

Flat-roof system Windsafe

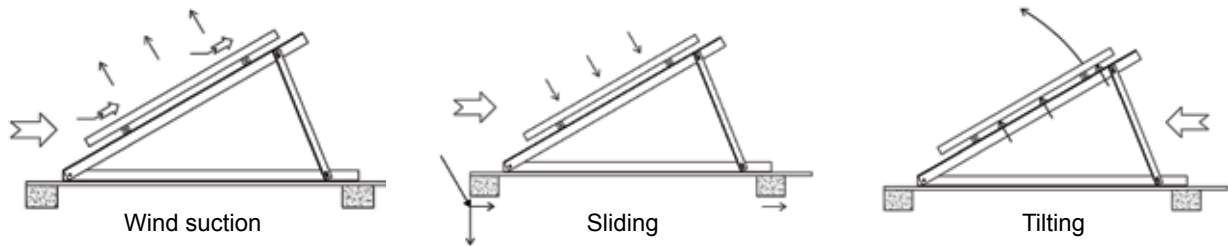
Modular systems optimized for superimposed loads



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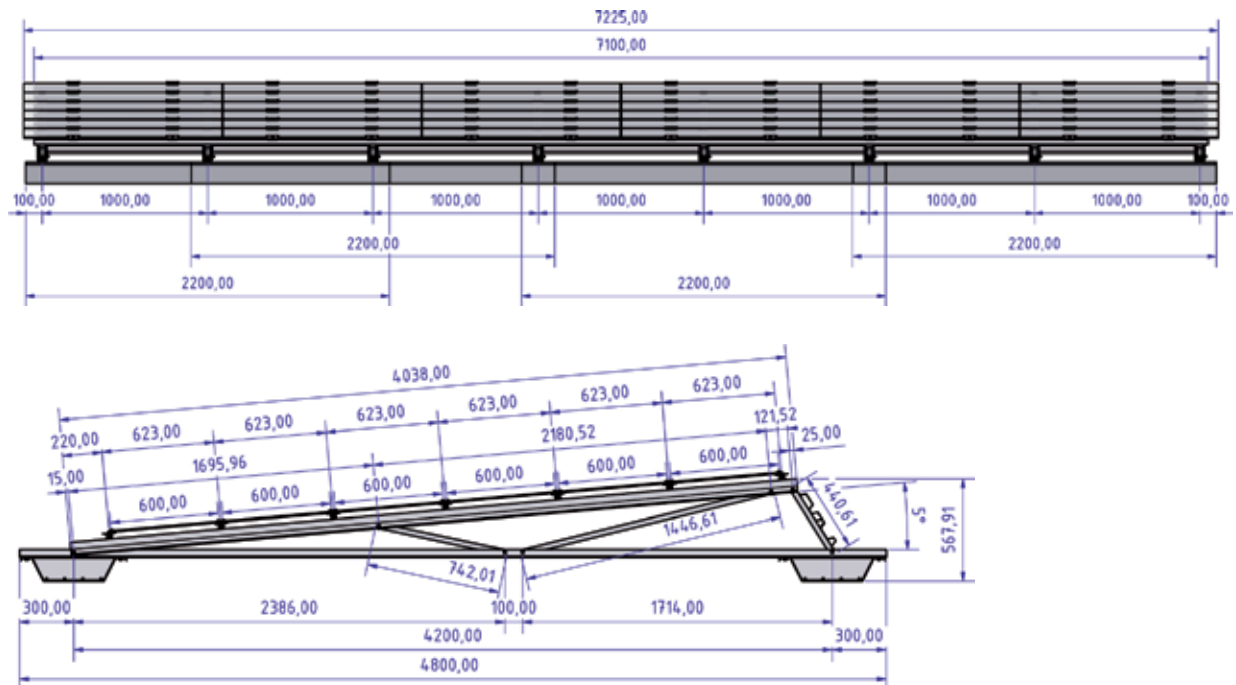
1 General information

The WS flat roof system is customized for each designated site. In order to design a tailored modular system, a detailed structural analysis document must be generated to determine the cross section and required ballasting. Loading requirements must be dimensioned taking all parameters into consideration (roof height, wind zone, terrain category, module size, etc.) to negate the possibility of uplifting, sliding or overturning of a panel.



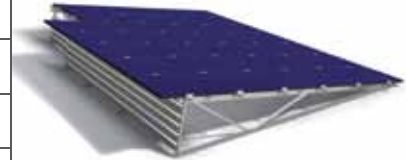
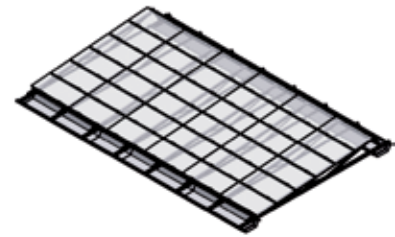
2 Planning

Data from the structural analysis documentation is used to create an overview diagram and a bill of materials for each system prior to delivery. These drawings display the respective measurements and positions of the individual components and fasteners.



Pos.	Quantity	Item No.	Description	Material	Mass	Standard	Length
1	8	128011-001	Bottom beam profile	EN AW 6063	6.061 kg		4800
2	56	943308-060	Screw M8x60 hexagon socket	1.4301	0.031 kg	DIN 912	
3	56	943911-008	Nut M8, self-locking hexagon socket	1.4401	0.005 kg	DIN 985	
4	8	128010-001	Module-bearing profile	EN AW 6063	5.757 kg		4038
5	8	128006-001	Strut 30x30x3 front	EN AW 6063	0.649 kg		742
6	24	133160-168	End clamp Eco6 laminate 6.8mm kit		0.066 kg		
7	7	120001-001	Module-bearing profile Eco05	EN AW 6063	4.904 kg		7100
8	60	133260-168	Middle clamp Eco6 laminate 6.8mm kit		0.084 kg		
9	8	100000	Similar SolTub L gravel tray	AlMg3	6.937 kg		
10	8	128006-001	Strut 30x30x3 rear	EN AW 6063	0.385 kg		441
11	8	128006-001	Strut 30x30x3 diagonal	EN AW 6063	1.268 kg		1447
12	24	973000-003	End cap Plastic	PA	0.016 kg		
13	4	161002-001	SolTub L End cover	AlMg3	0.312 kg		
14	112	943921-008	Washer 8	1.4301	0.002 kg	DIN 125	
15	8	164250-200	Windafe Vario aluminum 250x2000	AlMg3	1.488 kg		
16	64	131	Plate 30x30x4 1 Loe dm11	1.4301	0.003 kg		
17	88	943000-093	Screw M10x25 hexagonal	1.4301	0.027 kg	DIN 933	
18	88	943912-010	Locking flange nut M10	1.4401	0.015 kg	DIN 6923	
19	32	943706-025	Screw 6x25 self-tapping JT3-2	1.4301	0.006 kg		
20	84	139004-000	Shim middle clamp Eco	AlMg3	0.025 kg		

(M 1 : 80)



3 Item overview

3.1 SolTub gravel tray

- 161001-000 SolTub S gravel tray for 36 kg per meter
- 161002-000 SolTub L gravel tray for 92 kg per meter



3.2 SolTub Covers

- 161001-001 SolTub S end cover
- 161002-001 SolTub L end cover



3.3 Reinforcement SolTub

- 161004-000 SolTub hole reinforcement

3.4 Fix 2000

113001-000 Fix2000 Standard



3.5 Bottom beam profile

128001-001 Bottom beam light - customized cut
 128011-001 Bottom beam Profi - customized cut
 911000-158 SP Alu bottom beam light groove 6m
 911000-161 SP Alu bottom beam Profi groove 6m



3.6 Struts

128006-001 Rectang. tube 30x30x3 alu. cust. cut
 xxx



3.7 Module-bearing profile

128002-001 Module beam light - customized cut
 128010-001 Module beam Profi - customized cut



3.8 Purlins

120001-004 Module bearing profile Eco5 - 4m
 120001-006 Module bearing profile Eco5 - 6m

120002-004 Module bearing profile Solo05 - 4m
 120002-006 Module bearing profile Solo05 - 6m

120003-004 Module bearing profile Profi05 - 4m
 120003-006 Module bearing profile Profi05 - 6m

120004-004 Module bearing profile ProfiPlus05 - 4m
 120004-006 Module bearing profile ProfiPlus05 - 6m

124600-006 Module-bearing profile WS Klick - 6m
 124600-008 Module-bearing profile WS Klick - 8m

124300-006 Module-bearing profile S0 - 6m
 124300-008 Module-bearing profile S0 - 8m



124301-006 Module-bearing profile S1 ext. 6m
 124301-008 Module-bearing profile S1 ext. 8m



124302-006 Module-bearing profile S1 int. 6m
 124302-008 Module-bearing profile S1 int. 8m



124303-006 Module-bearing profile S1.5 - 6m
 124303-008 Module-bearing profile S1.5 - 8m



124304-006 Module-bearing profile S2 - 6m
 124304-008 Module-bearing profile S2 - 8m



3.9. Module clamps

130001-020 - End clamps 20mm - 53mm
 130001-053



130002-001 Module middle clamp for modules min. 31mm
 130002-000 Module middle clamp for modules min. 13mm



139006-001 Module clamp clip exterior locking
 139006-000 Module clamp clip interior locking
 139005-000 Module clamp clip KP
 139007-000 Module clamp clip EPDM rubber 6.8mm



133180-080 End clamp Eco8 laminate 8mm
 133280-080 Middle clamp Eco8 laminate 8mm
 133260-068 Middle clamp Eco6 laminate 6.8mm
 133160-068 End clamp Eco6 laminate 6.8mm

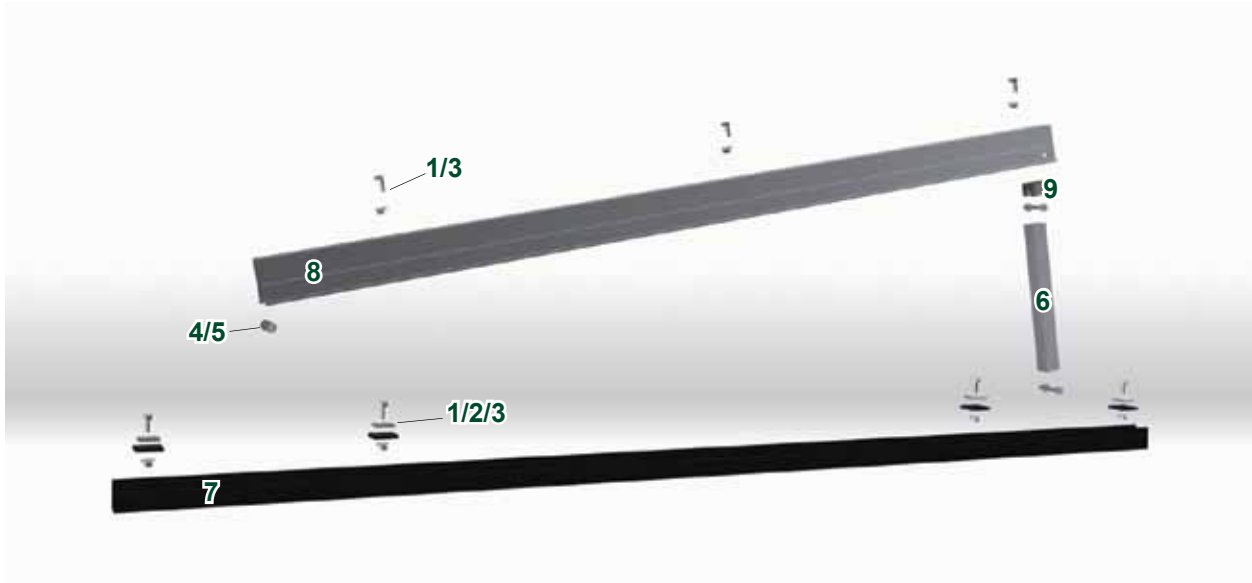


3.10 Windsafe

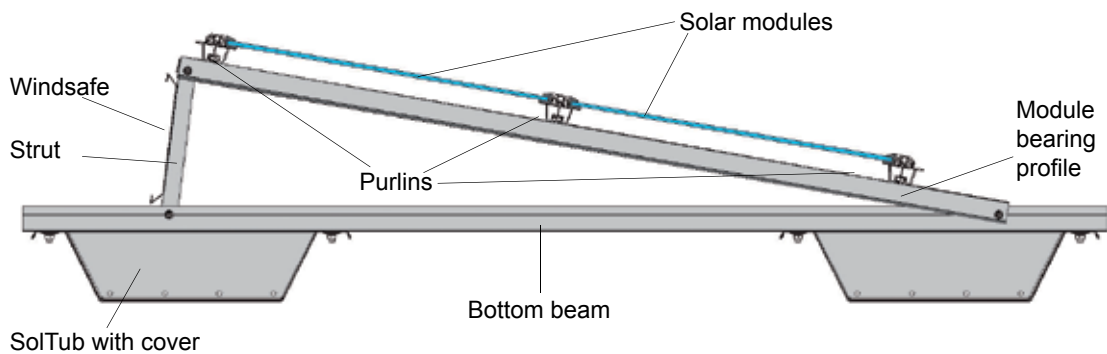
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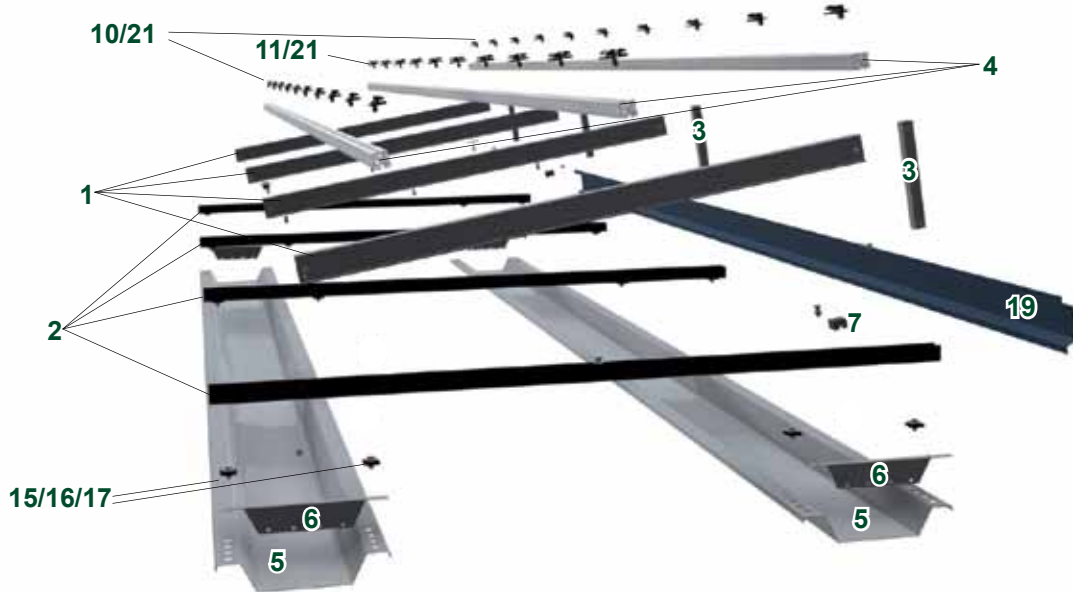
4 Mounting of supports



Object	Quantity	Component No.	Description	Mass	Material	Standard
1	28	943308-060	Hexagon head screw M10x25	0.025 kg	High-grade steel	DIN 933
2	16	943921-008	Washer plate 8	0.002 kg	High-grade steel	DIN 125
3	28	943916-010	Flange nut M10	0.005 kg	Steel, soft unalloyed	DIN 934
4	12	943308-060	Hexagon head screw M8x60	0.013 kg	Steel, soft, unalloyed	DIN 912
5	12	943911-008	Hexagon nut M8	0.005 kg	Steel, soft, unalloyed	DIN 985
6	4	181001-001	Strut 35x35x3	0.795 kg	Aluminium - 6061	
7	4	128001-001	Bottom beam light	0.843 kg	Aluminium - 6061	
8	4	128002-001	Module-bearing profile light	0.856 kg	Standard	
9	4	973000-003	Plastic cap for strut	0.010 kg		



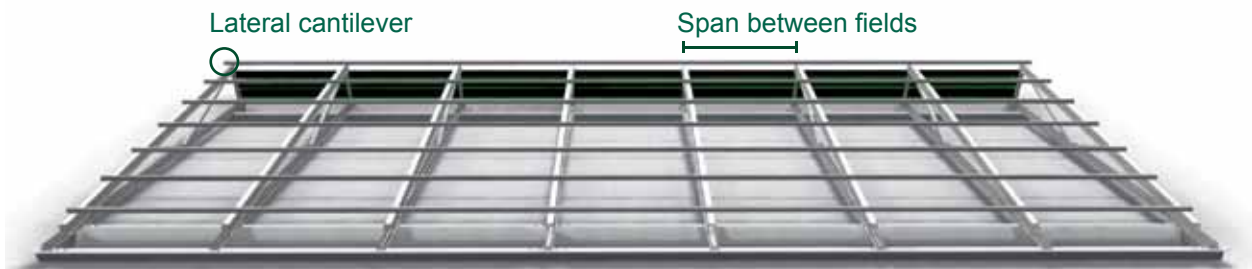
5 Exploded view



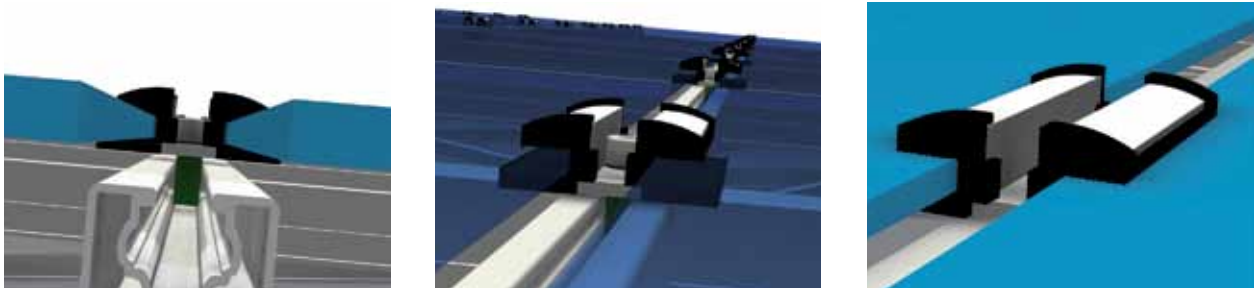
Object	Quantity	Component No.	Description	Mass	Material	Standard
1	4	128002-001	Module beam light - customized cut	0.856 kg	Standard	
2	4	128001-001	Bottom beam light - customized cut	0.843 kg	Aluminium - 6061	
3	4	181001-001	Strut 35x35x3	0.795 kg	Aluminium - 6061	
4	3	120002-001	Module bearing profile Solo05	0.933 kg	Standard	
5	6	161001-000	Gravel tray SolTub S	4.898 kg	Aluminium - 6061	
6	4	161001-001	SolTub S end cover	0.151 kg	Aluminium - 6061	
7	4	973000-003	Plastic end cap for beams	0.010 kg		
8	28	943000-093	Hexagon head screw M10x25	0.025 kg	High-grade steel	DIN 933
9	28	943912-010	Flange nut M10	0.012 kg	Standard	DIN 6923
10	30	133160-068	End clamp Eco6 laminate	0.024 kg	Standard	
11	10	133620-068	Middle clamp Eco6 laminate	0.038 kg	Standard	
12	30	129010-008	Klickin click component	0.001 kg	Standard	
13	30	943912-008	Flange nut M8	0.007 kg	Standard	
14	30	943308-120	Hexagon head screw M8x20	0.013 kg	Steel, soft, unalloyed	DIN 912
15	12	943308-060	Hexagon head screw M8x60	0.028 kg	Steel, soft, unalloyed	DIN 912
16	24	943921-008	Washer plate 8	0.002 kg	Steel, soft, unalloyed	DIN 125
17	12	943911-008	Hexagon nut M8 self-locking	0.005 kg	Steel, soft, unalloyed	DIN 985
18	16	943706-025	Screw 6x25 self-tapping	0.006 kg		
19	3	164250-220	Windafe Vario aluminum 250x2200mm	1.623 kg	Standard	
20	30	139004-000	Shim for middle clamp Eco	0.026 kg	Standard	
21	40	973000-010	Rubber form piece Eco6	0.012 kg		

6 Tolerances

Schletter mounting racks are explicitly dimensioned to support the wind and snow loads at each respective location. In the interest of economic efficiency, the maximum capacity potential of individual components is generally exploited. Racks must therefore be mounted with the utmost precision. Significant deviation from the mounting plans can lead to mechanical tension in the cells. Adherence to the specified tolerances is therefore essential to the structural safety of the plant.



- Span between fields +- 50mm
- Lateral purlin cantilever: +- 30mm
- Clamp overlap onto module: +- 2mm



For further information on our systems, please refer to our website:
www.schletter.eu under Downloads in the Solar section.