ValkPVplanner

Project report

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United Kingdom of Great Britain and Northern Ireland
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Project name	: WEL18426-Beazer,Box Tractor
Date (modified)	: 03-08-2023
Time (modified)	: 08:29
Company	: Waxman Energy Ltd
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Version ValkPVplanner	: 2.16.73

Index

Overview total project

- Location information / Project overview 03
- Bill of Materials - Total project 04
- Drawing total project 05

Building 1 - Area 1 - Default Subarea 1

- Information | Building 1 - Area 1 - Default Subarea 1 06
- Strength calculations | Building 1 - Area 1 - Default Subarea 1 07
- Bill of Materials | Building 1 - Area 1 - Default Subarea 1 08
- Drawing | Building 1 - Area 1 - Default Subarea 1 09

Regulations 11

Safety instructions | Warranty 13

Location information

Project	: WEL18426-Beazer,Box Tractor
Project location	: Box, Corsham SN13 8NJ, UK
Terrain category	: Country
High neighbouring	: No
Wind area	: 22 m/s
Snow zone	: 0.4 kN/m²
Altitude above sea	: 53 m
Distance to shore line	: 51 km
Peak wind pressure	: 636,26 N/m²
Snow load	: 230,57 N/m²

Project overview

Building	No. of PV-panels	Power [kWp]	System type	Weight of mounting system [kg]
Building 1	**6**	**2,52**		**4**
Building 1 - Area 1 - Default Subarea 1	6	2,52	ValkPitched - Trapezoidal	4
Total project	**6**	**2,52**		**3**

Notes: The results in this project report can be based on default values. Please check if all values are correct.

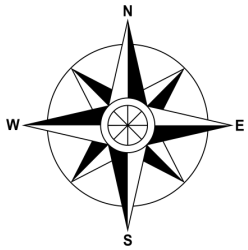
Bill of Materials - Total project

Article no.	Description	Package Qty.	Building 1	Total
721550ZW	Alu mid clamp alu profile black	150	8	8
721552ZW	Alu endclamp alu profile 28-50mm - black	100	8	8
773225	Ss thin sheet screw M6x25mm	100	32	32
7269120	Alu trapezoidal profile L=120mm + EPDM	100	16	16

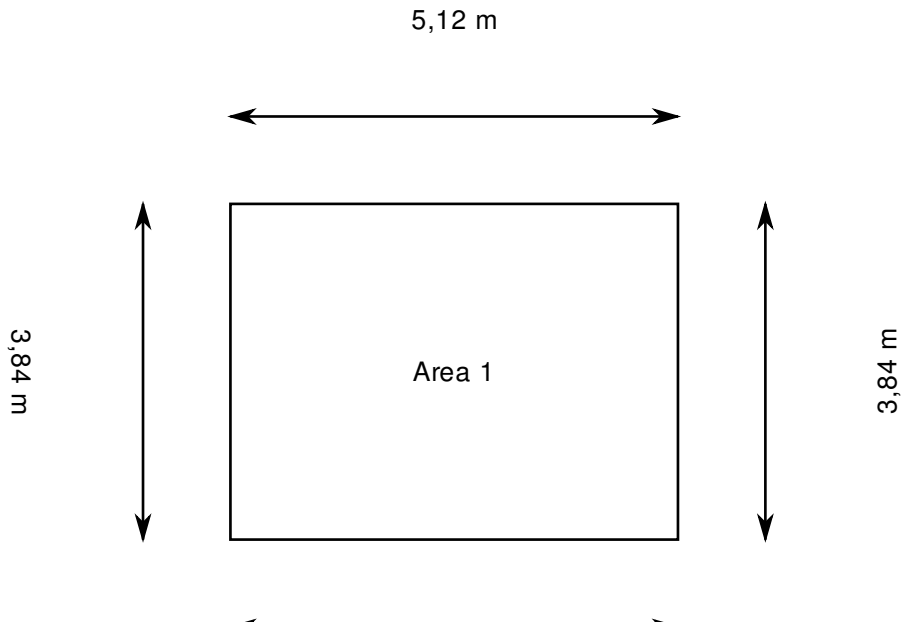
The bill of materials shown on this page, refer to the materials needed for the total project.
The Bill of Materials per individual roof area can be found in the dedicated chapters of this user manual.

Drawing total project

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



Building 1



Building information

Building name	: Building 1
Roof inclination	: 25 degrees
Ridge height	: 3 m

Roof information



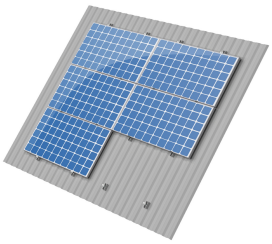
Roof type	: Pent
Roof material	: Trapezoidal
CTC distance roof crowns	: 333 mm

System information

No. of panels south wall	: 6
Module	: Trina 420 DE09R.08 1.762 x 1.134 x 0.030
Panel weight	: 22,00 Kg
Module orientation	: Landscape
Edge zone calculated	: 0,50 m
Edge zone adjusted	: 0,00 m
System choice	: Clamp
System colour	: Semi-black
Fasteners	: Screws

System type

ValkPitched - Trapezoidal



Weight information

Weight of panels	:	132,00 kg
Weight of mounting system	:	3,36 kg
Total weight	:	135,36 kg

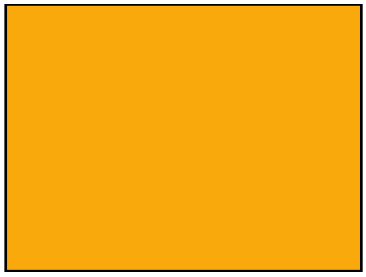
System dimensions

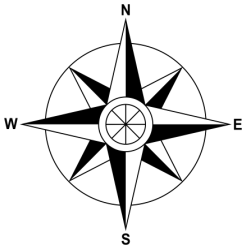
Subarea dimensions	:	19,66 m²
System dimensions	:	12,05 m²

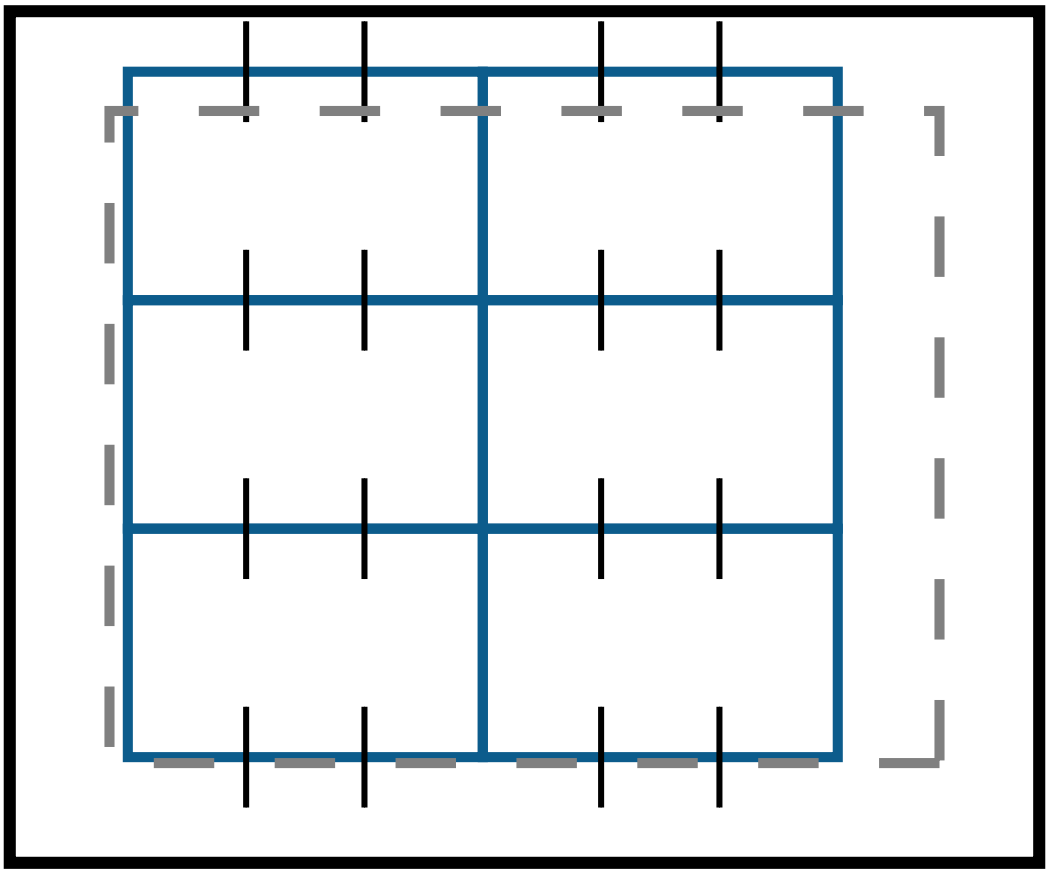
The bill of materials shown in this page apply to materials needed for Building 1 - Area 1 - Default Subarea 1

Article no.	Description	Package Qty.	Calc. Qty.	Extra Qty.	Total Qty.	Total weight
721550ZW	Alu mid clamp alu profile black	150	8	0	8	0,43
721552ZW	Alu endclamp alu profile 28-50mm - black	100	8	0	8	0,60
773225	Ss thin sheet screw M6x25mm	100	32	0	32	0,22
7269120	Alu trapezoidal profile L=120mm + EPDM	100	16	0	16	2,11
Total weight						**3,36 kg**









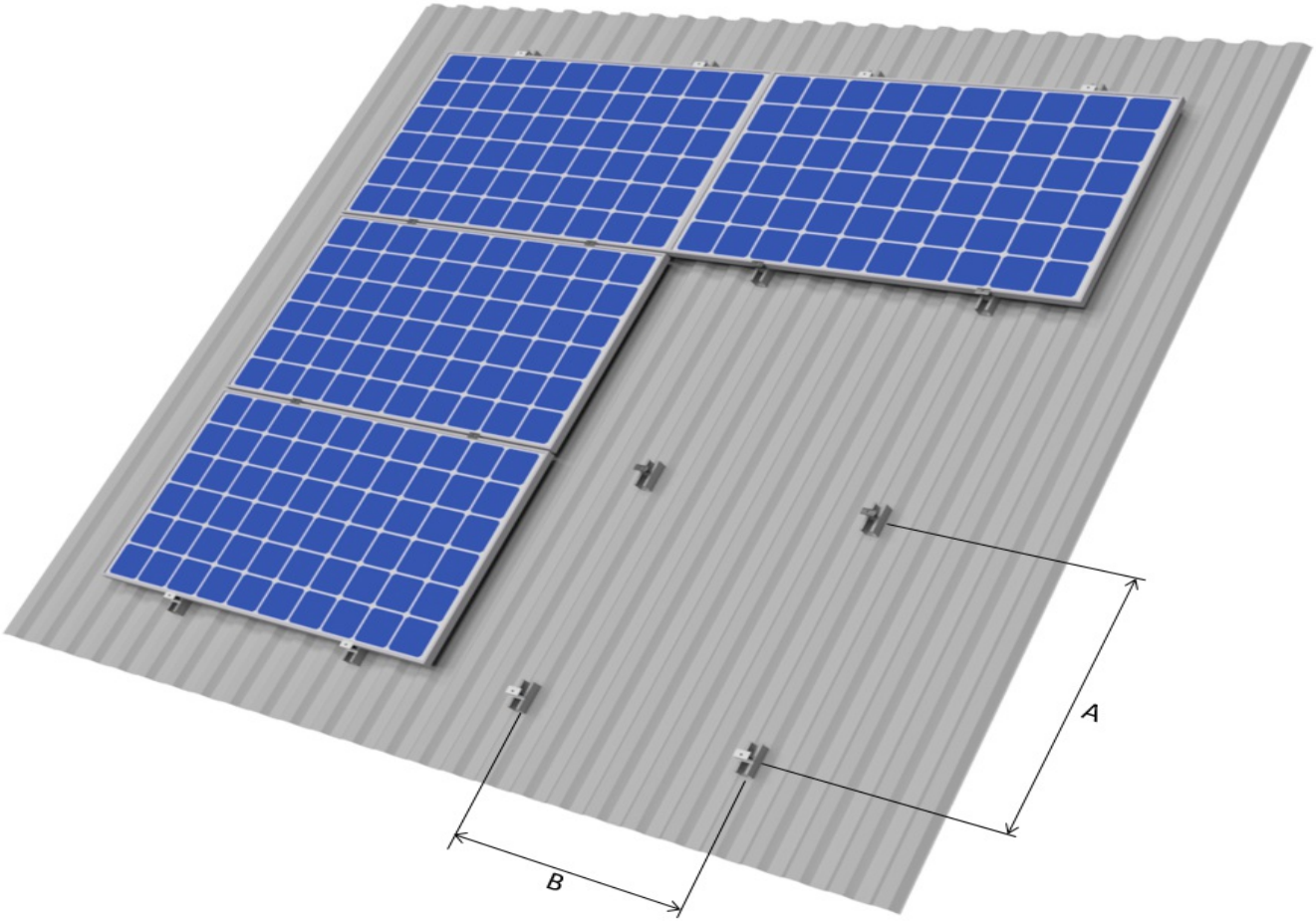
Trapezoidal profile 120mm

Type	Explanation	Image
	Grey coloured panel Profiles mounted with 4 screws / rivets each	
	White coloured panel Profiles mounted with 2 screws / rivets each	

Edge zone calculated: 0,50 m

Edge zone adjusted: 0,00 m

Dilatation line



Dimension type	Value
Dimension A Vertical C.T.C. distance between the profiles	1144 mm
Dimension B Horizontal C.T.C. distance between the profiles	979 mm

This image shows a standard set-up of a landscape - short system, to indicate where the dimensions in the table are referring to.

Regulations

All solar mounting systems of Van der Valk Solar Systems have been designed, calculated and manufactured according to Eurocodes and NEN 7250 regulations and its derivatives (listed below). These regulations have been used for the calculations in the Project Report. Van der Valk Solar Systems meets the applicable CE requirements regarding 2001/95/EG product safety and the applicable sections of BRL9931, components for solar systems. Van der Valk Solar Systems pitched roof clamp systems are MCS012 approved (MCS BBA 0159).

- **EN 1990 Base of Structural design**
  National Annexes:
  - BS EN 1990:2002+A1:2005
  - DIN EN 1990/NA/A1
  - IS-EN 1990:2002+A1:2005
  - NBN EN 1990 ANB
  - NEN-EN 1990+A1+A1/C2/NB
  - NS-EN 1990:2002/NA:2008+A1:2010
  - PN-EN 1990:2004/NA
  - SFS-EN 1990/A1/AC
  - SS-EN 1990/A1:2005/AC:2010
- **EN 1991-1-3 Actions on structures / Snow load**
  National Annexes:
  - BS-EN 1990-1-3:2003
  - DIN EN 1991-1-3/NA
  - IS-EN 1991-1-3:2003
  - NBN EN 1991-1-3 ANB
  - NEN-EN 1991-1-3:2003
  - NS-EN 1991-1-3:2003/NA:2008
  - PN-EN 1991-1-3:2005/NA
  - SFS-EN 1991-1-3/AC
  - SS-EN 1991-1-3/A1:2015
- **EN 1991-1-4 Actions on structures / Wind load**
  National Annexes:
  - BS EN 1991-1-4:2005+A1:2010
  - DIN EN 1991-1-4/NA
  - IS-EN 1991-1-4:2005/NA:2013
  - NBN EN 1991-1-4 ANB
  - NEN-EN 1991-1-4:2005
  - NS-EN 1991-1-4:2005/NA:2009
  - PN-EN 1991-1-4:2008/NA
  - SFS-EN 1991-1-4+AC+A1
  - SS-EN 1991-1-4:2005/AC:2010
- **EN 1993-1-1 Design of steel structures / Rules for buildings**
- **N 1993-1-3 Design of steel structures / Rules for cold formed members**
- **EN 1997 Geotechnical design**
- **EN 1998-1 Design of structures / Seismic actions**
- **EN 1999-1-1 Design of aluminium structures**
- **NEN 7250 Solar systems - Integration in roofs and facades**
- **2001/95/EG Product safety**
- **BRL9931 Components of solar systems**

Wind tunnel testing

Van der Valk Solar Systems have elaborated the results of wind tunnel studies in the product design and calculation tools for both flat and pitched roofs. The application and interpretation of the results have been checked thoroughly and match the assumption and findings as laid down in reports W15328-1ERA-002 (dated December 5th, 2016), W15328-2ERA-007 (dated September 9th, 2018) and W15328-3E-RA-003 (dated June 13th, 2018) for flat roofs and WA 15328-!E-RA-002 (dated December 22nd, 2016) for pitched roofs.

Default values

- This project report is based on the input and results of the online calculation tool ValkPVplanner. The results derived from this tool were calculated with the greatest possible care. Nonetheless, it is possible that some information might not be entirely correct as the results for each project report can be based on default values. Please check carefully if all values are correct.

Safety instructions

- This ValkPVplanner project report is complementary to the Valk Solar Systems installation manuals, which show how to install the Van der Valk solar mounting system.
- The instructions provided in this ValkPVplanner project report must be observed at all times.
- All structural, safety and building regulations currently applicable must be observed.
- Solar mounting systems installed on roofs can be exposed to wind and snow conditions. This will result in additional pressure load of the installed PV system on the roof and building. A design calculation must be used to establish whether or not the roof and building, will be able to withstand the extra pressure load. Where necessary, modifications need to be made.
- To prevent flat roof systems from moving, lift or tip over, the system needs to be either fixed to the roof or weighed-up by ballast. The ballast calculated in this project report is of critical importance to ensure that the mounting system can be placed and used safely on the roof(s) in subject for this project report.
- Flat roof systems placed on a roof with an inclination of 5 degrees or more must be fixed to the roof.
- Restrictions apply for the position of the solar system on a roof. The solar panels must be placed at a the recommended distance from the roof edge, as shown in this project report.

Warranty

- Standard warranty for pitched roof, flat roof and ground mount systems is 10 years. This can be extended under certain conditions.
- The warranty provided is subject to the warranty 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

- Van der Valk Solar Systems B.V. does not accept any liability for any direct and/or indirect consequences of any act (or omission) ensuing from the information or the failure to observe the instructions provided in this project report and the installation manual, nor for possible incorrect use of the ValkPVplanner by the customer.
- The calculations do not take into account obstacles in the near surrounding like high buildings, cliffs and mountains.
- For the full disclaimer of the ValkPVplanner, please visit our website.: www.valksolarsystems.nl.

Contact

- If you have any questions about the ValkPVplanner, calculation results or this project report: please contact the Van der Valk Solar Systems team.