

PMT PROJECT REPORT

SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL

SYSTEM SIZE: 2,403 KWP

3/3/2021 Responsible: dm



NEXT LEVEL
MOUNTING

CONTENTS

Project Data	3 - 3
Project Location - Google Maps	4 - 4

Building: Gebäude

Roof: Dach_1 Nord_REV08_EW90°gedreht

Roof substructure	5 - 5
PV-Module	6 - 6
Racking Parameter	7 - 7
Position	8 - 8
Disposition - Google Maps	9 - 9
Installation-Plan	10 - 10
Roof coordinates CAD	11 - 11
Roof coordinates	12 - 12
Static CAD	13 - 13
Elevation Parameter Additional Info	14 - 14

Building: Gebäude

Roof: Dach_1_SÜD_REV08

Roof substructure	15 - 15
PV-Module	16 - 16
Racking Parameter	17 - 17
Position	18 - 18

CONTENTS

Disposition - Google Maps	19 - 19
Installation-Plan	20 - 20
Roof coordinates CAD	21 - 21
Roof coordinates	22 - 22
Static CAD	23 - 23
Elevation Parameter Additional Info	24 - 24
Material list	25 - 27

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

MASTER DATA

Project Name	SolarPartners - Neele-Vat Maasvlakte B.V. - Rotterdam NL
Comment	
Planning Responsible	dm
Building: Gebäude (Amount Modules: 3684) Dach_1 Nord_REV08_EW90°gedreht	
Amount Modules	3684
System Size	1,639.38 kWp
Orientation [°]	69.42
Roofpitch [°]	1 °
Building: Gebäude (Amount Modules: 1716) Dach_1_SÜD_REV08	
Amount Modules	1716
System Size	763.62 kWp
Orientation [°]	160
Roofpitch [°]	1 °
Amount Modules Sum	5400
System Size Sum	2,403 kWp
Allocated Area	11,737.29 m²

PROJECT ADDRESS

Name	
Company	Neele-Vat Maasvlakte B.V. - Rotterdam NL
Street Address	Madoerastraat
Postal code	3199
City	Maasvlakte Rotterdam
Phone	
Email	
Notes	
Country	Netherlands
Latitude [°]	51.94356
Longitude [°]	4.01064
Altitude [m]	4

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

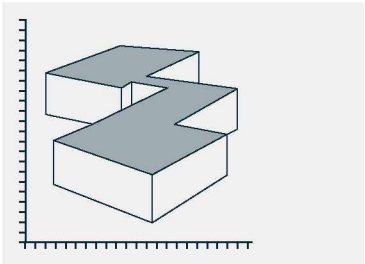
PROJECT LOCATION - GOOGLE MAPS



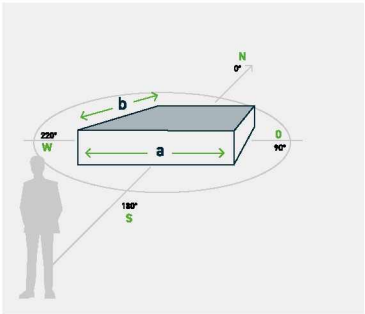
PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

ROOF [DACH_1 NORD_REV08_EW90°GEDREHT]

Building height h [mm]	14200
Slope of roof [°]	1
Roofing	Foil Roof
Product Type:	EVO 2.0 EastWest
System alignment [°]	69.42
Parapet height [mm]:	350
Parapet width [mm]:	350



Custom(Elev.)



System alignment [°]*

SNOW LOAD NEN-EN 1991-1-3 NB:2006

Snow load [kN/m²]* (si=μi*sk)	0.42
-------------------------------	------

WIND LOAD NEN-EN 1991-1-4 NB:2006

Wind load [kN/m²]	1.13
Building height h [mm]	14200
Wind zone (see wind zone map)	Area 2
Exposure Category	0
Reduction over useful life: (EN 1991-1-4, Attachment 4.2)	0.89
Reduction / Increase over reliability class: (EN 1990, Attachment D, Tab. B.1,2,3)	0.9

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

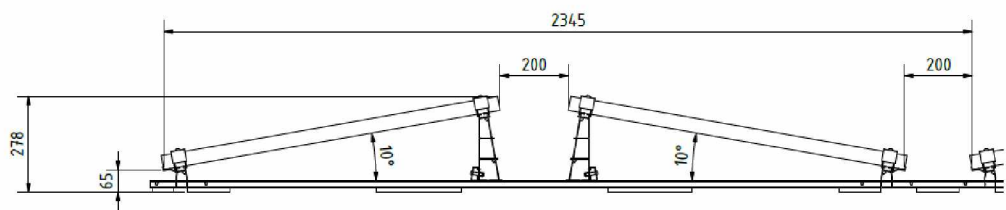
PV-MODULE [DACH_1 NORD_REV08_EW90°GEDREHT]

Manufacturer:	LONGI Solar
Name	LR4-72HPH-445M
Width [mm]:	1038
Height [mm]:	2094
Thickness [mm]:	35
Framing:	
Weight (kg)	23.5
Nominal Power [Watt]:	445
Module Type:	
Installation:	On Both Sides
Frame color	Aluminum
Temperature coefficient [%/°C]:	-0.35
Efficiency STC:	0.205
Output current MPP - STC [A]:	10.78
Output voltage MPP - STC [V]:	41.3
Short circuit current [A]:	11.53
Open circuit voltage [V]:	49.1
Temperature coefficient Current [%/K]:	0.048
Temperature coefficient Voltage [%/K]:	-0.27
Max. System voltage EU:	1500
Max module backcurrent [A]	20
Galvanic separation required:	No

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

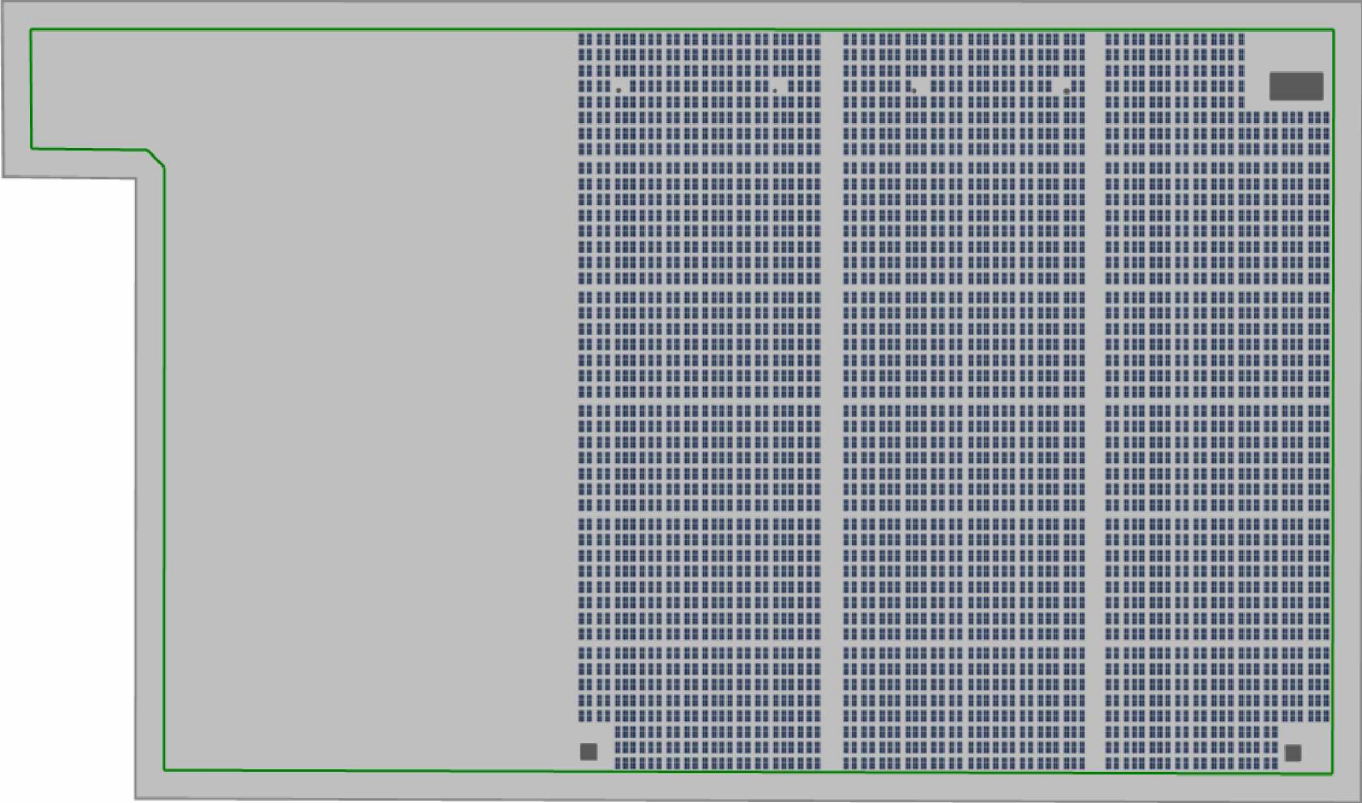
RACKING PARAMETER [DACH_1 NORD_REV08_EW90°GEDREHT]

Bracket tilt α [°]:	10
Inter-row spacing a [mm]:	200
Friction Constant μ	0.5
The default set-friction coefficient is 0.5 and checked by the installer / buyer (wet and dry test). If a lower friction coefficient is determined, it is mandatory to enter the value here, for the surcharge calculation! A higher value can be set to the maximum limit of 0.7 if it has been determined.	
Stone weight [kg]	15 kg
Distance to roof edge [mm]:	4000



PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL

POSITION [DACH_1 NORD_REV08_EW90°GEDREHT]



PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

DISPOSITION - GOOGLE MAPS [DACH_1 NORD_REV08_EW90°GEDREHT]



PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL

INSTALLATION-PLAN [DACH_1 NORD_REV08_EW90°GEDREHT]



**PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL**

ROOF COORDINATES [DACH_1 NORD_REV08_EW90°GEDREHT]



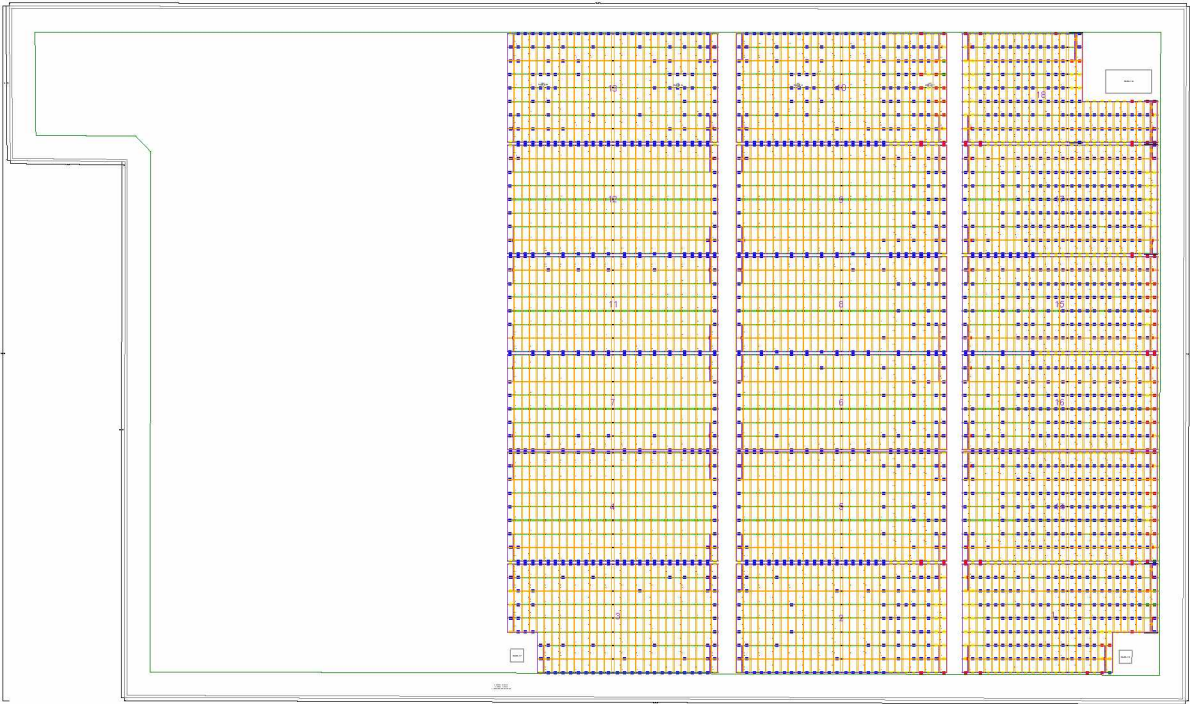
PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL

ROOF COORDINATES [DACH_1 NORD_REV08_EW90°GEDREHT]

Coordinate 0	X: 183397	Y: 108094	Z: 14200
Coordinate 1	X: 0	Y: 108181	Z: 14200
Coordinate 2	X: 173	Y: 84165	Z: 14200
Coordinate 3	X: 18032	Y: 83949	Z: 14200
Coordinate 4	X: 17957	Y: 542	Z: 14200
Coordinate 5	X: 183192	Y: 0	Z: 14200

**PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL**

STATIC INFORMATION: BALLASTING [DACH_1 NORD_REV08_EW90°GEDREHT]



PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

SUMMARY OF LOAD PARAMETERS [DACH_1 NORD_REV08_EW90°GEDREHT]

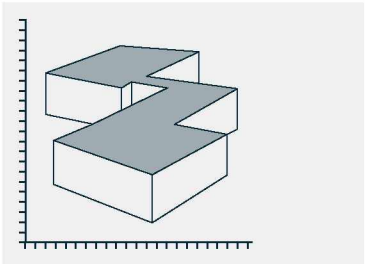
(EN 1991-1-4, Abschnitt 4.2)(nach EN 1990, Anhang D, Tab. B.1,2,3)

Snow load	0.42 kN/m ²
Wind load	1.13 kN/m ²
Reduction over useful life	0.89
Reduction over reliability class	0.9
Friction Constant μ	0.5
Factor of Safety for Uplift	1.5
Factor of Safety for Sliding	1.5
Load factor applied to Dead Load	0.9
Weight per ballast block	15 kg
Number of ballast blocks:	2600
System surface area	9,099.35 m ²
Roof area	18,261.59 m ²
Total ballast weight	39,000 kg
Weight Module/Rack	95,784 kg
Total System weight	134,784 kg
Surface load on system area	14.81 kg/m ²
Surface load on roof	7.38 kg/m ²
Average horizontal load	0.055 kN
Maximum horizontal load	0.09 kN
Total horizontal load	100.53 kN
Average horizontal load from the side	0.055 kN
Total horizontal load from the side	0.09 kN
Total horizontal load from the side per square meter	0.011 kN/m ²

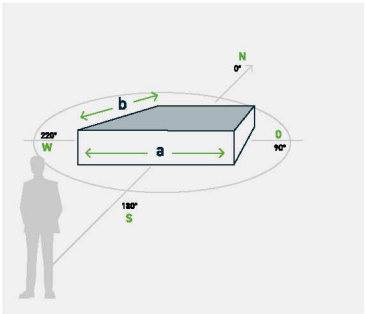
PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

ROOF [DACH_1_SÜD_REV08]

Building height h [mm]	14200
Slope of roof [°]	1
Roofing	Foil Roof
Product Type:	EVO 2.0 EastWest
System alignment [°]	160
Parapet height [mm]:	350
Parapet width [mm]:	350



Custom(Elev.)



System alignment [°]*

SNOW LOAD NEN-EN 1991-1-3 NB:2006

Snow load [kN/m²]* (si=µi*sk)	0.42
-------------------------------	------

WIND LOAD NEN-EN 1991-1-4 NB:2006

Wind load [kN/m²]	1.13
Building height h [mm]	14200
Wind zone (see wind zone map)	Area 2
Exposure Category	0
Reduction over useful life: (EN 1991-1-4, Attachment 4.2)	0.89
Reduction / Increase over reliability class: (EN 1990, Attachment D, Tab. B.1,2,3)	0.9

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

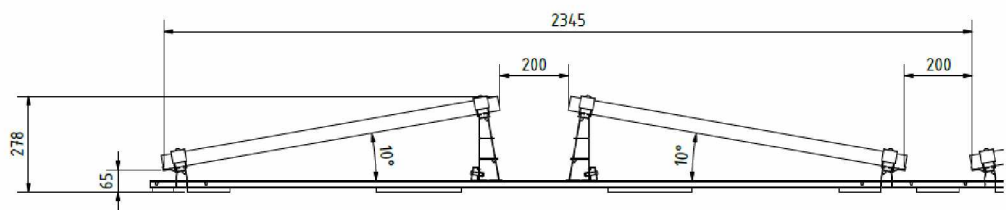
PV-MODULE [DACH_1_SÜD_REV08]

Manufacturer:	LONGI Solar
Name	LR4-72HPH-445M
Width [mm]:	1038
Height [mm]:	2094
Thickness [mm]:	35
Framing:	
Weight (kg)	23.5
Nominal Power [Watt]:	445
Module Type:	
Installation:	On Both Sides
Frame color	Aluminum
Temperature coefficient [%/°C]:	-0.35
Efficiency STC:	0.205
Output current MPP - STC [A]:	10.78
Output voltage MPP - STC [V]:	41.3
Short circuit current [A]:	11.53
Open circuit voltage [V]:	49.1
Temperature coefficient Current [%/K]:	0.048
Temperature coefficient Voltage [%/K]:	-0.27
Max. System voltage EU:	1500
Max module backcurrent [A]	20
Galvanic separation required:	No

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

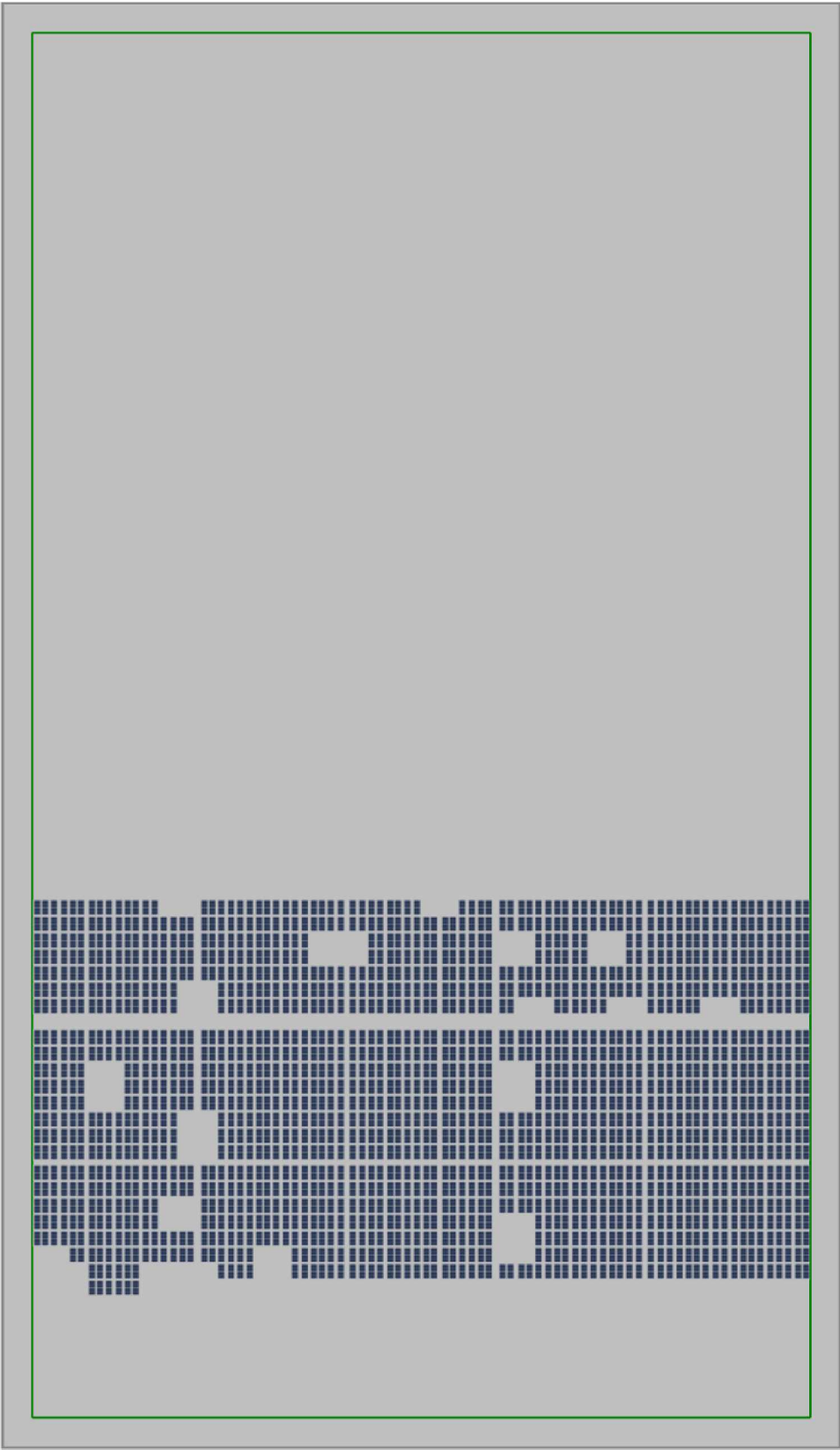
RACKING PARAMETER [DACH_1_SÜD_REV08]

Bracket tilt α [°]:	10
Inter-row spacing a [mm]:	200
Friction Constant μ	0.5
The default set-friction coefficient is 0.5 and checked by the installer / buyer (wet and dry test). If a lower friction coefficient is determined, it is mandatory to enter the value here, for the surcharge calculation! A higher value can be set to the maximum limit of 0.7 if it has been determined.	
Stone weight [kg]	15 kg
Distance to roof edge [mm]:	4000



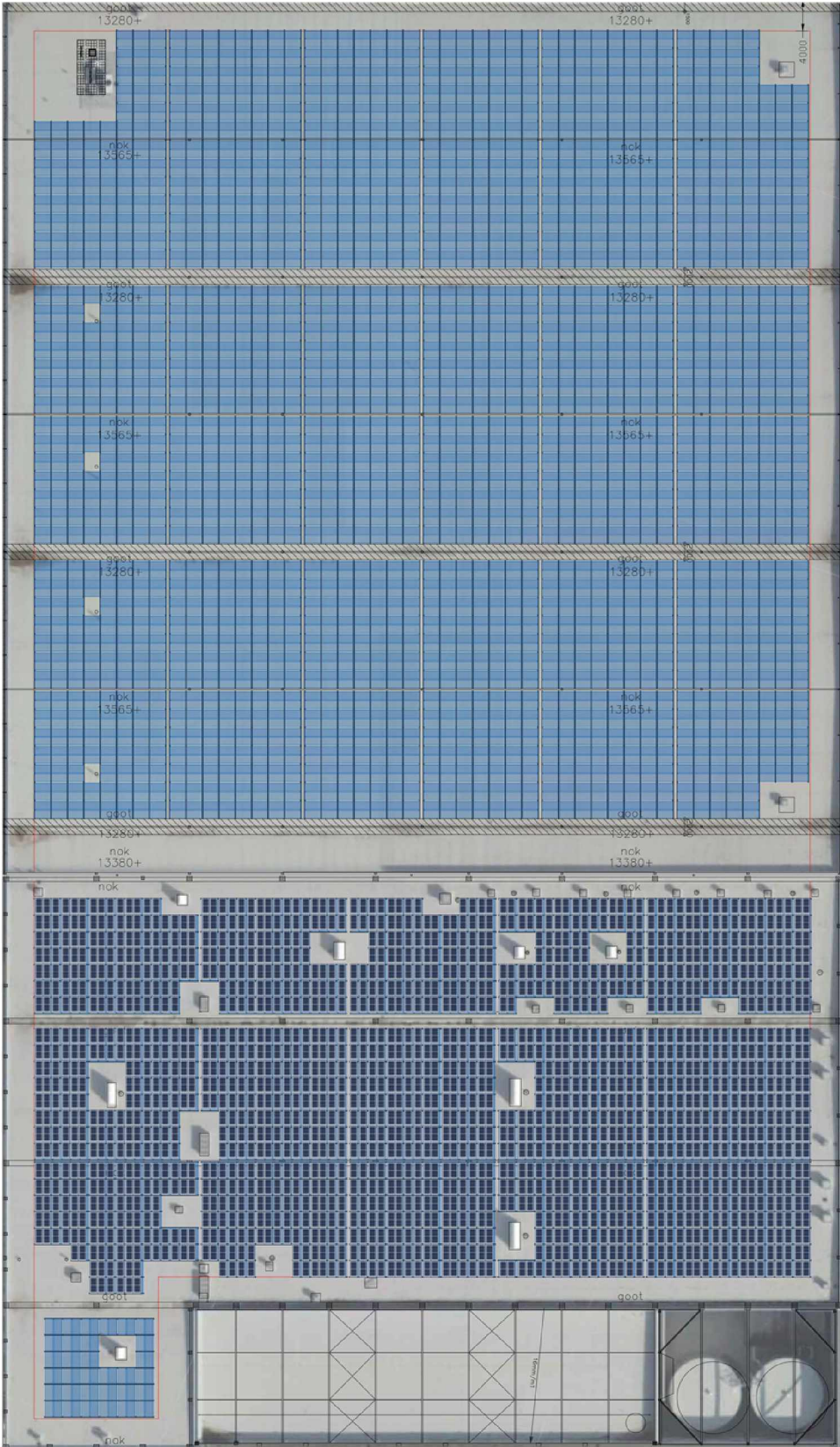
**PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL**

POSITION [DACH_1_SÜD_REV08]



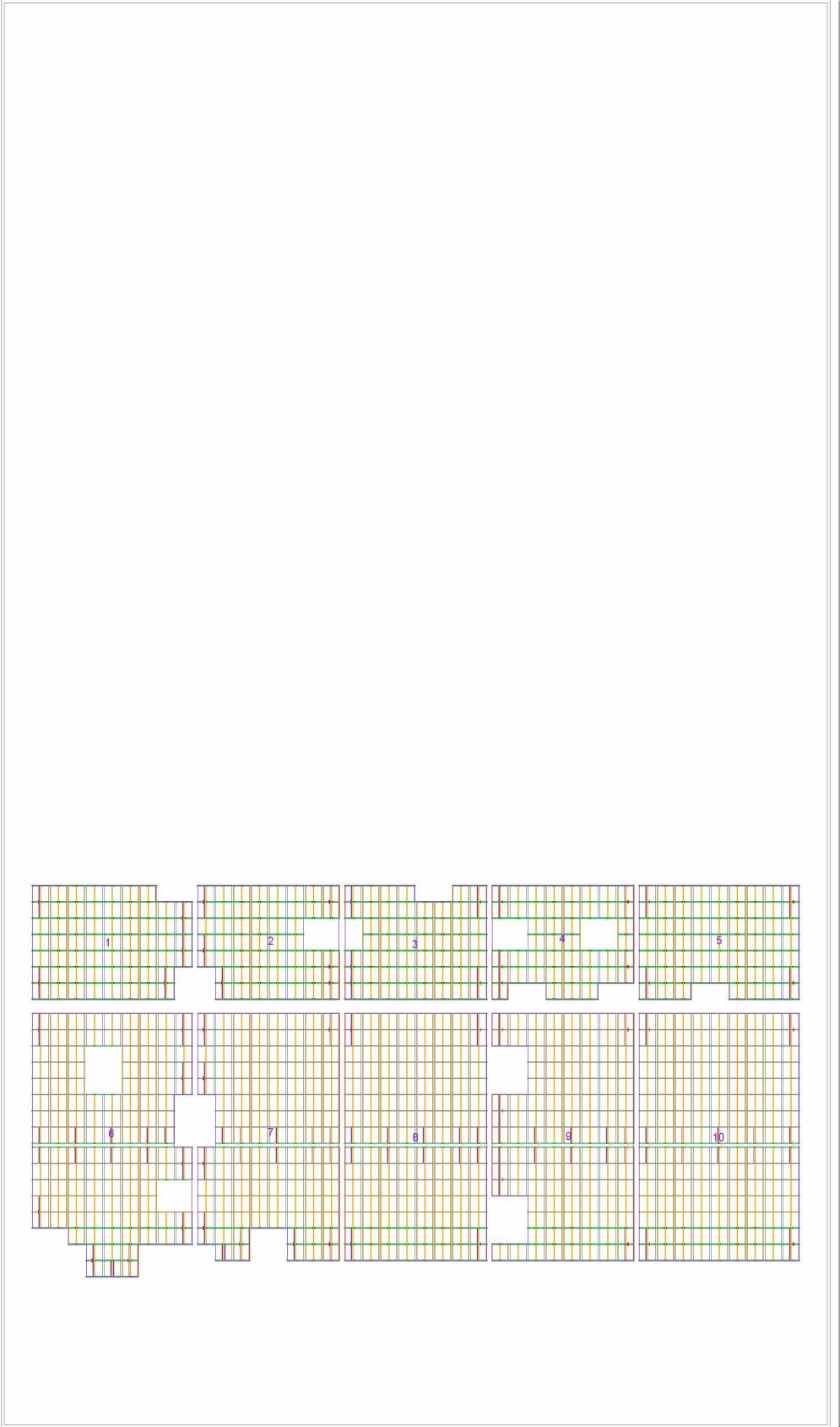
PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

DISPOSITION - GOOGLE MAPS [DACH_1_SÜD_REV08]



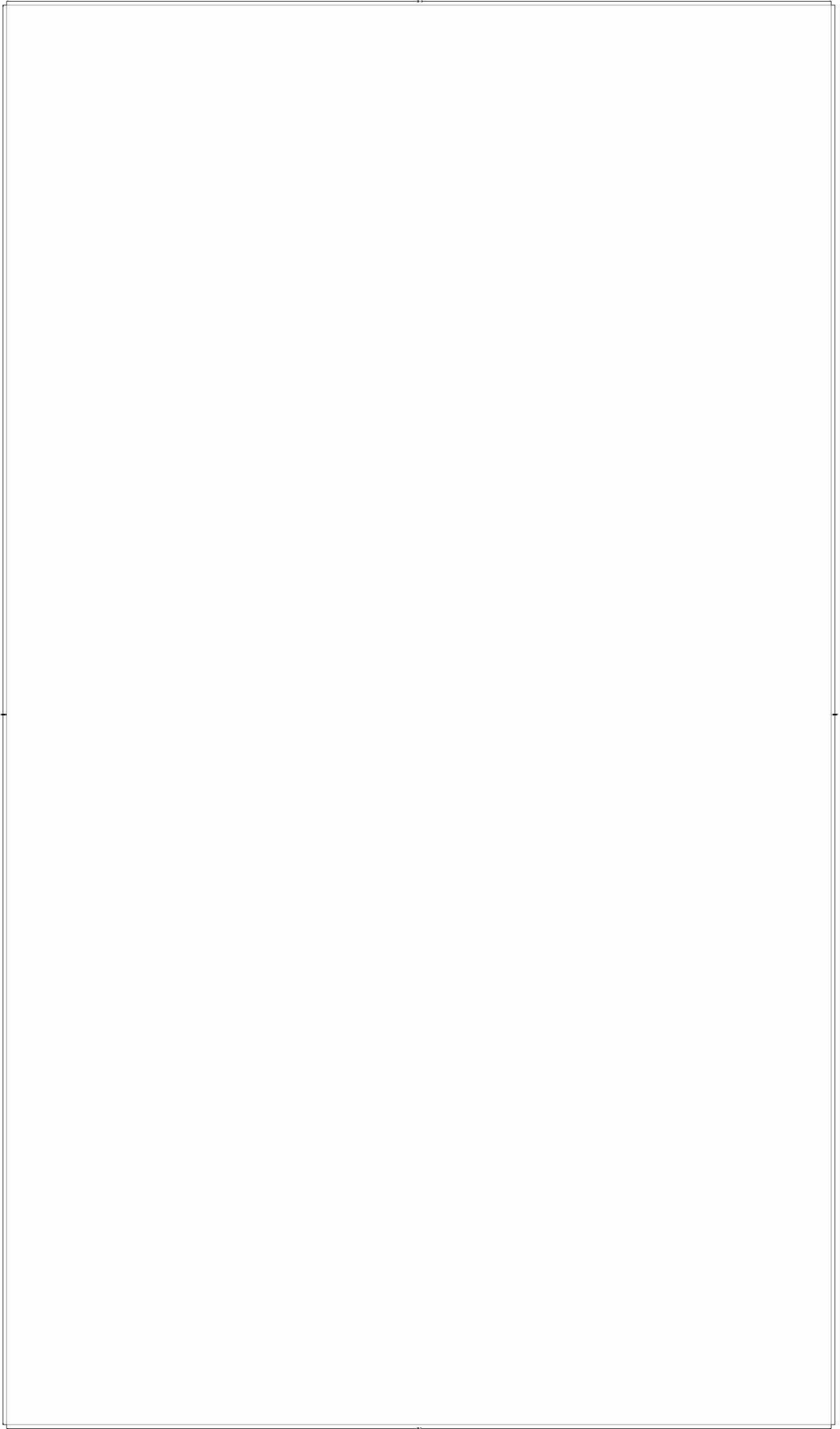
**PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL**

INSTALLATION-PLAN [DACH_1_SÜD_REV08]



**PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL**

ROOF COORDINATES [DACH_1_SÜD_REV08]



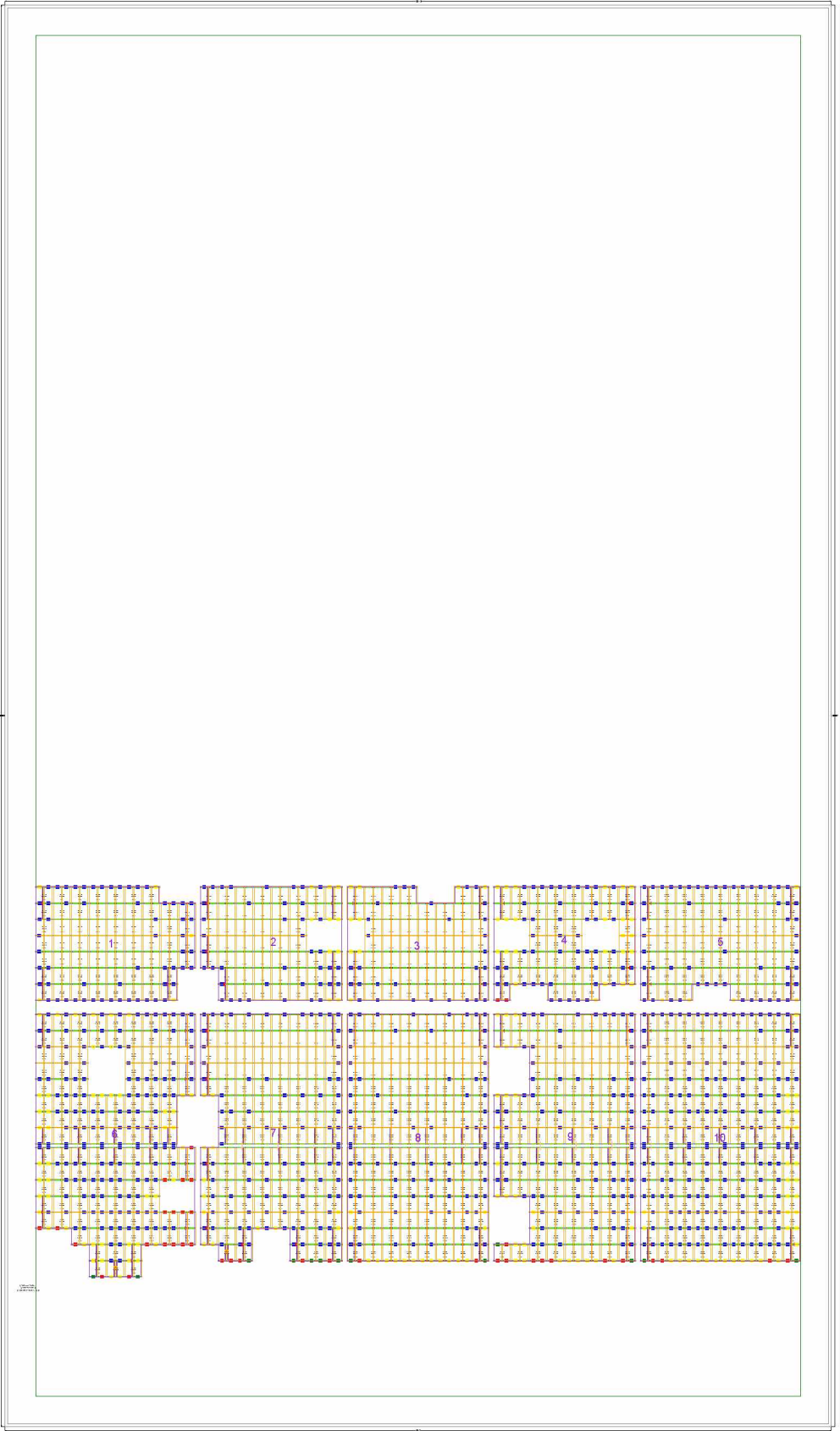
PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL

ROOF COORDINATES [DACH_1_SÜD_REV08]

Coordinate 0	X: 0	Y: 186053	Z: 14200
Coordinate 1	X: 0	Y: 0	Z: 14200
Coordinate 2	X: 108121	Y: 0	Z: 14200
Coordinate 3	X: 108119	Y: 186052	Z: 14200

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. -
ROTTERDAM NL

STATIC INFORMATION: BALLASTING [DACH_1_SÜD_REV08]



PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

SUMMARY OF LOAD PARAMETERS [DACH_1_SÜD_REV08]

(EN 1991-1-4, Abschnitt 4.2)(nach EN 1990, Anhang D, Tab. B.1,2,3)











Snow load	0.42 kN/m ²
Wind load	1.13 kN/m ²
Reduction over useful life	0.89
Reduction over reliability class	0.9
Friction Constant μ	0.5
Factor of Safety for Uplift	1.5
Factor of Safety for Sliding	1.5
Load factor applied to Dead Load	0.9
Weight per ballast block	15 kg
Number of ballast blocks:	1363
System surface area	4,228.6 m ²
Roof area	20,116 m ²
Total ballast weight	20,445 kg
Weight Module/Rack	44,616 kg
Total System weight	65,061 kg
Surface load on system area	15.39 kg/m ²
Surface load on roof	3.23 kg/m ²
Average horizontal load	0.055 kN
Maximum horizontal load	0.074 kN
Total horizontal load	47.37 kN
Average horizontal load from the side	0.055 kN
Total horizontal load from the side	0.074 kN
Total horizontal load from the side per square meter	0.011 kN/m ²

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL




MATERIAL LIST

Image	Part number	Description	Matchcode	Pck	Total Nr.	Total Nr. Exact	Total weight (kg)
	52215-0132	MK Typ 40	Middle clamp for module frame height 30-50 mm; l=40 mm	1	9280	9236	473.280
	52215-0133	EK Typ 40	End clamp for module frame height 30-50mm; l=40 mm	1	3130	3128	181.540
	52215-1374	EVO 2.0 AEBP Typ 75	Start and end ground profile type incl. 1 high-tech protective mat, l=75mm	1	578	578	43.350
	52215-1377	EVO 2.0 V2BP Typ 267	Connecting ground profile type 2 incl. 1 high-tech protective mat, l=267mm	1	2645	2645	706.215
	52215-1385	EVO 2.0 T10 Typ 75	Tower 10°, l=75mm	1	6182	6182	1570.228
	52215-1390-01	EVO 2.0 QSV Typ 390	Cross strut connector, l=390mm	1	129	129	33.540
	52215-1392	EVO 2.0 SDR OW10	Side cover right, East-West 10°	1	8	8	2.968
	52215-1427	BEK Typ 35	Ballast end clamp, l=35mm	1	710	705	39.760
	52215-1428	BMK Typ 40	Ballast middle clamp l=40mm	1	520	496	24.960
	52215-1460	S Typ M8x30	Screw for cross and ballast strut	1	700	630	8.400
	52215-1599	S Typ M8x16	Schraube für Rückwand und Seitendeckel	1	100	56	0.800
	52215-1608	EVO 2.0 SDL OW10	Side cover left, East-West 10°	1	8	8	2.968

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

Image	Part number	Description	Matchcode	Pck	Total Nr.	Total Nr. Exact	Total weight (kg)
	52215-1651	EVO 2.0 FV Typ 467	Ridge connector E-W, l=467mm	1	156	156	79.872
	52215-1767-01	EVO 2.0 HBP Typ 2013	Main ground profile incl. 3 high-tech protective mats, l=2013mm	1	3091	3091	6250.002
	52215-1816	EVO 2.0 B10 M6 Typ 75	Base M6 10°, l=75mm	1	6182	6182	1576.410
	52215-2081	EVO 2.0 QSVU Typ 1180 - gebogen	Cross strut connector universal, l=1180mm	1	23	23	18.377
	52215-2195	EVO 2.0 QBS Typ 2102	Cross and ballast strut, l=2101mm	1	315	315	341.145
Optional articles							
	52215-0010	EVO BS Typ1	Ballaststein 40x40x4	1	3963	3963	59445.000
	52215-1279	MDC Typ 3	Module clip type 3	1	6200	6182	12.400
	52215-1460	S Typ M8x30	Screw for cross and ballast strut	1	1550	1474	18.600
	52215-1728	EVO 2.0 AL univ.	Distance gauge between ground profiles	1	12	12	13.800
	52215-2195	EVO 2.0 QBS Typ 2102	Cross and ballast strut, l=2101mm	1	737	737	798.171

PROJECT REPORT SOLARPARTNERS - NEELE-VAT MAASVLAKTE B.V. - ROTTERDAM NL

Image	Part number	Description	Matchcode	Pck	Total Nr.	Total Nr. Exact	Total weight (kg)
	52215-2228	EVO 2.0 KD Typ 190	Kabelkanaldeckel, l=190mm	1	64	64	1.408
	52215-2229	EVO 2.0 KD Typ 330	Kabelkanaldeckel, l=330mm	1	529	529	20.102
	52215-2611	EVO 2.0 KD Typ 630 - Tower	Kabelkanaldeckel, l=630mm zwischen den Tovern	1	619	619	44.568
							71707.86

PMT

Industries tr. 25
D-95346 Stadtsteinach

T 
info@pmt.solutions