

ENSTAL

Project plan

FVE Litvínovská 600,
Roof I

Location: Litvínovská 600, Prosek, 190 00
Praha-Praha 9, Czechia

Calculation date: 22-07-2025

FlatFix Fusion

Table of contents

Overview	4
General	4
Location	4
Roof specification	4
System specification	5
Complete list of materials	6
Total roof bill of materials	6
Number of ballast units	6
Assembly	7
Roof overview	7
Side view	7
Rear view	7
Segment 1	8
Ballast	8
Materials	9
Segment 2	10
Ballast	10
Materials	11
Segment 3, 4, 5	12
Ballast	12
Materials	13
Segment 6	14
Ballast	14
Materials	15
Segment 7, 9	16
Ballast	16
Materials	17
Segment 8, 12	18
Ballast	18
Materials	19
Segment 10	20
Ballast	20
Materials	21
Segment 11	22
Ballast	22
Materials	23

Segment 13	24
Ballast	24
Materials	25
Segment 14, 16	26
Ballast	26
Materials	27
Segment 15	28
Ballast	28
Materials	29
Segment 17	30
Ballast	30
Materials	31
Calculations	32
Input	32
Roof loads	33
Roof loads for segment 1	34
Roof loads for segment 2	35
Roof loads for segment 3, 4, 5	36
Roof loads for segment 6	37
Roof loads for segment 7, 9	38
Roof loads for segment 8, 12	39
Roof loads for segment 10	40
Roof loads for segment 11	41
Roof loads for segment 13	42
Roof loads for segment 14, 16	43
Roof loads for segment 15	44
Roof loads for segment 17	45
Disclaimer	46



Scan the code for the
product manual.

Overview

General

Contact person	Tomáš Tajtl
Expected installation date	30-10-2025
Generated by	Tomáš Tajtl (tomas.tajtl@eletajenergy.cz)*

* This person can open this project in the calculator via <https://calculator.eu.enstall.com/3259890/4218313>.

Location

Address	Litvínovská 600, Prosek, 190 00 Praha-Praha 9, Czechia
Wind zone	1*
Terrain category	II
Wind pressure	661.35 N/m ²
Snow zone	1*
Characteristic value of snow on the ground	0.7 kN/m ²
Environment	Normal
Snow load on the roof	426.63 N/m ²
Altitude above sea level	297.0 m*
Consequence class	CC1
Reference period	15 years
Calculation date	22-07-2025

* Automatically determined based on the address.

Roof specification

Roof height	11.0 m
Parapet height	200 mm
Edge zone depth short side	1.38 m
Edge zone depth long side	2.24 m
Roof pitch	0.0°
Roofing material	PVC
Roof orientation from north	30.0°

System specification

Panel model	Aiko A-MAH54Mb (GEN II) (440 - 460Wp) Neostar 2S (2nd generation)
Panel dimensions	1757 mm x 1134 mm x 30 mm
Panel weight	21.0 kg
Panel count	128
Panel angle of inclination landscape	11.3°
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF
Segment count	17
Panel power	460 Wp
Total power	58.880 kWp

Complete list of materials

Total roof bill of materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	111
1000655	Mounting screw M6 x 55mm	444
1003022	Universal mid clamp with bonding	68
1004330	FlatFix end clamp 30mm	376
1007011	FlatFix Fusion base plate bracket	79
1007012	FlatFix Fusion base plate	483
1007022	FlatFix Fusion - Low base	222
1007031	FlatFix Fusion high base	111
1007042*	MLPE Clip Lightweight up to 2kg	128
1007121	FlatFix Fusion base profile 210mm	72
1007196	FlatFix Fusion base profile 1077mm	222
1007210	FlatFix Fusion ballast container 1700	80
1007211	FlatFix Fusion stabilizer 1700	64
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	94
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	94
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	534

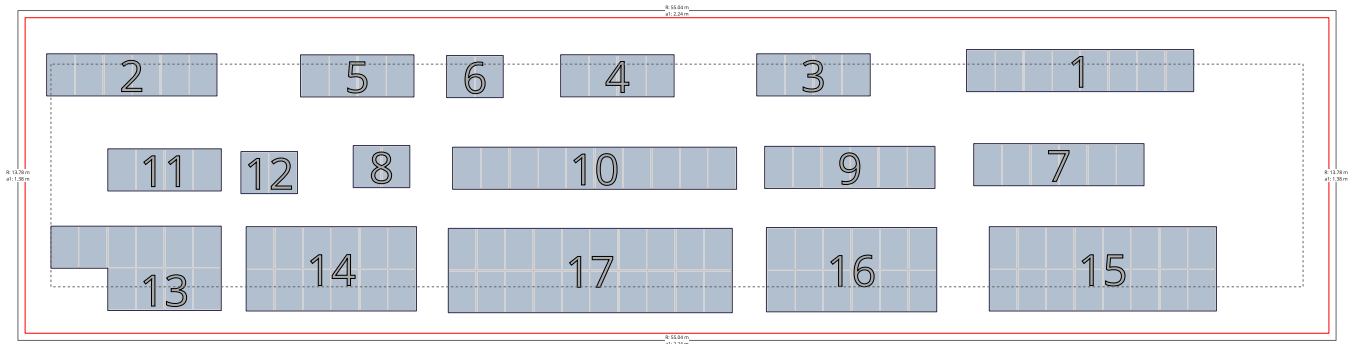
* Optional article

Number of ballast units

Number of bricks (210 mm x 105 mm x 80 mm, 4.0 kg/pc)	1275
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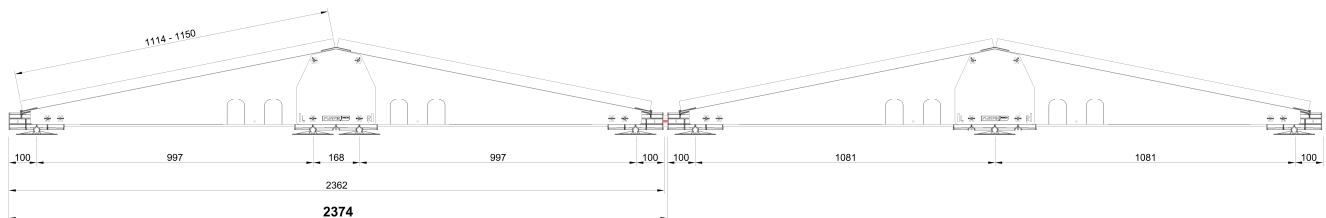
Assembly

Roof overview

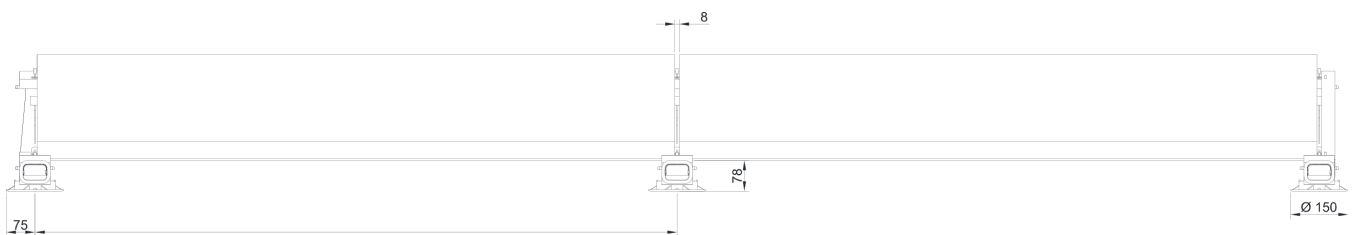


R: XXm	Length of outer roof side
—	No-Go zone width (30cm)
a1: XXm	Edge zone width from roof edge

Dual landscape configuration with row distance of 2,374 mm



Rear view



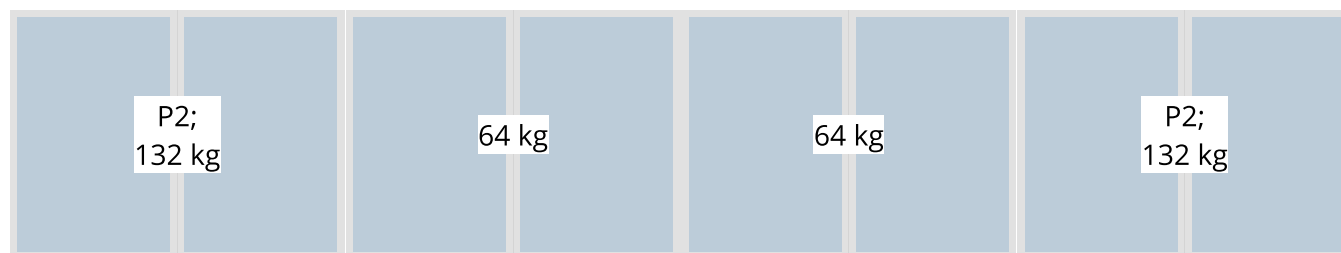
Segment 1

Panel count	8
Total power	3.680 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	98

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	8
1000655	Mounting screw M6 x 55mm	32
1004330	FlatFix end clamp 30mm	32
1007011	FlatFix Fusion base plate bracket	4
1007012	FlatFix Fusion base plate	36
1007022	FlatFix Fusion - Low base	16
1007031	FlatFix Fusion high base	8
1007042	MLPE Clip Lightweight up to 2kg	8
1007121	FlatFix Fusion base profile 210mm	6
1007196	FlatFix Fusion base profile 1077mm	16
1007210	FlatFix Fusion ballast container 1700	6
1007211	FlatFix Fusion stabilizer 1700	4
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	8
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	8
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	40

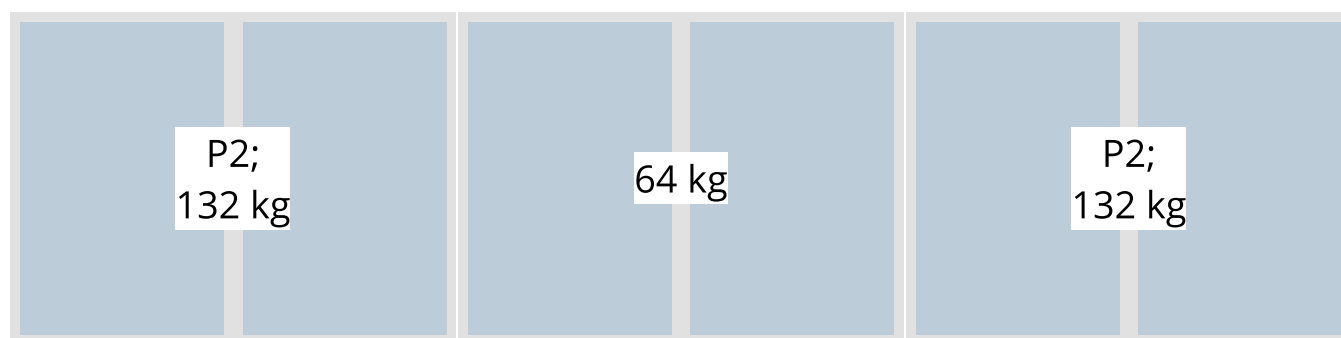
Segment 2

Panel count	6
Total power	2.760 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

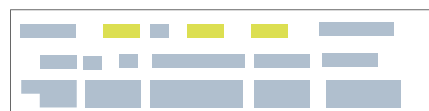
Weight per ballast unit	4.0 kg
Number of ballast units	82

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	6
1000655	Mounting screw M6 x 55mm	24
1004330	FlatFix end clamp 30mm	24
1007011	FlatFix Fusion base plate bracket	4
1007012	FlatFix Fusion base plate	28
1007022	FlatFix Fusion - Low base	12
1007031	FlatFix Fusion high base	6
1007042	MLPE Clip Lightweight up to 2kg	6
1007121	FlatFix Fusion base profile 210mm	4
1007196	FlatFix Fusion base profile 1077mm	12
1007210	FlatFix Fusion ballast container 1700	5
1007211	FlatFix Fusion stabilizer 1700	3
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	6
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	6
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	32

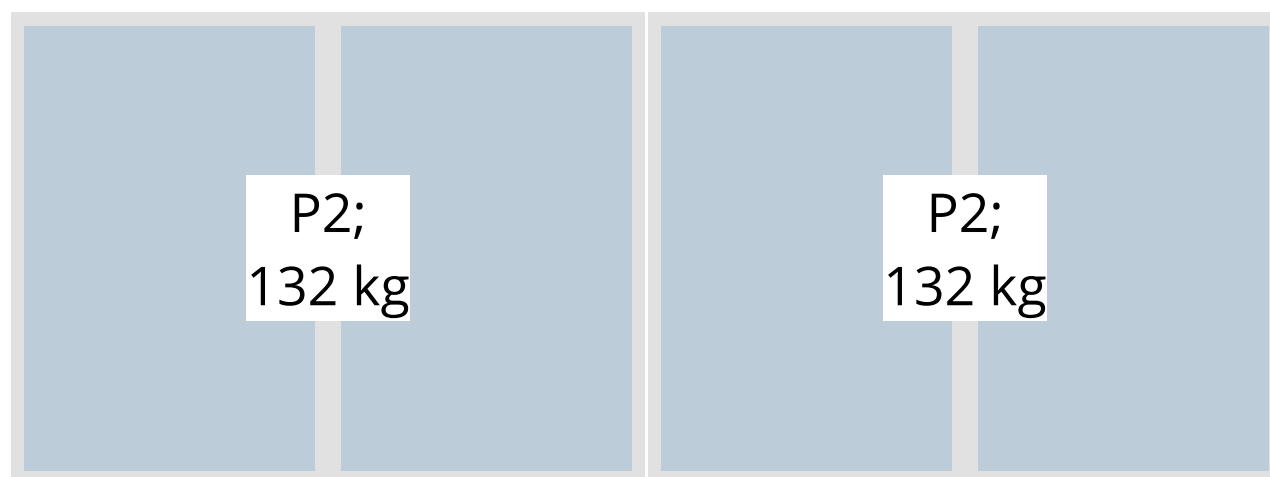
Segment 3, 4, 5

Panel count	4
Total power	1.840 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	66

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	4
1000655	Mounting screw M6 x 55mm	16
1004330	FlatFix end clamp 30mm	16
1007011	FlatFix Fusion base plate bracket	4
1007012	FlatFix Fusion base plate	20
1007022	FlatFix Fusion - Low base	8
1007031	FlatFix Fusion high base	4
1007042	MLPE Clip Lightweight up to 2kg	4
1007121	FlatFix Fusion base profile 210mm	2
1007196	FlatFix Fusion base profile 1077mm	8
1007210	FlatFix Fusion ballast container 1700	4
1007211	FlatFix Fusion stabilizer 1700	2
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	4
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	4
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	24

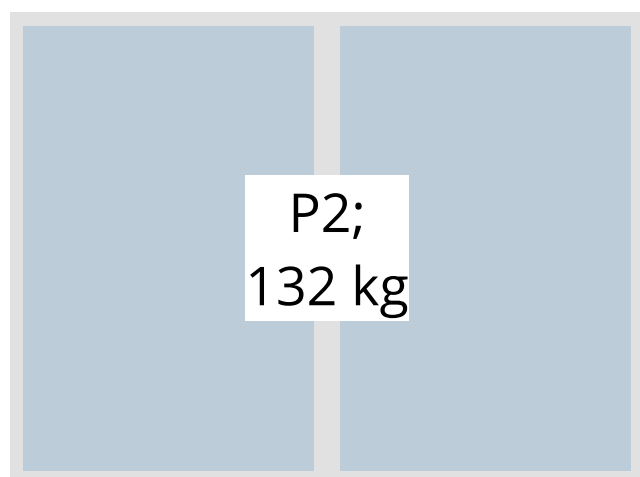
Segment 6

Panel count	2
Total power	0.920 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	33

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	2
1000655	Mounting screw M6 x 55mm	8
1004330	FlatFix end clamp 30mm	8
1007011	FlatFix Fusion base plate bracket	4
1007012	FlatFix Fusion base plate	10
1007022	FlatFix Fusion - Low base	4
1007031	FlatFix Fusion high base	2
1007042	MLPE Clip Lightweight up to 2kg	2
1007196	FlatFix Fusion base profile 1077mm	4
1007210	FlatFix Fusion ballast container 1700	2
1007211	FlatFix Fusion stabilizer 1700	1
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	2
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	2
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	16

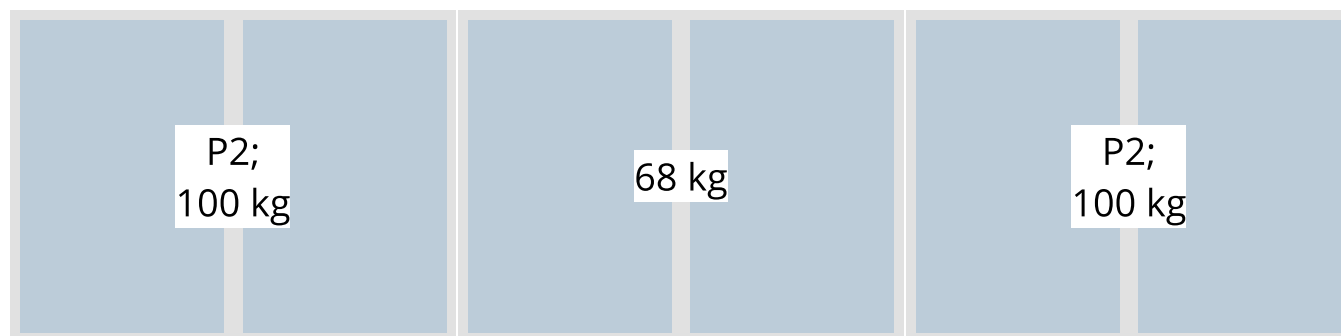
Segment 7, 9

Panel count	6
Total power	2.760 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	67

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	6
1000655	Mounting screw M6 x 55mm	24
1004330	FlatFix end clamp 30mm	24
1007011	FlatFix Fusion base plate bracket	4
1007012	FlatFix Fusion base plate	28
1007022	FlatFix Fusion - Low base	12
1007031	FlatFix Fusion high base	6
1007042	MLPE Clip Lightweight up to 2kg	6
1007121	FlatFix Fusion base profile 210mm	4
1007196	FlatFix Fusion base profile 1077mm	12
1007210	FlatFix Fusion ballast container 1700	5
1007211	FlatFix Fusion stabilizer 1700	3
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	6
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	6
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	32

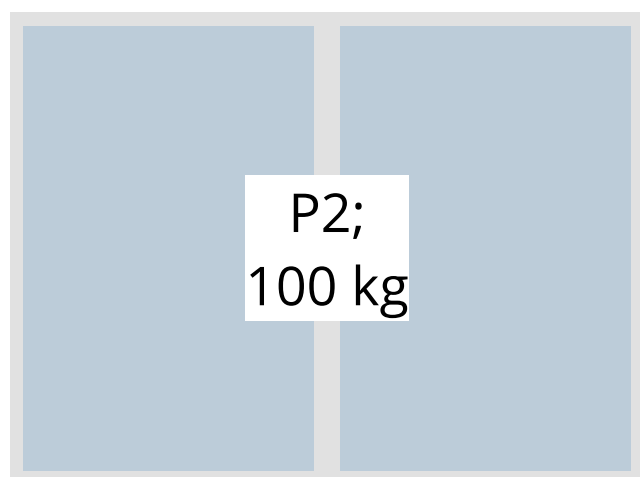
Segment 8, 12

Panel count	2
Total power	0.920 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	25

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	2
1000655	Mounting screw M6 x 55mm	8
1004330	FlatFix end clamp 30mm	8
1007011	FlatFix Fusion base plate bracket	4
1007012	FlatFix Fusion base plate	10
1007022	FlatFix Fusion - Low base	4
1007031	FlatFix Fusion high base	2
1007042	MLPE Clip Lightweight up to 2kg	2
1007196	FlatFix Fusion base profile 1077mm	4
1007210	FlatFix Fusion ballast container 1700	2
1007211	FlatFix Fusion stabilizer 1700	1
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	2
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	2
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	16

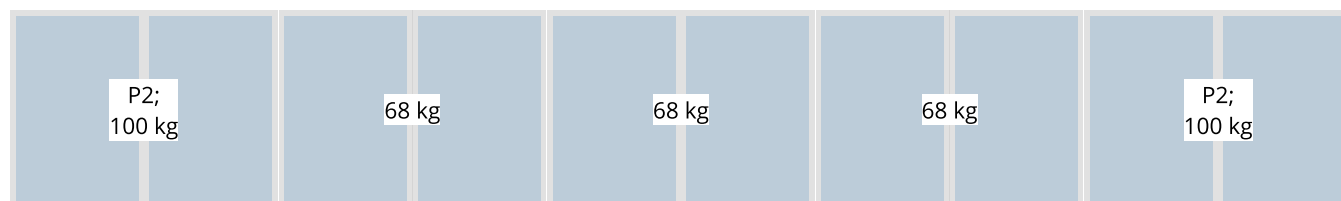
Segment 10

Panel count	10
Total power	4.600 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	101

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	10
1000655	Mounting screw M6 x 55mm	40
1004330	FlatFix end clamp 30mm	40
1007011	FlatFix Fusion base plate bracket	4
1007012	FlatFix Fusion base plate	44
1007022	FlatFix Fusion - Low base	20
1007031	FlatFix Fusion high base	10
1007042	MLPE Clip Lightweight up to 2kg	10
1007121	FlatFix Fusion base profile 210mm	8
1007196	FlatFix Fusion base profile 1077mm	20
1007210	FlatFix Fusion ballast container 1700	7
1007211	FlatFix Fusion stabilizer 1700	5
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	10
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	10
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	48

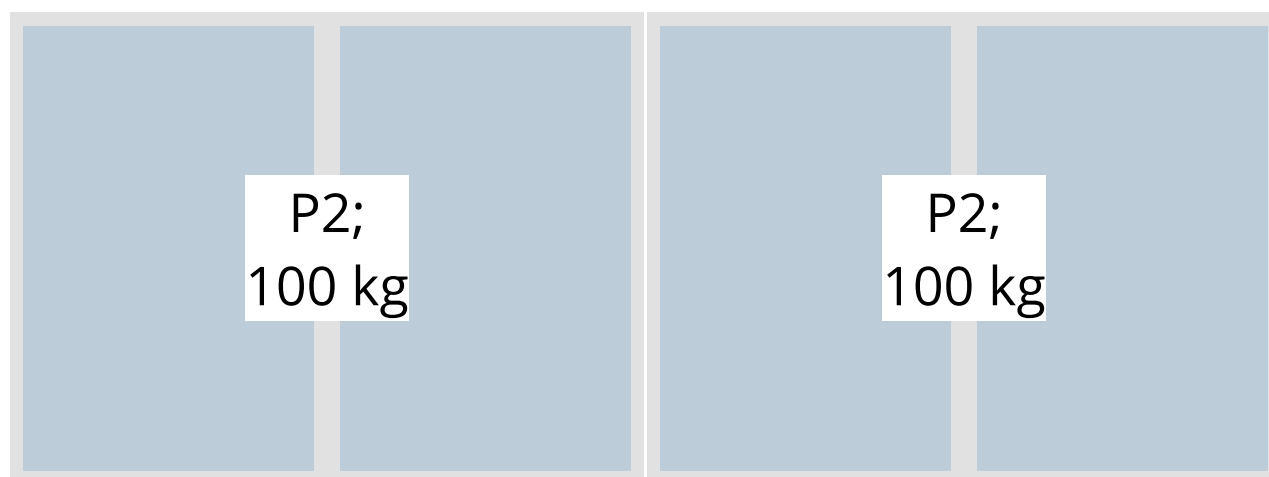
Segment 11

Panel count	4
Total power	1.840 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

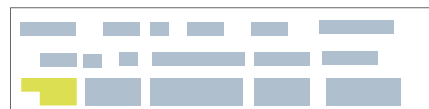
Weight per ballast unit	4.0 kg
Number of ballast units	50

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	4
1000655	Mounting screw M6 x 55mm	16
1004330	FlatFix end clamp 30mm	16
1007011	FlatFix Fusion base plate bracket	4
1007012	FlatFix Fusion base plate	20
1007022	FlatFix Fusion - Low base	8
1007031	FlatFix Fusion high base	4
1007042	MLPE Clip Lightweight up to 2kg	4
1007121	FlatFix Fusion base profile 210mm	2
1007196	FlatFix Fusion base profile 1077mm	8
1007210	FlatFix Fusion ballast container 1700	4
1007211	FlatFix Fusion stabilizer 1700	2
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	4
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	4
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	24

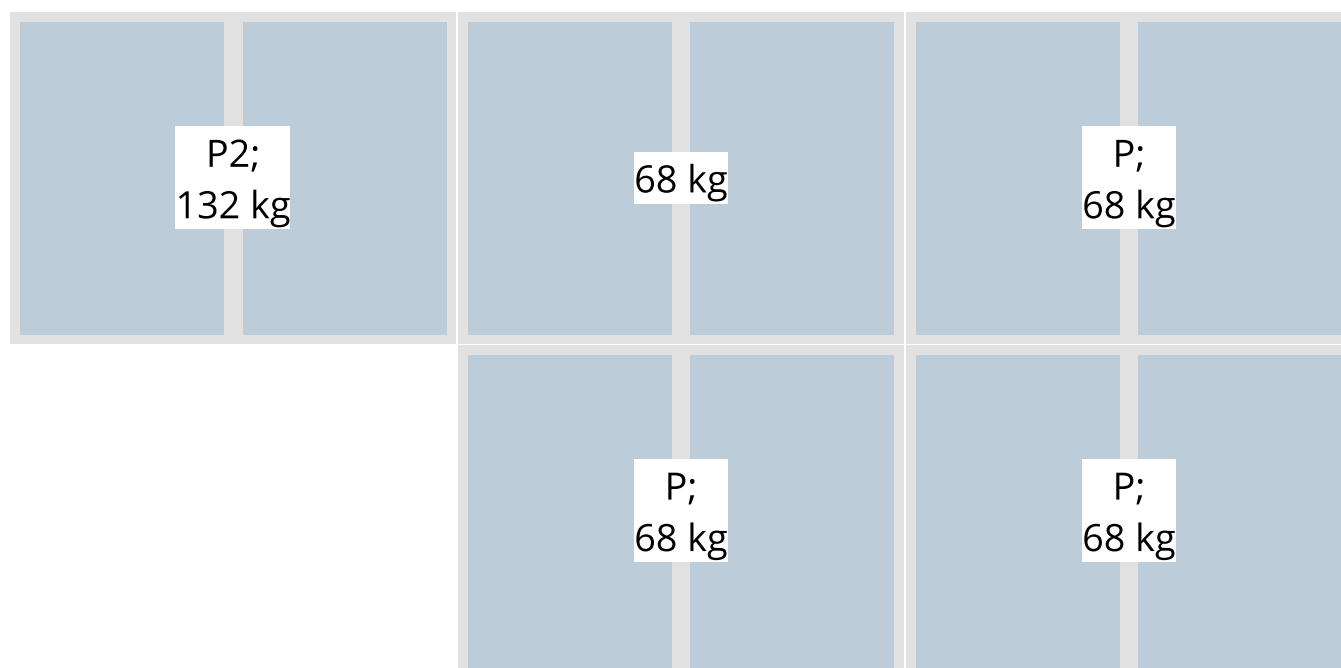
Segment 13

Panel count	10
Total power	4.600 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	101

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	8
1000655	Mounting screw M6 x 55mm	32
1003022	Universal mid clamp with bonding	8
1004330	FlatFix end clamp 30mm	24
1007011	FlatFix Fusion base plate bracket	7
1007012	FlatFix Fusion base plate	35
1007022	FlatFix Fusion - Low base	16
1007031	FlatFix Fusion high base	8
1007042	MLPE Clip Lightweight up to 2kg	10
1007121	FlatFix Fusion base profile 210mm	5
1007196	FlatFix Fusion base profile 1077mm	16
1007210	FlatFix Fusion ballast container 1700	6
1007211	FlatFix Fusion stabilizer 1700	5
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	6
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	6
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	38

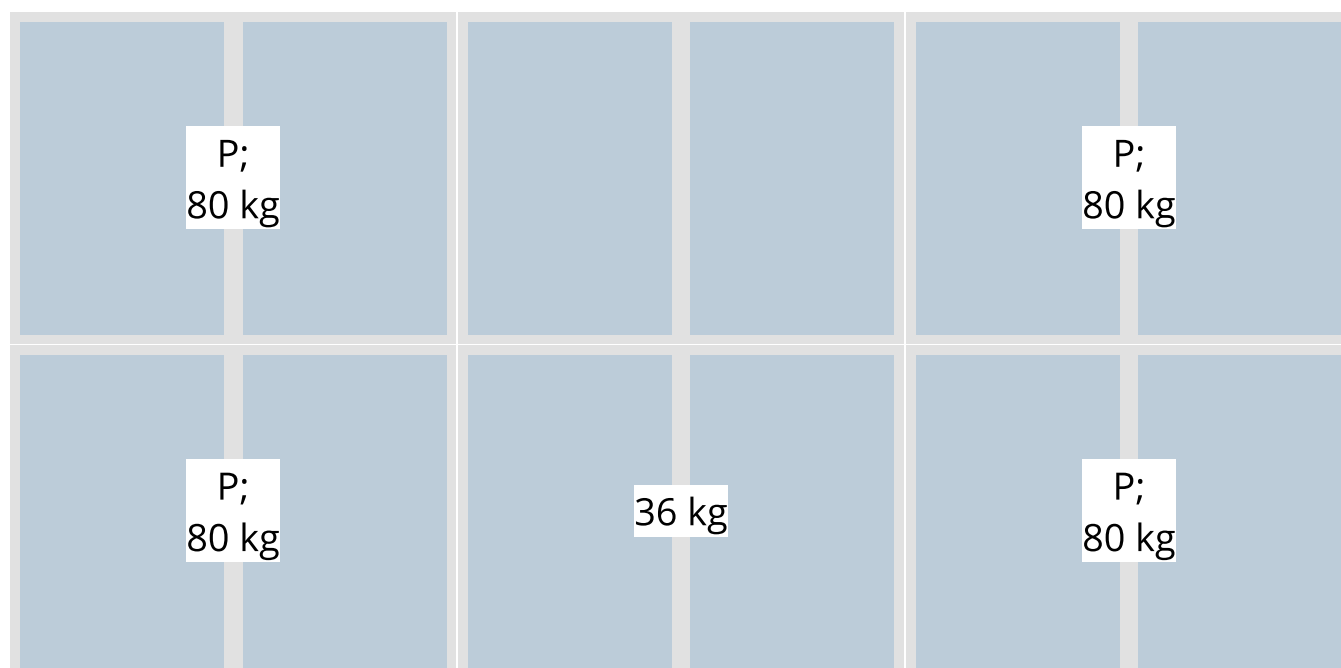
Segment 14, 16

Panel count	12
Total power	5.520 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	89

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	9
1000655	Mounting screw M6 x 55mm	36
1003022	Universal mid clamp with bonding	12
1004330	FlatFix end clamp 30mm	24
1007011	FlatFix Fusion base plate bracket	6
1007012	FlatFix Fusion base plate	35
1007022	FlatFix Fusion - Low base	18
1007031	FlatFix Fusion high base	9
1007042	MLPE Clip Lightweight up to 2kg	12
1007121	FlatFix Fusion base profile 210mm	6
1007196	FlatFix Fusion base profile 1077mm	18
1007210	FlatFix Fusion ballast container 1700	5
1007211	FlatFix Fusion stabilizer 1700	6
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	6
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	6
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	36

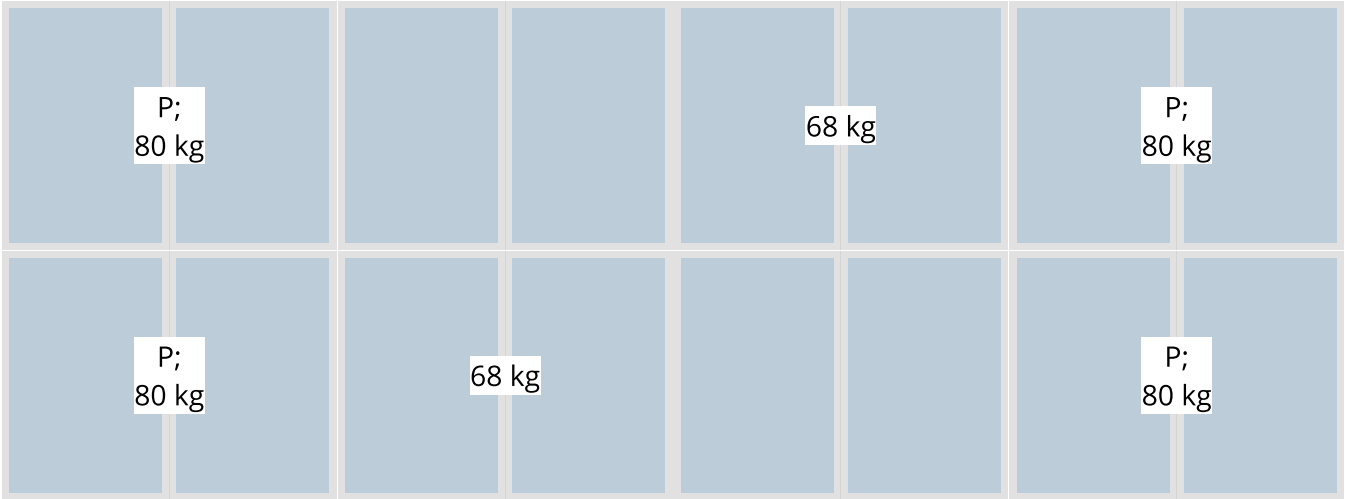
Segment 15

Panel count	16
Total power	7.360 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	114

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	12
1000655	Mounting screw M6 x 55mm	48
1003022	Universal mid clamp with bonding	16
1004330	FlatFix end clamp 30mm	32
1007011	FlatFix Fusion base plate bracket	6
1007012	FlatFix Fusion base plate	46
1007022	FlatFix Fusion - Low base	24
1007031	FlatFix Fusion high base	12
1007042	MLPE Clip Lightweight up to 2kg	16
1007121	FlatFix Fusion base profile 210mm	9
1007196	FlatFix Fusion base profile 1077mm	24
1007210	FlatFix Fusion ballast container 1700	6
1007211	FlatFix Fusion stabilizer 1700	8
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	8
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	8
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	44

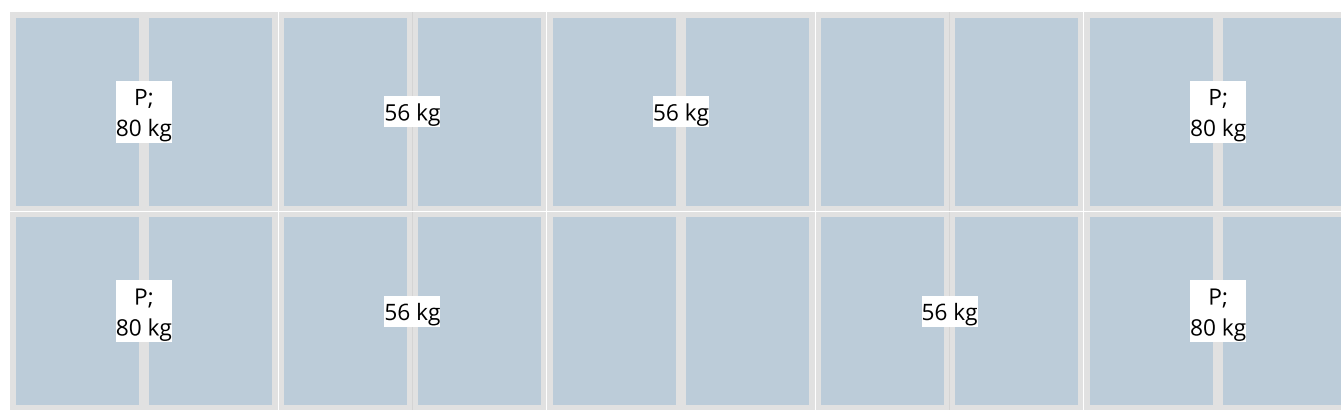
Segment 17

Panel count	20
Total power	9.200 kWp
Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF



 This assembly plan is applicable for the highlighted segments

Ballast



Check the manual for more information on the exact (perimeter) positions of the ballast containers.

Weight per ballast unit	4.0 kg
Number of ballast units	136

Materials

Article number	Description	Amount
1000612	Mounting screw M6 x 12mm	15
1000655	Mounting screw M6 x 55mm	60
1003022	Universal mid clamp with bonding	20
1004330	FlatFix end clamp 30mm	40
1007011	FlatFix Fusion base plate bracket	6
1007012	FlatFix Fusion base plate	58
1007022	FlatFix Fusion - Low base	30
1007031	FlatFix Fusion high base	15
1007042	MLPE Clip Lightweight up to 2kg	20
1007121	FlatFix Fusion base profile 210mm	12
1007196	FlatFix Fusion base profile 1077mm	30
1007210	FlatFix Fusion ballast container 1700	8
1007211	FlatFix Fusion stabilizer 1700	10
1007226	FlatFix Fusion wind deflector left (base profile 1030mm - 1077mm)	10
1007227	FlatFix Fusion wind deflector right (base profile 1030mm - 1077mm)	10
1008085	Self-tapping sheet metal screw 6,0x25 mm SW10 HEX/T30	52

Calculations

Input

Address	Litvínovská 600, Prosek, 190 00 Praha-Praha 9, Czechia
Wind zone	1 (22.5 m/s)*
Terrain category	II
Air density	1.25 kg/m ³
Wind exposure factor (c_e)	2.42
Orography factor	1.0
Wind pressure	661.35 N/m ²
Snow zone	1*
Characteristic value of snow on the ground	0.7 kN/m ²
Topography (snow exposure factor)	Normal (1.0)
Snow load form coefficient	0.8
Snow load on the roof	426.63 N/m ²
Altitude above sea level	297.0 m*
Consequence class	CC1
Reference period	15 years
Roof height	11.0 m
Parapet height	200 mm
Edge zone depth short side	1.38 m
Edge zone depth long side	2.24 m
Roof pitch	0.0°
Roof area	758.45 m ²
Roofing material	PVC
Friction Coefficient	0.45
Roof orientation from north	30.0°
High building safety factor	1.05
Panel model	Aiko A-MAH54Mb (GEN II) (440 - 460Wp) Neostar 2S (2nd generation)
Panel dimensions	1757 mm x 1134 mm x 30 mm
Panel weight	21.0 kg
Panel count	128
Panel angle of inclination landscape	11.3°

Configuration	Dual
Orientation	Landscape
Row distance	2,374 mm
Grounding/bonding option	OFF
Segment count	17
Panel power	460 Wp
Total power	58.880 kWp

* Automatically determined based on the address.

Enstall's FlatFix Fusion calculation is certified by Peutz. The certificate show that Enstall has correctly applied the wind tunnel measurements for FlatFix Fusion, combined with results of mechanical lift tests and that all results have been correctly and safely processed in the Enstall calculator. The results of the studies and their translation into a method for calculating ballast have been tested against the standards CUR Recommendation 103: 2005, NEN 7250: 2021 and the Eurocodes EN 1990 and EN 1991-1-4 with their corresponding national annexes.



Roof loads

Total weight	8,687.95 kg
Total ballast weight	5,100.0 kg
Total system weight	899.96 kg
Total panel weight	2,688.0 kg
Number of ballast units (210mm x 105mm x 80mm)	1275
Roof area (gross)	758.45 m ²
System area (projected area)	274.61 m ²
Average load over roof area	11.45 kg/m ²
Average load over system area	31.64 kg/m ²
Max load over panel area	44.45 kg/m ²
Max static point load (at base plate)	18.43 kPa*, 33.2 kg/base plate
Max dynamic point load (at base plate)	60.16 kPa*, 108.37 kg/base plate

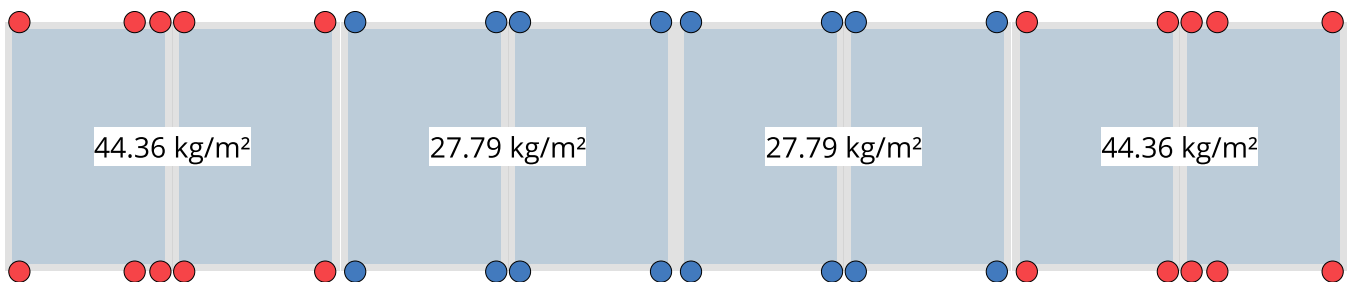
* Irregularities in the roof can cause deviating point pressures

Roof loads for segment 1

Total weight	628.1 kg
Total ballast weight	392.0 kg
Total system weight	68.1 kg
Total panel weight	168.0 kg
System area (projected area)	17.33 m ²
Average roof load over system area	36.25 kg/m ²
Max static point load (at base plate)	10.65 kPa*, 19.19 kg/base plate
Max dynamic point load (at base plate)	29.04 kPa*, 52.32 kg/base plate

* Irregularities in the roof can cause deviating point pressures

8.37 kPa  10.65 kPa

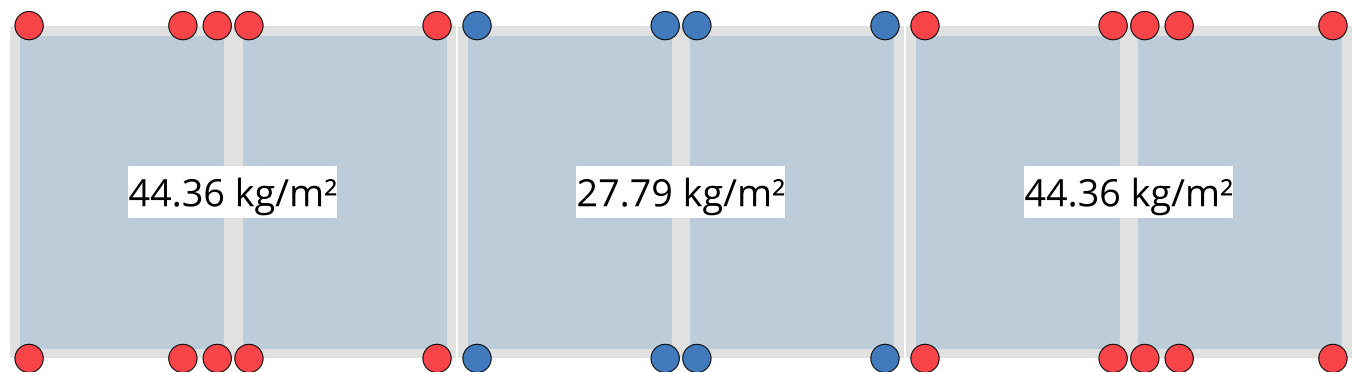


Roof loads for segment 2

Total weight	506.9 kg
Total ballast weight	328.0 kg
Total system weight	52.9 kg
Total panel weight	126.0 kg
System area (projected area)	12.99 m ²
Average roof load over system area	39.02 kg/m ²
Max static point load (at base plate)	10.65 kPa*, 19.19 kg/base plate
Max dynamic point load (at base plate)	29.04 kPa*, 52.32 kg/base plate

* Irregularities in the roof can cause deviating point pressures

8.37 kPa  10.65 kPa

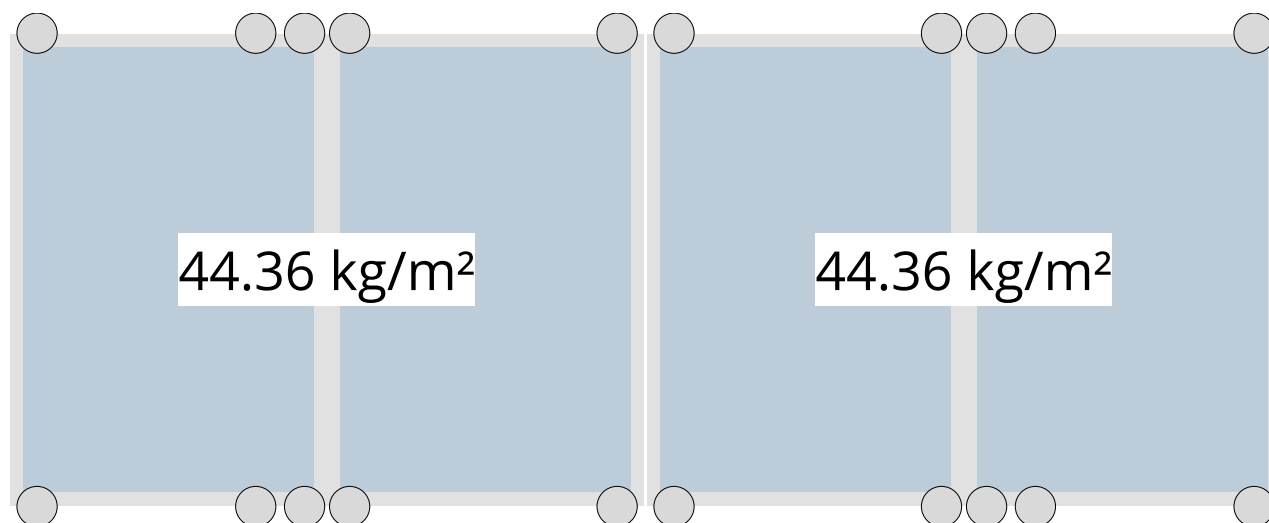


Roof loads for segment 3, 4, 5

Total weight	385.7 kg
Total ballast weight	264.0 kg
Total system weight	37.7 kg
Total panel weight	84.0 kg
System area (projected area)	8.65 m ²
Average roof load over system area	44.58 kg/m ²
Max static point load (at base plate)	10.65 kPa*, 19.19 kg/base plate
Max dynamic point load (at base plate)	28.05 kPa*, 50.53 kg/base plate

* Irregularities in the roof can cause deviating point pressures

10.65 kPa  10.65 kPa

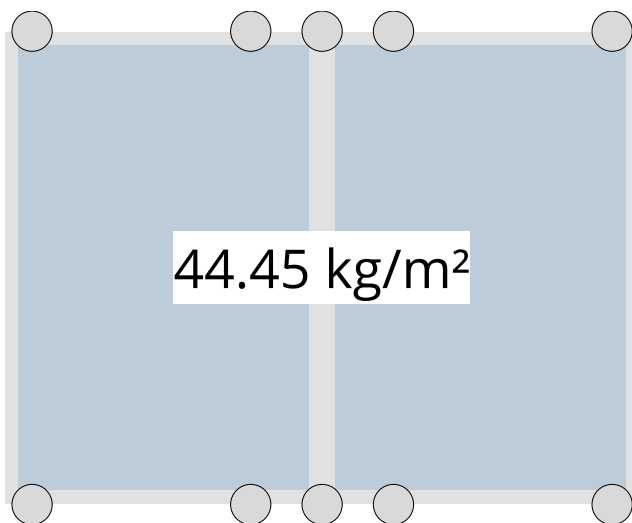


Roof loads for segment 6

Total weight	192.85 kg
Total ballast weight	132.0 kg
Total system weight	18.85 kg
Total panel weight	42.0 kg
System area (projected area)	4.32 m ²
Average roof load over system area	44.69 kg/m ²
Max static point load (at base plate)	10.65 kPa*, 19.18 kg/base plate
Max dynamic point load (at base plate)	28.04 kPa*, 50.52 kg/base plate

* Irregularities in the roof can cause deviating point pressures

10.65 kPa  10.65 kPa

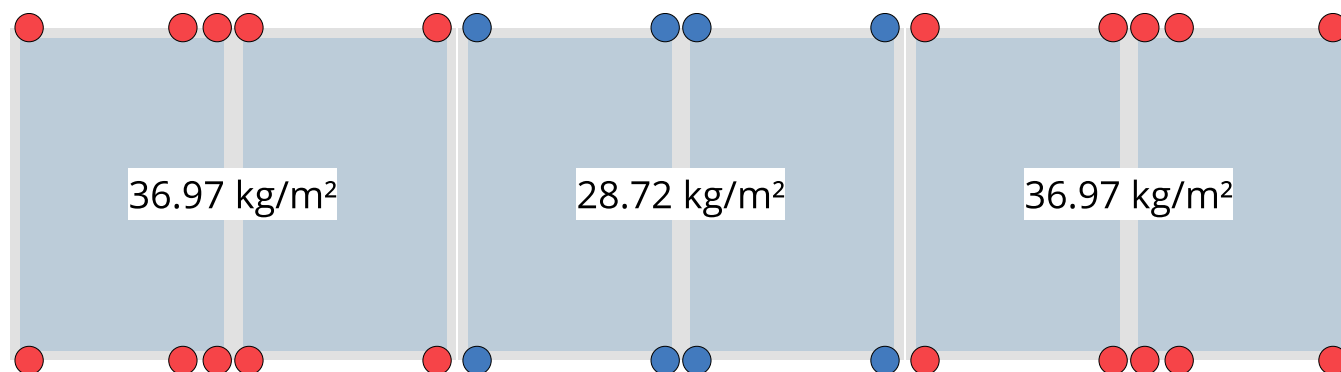


Roof loads for segment 7, 9

Total weight	446.9 kg
Total ballast weight	268.0 kg
Total system weight	52.9 kg
Total panel weight	126.0 kg
System area (projected area)	12.99 m ²
Average roof load over system area	34.4 kg/m ²
Max static point load (at base plate)	8.88 kPa*, 15.99 kg/base plate
Max dynamic point load (at base plate)	29.38 kPa*, 52.93 kg/base plate

* Irregularities in the roof can cause deviating point pressures

8.64 kPa  8.88 kPa

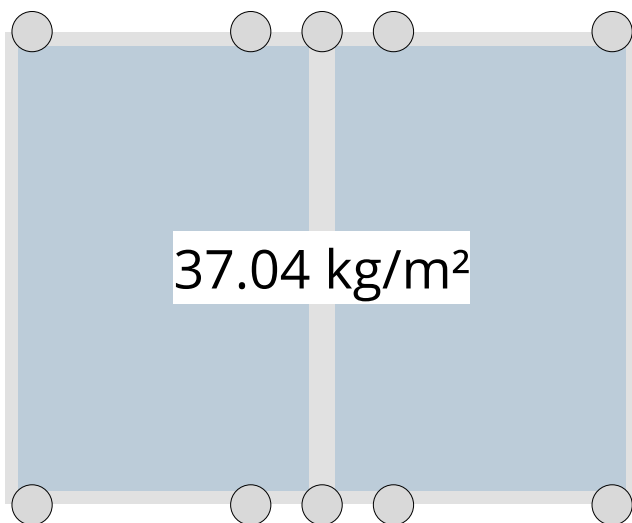


Roof loads for segment 8, 12

Total weight	160.85 kg
Total ballast weight	100.0 kg
Total system weight	18.85 kg
Total panel weight	42.0 kg
System area (projected area)	4.32 m ²
Average roof load over system area	37.27 kg/m ²
Max static point load (at base plate)	8.87 kPa*, 15.98 kg/base plate
Max dynamic point load (at base plate)	25.88 kPa*, 46.63 kg/base plate

* Irregularities in the roof can cause deviating point pressures

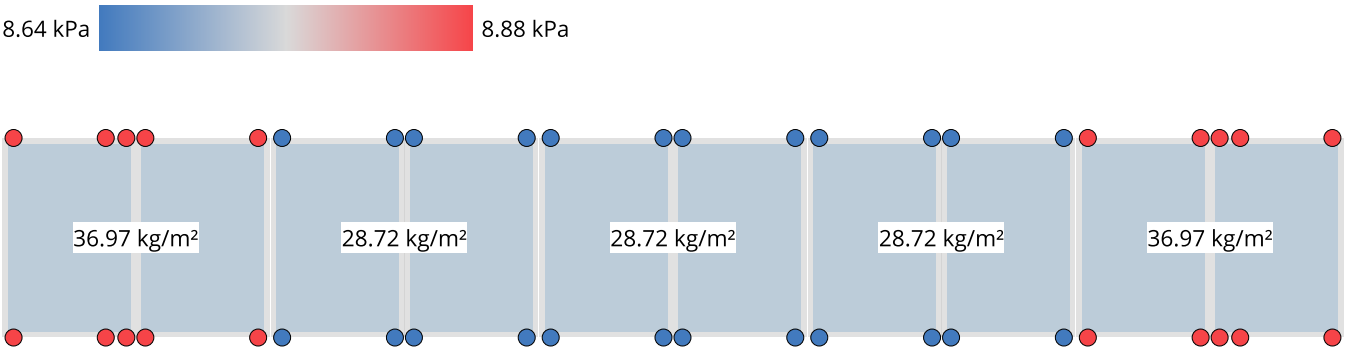
8.87 kPa  8.87 kPa



Roof loads for segment 10

Total weight	697.3 kg
Total ballast weight	404.0 kg
Total system weight	83.3 kg
Total panel weight	210.0 kg
System area (projected area)	21.66 m ²
Average roof load over system area	32.19 kg/m ²
Max static point load (at base plate)	8.88 kPa*, 15.99 kg/base plate
Max dynamic point load (at base plate)	29.38 kPa*, 52.93 kg/base plate

* Irregularities in the roof can cause deviating point pressures

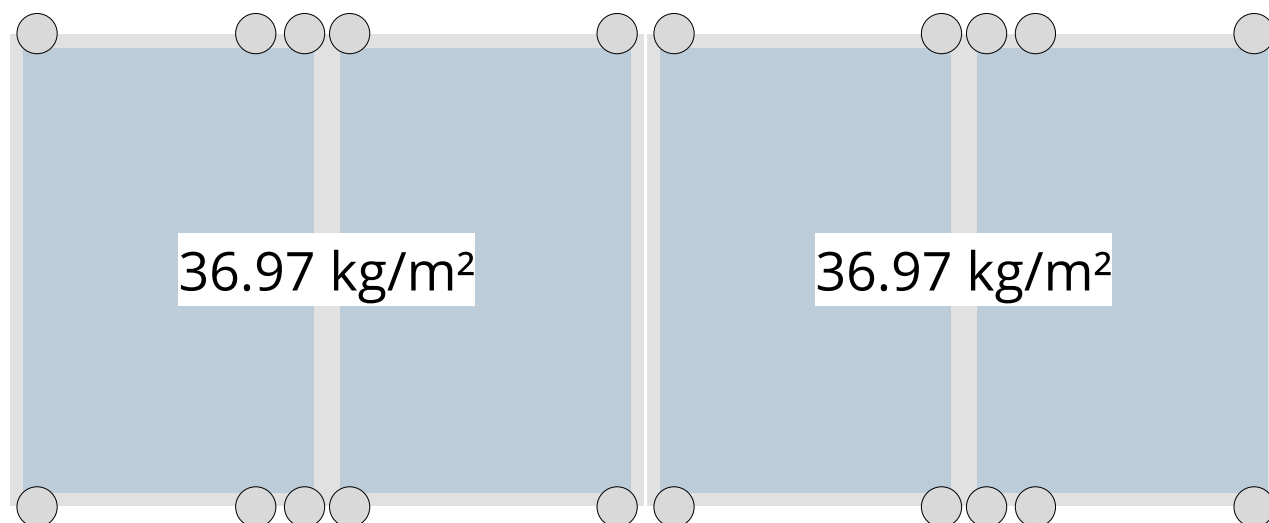


Roof loads for segment 11

Total weight	321.7 kg
Total ballast weight	200.0 kg
Total system weight	37.7 kg
Total panel weight	84.0 kg
System area (projected area)	8.65 m ²
Average roof load over system area	37.18 kg/m ²
Max static point load (at base plate)	8.88 kPa*, 15.99 kg/base plate
Max dynamic point load (at base plate)	25.89 kPa*, 46.64 kg/base plate

* Irregularities in the roof can cause deviating point pressures

8.88 kPa  8.88 kPa

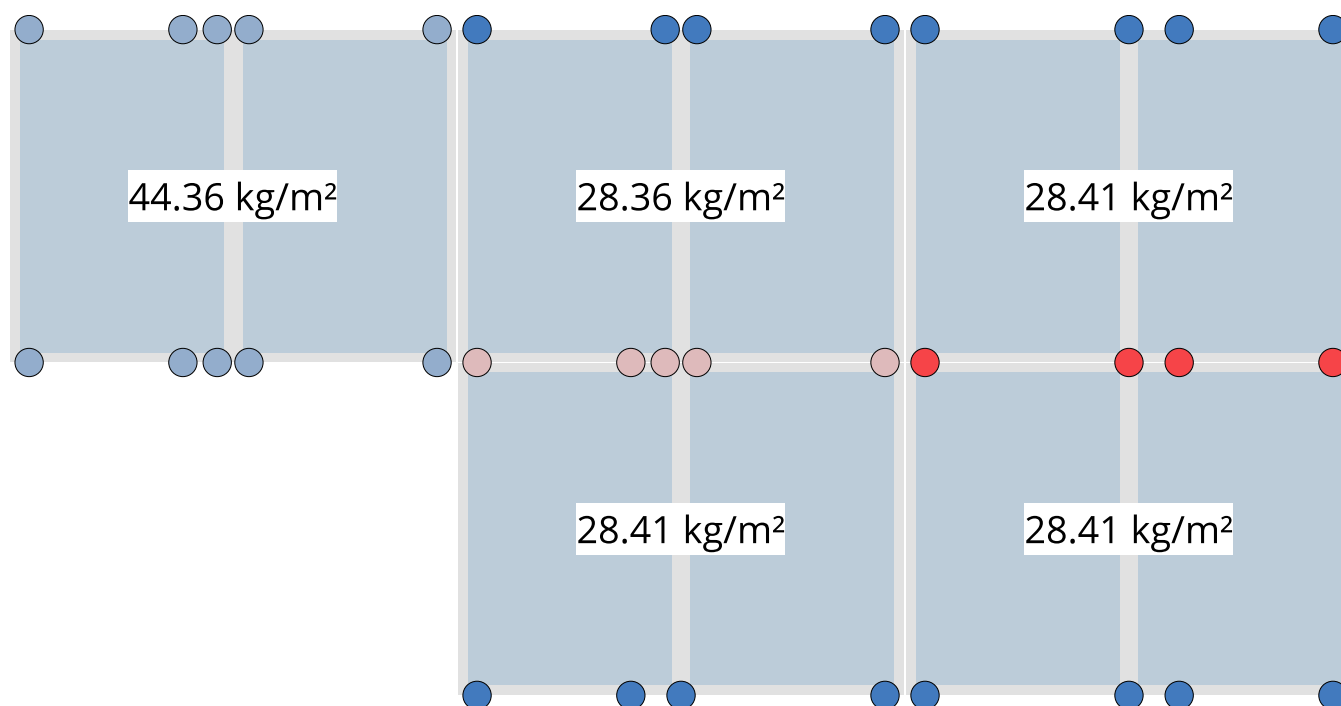


Roof loads for segment 13

Total weight	678.27 kg
Total ballast weight	404.0 kg
Total system weight	64.27 kg
Total panel weight	210.0 kg
System area (projected area)	21.35 m ²
Average roof load over system area	31.77 kg/m ²
Max static point load (at base plate)	16.77 kPa*, 30.2 kg/base plate
Max dynamic point load (at base plate)	58.13 kPa*, 104.72 kg/base plate

* Irregularities in the roof can cause deviating point pressures

8.38 kPa  16.77 kPa

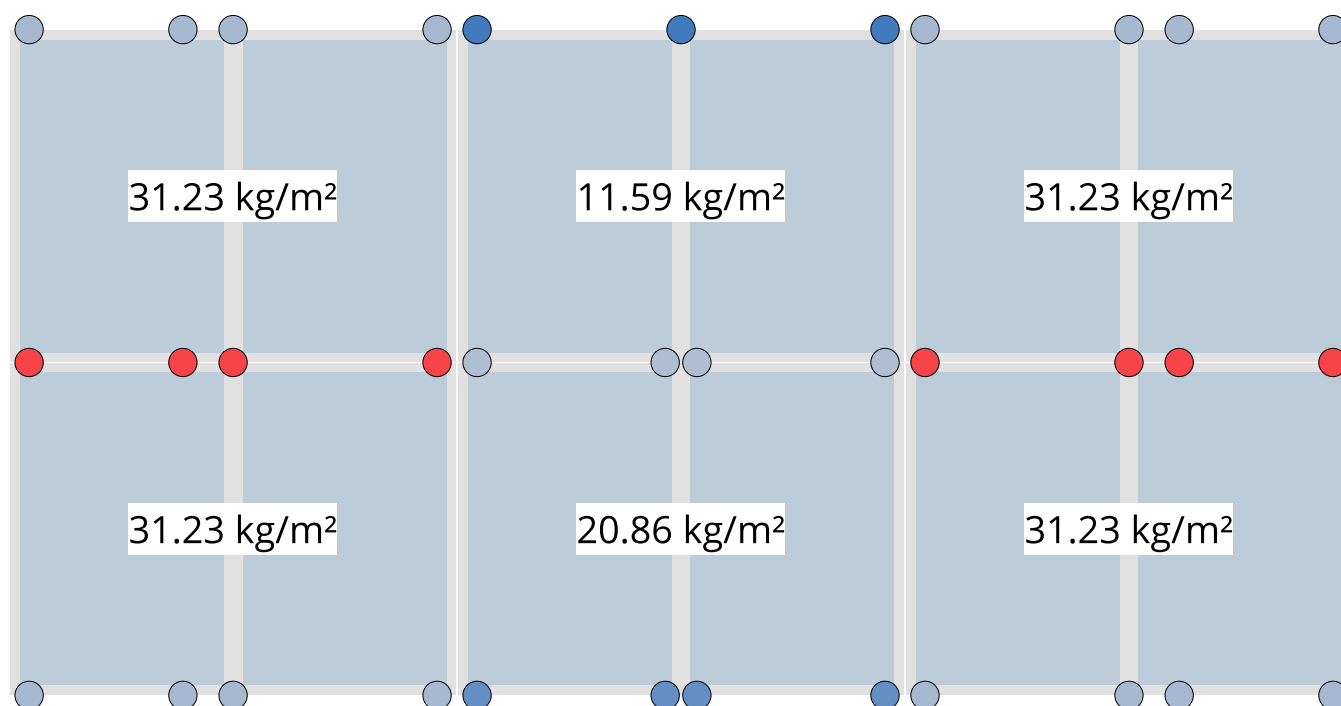


Roof loads for segment 14, 16

Total weight	672.37 kg
Total ballast weight	356.0 kg
Total system weight	64.37 kg
Total panel weight	252.0 kg
System area (projected area)	25.54 m ²
Average roof load over system area	26.33 kg/m ²
Max static point load (at base plate)	18.43 kPa*, 33.2 kg/base plate
Max dynamic point load (at base plate)	60.16 kPa*, 108.37 kg/base plate

* Irregularities in the roof can cause deviating point pressures

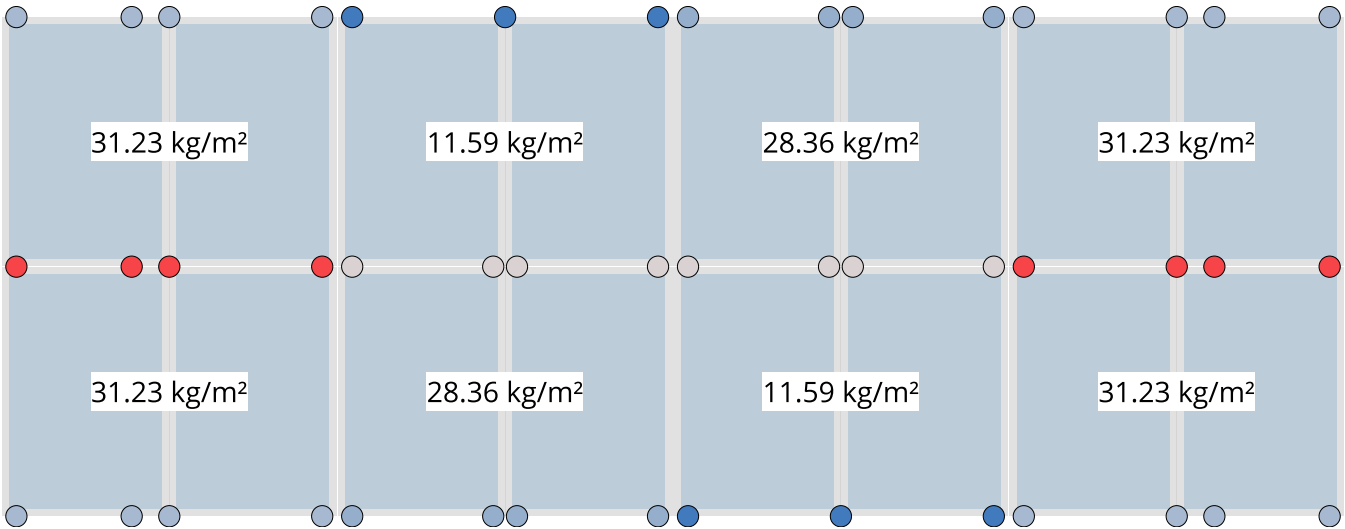
4.57 kPa  18.43 kPa



Roof loads for segment 15

Total weight	875.44 kg
Total ballast weight	456.0 kg
Total system weight	83.44 kg
Total panel weight	336.0 kg
System area (projected area)	34.07 m²
Average roof load over system area	25.7 kg/m²
Max static point load (at base plate)	18.43 kPa*, 33.2 kg/base plate
Max dynamic point load (at base plate)	60.16 kPa*, 108.37 kg/base plate

* Irregularities in the roof can cause deviating point pressures

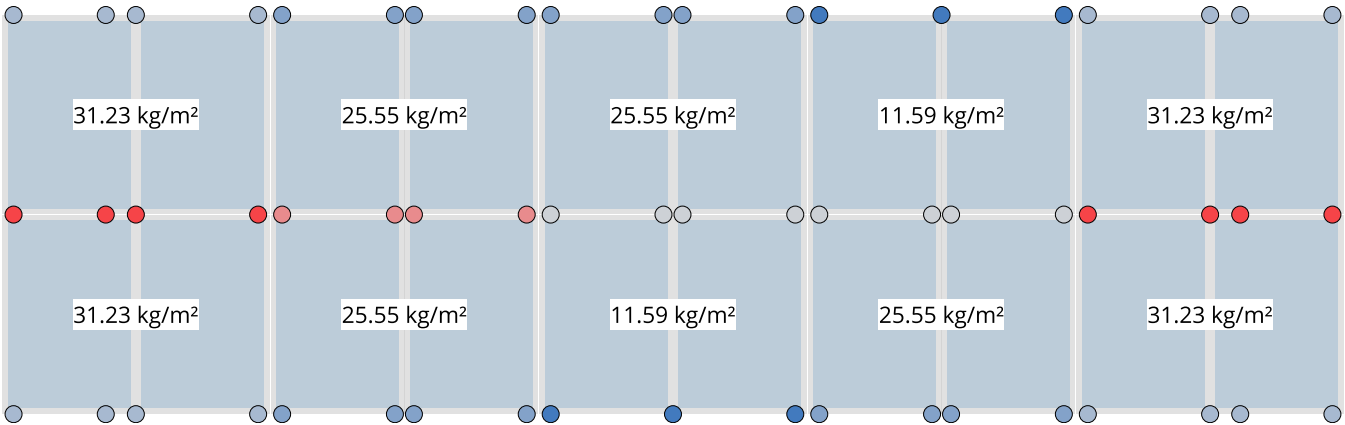


Roof loads for segment 17

Total weight	1,070.08 kg
Total ballast weight	544.0 kg
Total system weight	106.08 kg
Total panel weight	420.0 kg
System area (projected area)	42.59 m ²
Average roof load over system area	25.12 kg/m ²
Max static point load (at base plate)	18.43 kPa*, 33.2 kg/base plate
Max dynamic point load (at base plate)	60.16 kPa*, 108.37 kg/base plate

* Irregularities in the roof can cause deviating point pressures

4.57 kPa  18.43 kPa



Disclaimer

Please read this information carefully before starting with the design and installation of the PV system.

The output for the design of the PV system is generated by using the calculator tool made available through the website of Enstall Europe B.V. ("Enstall") at www.enstall.com (the "Calculator"). The responsibility for the correct application of the output derived from the Calculator lies with the user of the Calculator and/or the installer or any other person responsible for the installation of the PV system, which output may be subject to or impacted by many different variables and factors. The installation of a PV system onto an existing building can for example impact the existing building loads (e.g., as a result of snow and wind) or the building construction. To avoid personal injury and/or property damages, the installer or any other person responsible for the installation of a PV system should ensure that the static calculations applicable to the existing building are reviewed and confirmed beforehand by a qualified technician. Any applicable regulations, including (but not limited to) NEN 7250, EN 1990, EN 1991-1-3, EN 1991-1-4 and relevant national annexes, should be observed and adhered to. Failure to obtain such confirmation or observe and adhere to applicable regulations may, amongst others, lead to failure of the roof load-bearing structure of the building. It is advisable to consult with the insurer of the building in case of the intention to install a PV system or in case of any other intended changes to the building.

The installer or any other person responsible for the installation of a PV system should also consider, confirm or control applicable design elements which include (but are not limited to):

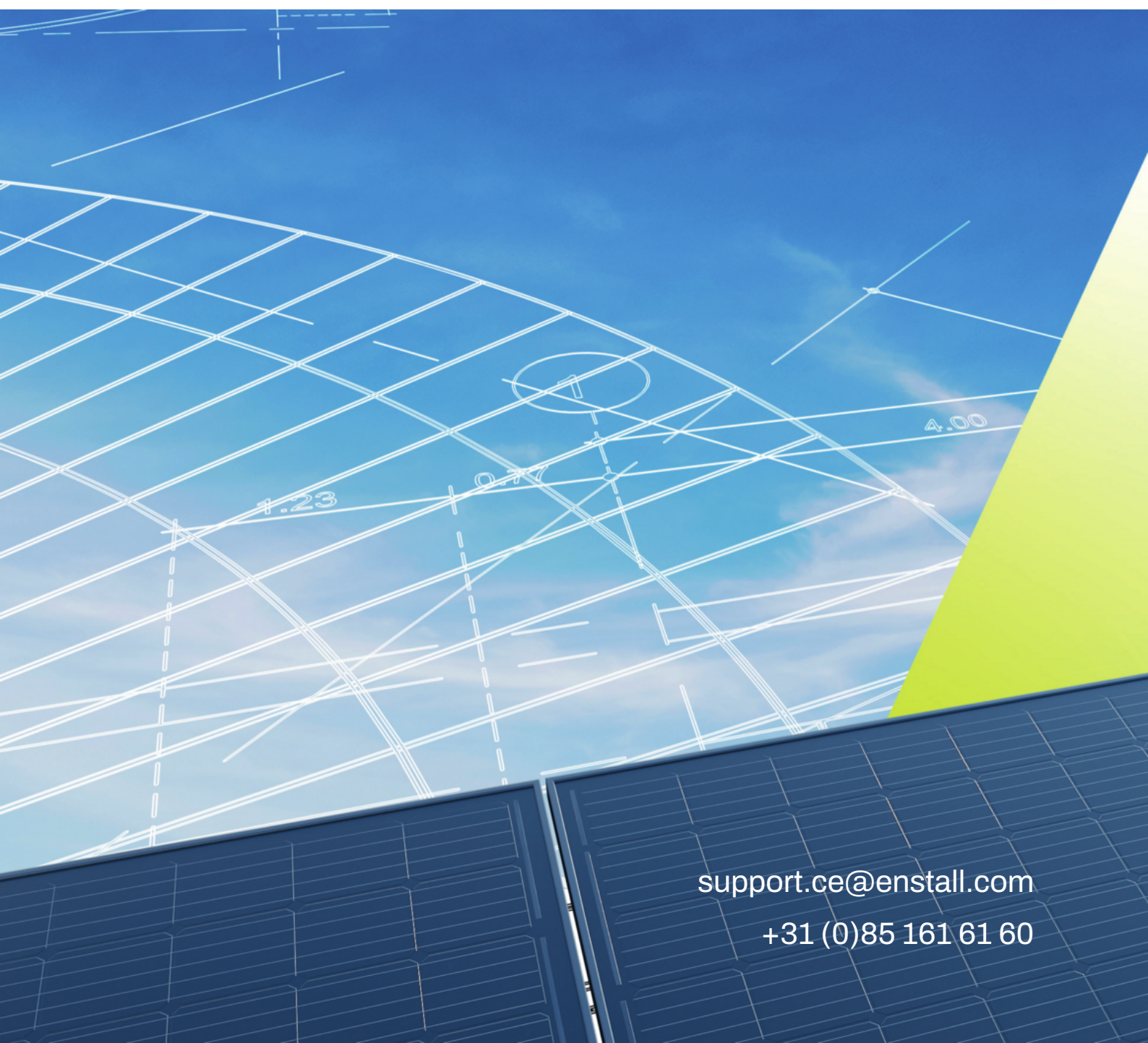
- a. changes as a result of the additional weight of the complete PV system on the building;
- b. changes as a result of the changed geometry of the building's roof;
- c. changes as a result of the dynamic wind pressure and possible accumulation of rain or any other precipitation on the building;
- d. the loads occurring during installation on the building, roofing material and insulation;
- e. the compatibility of the insulation and roofing material at the location of the contact points of the long-term PV-system's support structure, as a result of the pressure point;
- f. the compatibility of the roofing material in combination with the support structure at the location of the contact points;
- g. the effect of thermal performance of the building on the PV system and vice versa; and/or
- h. the effect of any movement and vibrations of the roof on the PV system and vice versa.

In addition, the installer or any other person responsible for the installation of a PV system should confirm the compatibility of any third party products, components or materials (including PV panels) used in conjunction with Enstall's products, if such third party products, components or materials have not been provided for such use by or on behalf of Enstall or the use of which has not been expressly authorized by Enstall. Reference to a third party product in the Calculator should not be deemed an express or implied authorization by Enstall. Enstall's products should always be used in accordance with instructions set out in the most recent version of the applicable manual, available via www.enstall.com.

Prices in the Calculator are indicative and are subject to change resulting from, amongst others, fluctuations in commodity prices.

To generate output from the Calculator Enstall relies solely on the input and information that was submitted by the user of the Calculator. Enstall is under no obligation to confirm or verify such input or information. Enstall assumes no responsibility or liability of any kind in relation to, or resulting from, such input and/or information, and/or any risks, consequences or damages (including, but not limited to, indirect or consequential losses) resulting from incorrect, inaccurate, or incomplete input and/or information that was submitted through the Calculator or resulting from the improper use of Enstall's products. Any such responsibilities and liabilities are solely for the account of the user of the Calculator and/or any other person responsible for the installation of a PV system, as applicable.

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