0.38	-0.83	+0.55	-0.49	+0.68
RH	-0.67	+0.50	-0.82	+0.63	-0.88	+0.72
FP	-0.63	+0.39	-0.81	+0.56	-0.62	+0.68
WindDir	(330)	(330)	(345)	(330)	(345)	(345)

Table B.26: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 72 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 72	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet 0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
5	-1.16	+0.33	-1.12	+0.30	-1.23	+0.39
6	-1.15	+0.43	-1.02	+0.40	-1.18	+0.49
7	-1.20	+0.48	-1.08	+0.33	-1.17	+0.41
8	-1.02	+0.29	-1.01	+0.52	-1.08	+0.60
17	-1.08	+0.29	-1.13	+0.31	-1.15	+0.31
18	-1.16	+0.27	-1.08	+0.30	-1.30	+0.54
19	-1.11	+0.32	-1.12	+0.27	-1.09	+0.31
20	-1.17	+0.43	-1.05	+0.43	-1.29	+0.56
34 (roof)	-1.21	+0.36	-1.02	+0.34	-1.21	+0.60
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-0.81	+0.84	-0.74	+0.70	-1.30	+1.02
RT	-0.86	+0.85	-0.67	+0.82	-1.42	+1.05
LB	-0.68	+0.63	-0.55	+0.71	-0.95	+0.74
RB	-0.68	+1.11	-0.67	+1.05	-1.00	+0.69
TH	-0.75	+0.80	-0.51	+0.75	-1.15	+1.12
BH	-0.53	+0.82	-0.49	+0.85	-0.96	+0.75
LH	-0.70	+0.69	-0.54	+0.69	-1.06	+0.79
RH	-0.64	+0.93	-0.58	+0.91	-1.21	+0.86
FP	-0.59	+0.80	-0.49	+0.80	-1.07	+0.86
WindDir	(300)	(330)	(330)	(330)	(330)	(330)

Table B.27: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 73 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 73	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet 0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
9	-1.69	+0.36	-1.19	+0.41	-1.41	+0.46
10	-1.23	+0.29	-1.32	+0.35	-1.63	+0.73
11	-1.77	+0.33	-1.12	+0.35	-1.33	+0.48
12	-1.24	+0.29	-1.24	+0.52	-1.78	+0.61
21	-1.20	+0.43	-1.13	+0.31	-1.11	+0.35
22	-1.94	+0.32	-1.37	+0.38	-1.38	+0.46
23	-1.47	+0.32	-1.15	+0.31	-1.17	+0.38
24	-1.56	+0.39	-1.22	+0.61	-1.56	+0.59
35 (roof)	-1.68	+0.29	-1.19	+0.45	-1.20	+0.50
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-0.76	+0.71	-0.72	+0.86	-1.77	+1.16
RT	-0.75	+0.76	-1.17	+0.47	-1.73	+1.26
LB	-0.64	+1.20	-0.60	+1.02	-0.98	+0.81
RB	-0.70	+0.78	-0.92	+0.59	-1.06	+0.93
TH	-0.62	+0.62	-1.03	+0.61	-1.58	+1.13
BH	-0.54	+0.86	-0.76	+0.82	-0.98	+0.86
LH	-0.62	+0.57	-0.62	+0.85	-1.20	+0.98
RH	-0.59	+0.55	-1.02	+0.50	-1.20	+1.06
FP	-0.55	+0.55	-0.90	+0.63	-1.17	+0.91
WindDir	(285)	(330)	(315)	(330)	(330)	(330)

Table B.28: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 74 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 74	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet	
					0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
25	-1.04	+0.21	-0.80	+0.24	-0.94	+0.30
26	-0.96	+0.23	-0.84	+0.19	-1.00	+0.23
27	-1.02	+0.23	-0.81	+0.21	-0.92	+0.26
28	-0.98	+0.22	-0.84	+0.18	-0.94	+0.22
29	-1.08	+0.29	-0.79	+0.30	-0.90	+0.38
30	-0.94	+0.24	-0.88	+0.20	-0.98	+0.24
31	-1.09	+0.21	-0.88	+0.25	-0.89	+0.28
32	-0.95	+0.24	-0.84	+0.17	-1.02	+0.22
36 (roof)	-1.03	+0.25	-0.88	+0.17	-1.01	+0.23
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-0.27	+0.29	-0.35	+0.47	-0.62	+0.61
RT	-0.26	+0.29	-0.40	+0.50	-0.73	+0.55
LB	-0.23	+0.55	-0.30	+0.67	-0.48	+0.79
RB	-0.30	+0.38	-0.31	+0.58	-0.51	+0.75
TH	-0.25	+0.27	-0.37	+0.48	-0.66	+0.53
BH	-0.25	+0.44	-0.27	+0.56	-0.51	+0.80
LH	-0.23	+0.43	-0.32	+0.54	-0.56	+0.68
RH	-0.26	+0.32	-0.35	+0.53	-0.61	+0.65
FP	-0.24	+0.35	-0.32	+0.51	-0.58	+0.66
WindDir	(270)	(240)	(270)	(255)	(90)	(105)

Table B.29: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 81 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 81	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet	
					0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
73	-2.73	+0.53	-2.84	+0.79	-2.11	+0.71
74	-1.64	+0.37	-1.21	+0.55	-1.67	+0.74
75	-4.16	+1.20	-3.46	+1.09	-2.22	+0.85
76	-1.76	+0.38	-1.08	+0.52	-1.72	+0.70
85	-1.60	+0.65	-2.21	+0.44	-2.15	+0.68
86	-1.50	+0.42	-1.23	+0.44	-1.76	+0.75
87	-2.56	+0.48	-1.97	+0.40	-2.23	+0.51
88	-1.76	+0.51	-1.21	+0.62	-1.77	+0.69
105 (roof)	-1.33	+0.41	-1.27	+0.69	-1.80	+0.68
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-1.99	+0.67	-3.20	+0.90	-0.84	+0.73
RT	-2.62	+1.16	-3.57	+1.22	-0.71	+0.78
LB	-0.95	+0.73	-2.13	+0.58	-0.77	+0.83
RB	-1.33	+0.68	-1.85	+0.58	-1.02	+0.97
TH	-1.70	+0.46	-3.19	+1.15	-0.60	+0.60
BH	-0.77	+0.48	-1.64	+0.56	-0.64	+0.70
LH	-1.42	+0.49	-2.69	+0.63	-0.67	+0.62
RH	-1.47	+0.44	-2.18	+0.80	-0.65	+0.71
FP	-1.17	+0.39	-2.36	+0.75	-0.50	+0.57
WindDir	(315)	(150)	(315)	(330)	(240)	(315)

Table B.30: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 82 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 82	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet	
					0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
77	-2.56	+1.01	-2.44	+0.80	-2.09	+0.99
78	-1.71	+0.41	-1.08	+0.57	-1.74	+0.77
79	-2.30	+0.80	-2.23	+0.61	-2.16	+0.81
80	-1.45	+0.42	-1.00	+0.56	-1.61	+0.52
89	-3.09	+0.63	-2.24	+0.82	-2.43	+0.73
90	-1.75	+0.50	-1.14	+0.31	-1.84	+0.83
91	-2.68	+0.63	-2.06	+0.61	-2.38	+0.80
92	-1.70	+0.53	-1.00	+0.35	-1.64	+0.56
106 (roof)	-1.71	+0.50	-1.11	+0.41	-1.88	+0.80
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-1.50	+0.87	-2.36	+0.81	-0.80	+0.51
RT	-1.54	+0.53	-1.98	+0.72	-0.86	+0.52
LB	-1.59	+0.51	-1.93	+0.72	-1.19	+0.80
RB	-1.62	+0.53	-1.98	+0.62	-1.32	+0.74
TH	-1.47	+0.68	-2.14	+0.77	-0.76	+0.53
BH	-1.42	+0.48	-1.90	+0.64	-1.21	+0.68
LH	-1.41	+0.57	-2.03	+0.73	-0.85	+0.47
RH	-1.24	+0.47	-2.06	+0.70	-0.82	+0.41
FP	-1.27	+0.57	-2.01	+0.73	-0.86	+0.44
WindDir	(330)	(330)	(330)	(330)	(330)	(180)

Table B.31: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 83 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 83	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet	
					0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
81	-1.76	+0.57	-1.60	+0.48	-1.90	+0.67
82	-2.04	+0.49	-1.04	+0.57	-1.61	+0.58
83	-1.69	+0.61	-1.44	+0.44	-1.78	+0.78
84	-1.57	+0.54	-1.08	+0.54	-1.58	+0.43
93	-2.43	+0.90	-1.94	+0.57	-2.53	+0.86
94	-1.79	+0.53	-1.03	+0.38	-1.69	+0.62
95	-1.98	+0.75	-1.76	+0.42	-2.49	+0.88
96	-1.61	+0.60	-1.07	+0.31	-1.43	+0.40
107 (roof)	-1.88	+0.47	-0.99	+0.36	-1.61	+0.63
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-1.00	+0.54	-1.72	+0.63	-0.55	+0.41
RT	-0.93	+0.35	-1.55	+0.62	-0.61	+0.42
LB	-1.09	+0.51	-1.39	+0.50	-1.26	+0.69
RB	-1.32	+0.57	-1.56	+0.48	-1.31	+0.58
TH	-0.96	+0.34	-1.60	+0.63	-0.52	+0.41
BH	-1.17	+0.54	-1.35	+0.49	-1.16	+0.54
LH	-0.93	+0.43	-1.42	+0.49	-0.75	+0.39
RH	-1.09	+0.46	-1.47	+0.54	-0.76	+0.38
FP	-1.02	+0.44	-1.49	+0.49	-0.76	+0.38
WindDir	(315)	(270)	(330)	(330)	(315)	(180)

Table B.32: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 84 and $c_{p,net}$ values for the difference between the upside and downside of the panel.

Panel 84	Building: 80x60x12 (LxBxH)					
System	open		open		open	
Angle	10°		25°		25°	
Config					parapet 0.52m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
97	-1.11	+0.21	-0.83	+0.25	-0.98	+0.27
98	-1.18	+0.38	-1.00	+0.59	-0.87	+0.21
99	-1.07	+0.21	-0.80	+0.21	-0.94	+0.24
100	-1.09	+0.35	-1.14	+0.66	-0.85	+0.21
101	-1.05	+0.21	-0.91	+0.24	-0.98	+0.28
102	-0.97	+0.43	-0.83	+0.27	-0.85	+0.22
103	-1.11	+0.23	-0.83	+0.22	-0.96	+0.24
104	-0.96	+0.47	-1.00	+0.29	-0.86	+0.21
108 (roof)	-1.00	+0.36	-0.86	+0.36	-0.83	+0.21
Net pressure difference between taps upside and downside of panel						
Position	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$	$c_{p,net}-$	$c_{p,net}^+$
LT	-0.46	+0.63	-1.12	+0.62	-0.30	+0.52
RT	-0.47	+0.55	-1.19	+0.59	-0.22	+0.52
LB	-0.84	+0.70	-0.93	+0.75	-0.26	+0.42
RB	-0.84	+0.83	-0.87	+0.76	-0.20	+0.43
TH	-0.43	+0.56	-1.16	+0.59	-0.23	+0.52
BH	-0.75	+0.72	-0.87	+0.80	-0.22	+0.40
LH	-0.53	+0.63	-1.02	+0.68	-0.26	+0.41
RH	-0.58	+0.68	-0.97	+0.64	-0.18	+0.41
FP	-0.50	+0.64	-0.98	+0.71	-0.20	+0.37
WindDir	(15)	(255)	(0)	(255)	(0)	(135)

C Measurement results for building 15x40x12 m and 15x40x25 m

This chapter gives the values of the (net) pressure coefficients per panel for the following configurations for a:

- Model with panels at an angle of 25° for a building of 15x40x12 m.
- Model with panels at an angle of 25° for a building of 15x40x25 m.

All measured panels have been given a reference number. Figures C.1 and C.2 shows the panel numbering.

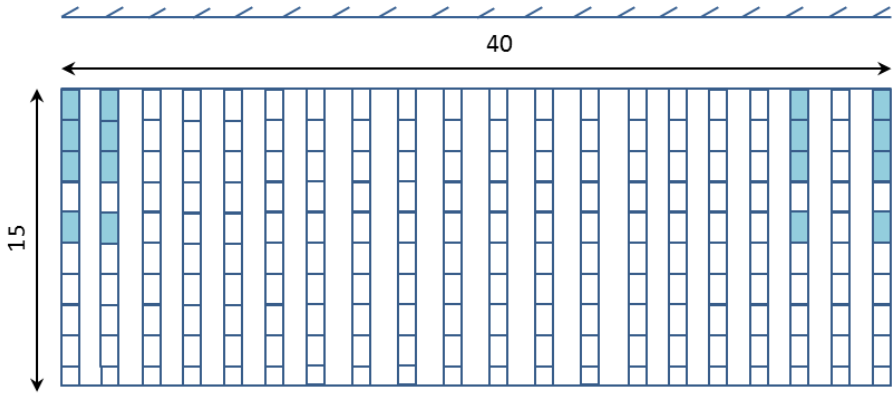


Figure C.1: Model

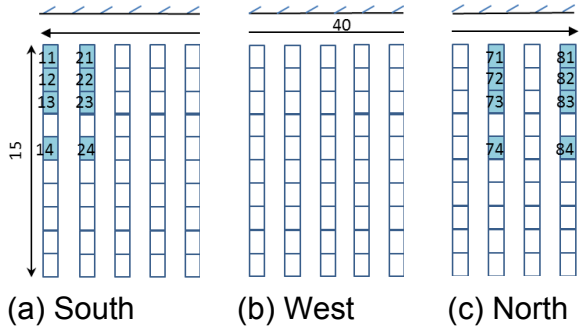


Figure C.2: Numbering of the measured panels of a building with dimensions 80x60x12 (LxWxH).

The tables presented by this chapter give the pressure coefficients per panel. These are presented as follows:

- pressure coefficient, c_p, per channel (upside of the panel, downside of the panel and the pressure point on the roof), this is illustrated for panel 11 by Figure C.3,
- net pressure coefficient, $c_{p,net}$, i.e. difference per position between upside and downside of panel, Figure C.4a,
- net pressure coefficient, $c_{p,net}$, of top half and bottom half of panel, i.e. averaged difference over the pressure points in top half and bottom half, Figure C.4b,
- net pressure coefficient, $c_{p,net}$, of left side and right side of panel, i.e. averaged difference over the pressure points in left side and right side, Figure C.4c,
- net pressure coefficient of the full panel, $c_{p,net}$, i.e. averaged difference over all pressure points, Figure C.4d.

For all pressure coefficients a minimum value, c_p^- or $c_{p,net}^-$, and maximum value, c_p^+ or $c_{p,net}^+$, is given.

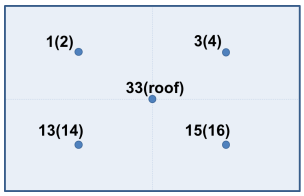
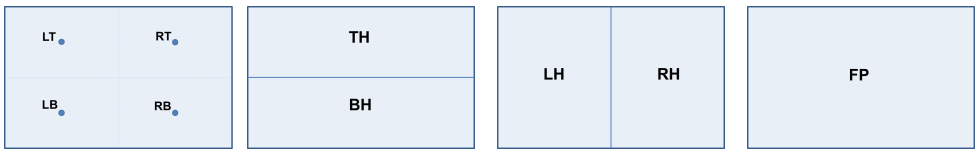


Figure C.3: Positions of pressure coefficients c_p for panel 11. The values in brackets represent the number of the channels on the down side of the panel. The position on the roof is located under the centre point of the panel.



(a) Positions (b) Top, bottom (c) Left, right (d) Full panel

Figure C.4: Positions on panel for which $c_{p,net}$ values are defined.

Table C.1: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 11 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 11	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
1	-1.68	+0.45	-2.28	+0.54
2	-1.30	+0.36	-1.45	+0.37
3	-1.86	+0.48	-1.76	+0.63
4	-1.42	+0.43	-1.57	+0.43
13	-2.81	+0.73	-2.48	+0.71
14	-1.59	+0.58	-1.83	+0.67
15	-2.01	+0.71	-2.46	+0.89
16	-1.39	+0.44	-1.57	+0.39
33 (roof)	-1.37	+0.46	-1.50	+0.44
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.17	+1.14	-1.55	+1.03
RT	-1.02	+0.99	-0.86	+0.99
LB	-1.58	+1.16	-1.62	+1.16
RB	-1.01	+0.84	-1.58	+0.70
TH	-0.95	+0.91	-0.98	+0.81
BH	-0.93	+0.79	-0.98	+0.75
LH	-0.93	+1.06	-1.21	+1.01
RH	-0.76	+0.75	-0.72	+0.68
FP	-0.81	+0.64	-0.90	+0.56
WindDir	(0)	(210)	(255)	(90)

Table C.2: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 12 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 12	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
5	-1.66	+0.67	-1.79	+0.50
6	-1.28	+0.34	-1.35	+0.36
7	-1.79	+0.62	-1.92	+0.57
8	-1.23	+0.31	-1.24	+0.32
17	-2.33	+0.71	-2.63	+0.71
18	-1.38	+0.36	-1.27	+0.35
19	-1.87	+0.80	-1.98	+0.59
20	-1.25	+0.35	-1.27	+0.37
34 (roof)	-1.30	+0.39	-1.43	+0.42
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.74	+0.80	-0.70	+0.77
RT	-0.96	+0.50	-0.91	+0.59
LB	-1.30	+0.67	-1.41	+0.62
RB	-1.16	+0.61	-1.05	+0.68
TH	-0.84	+0.62	-0.75	+0.58
BH	-1.22	+0.52	-1.18	+0.55
LH	-0.96	+0.71	-0.87	+0.69
RH	-0.98	+0.50	-0.88	+0.63
FP	-0.93	+0.48	-0.76	+0.55
WindDir	(225)	(255)	(210)	(240)

Table C.3: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 13 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 13	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
9	-1.87	+0.50	-1.76	+0.47
10	-1.08	+0.32	-1.15	+0.34
11	-1.68	+0.53	-1.59	+0.38
12	-1.26	+0.31	-1.19	+0.32
21	-1.98	+0.92	-2.09	+0.70
22	-1.32	+0.33	-1.33	+0.32
23	-2.20	+0.70	-1.86	+0.43
24	-1.20	+0.28	-1.25	+0.30
35 (roof)	-1.32	+0.36	-1.11	+0.39
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.15	+0.52	-0.92	+0.49
RT	-1.08	+0.40	-1.14	+0.54
LB	-1.23	+0.62	-1.34	+0.64
RB	-1.39	+0.49	-1.38	+0.47
TH	-1.09	+0.38	-0.98	+0.42
BH	-1.16	+0.57	-1.24	+0.50
LH	-1.11	+0.43	-1.00	+0.51
RH	-0.93	+0.41	-1.01	+0.45
FP	-1.01	+0.39	-1.00	+0.46
WindDir	(225)	(255)	(225)	(255)

Table C.4: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 14 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 14	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
25	-1.43	+0.58	-1.25	+0.35
26	-1.04	+0.29	-1.02	+0.34
27	-1.37	+0.52	-1.37	+0.42
28	-1.09	+0.32	-1.06	+0.30
29	-1.99	+0.53	-1.54	+0.51
30	-1.09	+0.32	-1.03	+0.31
31	-2.22	+0.45	-1.66	+0.56
32	-1.11	+0.31	-1.07	+0.31
36 (roof)	-1.03	+0.37	-1.06	+0.30
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.73	+0.48	-0.78	+0.55
RT	-0.74	+0.44	-0.59	+0.55
LB	-1.04	+0.51	-0.85	+0.51
RB	-1.46	+0.46	-1.12	+0.54
TH	-0.72	+0.43	-0.65	+0.51
BH	-1.24	+0.48	-0.79	+0.46
LH	-0.76	+0.49	-0.61	+0.51
RH	-0.81	+0.44	-0.60	+0.54
FP	-0.77	+0.45	-0.56	+0.47
WindDir	(150)	(255)	(225)	(105)

Table C.5: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 21 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 21	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
37	-1.72	+0.41	-1.69	+0.46
38	-1.59	+0.38	-1.33	+0.36
39	-1.34	+0.38	-1.43	+0.43
40	-1.45	+0.36	-1.43	+0.40
49	-1.55	+0.41	-1.51	+0.49
50	-1.34	+0.53	-1.27	+0.38
51	-1.66	+0.46	-1.71	+0.46
52	-1.33	+0.46	-1.33	+0.35
69 (roof)	-1.40	+0.56	-1.34	+0.37
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.98	+1.38	-0.81	+1.11
RT	-0.70	+1.05	-0.72	+0.77
LB	-0.69	+1.12	-0.59	+0.97
RB	-0.87	+0.95	-0.86	+0.85
TH	-0.84	+1.18	-0.73	+0.92
BH	-0.70	+0.88	-0.57	+0.82
LH	-0.79	+1.28	-0.67	+1.02
RH	-0.74	+0.80	-0.59	+0.75
FP	-0.77	+1.01	-0.62	+0.79
WindDir	(0)	(195)	(0)	(195)

Table C.6: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 22 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 22	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
41	-1.14	+0.38	-1.24	+0.52
42	-1.10	+0.33	-1.25	+0.38
43	-1.27	+0.34	-1.21	+0.31
44	-1.08	+0.33	-1.16	+0.37
53	-1.29	+0.28	-1.36	+0.30
54	-1.16	+0.35	-1.20	+0.36
55	-1.39	+0.29	-1.29	+0.33
56	-0.94	+0.35	-1.14	+0.39
70 (roof)	-1.11	+0.35	-1.23	+0.36
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.64	+0.90	-0.69	+0.88
RT	-0.64	+0.85	-0.70	+0.93
LB	-0.92	+1.00	-0.67	+1.19
RB	-1.21	+0.82	-0.94	+0.95
TH	-0.61	+0.80	-0.60	+0.89
BH	-1.03	+0.87	-0.80	+1.08
LH	-0.59	+0.90	-0.60	+1.03
RH	-0.82	+0.75	-0.76	+0.82
FP	-0.63	+0.80	-0.61	+0.89
WindDir	(210)	(225)	(210)	(210)

Table C.7: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 23 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 23	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
45	-1.42	+0.33	-1.14	+0.34
46	-1.06	+0.30	-1.20	+0.37
47	-1.33	+0.30	-1.08	+0.34
48	-1.00	+0.29	-1.13	+0.37
57	-1.62	+0.32	-1.26	+0.43
58	-1.16	+0.29	-1.27	+0.40
59	-1.53	+0.30	-1.37	+0.31
60	-1.01	+0.34	-1.17	+0.37
71 (roof)	-1.02	+0.32	-1.14	+0.37
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.75	+0.93	-0.70	+1.04
RT	-0.84	+0.74	-0.63	+0.84
LB	-0.97	+0.88	-0.75	+1.03
RB	-1.36	+1.00	-1.06	+0.99
TH	-0.71	+0.66	-0.66	+0.76
BH	-1.06	+0.81	-0.82	+0.99
LH	-0.76	+0.77	-0.65	+0.95
RH	-0.96	+0.72	-0.74	+0.89
FP	-0.85	+0.70	-0.59	+0.84
WindDir	(210)	(240)	(195)	(225)

Table C.8: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 24 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 24	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
61	-1.18	+0.31	-1.24	+0.35
62	-0.96	+0.35	-1.14	+0.37
63	-1.14	+0.35	-1.10	+0.37
64	-0.99	+0.33	-1.10	+0.36
65	-1.30	+0.40	-1.26	+0.42
66	-1.00	+0.30	-1.14	+0.36
67	-1.18	+0.35	-1.19	+0.36
68	-0.94	+0.32	-1.11	+0.34
72 (roof)	-0.95	+0.29	-1.09	+0.34
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.71	+0.56	-0.75	+0.90
RT	-0.91	+0.60	-0.73	+0.72
LB	-0.96	+0.78	-0.80	+1.09
RB	-0.93	+0.72	-0.95	+0.92
TH	-0.80	+0.51	-0.67	+0.73
BH	-0.88	+0.65	-0.74	+0.92
LH	-0.84	+0.63	-0.71	+0.94
RH	-0.81	+0.60	-0.69	+0.80
FP	-0.82	+0.54	-0.68	+0.79
WindDir	(150)	(255)	(150)	(255)

Table C.9: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 71 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 71	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
1	-1.27	+0.30	-1.31	+0.42
2	-1.08	+0.33	-1.20	+0.39
3	-1.23	+0.30	-1.22	+0.38
4	-1.24	+0.33	-1.27	+0.40
13	-1.19	+0.32	-1.26	+0.43
14	-1.08	+0.36	-1.21	+0.51
15	-1.34	+0.34	-1.23	+0.47
16	-1.14	+0.36	-1.10	+0.38
33 (roof)	-1.28	+0.36	-1.15	+0.42
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.89	+0.65	-0.67	+0.65
RT	-0.83	+0.49	-0.72	+0.58
LB	-0.77	+0.77	-0.57	+0.78
RB	-1.00	+0.68	-0.83	+0.87
TH	-0.77	+0.54	-0.62	+0.54
BH	-0.90	+0.62	-0.69	+0.77
LH	-0.77	+0.70	-0.58	+0.60
RH	-0.90	+0.62	-0.72	+0.70
FP	-0.83	+0.54	-0.63	+0.63
WindDir	(345)	(90)	(345)	(150)

Table C.10: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 72 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 72	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
5	-1.17	+0.28	-1.09	+0.30
6	-1.01	+0.35	-1.07	+0.43
7	-0.99	+0.30	-1.21	+0.30
8	-0.90	+0.36	-1.04	+0.29
17	-1.06	+0.27	-1.12	+0.51
18	-1.02	+0.25	-1.08	+0.30
19	-0.98	+0.32	-1.07	+0.50
20	-0.90	+0.36	-1.07	+0.42
34 (roof)	-0.98	+0.27	-1.01	+0.30
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.76	+0.46	-0.88	+0.62
RT	-0.76	+0.48	-0.76	+0.58
LB	-0.49	+0.60	-0.66	+0.95
RB	-0.66	+0.59	-0.71	+0.89
TH	-0.73	+0.40	-0.82	+0.59
BH	-0.48	+0.54	-0.63	+0.90
LH	-0.59	+0.49	-0.69	+0.76
RH	-0.63	+0.50	-0.70	+0.74
FP	-0.57	+0.43	-0.69	+0.75
WindDir	(75)	(150)	(75)	(150)

Table C.11: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 73 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 73	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
9	-1.09	+0.30	-1.18	+0.35
10	-1.15	+0.25	-1.05	+0.28
11	-1.07	+0.37	-1.17	+0.34
12	-1.08	+0.38	-1.04	+0.33
21	-0.99	+0.52	-1.09	+0.50
22	-1.03	+0.31	-1.07	+0.31
23	-0.97	+0.47	-1.06	+0.63
24	-1.19	+0.39	-1.05	+0.42
35 (roof)	-0.93	+0.34	-0.99	+0.28
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.73	+0.47	-0.83	+0.64
RT	-0.91	+0.49	-1.00	+0.63
LB	-0.63	+0.73	-0.68	+0.83
RB	-0.76	+0.66	-0.81	+0.95
TH	-0.75	+0.48	-0.83	+0.59
BH	-0.64	+0.68	-0.74	+0.86
LH	-0.63	+0.57	-0.71	+0.74
RH	-0.82	+0.54	-0.83	+0.73
FP	-0.67	+0.54	-0.74	+0.69
WindDir	(315)	(165)	(315)	(150)

Table C.12: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 74 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 74	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
25	-1.07	+0.28	-1.45	+0.33
26	-1.15	+0.45	-1.23	+0.33
27	-1.09	+0.31	-1.40	+0.32
28	-1.08	+0.31	-1.06	+0.34
29	-1.19	+0.35	-1.26	+0.47
30	-1.05	+0.40	-1.00	+0.38
31	-1.22	+0.39	-1.15	+0.49
32	-1.27	+0.27	-1.19	+0.35
36 (roof)	-1.03	+0.29	-0.95	+0.31
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.99	+0.75	-1.19	+0.59
RT	-0.97	+0.59	-1.32	+0.49
LB	-0.88	+0.64	-1.03	+0.70
RB	-0.71	+0.73	-0.93	+0.80
TH	-0.84	+0.55	-1.20	+0.53
BH	-0.71	+0.57	-0.92	+0.73
LH	-0.91	+0.53	-0.99	+0.59
RH	-0.84	+0.56	-1.10	+0.62
FP	-0.80	+0.50	-1.02	+0.55
WindDir	(285)	(30)	(300)	(165)

Table C.13: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 81 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 81	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
73	-2.86	+0.69	-3.10	+0.72
74	-1.06	+0.67	-1.32	+0.63
75	-3.82	+0.73	-3.19	+0.96
76	-1.18	+0.75	-1.51	+0.60
85	-2.05	+0.43	-2.15	+0.55
86	-1.12	+0.52	-1.43	+0.43
87	-1.72	+0.43	-1.46	+0.55
88	-0.99	+0.61	-1.55	+0.63
105 (roof)	-1.28	+0.72	-1.34	+0.78
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-3.39	+0.87	-3.54	+0.96
RT	-3.91	+0.87	-3.27	+1.22
LB	-2.23	+1.03	-2.10	+1.15
RB	-1.88	+0.97	-1.62	+1.26
TH	-3.39	+1.04	-3.00	+0.95
BH	-1.72	+1.01	-1.68	+1.15
LH	-2.71	+0.94	-2.64	+0.93
RH	-2.26	+0.88	-1.92	+1.08
FP	-2.42	+0.90	-2.27	+0.98
WindDir	(315)	(105)	(330)	(90)

Table C.14: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 82 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 82	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
77	-2.50	+0.92	-2.85	+1.04
78	-1.05	+0.72	-1.43	+0.54
79	-1.99	+0.55	-2.15	+0.50
80	-1.14	+0.67	-1.27	+0.53
89	-2.15	+0.62	-2.38	+0.56
90	-1.05	+0.41	-1.47	+0.41
91	-1.94	+0.38	-2.02	+0.51
92	-1.12	+0.45	-1.34	+0.42
106 (roof)	-1.08	+0.43	-1.37	+0.42
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-2.37	+1.03	-2.70	+0.99
RT	-1.88	+0.74	-2.09	+0.82
LB	-1.73	+0.83	-1.71	+0.96
RB	-1.80	+0.83	-1.66	+1.00
TH	-2.10	+0.73	-2.35	+0.88
BH	-1.67	+0.77	-1.63	+0.98
LH	-1.70	+0.77	-1.72	+0.94
RH	-1.56	+0.73	-1.52	+0.90
FP	-1.56	+0.70	-1.52	+0.92
WindDir	(330)	(270)	(330)	(90)

Table C.15: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 83 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 83	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
81	-1.39	+0.49	-1.67	+0.50
82	-0.99	+0.64	-1.25	+0.51
83	-1.22	+0.54	-1.59	+0.48
84	-1.00	+0.60	-1.30	+0.51
93	-1.72	+0.51	-1.62	+0.65
94	-0.97	+0.32	-1.30	+0.30
95	-1.51	+0.44	-1.53	+0.50
96	-1.11	+0.49	-1.29	+0.33
107 (roof)	-1.08	+0.34	-1.26	+0.34
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.38	+0.64	-1.46	+0.77
RT	-1.36	+0.59	-1.27	+0.70
LB	-1.15	+0.68	-1.15	+0.93
RB	-1.50	+0.67	-1.48	+0.76
TH	-1.32	+0.63	-1.30	+0.71
BH	-1.31	+0.67	-1.33	+0.83
LH	-1.22	+0.62	-1.25	+0.85
RH	-1.28	+0.57	-1.29	+0.71
FP	-1.24	+0.63	-1.24	+0.77
WindDir	(315)	(105)	(315)	(90)

Table C.16: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 84 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 84	Building: 40x15xH (LxBxH)			
System	open		open	
Angle	25°		25°	
Height	12m		25m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+
97	-0.98	+0.32	-1.41	+0.30
98	-1.11	+0.56	-1.28	+0.44
99	-0.99	+0.34	-1.51	+0.28
100	-1.17	+0.68	-1.29	+0.42
101	-0.99	+0.32	-1.29	+0.38
102	-1.10	+0.48	-1.50	+0.31
103	-0.99	+0.37	-1.39	+0.36
104	-1.09	+0.39	-1.37	+0.25
108 (roof)	-1.07	+0.38	-1.40	+0.31
Net pressure difference between taps upside and downside of panel				
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.20	+0.55	-0.98	+0.50
RT	-1.36	+0.61	-0.94	+0.53
LB	-1.10	+0.67	-0.89	+0.74
RB	-0.87	+0.67	-0.73	+0.64
TH	-1.30	+0.56	-0.92	+0.50
BH	-0.81	+0.63	-0.72	+0.63
LH	-1.00	+0.60	-0.88	+0.60
RH	-1.11	+0.61	-0.78	+0.56
FP	-1.06	+0.59	-0.80	+0.56
WindDir	(0)	(90)	(30)	(90)

Table C.17: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 11 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 11	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
1	-1.68	+0.45	-1.46	+0.34	-1.34	+0.43	-1.60	+0.56	-1.22	+0.32
2	-1.30	+0.36	-1.65	+0.41	-1.34	+0.42	-1.55	+0.54	-0.88	+0.38
3	-1.86	+0.48	-1.75	+0.52	-1.86	+0.60	-1.23	+0.42	-1.07	+0.28
4	-1.42	+0.43	-1.87	+0.41	-1.32	+0.36	-1.34	+0.48	-0.89	+0.51
13	-2.81	+0.73	-1.93	+1.18	-2.29	+0.93	-1.42	+0.63	-1.14	+0.38
14	-1.59	+0.58	-1.67	+0.53	-1.50	+0.47	-1.77	+0.57	-0.94	+0.57
15	-2.01	+0.71	-1.58	+0.46	-1.92	+0.60	-1.21	+0.53	-1.06	+0.36
16	-1.39	+0.44	-1.61	+0.42	-1.23	+0.36	-1.41	+0.53	-0.88	+0.55
33 (roof)	-1.37	+0.46	-1.73	+0.53	-1.46	+0.43	-1.74	+0.54	-0.89	+0.48
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.17	+1.14	-1.21	+1.75	-0.97	+1.68	-1.21	+1.24	-1.33	+0.93
RT	-1.02	+0.99	-1.33	+1.64	-0.79	+1.22	-1.38	+0.91	-1.22	+0.58
LB	-1.58	+1.16	-0.74	+2.63	-1.00	+2.07	-0.94	+1.66	-0.95	+1.04
RB	-1.01	+0.84	-1.20	+1.43	-1.14	+1.38	-1.08	+1.42	-1.15	+0.90
TH	-0.95	+0.91	-1.07	+1.43	-0.85	+1.33	-1.22	+1.07	-1.23	+0.65
BH	-0.93	+0.79	-0.74	+1.58	-1.06	+1.63	-0.89	+1.39	-1.02	+0.96
LH	-0.93	+1.06	-0.98	+1.72	-0.76	+1.78	-0.98	+1.45	-1.07	+0.93
RH	-0.76	+0.75	-1.32	+1.18	-1.06	+1.22	-1.20	+1.17	-1.17	+0.72
FP	-0.81	+0.64	-0.87	+1.31	-0.75	+1.44	-1.03	+1.20	-1.10	+0.79
WindDir	(0)	(210)	(0)	(225)	(345)	(195)	(330)	(240)	(315)	(255)

Table C.18: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 12 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 12	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
5	-1.66	+0.67	-1.29	+0.50	-1.84	+0.46	-1.20	+0.48	-1.13	+0.32
6	-1.28	+0.34	-1.44	+0.37	-1.20	+0.35	-1.37	+0.41	-0.79	+0.38
7	-1.79	+0.62	-1.63	+0.49	-1.28	+0.61	-1.28	+0.55	-1.08	+0.38
8	-1.23	+0.31	-1.16	+0.41	-1.19	+0.37	-1.06	+0.38	-0.76	+0.36
17	-2.33	+0.71	-2.07	+0.90	-1.40	+0.50	-1.23	+0.57	-0.85	+0.38
18	-1.38	+0.36	-1.31	+0.39	-1.34	+0.37	-1.41	+0.44	-0.91	+0.37
19	-1.87	+0.80	-1.46	+0.52	-1.33	+0.42	-1.38	+0.57	-0.83	+0.48
20	-1.25	+0.35	-1.21	+0.44	-1.21	+0.38	-1.15	+0.45	-0.77	+0.48
34 (roof)	-1.30	+0.39	-1.32	+0.40	-1.38	+0.37	-1.48	+0.43	-0.90	+0.40
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.74	+0.80	-0.81	+1.11	-1.13	+1.04	-1.19	+1.00	-0.94	+0.52
RT	-0.96	+0.50	-1.24	+0.95	-0.96	+0.87	-1.01	+0.79	-1.09	+0.46
LB	-1.30	+0.67	-1.12	+1.42	-0.84	+1.11	-1.04	+1.30	-0.80	+0.79
RB	-1.16	+0.61	-1.36	+1.07	-0.97	+1.17	-1.18	+0.85	-0.78	+0.77
TH	-0.84	+0.62	-0.93	+0.95	-1.02	+0.89	-1.11	+0.90	-1.00	+0.50
BH	-1.22	+0.52	-1.15	+1.09	-0.90	+1.01	-1.04	+0.94	-0.81	+0.80
LH	-0.96	+0.71	-0.75	+1.02	-0.89	+0.95	-1.09	+1.19	-0.83	+0.66
RH	-0.98	+0.50	-1.32	+0.90	-0.95	+0.81	-1.04	+0.69	-0.86	+0.63
FP	-0.93	+0.48	-0.97	+0.93	-0.92	+0.83	-1.06	+0.92	-0.86	+0.65
WindDir	(225)	(255)	(210)	(240)	(210)	(240)	(330)	(240)	(330)	(210)

Table C.19: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 13 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 13	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
9	-1.87	+0.50	-1.67	+0.50	-1.28	+0.47	-1.43	+0.53	-1.10	+0.41
10	-1.08	+0.32	-1.15	+0.49	-1.09	+0.32	-0.91	+0.35	-0.63	+0.23
11	-1.68	+0.53	-1.40	+0.42	-1.81	+0.41	-1.56	+0.56	-1.07	+0.31
12	-1.26	+0.31	-1.06	+0.39	-1.17	+0.44	-0.94	+0.39	-0.88	+0.34
21	-1.98	+0.92	-1.60	+0.56	-2.23	+0.61	-1.31	+0.59	-0.90	+0.41
22	-1.32	+0.33	-1.32	+0.47	-1.29	+0.45	-1.23	+0.38	-0.81	+0.28
23	-2.20	+0.70	-1.28	+0.76	-1.84	+0.84	-1.21	+0.56	-0.96	+0.30
24	-1.20	+0.28	-1.07	+0.33	-1.31	+0.44	-1.19	+0.44	-0.86	+0.37
35 (roof)	-1.32	+0.36	-1.24	+0.41	-1.32	+0.43	-1.10	+0.39	-0.76	+0.34
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.15	+0.52	-1.39	+0.70	-0.87	+0.78	-1.27	+0.53	-0.95	+0.55
RT	-1.08	+0.40	-1.25	+0.69	-1.61	+0.86	-1.15	+0.51	-1.15	+0.47
LB	-1.23	+0.62	-1.14	+1.23	-1.54	+1.28	-0.87	+0.88	-0.86	+0.72
RB	-1.39	+0.49	-1.05	+0.95	-1.65	+0.88	-1.21	+0.70	-0.73	+0.71
TH	-1.09	+0.38	-1.21	+0.67	-1.11	+0.76	-1.14	+0.49	-0.97	+0.44
BH	-1.16	+0.57	-1.12	+0.96	-1.54	+0.85	-0.94	+0.72	-0.77	+0.70
LH	-1.11	+0.43	-1.24	+0.93	-1.19	+0.84	-1.04	+0.75	-0.79	+0.57
RH	-0.93	+0.41	-1.18	+0.78	-1.65	+0.78	-1.14	+0.57	-0.84	+0.55
FP	-1.01	+0.39	-1.12	+0.79	-1.36	+0.79	-1.04	+0.60	-0.82	+0.57
WindDir	(225)	(255)	(225)	(255)	(225)	(210)	(210)	(255)	(315)	(210)

Table C.20: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 14 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 14	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
25	-1.43	+0.58	-1.34	+0.36	-1.64	+0.48	-1.37	+0.59	-1.25	+0.29
26	-1.04	+0.29	-1.05	+0.34	-0.98	+0.33	-0.94	+0.33	-0.77	+0.32
27	-1.37	+0.52	-1.31	+0.40	-1.56	+0.54	-1.47	+0.51	-1.25	+0.29
28	-1.09	+0.32	-0.99	+0.36	-0.95	+0.34	-0.89	+0.35	-0.73	+0.27
29	-1.99	+0.53	-1.29	+0.34	-1.65	+0.54	-1.28	+0.67	-0.98	+0.35
30	-1.09	+0.32	-0.97	+0.34	-1.05	+0.31	-0.94	+0.35	-0.82	+0.38
31	-2.22	+0.45	-1.28	+0.43	-1.50	+0.48	-1.28	+0.55	-0.98	+0.29
32	-1.11	+0.31	-1.08	+0.37	-0.94	+0.39	-0.95	+0.32	-0.73	+0.28
36 (roof)	-1.03	+0.37	-0.92	+0.35	-0.96	+0.34	-0.92	+0.30	-0.72	+0.29
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.73	+0.48	-0.79	+0.57	-1.04	+0.68	-1.15	+0.60	-0.95	+0.51
RT	-0.74	+0.44	-0.82	+0.58	-1.12	+0.50	-0.98	+0.43	-1.00	+0.43
LB	-1.04	+0.51	-0.83	+0.82	-1.08	+0.86	-1.24	+0.75	-0.75	+0.76
RB	-1.46	+0.46	-0.74	+0.85	-0.98	+0.74	-0.98	+0.61	-0.73	+0.63
TH	-0.72	+0.43	-0.74	+0.51	-1.02	+0.50	-1.01	+0.51	-0.93	+0.44
BH	-1.24	+0.48	-0.76	+0.71	-0.99	+0.65	-1.05	+0.64	-0.77	+0.63
LH	-0.76	+0.49	-0.71	+0.74	-0.98	+0.77	-1.02	+0.65	-0.80	+0.63
RH	-0.81	+0.44	-0.66	+0.70	-0.89	+0.60	-0.79	+0.52	-0.86	+0.52
FP	-0.77	+0.45	-0.62	+0.59	-0.90	+0.57	-0.89	+0.55	-0.83	+0.54
WindDir	(150)	(255)	(330)	(255)	(240)	(255)	(135)	(210)	(285)	(270)

Table C.21: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 21 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 21	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
37	-1.72	+0.41	-1.28	+0.42	-1.33	+0.81	-1.38	+0.51	-0.91	+0.32
38	-1.59	+0.38	-1.32	+0.36	-1.43	+0.40	-1.24	+0.55	-0.88	+0.41
39	-1.34	+0.38	-1.35	+0.59	-1.24	+0.51	-1.47	+0.44	-0.95	+0.37
40	-1.45	+0.36	-1.26	+0.37	-1.21	+0.39	-1.31	+0.55	-0.91	+0.40
49	-1.55	+0.41	-1.34	+0.60	-1.47	+0.75	-1.78	+0.60	-0.89	+0.45
50	-1.34	+0.53	-1.27	+0.44	-1.45	+0.37	-1.26	+0.50	-0.93	+0.57
51	-1.66	+0.46	-1.39	+0.71	-1.13	+0.47	-1.74	+0.57	-0.95	+0.34
52	-1.33	+0.46	-1.25	+0.41	-1.22	+0.40	-1.35	+0.55	-1.00	+0.57
69 (roof)	-1.40	+0.56	-1.27	+0.53	-1.64	+0.37	-1.31	+0.52	-1.11	+0.62
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.98	+1.38	-1.11	+1.28	-0.75	+1.56	-1.17	+1.04	-0.97	+0.84
RT	-0.70	+1.05	-0.98	+1.02	-0.76	+1.02	-1.01	+0.96	-1.02	+0.61
LB	-0.69	+1.12	-0.66	+1.45	-0.73	+2.03	-0.80	+1.34	-0.75	+1.19
RB	-0.87	+0.95	-0.70	+1.19	-0.63	+1.21	-0.84	+1.08	-0.77	+0.74
TH	-0.84	+1.18	-1.00	+1.06	-0.73	+1.18	-1.07	+0.77	-0.95	+0.67
BH	-0.70	+0.88	-0.66	+1.18	-0.64	+1.32	-0.76	+1.20	-0.76	+0.99
LH	-0.79	+1.28	-0.86	+1.32	-0.62	+1.74	-0.89	+1.08	-0.86	+0.95
RH	-0.74	+0.80	-0.76	+0.96	-0.64	+1.09	-0.86	+1.01	-0.84	+0.63
FP	-0.77	+1.01	-0.78	+1.05	-0.63	+1.20	-0.88	+1.01	-0.84	+0.77
WindDir	(0)	(195)	(0)	(195)	(345)	(240)	(330)	(255)	(0)	(255)

Table C.22: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 22 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 22	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
41	-1.14	+0.38	-1.16	+0.44	-1.31	+0.33	-1.20	+0.44	-0.93	+0.36
42	-1.10	+0.33	-1.11	+0.41	-1.23	+0.43	-1.39	+0.49	-0.81	+0.36
43	-1.27	+0.34	-1.20	+0.44	-1.26	+0.35	-1.11	+0.36	-0.92	+0.37
44	-1.08	+0.33	-1.13	+0.42	-1.13	+0.41	-1.14	+0.46	-0.82	+0.35
53	-1.29	+0.28	-1.23	+0.46	-1.21	+0.53	-1.17	+0.46	-0.86	+0.48
54	-1.16	+0.35	-1.13	+0.38	-1.18	+0.42	-1.38	+0.48	-0.85	+0.35
55	-1.39	+0.29	-1.35	+0.78	-1.34	+0.46	-1.15	+0.48	-0.84	+0.44
56	-0.94	+0.35	-1.12	+0.42	-1.12	+0.44	-1.22	+0.57	-0.88	+0.43
70 (roof)	-1.11	+0.35	-1.17	+0.43	-1.31	+0.45	-1.40	+0.47	-0.85	+0.41
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.64	+0.90	-0.79	+0.94	-0.78	+0.96	-0.99	+1.12	-0.75	+0.63
RT	-0.64	+0.85	-0.60	+0.86	-0.94	+0.86	-0.93	+1.12	-0.76	+0.56
LB	-0.92	+1.00	-0.61	+1.00	-0.66	+1.25	-0.86	+1.47	-0.64	+0.86
RB	-1.21	+0.82	-1.11	+1.02	-0.72	+1.11	-0.90	+1.42	-0.65	+0.75
TH	-0.61	+0.80	-0.63	+0.83	-0.88	+0.83	-0.90	+1.10	-0.69	+0.55
BH	-1.03	+0.87	-0.73	+0.97	-0.63	+1.04	-0.82	+1.39	-0.60	+0.78
LH	-0.59	+0.90	-0.65	+0.91	-0.69	+1.05	-0.88	+1.19	-0.66	+0.75
RH	-0.82	+0.75	-0.83	+0.92	-0.83	+0.91	-0.85	+1.24	-0.64	+0.67
FP	-0.63	+0.80	-0.60	+0.83	-0.77	+0.96	-0.83	+1.21	-0.60	+0.68
WindDir	(210)	(225)	(210)	(195)	(90)	(240)	(330)	(240)	(300)	(255)

Table C.23: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 23 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 23	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
45	-1.42	+0.33	-1.27	+0.45	-1.25	+0.44	-1.16	+0.47	-0.89	+0.45
46	-1.06	+0.30	-1.22	+0.43	-1.13	+0.43	-1.20	+0.43	-0.87	+0.32
47	-1.33	+0.30	-1.18	+0.42	-1.41	+0.43	-1.16	+0.48	-0.85	+0.44
48	-1.00	+0.29	-1.17	+0.43	-1.17	+0.45	-0.98	+0.54	-0.89	+0.35
57	-1.62	+0.32	-1.50	+0.39	-1.53	+0.56	-1.15	+0.58	-0.82	+0.55
58	-1.16	+0.29	-1.25	+0.44	-1.20	+0.43	-1.43	+0.45	-0.90	+0.36
59	-1.53	+0.30	-1.24	+0.39	-1.39	+0.57	-1.03	+0.49	-0.85	+0.54
60	-1.01	+0.34	-1.33	+0.43	-1.26	+0.44	-1.12	+0.58	-1.04	+0.36
71 (roof)	-1.02	+0.32	-1.21	+0.44	-1.12	+0.42	-1.31	+0.58	-0.85	+0.35
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.75	+0.93	-0.96	+0.85	-0.95	+1.00	-1.06	+1.28	-0.90	+0.63
RT	-0.84	+0.74	-0.80	+0.69	-0.92	+0.75	-1.25	+0.96	-0.86	+0.52
LB	-0.97	+0.88	-1.01	+1.23	-0.99	+1.28	-0.86	+1.94	-0.81	+0.95
RB	-1.36	+1.00	-1.15	+1.13	-1.27	+1.35	-0.94	+1.37	-0.61	+0.81
TH	-0.71	+0.66	-0.78	+0.70	-0.95	+0.83	-1.09	+1.14	-0.88	+0.49
BH	-1.06	+0.81	-1.06	+1.11	-1.12	+1.08	-0.90	+1.66	-0.65	+0.87
LH	-0.76	+0.77	-0.94	+0.96	-1.01	+1.12	-0.92	+1.59	-0.82	+0.71
RH	-0.96	+0.72	-0.92	+0.88	-1.09	+1.03	-1.05	+1.16	-0.68	+0.61
FP	-0.85	+0.70	-0.89	+0.84	-1.02	+0.91	-0.96	+1.39	-0.73	+0.64
WindDir	(210)	(240)	(210)	(255)	(210)	(240)	(330)	(240)	(330)	(255)

Table C.24: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 24 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 24	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
61	-1.18	+0.31	-1.24	+0.39	-1.22	+0.36	-1.20	+0.49	-0.85	+0.32
62	-0.96	+0.35	-1.08	+0.39	-1.04	+0.33	-0.88	+0.29	-0.76	+0.29
63	-1.14	+0.35	-1.24	+0.37	-1.24	+0.41	-1.24	+0.48	-0.82	+0.33
64	-0.99	+0.33	-1.05	+0.39	-1.03	+0.33	-0.86	+0.34	-0.76	+0.27
65	-1.30	+0.40	-1.17	+0.32	-1.27	+0.37	-1.07	+0.49	-0.74	+0.42
66	-1.00	+0.30	-1.16	+0.47	-1.13	+0.34	-0.94	+0.30	-0.84	+0.29
67	-1.18	+0.35	-1.20	+0.37	-1.30	+0.52	-1.07	+0.54	-0.78	+0.43
68	-0.94	+0.32	-1.12	+0.38	-1.20	+0.34	-0.96	+0.31	-0.81	+0.34
72 (roof)	-0.95	+0.29	-1.02	+0.39	-1.01	+0.31	-0.86	+0.28	-0.74	+0.28
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.71	+0.56	-0.72	+0.76	-0.87	+0.72	-0.88	+0.67	-0.72	+0.55
RT	-0.91	+0.60	-0.79	+0.79	-0.81	+0.73	-0.83	+0.59	-0.73	+0.53
LB	-0.96	+0.78	-0.92	+1.09	-0.95	+1.01	-0.69	+1.07	-0.58	+0.81
RB	-0.93	+0.72	-0.90	+1.14	-0.81	+1.10	-0.73	+1.11	-0.58	+0.67
TH	-0.80	+0.51	-0.74	+0.70	-0.75	+0.69	-0.81	+0.61	-0.69	+0.51
BH	-0.88	+0.65	-0.79	+1.01	-0.81	+0.97	-0.68	+0.98	-0.55	+0.71
LH	-0.84	+0.63	-0.71	+0.88	-0.91	+0.82	-0.71	+0.88	-0.62	+0.67
RH	-0.81	+0.60	-0.70	+0.92	-0.66	+0.86	-0.68	+0.86	-0.59	+0.55
FP	-0.82	+0.54	-0.69	+0.80	-0.76	+0.73	-0.66	+0.79	-0.57	+0.60
WindDir	(150)	(255)	(180)	(105)	(135)	(255)	(210)	(255)	(315)	(270)

Table C.25: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 71 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 71	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
1	-1.27	+0.30	-1.28	+0.32	-1.41	+0.38	-1.35	+0.54	-1.35	+0.35
2	-1.08	+0.33	-1.14	+0.48	-1.29	+0.56	-1.18	+0.70	-0.83	+0.48
3	-1.23	+0.30	-1.38	+0.32	-1.73	+0.44	-1.43	+0.51	-1.24	+0.29
4	-1.24	+0.33	-1.25	+0.53	-1.12	+0.45	-1.11	+0.45	-0.86	+0.45
13	-1.19	+0.32	-1.45	+0.33	-1.44	+0.42	-1.25	+0.51	-1.16	+0.41
14	-1.08	+0.36	-1.11	+0.44	-1.26	+0.44	-1.10	+0.53	-0.82	+0.43
15	-1.34	+0.34	-1.44	+0.34	-1.36	+0.43	-1.27	+0.46	-1.04	+0.35
16	-1.14	+0.36	-1.27	+0.53	-1.23	+0.65	-1.08	+0.56	-0.84	+0.51
33 (roof)	-1.28	+0.36	-1.13	+0.48	-1.22	+0.60	-1.01	+0.63	-0.82	+0.48
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.89	+0.65	-1.64	+0.65	-1.70	+0.78	-1.87	+0.94	-1.54	+0.78
RT	-0.83	+0.49	-1.31	+0.58	-1.98	+0.65	-1.70	+0.90	-1.33	+0.64
LB	-0.77	+0.77	-1.07	+0.70	-1.22	+1.12	-1.23	+0.95	-1.03	+1.05
RB	-1.00	+0.68	-1.02	+0.76	-1.13	+0.89	-1.20	+0.86	-1.08	+0.66
TH	-0.77	+0.54	-1.32	+0.52	-1.59	+0.62	-1.46	+0.88	-1.33	+0.66
BH	-0.90	+0.62	-1.04	+0.78	-1.11	+0.98	-1.22	+0.82	-1.01	+0.68
LH	-0.77	+0.70	-1.17	+0.61	-1.34	+0.93	-1.30	+0.81	-1.22	+0.93
RH	-0.90	+0.62	-1.12	+0.70	-1.48	+0.76	-1.48	+0.78	-1.06	+0.58
FP	-0.83	+0.54	-1.06	+0.67	-1.34	+0.78	-1.35	+0.74	-1.06	+0.65
WindDir	(345)	(90)	(345)	(90)	(315)	(105)	(300)	(210)	(300)	(210)

Table C.26: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 72 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 72	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
5	-1.17	+0.28	-1.34	+0.39	-1.42	+0.53	-1.39	+0.53	-1.32	+0.40
6	-1.01	+0.35	-1.36	+0.44	-1.04	+0.40	-1.00	+0.45	-0.78	+0.35
7	-0.99	+0.30	-1.37	+0.39	-1.33	+0.54	-1.72	+0.62	-1.37	+0.49
8	-0.90	+0.36	-1.28	+0.35	-1.00	+0.36	-1.08	+0.47	-0.80	+0.32
17	-1.06	+0.27	-1.39	+0.37	-1.23	+0.53	-1.30	+0.56	-0.88	+0.40
18	-1.02	+0.25	-1.17	+0.50	-1.01	+0.36	-1.01	+0.45	-0.78	+0.37
19	-0.98	+0.32	-1.34	+0.39	-1.15	+0.54	-1.29	+0.66	-0.97	+0.43
20	-0.90	+0.36	-1.27	+0.63	-1.15	+0.49	-1.08	+0.49	-0.83	+0.45
34 (roof)	-0.98	+0.27	-1.20	+0.54	-0.97	+0.41	-0.99	+0.46	-0.75	+0.41
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.76	+0.46	-1.71	+0.50	-1.66	+0.51	-1.62	+0.91	-1.24	+0.65
RT	-0.76	+0.48	-1.47	+0.49	-1.55	+0.50	-1.55	+1.02	-1.37	+0.65
LB	-0.49	+0.60	-1.11	+0.62	-1.26	+0.87	-1.11	+0.88	-0.94	+0.82
RB	-0.66	+0.59	-1.17	+0.59	-1.22	+0.67	-0.96	+1.07	-0.92	+0.82
TH	-0.73	+0.40	-1.42	+0.46	-1.43	+0.45	-1.35	+0.94	-1.22	+0.63
BH	-0.48	+0.54	-1.05	+0.56	-1.21	+0.74	-0.97	+0.89	-0.92	+0.80
LH	-0.59	+0.49	-1.28	+0.52	-1.31	+0.68	-1.11	+0.77	-1.07	+0.70
RH	-0.63	+0.50	-1.27	+0.50	-1.22	+0.55	-1.09	+0.97	-1.06	+0.69
FP	-0.57	+0.43	-1.20	+0.49	-1.24	+0.60	-1.06	+0.79	-0.99	+0.68
WindDir	(75)	(150)	(330)	(90)	(315)	(105)	(300)	(210)	(285)	(225)

Table C.27: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 73 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 73	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
9	-1.09	+0.30	-1.34	+0.39	-1.38	+0.40	-1.51	+0.64	-1.09	+0.40
10	-1.15	+0.25	-1.17	+0.41	-1.01	+0.36	-1.11	+0.46	-0.77	+0.35
11	-1.07	+0.37	-1.46	+0.40	-1.41	+0.38	-1.57	+0.42	-1.07	+0.41
12	-1.08	+0.38	-1.16	+0.44	-1.09	+0.38	-1.05	+0.46	-0.71	+0.35
21	-0.99	+0.52	-1.35	+0.44	-1.11	+0.43	-1.43	+0.98	-0.98	+0.56
22	-1.03	+0.31	-1.08	+0.35	-1.01	+0.34	-1.04	+0.46	-0.77	+0.36
23	-0.97	+0.47	-1.25	+0.40	-1.27	+0.40	-1.22	+0.89	-0.91	+0.52
24	-1.19	+0.39	-1.25	+0.48	-1.05	+0.53	-1.11	+0.48	-0.77	+0.49
35 (roof)	-0.93	+0.34	-1.07	+0.38	-1.01	+0.36	-0.96	+0.45	-0.76	+0.36
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.73	+0.47	-1.63	+0.51	-1.47	+0.52	-1.59	+1.01	-1.31	+0.69
RT	-0.91	+0.49	-1.57	+0.47	-1.56	+0.52	-1.63	+0.80	-1.31	+0.68
LB	-0.63	+0.73	-0.88	+0.75	-0.98	+0.74	-1.44	+1.44	-1.09	+0.91
RB	-0.76	+0.66	-1.12	+0.79	-1.15	+0.76	-1.00	+1.18	-0.85	+0.87
TH	-0.75	+0.48	-1.47	+0.48	-1.34	+0.49	-1.56	+0.84	-1.25	+0.61
BH	-0.64	+0.68	-0.89	+0.66	-0.89	+0.67	-1.24	+1.31	-0.91	+0.92
LH	-0.63	+0.57	-1.22	+0.60	-1.13	+0.54	-1.46	+1.17	-1.23	+0.77
RH	-0.82	+0.54	-1.11	+0.62	-1.18	+0.54	-1.35	+0.95	-1.04	+0.66
FP	-0.67	+0.54	-1.17	+0.53	-1.10	+0.53	-1.38	+1.06	-1.13	+0.73
WindDir	(315)	(165)	(330)	(150)	(300)	(105)	(300)	(210)	(285)	(210)

Table C.28: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 74 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 74	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
25	-1.07	+0.28	-1.51	+0.34	-1.53	+0.42	-1.25	+0.39	-1.01	+0.35
26	-1.15	+0.45	-1.50	+0.38	-1.05	+0.34	-0.95	+0.33	-0.73	+0.36
27	-1.09	+0.31	-1.45	+0.37	-1.36	+0.40	-1.37	+0.38	-0.88	+0.31
28	-1.08	+0.31	-1.29	+0.35	-1.09	+0.35	-1.02	+0.35	-0.73	+0.31
29	-1.19	+0.35	-1.27	+0.42	-1.22	+0.35	-1.07	+0.55	-0.76	+0.52
30	-1.05	+0.40	-1.92	+0.40	-1.03	+0.39	-1.05	+0.50	-0.69	+0.43
31	-1.22	+0.39	-1.29	+0.42	-1.08	+0.35	-0.96	+0.57	-0.84	+0.62
32	-1.27	+0.27	-1.45	+0.39	-1.41	+0.40	-1.29	+0.35	-0.77	+0.38
36 (roof)	-1.03	+0.29	-1.52	+0.37	-1.07	+0.37	-1.09	+0.39	-0.62	+0.38
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-0.99	+0.75	-1.23	+0.57	-1.35	+0.62	-1.11	+0.73	-1.05	+0.63
RT	-0.97	+0.59	-1.09	+0.50	-1.27	+0.56	-1.08	+0.67	-0.89	+0.60
LB	-0.88	+0.64	-0.92	+1.04	-0.94	+0.67	-0.83	+0.92	-0.87	+0.90
RB	-0.71	+0.73	-0.78	+0.82	-0.72	+0.87	-0.71	+0.87	-0.73	+1.11
TH	-0.84	+0.55	-1.07	+0.46	-1.27	+0.54	-0.97	+0.69	-0.89	+0.56
BH	-0.71	+0.57	-0.83	+0.74	-0.77	+0.64	-0.70	+0.92	-0.74	+1.02
LH	-0.91	+0.53	-0.95	+0.77	-1.08	+0.53	-0.97	+0.78	-0.92	+0.79
RH	-0.84	+0.56	-0.89	+0.54	-0.90	+0.61	-0.82	+0.72	-0.72	+0.87
FP	-0.80	+0.50	-0.89	+0.52	-1.01	+0.53	-0.83	+0.71	-0.79	+0.83
WindDir	(285)	(30)	(75)	(330)	(285)	(150)	(285)	(210)	(0)	(135)

Table C.29: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 81 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 81	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
73	-2.86	+0.69	-1.95	+0.35	-1.34	+0.41	-1.35	+0.46	-1.37	+0.52
74	-1.06	+0.67	-2.70	+0.49	-1.96	+0.91	-1.49	+0.72	-1.01	+0.65
75	-3.82	+0.73	-2.32	+0.55	-1.86	+0.41	-1.85	+0.59	-1.71	+0.49
76	-1.18	+0.75	-2.23	+0.40	-1.93	+0.72	-1.33	+0.70	-1.06	+0.61
85	-2.05	+0.43	-1.45	+0.36	-1.31	+0.38	-1.29	+0.45	-1.05	+0.33
86	-1.12	+0.52	-1.53	+0.52	-1.21	+0.69	-1.42	+0.65	-1.09	+0.66
87	-1.72	+0.43	-1.61	+0.35	-1.16	+0.43	-1.16	+0.42	-0.89	+0.38
88	-0.99	+0.61	-2.19	+0.62	-1.61	+0.84	-1.37	+0.75	-1.13	+0.75
105 (roof)	-1.28	+0.72	-1.78	+0.48	-1.22	+0.78	-1.38	+0.64	-1.17	+0.69
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-3.39	+0.87	-2.26	+1.17	-1.75	+1.07	-1.87	+0.95	-1.74	+0.99
RT	-3.91	+0.87	-2.15	+0.87	-2.09	+1.21	-2.17	+1.05	-2.24	+0.73
LB	-2.23	+1.03	-1.31	+0.88	-1.31	+1.04	-1.55	+1.01	-1.40	+1.09
RB	-1.88	+0.97	-1.44	+0.96	-1.39	+1.06	-1.52	+0.90	-1.42	+0.74
TH	-3.39	+1.04	-1.83	+0.77	-1.65	+1.07	-1.91	+1.00	-1.94	+0.81
BH	-1.72	+1.01	-1.38	+0.78	-1.28	+0.83	-1.40	+0.73	-1.43	+0.84
LH	-2.71	+0.94	-1.60	+0.80	-1.42	+0.92	-1.64	+0.96	-1.37	+1.05
RH	-2.26	+0.88	-1.48	+0.80	-1.38	+1.05	-1.40	+0.86	-1.39	+0.62
FP	-2.42	+0.90	-1.36	+0.73	-1.34	+0.80	-1.51	+0.78	-1.32	+0.82
WindDir	(315)	(105)	(330)	(120)	(315)	(330)	(315)	(330)	(315)	(210)

Table C.30: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 82 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 82	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
77	-2.50	+0.92	-1.99	+0.50	-1.67	+0.36	-1.41	+0.47	-1.06	+0.37
78	-1.05	+0.72	-2.42	+0.47	-1.70	+0.38	-1.20	+0.61	-0.98	+0.52
79	-1.99	+0.55	-1.70	+0.45	-1.65	+0.35	-1.66	+0.56	-1.00	+0.45
80	-1.14	+0.67	-1.73	+0.45	-1.57	+0.48	-1.40	+0.60	-1.10	+0.54
89	-2.15	+0.62	-1.81	+0.46	-1.25	+0.43	-1.17	+0.49	-1.16	+0.41
90	-1.05	+0.41	-1.76	+0.33	-1.99	+0.55	-1.29	+0.59	-1.05	+0.47
91	-1.94	+0.38	-1.66	+0.40	-1.55	+0.38	-1.37	+0.63	-1.05	+0.43
92	-1.12	+0.45	-1.26	+0.36	-1.33	+0.48	-1.44	+0.65	-1.16	+0.54
106 (roof)	-1.08	+0.43	-1.79	+0.32	-1.76	+0.54	-1.53	+0.63	-1.03	+0.50
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-2.37	+1.03	-1.53	+1.06	-1.80	+0.91	-1.60	+1.01	-1.33	+0.73
RT	-1.88	+0.74	-1.54	+0.89	-1.41	+0.99	-1.38	+1.03	-1.06	+0.75
LB	-1.73	+0.83	-0.99	+0.74	-1.08	+1.01	-1.14	+0.94	-1.29	+0.81
RB	-1.80	+0.83	-1.09	+0.87	-1.13	+0.71	-1.36	+1.13	-1.46	+0.88
TH	-2.10	+0.73	-1.34	+0.63	-1.52	+0.78	-1.43	+1.00	-1.16	+0.69
BH	-1.67	+0.77	-0.96	+0.79	-1.00	+0.64	-1.28	+0.99	-1.33	+0.78
LH	-1.70	+0.77	-0.97	+0.73	-1.10	+0.63	-1.23	+0.92	-1.16	+0.79
RH	-1.56	+0.73	-1.04	+0.72	-1.13	+0.83	-1.12	+1.09	-1.16	+0.82
FP	-1.56	+0.70	-0.94	+0.68	-1.07	+0.58	-1.07	+0.97	-1.15	+0.75
WindDir	(330)	(270)	(300)	(105)	(285)	(315)	(300)	(210)	(315)	(210)

Table C.31: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 83 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 83	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
81	-1.39	+0.49	-2.15	+0.37	-1.42	+0.31	-1.65	+0.58	-1.11	+0.38
82	-0.99	+0.64	-1.43	+0.50	-1.42	+0.73	-1.34	+0.56	-0.95	+0.44
83	-1.22	+0.54	-1.66	+0.37	-1.30	+0.39	-1.55	+0.50	-1.01	+0.52
84	-1.00	+0.60	-1.15	+0.48	-1.16	+0.67	-1.46	+0.60	-0.92	+0.48
93	-1.72	+0.51	-2.03	+0.50	-1.45	+0.32	-1.41	+0.70	-0.90	+0.61
94	-0.97	+0.32	-1.42	+0.38	-1.63	+0.34	-1.50	+0.63	-0.95	+0.49
95	-1.51	+0.44	-2.06	+0.41	-1.23	+0.37	-1.34	+0.90	-0.78	+0.46
96	-1.11	+0.49	-1.20	+0.42	-1.17	+0.60	-1.80	+0.75	-1.24	+0.58
107 (roof)	-1.08	+0.34	-1.55	+0.50	-1.33	+0.44	-1.52	+0.71	-0.96	+0.41
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.38	+0.64	-1.18	+0.61	-1.36	+0.80	-1.71	+1.06	-1.03	+0.79
RT	-1.36	+0.59	-1.25	+0.58	-1.21	+0.54	-1.48	+1.02	-1.02	+0.84
LB	-1.15	+0.68	-0.95	+0.82	-0.81	+1.05	-1.45	+1.15	-0.83	+0.89
RB	-1.50	+0.67	-1.14	+0.76	-1.05	+0.70	-1.29	+1.36	-1.04	+1.03
TH	-1.32	+0.63	-1.13	+0.53	-1.22	+0.52	-1.43	+1.00	-0.99	+0.79
BH	-1.31	+0.67	-1.06	+0.77	-0.88	+0.64	-1.07	+1.21	-0.88	+0.87
LH	-1.22	+0.62	-0.89	+0.65	-1.02	+0.73	-1.43	+1.14	-0.89	+0.79
RH	-1.28	+0.57	-0.94	+0.65	-1.10	+0.61	-1.16	+1.21	-0.91	+0.82
FP	-1.24	+0.63	-0.85	+0.63	-0.97	+0.54	-1.29	+1.16	-0.90	+0.78
WindDir	(315)	(105)	(285)	(90)	(285)	(90)	(285)	(210)	(270)	(210)

Table C.32: Pressure coëfficiënts, c_p^- and c_p^+ per pressure tap for panel 84 and $c_{p,net}$ values for the difference between the upside and downside of the panel. The building dimensions for these two cases are different from the standard setup.

Panel 84	All configurations, area covered by panels: 40x15m (LxB)									
System	open		open		open		open		open	
Angle	25°		25°		25°		25°		25°	
Distance	0m		1m		2m		5m		12m	
Taps	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+	c_p^-	c_p^+
97	-0.98	+0.32	-1.08	+0.31	-1.17	+0.37	-1.35	+0.38	-0.87	+0.39
98	-1.11	+0.56	-1.00	+0.33	-1.21	+0.48	-1.26	+0.49	-1.02	+0.54
99	-0.99	+0.34	-1.25	+0.39	-1.30	+0.36	-1.16	+0.34	-0.93	+0.38
100	-1.17	+0.68	-1.06	+0.33	-1.06	+0.48	-1.17	+0.42	-0.97	+0.53
101	-0.99	+0.32	-1.29	+0.37	-1.37	+0.44	-1.06	+0.81	-0.83	+0.54
102	-1.10	+0.48	-0.98	+0.41	-1.29	+0.55	-1.64	+0.53	-1.12	+0.64
103	-0.99	+0.37	-1.34	+0.39	-1.49	+0.38	-1.04	+0.68	-0.82	+0.60
104	-1.09	+0.39	-1.06	+0.36	-1.26	+0.44	-1.28	+0.45	-1.07	+0.48
108 (roof)	-1.07	+0.38	-1.03	+0.43	-1.35	+0.43	-1.35	+0.50	-1.10	+0.50
Net pressure difference between taps upside and downside of panel										
Position	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$	$c_{p,net}^-$	$c_{p,net}^+$
LT	-1.20	+0.55	-0.87	+0.54	-0.97	+0.76	-1.16	+0.83	-1.21	+0.78
RT	-1.36	+0.61	-0.71	+0.53	-1.14	+0.64	-1.03	+0.81	-1.13	+0.75
LB	-1.10	+0.67	-0.67	+0.77	-0.71	+1.01	-0.87	+1.41	-0.88	+1.06
RB	-0.87	+0.67	-0.65	+0.69	-0.89	+0.85	-0.97	+1.23	-0.88	+1.04
TH	-1.30	+0.56	-0.77	+0.48	-1.04	+0.62	-1.06	+0.81	-1.05	+0.77
BH	-0.81	+0.63	-0.64	+0.66	-0.73	+0.80	-0.94	+1.26	-0.88	+1.07
LH	-1.00	+0.60	-0.67	+0.61	-0.82	+0.86	-1.02	+1.09	-1.00	+0.88
RH	-1.11	+0.61	-0.62	+0.59	-0.95	+0.72	-0.98	+0.95	-1.00	+0.83
FP	-1.06	+0.59	-0.64	+0.54	-0.84	+0.70	-1.01	+1.00	-0.95	+0.88
WindDir	(0)	(90)	(90)	(105)	(75)	(315)	(285)	(210)	(90)	(225)