

ValkPVplanner

Project report



UT Power

Project name : Senate House
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► Location information

Project	: Senate House
Project location	: Malet St, Bloomsbury, London WC1E 7HZ, UK
Terrain category	: Town
High neighbouring	: no
Wind area	: 22 m/s
Snow zone	: 0.5kN/m ²
Altitude above sea	: 27 m
Distance to shore	: 50 km
Distance to edge of the city	: 11 km

► Project overview

Building	No. of panels	Power [kWp]	System type	No. of tiles (30x30x4,5cm; 9 kg)*	No. of tiles (30x15x4,5cm; 4,5 kg)*	weight of mounting system [kg]	Weight of the ballast [kg]
Building 1	184	49,68				1.848	2.147
Building 1 - Area 1 - Default Subarea 1	184	49,68	ValkPro+	162	153	1.848	2.147
Total project	184	49,68		162	153	1.848	2.147

Tiles are included in all flat roof systems for this project

Note: the results in this project report can be based on default values. So please check if all values are correct.

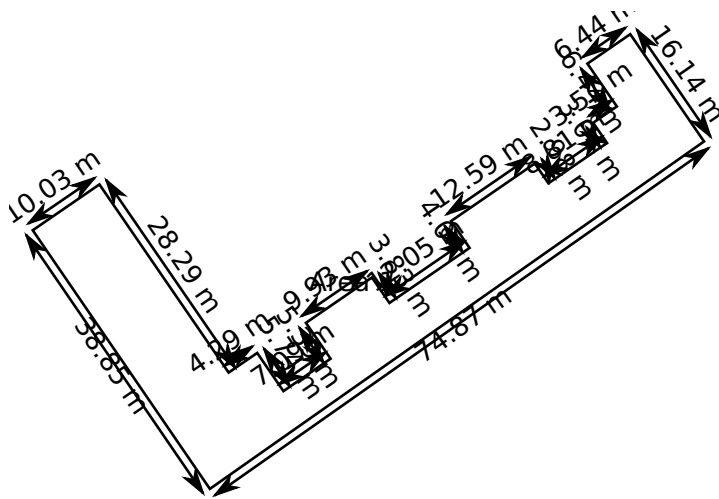
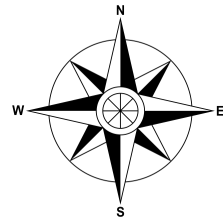
Bill of Materials total project

Article no.	Description	Package Qty.	Building 1	Total
729625	Rubber tile carrier 250x75x90mm for ValkPro+	25	316	316
741801500	Galv roof carrier L=1500x1,5mm + coupling 87mm	100	224	224
7506301545G	Tile 30 x 15 x 4,5cm - 4,5kg - English stock	120	153	153
7506303045G	Tile 30 x 30 x 4,5cm - 9kg - English stock	60	162	162
774221	Ss hammerhead bolt M8x20mm + washer + lock nut	100	270	270
724650	Alu rear foot ValkPro+ middle	25	144	144
724651	Alu rear foot ValkPro+ side	25	80	80
724660	Alu front foot ValkPro+ middle	25	144	144
724661	Alu front foot ValkPro+ side	25	80	80
742510	Galv back panel ValkPro+ L=1760mm (panel length 1559-1700mm)	50	184	184
742550	Galv mass carrier ValkPro+ L=1759mm (panel length 1559-1700mm)	100	140	140
773320	Ss thread-forming bolt M6x20mm - T30	100	446	446
742531	Galv side panel right ValkPro+	100	36	36
742530	Galv side panel left ValkPro+	100	38	38

The bill of materials shown in this page apply to materials needed for the total project and is also divided per building.
The bill of materials per roof area(s) can be found in the different chapters of this user manual.

This drawing shows all the buildings of the total project including the different roof areas.

► Building 1



► Building information

Building name : Building 1
Gutter height : 15,00 m

► Roof information

Roof type : Flat
Roof material : Bitumen
Gravel present : No

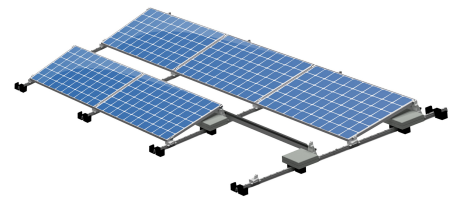
► System information

No. of panels south wall : 184
Module : BYD Poly 270 1.645 x 0.992 x 0.035
Panel weight : 18,70 Kg
Module orientation : Landscape
Edge zone calculated : 3,00 m
Edge zone adjusted : 0,00 m
System choice : valkPro+
System color : aluminium
Panel inclination : 10
Azimuth : 145
Foundation type : tileCarrier
Include side panel : No



► System type

ValkPro+



► Weight information

Weight of panels	: 3.440,80 kg
Weight of mounting system	: 1.847,12 kg
Weight of ballast	: 2.146,50 kg
Total weight	: 7.434,42 kg
Subarea dimension	: 962,19 m ²
System dimension	: 457,06 m ²

► Roof loadings

Roof load based on subarea dimension	: 7,73 kg/m ²
Roof load based on system dimension	: 16,27 kg/m ²
Point load max (max ballasted points)	: 23 kPa
Point load min (min ballasted points)	: 15 kPa

Bill of materials |

Building 1 - Area 1 - Default Subarea 1

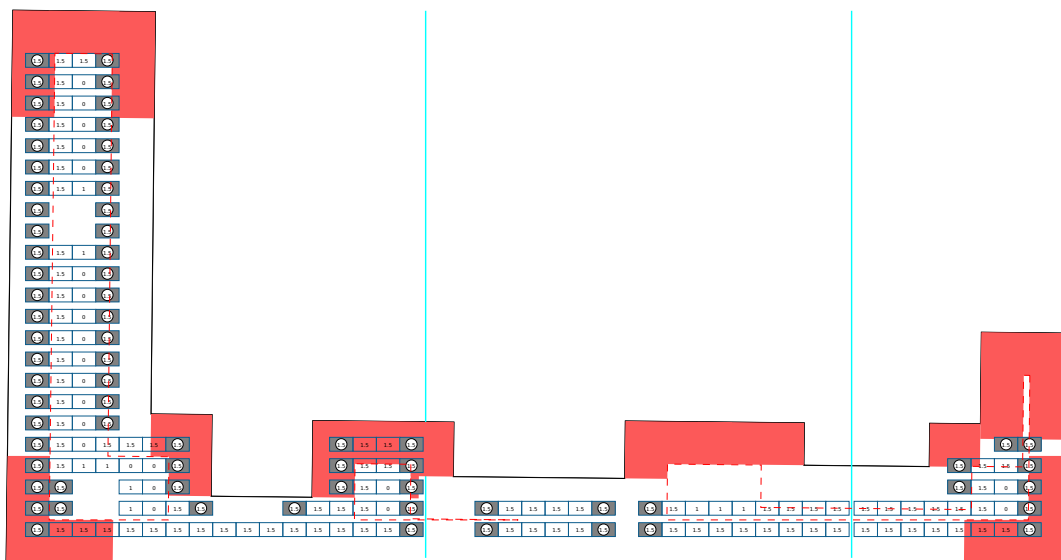
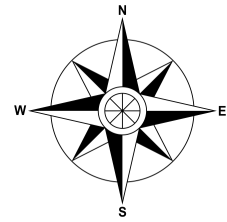
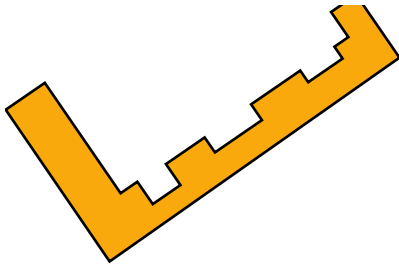
1.1.1

Project Report
ValkPVplanner



The bill of materials shown in this page apply to materials needed for Building 1 - Area 1 - Default Subarea 1

Article no.	Description	Pack qty.	Calc qty.	Extra qty.	Total qty.	Total weight
729625	Rubber tile carrier 250x75x90mm for ValkPro+	25	316	0	316	221,20
741801500	Galv roof carrier L=1500x1,5mm + coupling 87mm	100	224	0	224	575,68
7506301545G	Tile 30 x 15 x 4,5cm - 4,5kg - English stock	120	153	0	153	688,50
7506303045G	Tile 30 x 30 x 4,5cm - 9kg - English stock	60	162	0	162	1.458,00
774221	Ss hammerhead bolt M8x20mm + washer + lock nut	100	270	0	270	7,02
724650	Alu rear foot ValkPro+ middle	25	144	0	144	59,47
724651	Alu rear foot ValkPro+ side	25	80	0	80	35,28
724660	Alu front foot ValkPro+ middle	25	144	0	144	35,71
724661	Alu front foot ValkPro+ side	25	80	0	80	22,00
742510	Galv back panel ValkPro+ L=1760mm (panel length 1559-1700mm)	50	184	0	184	485,94
742550	Galv mass carrier ValkPro+ L=1759mm (panel length 1559-1700mm)	100	140	0	140	305,20
773320	Ss thread-forming bolt M6x20mm - T30	100	446	0	446	2,68
742531	Galv side panel right ValkPro+	100	36	0	36	47,16
742530	Galv side panel left ValkPro+	100	38	0	38	49,78
Total Weight						3.993,62 kg



No. of tiles	Type of foundation
(X)	Panels with mass carriers Number represents FULL tiles.
(X)	Panels with side panels and mass carriers Number represents FULL tiles.
(X)	Panels with side panels Number represents HALF tiles. Use HALF tiles only.

1 tile = 30 x 30 x 4.5 cm | 9 kg
0.5 tile = 30 x 15 x 4.5 | 4.5 kg

--- Edge zone calculated: 3,00 m

█ Edge zone adjusted: 0,00 m

Attention! When placing ballast work from the outside edges of a row towards the middle. It is possible for one roof carrier in the middle of the row to have no ballast on it.

Calculations made by the ValkPVplanner are according the underneath codes and assure the right strength for pitched roof and flat roof mounting systems and sufficient ballast for flat roof systems.

The pitched roof clamp systems are MCS012 approved (MCS BBA 0159).

- NEN-EN 1990 (Structural desing)
- BS-EN 1990 (Structural design)
- IS-EN 1990 (Structural design)
- SFS-EN 1990 (Structural design)
- NBN-EN 1990 (Structural design)
- SS-EN 1990 (Structural design)
- NS-EN 1990 (Structural design)

- NEN-EN 1990-1-3 (Snowload)
- BS-EN 1990-1-3 (Snowload)
- IS-EN 1990-1-3 (Snowload)
- SFS-EN 1990-1-3 (Snowload)
- NBN-EN 1990-1-3 (Snowload)
- SS-EN 1990-1-3 (Snowload)
- NS-EN 1990-1-3 (Snowload)

- NEN-EN 1990-1-4 (Windload)
- BS-EN 1990-1-4 (Windload)
- IS-EN 1990-1-4 (Windload)
- SFS-EN 1990-1-4 (Windload)
- NBN-EN 1990-1-4 (Windload)
- SS-EN 1990-1-4 (Windload)
- NS-EN 1990-1-4 (Windload)

- NEN 7250 (Flat roof Solar systems)
- NVN 7250 (Flat roof Solar systems)
- NEN 7250 (Pitched roof solar systems)

► Default values

- The results in this project report can be based on default values. So please check if all values are correct.

► Safety instructions

- This user manual must be seen in addition to the installation manual which shows you how to install the solar mounting system.
- The instructions provided in this user manual must be observed at all times.
- All current structural, safety and building regulations must be observed.
- Van der Valk Solar Systems B.V. will never be liable for any direct and/or indirect intangible or consequential loss ensuing from connected to the failure to observe the instructions provided in this.
- Solar mounting systems installed on roofs will be exposed to wind and snow. The building in question will be subject to a load as a result of the PV system. A design calculation must be used to establish whether or not the building, will be able to withstand the extra load. Where necessary, modifications need to be made.
- Flat roof systems can be attached to the roof or need to be supported by ballast, to make sure that the system is unable to lift or tip over. The ballast specified in this user manual will be vital to ensure that the mounting system can be used
- Flat roof systems with an angle above 5 degrees must be attached to the roof.
- The calculations do not take into account obstacles in the near surrounding like high buildings, cliffs and mountains.
- Restrictions also apply for the position of the system on a roof. The solar panels must be installed at a certain distance from edge of the roof shown in this user manual.

► Guarantee

- Standard warranty for pitched roof, flat roof and ground mount systems is 10 years. This can be extended under certain conditions.
- The guarantee provided is subject to the guarantee conditions stated in the general terms and conditions supplied by Van der Solar Systems BV. Our terms and conditions can be found on our website: www.valksolarsystems.nl.

► Disclaimer

- For the disclaimer of the ValkPVplanner visit our website: www.valksolarsystems.nl.

► Contact

- If you have any questions about the ValkPVplanner, this project report or any other outcome don't hesitate to contact the Van der Valk Solar Systems team.