

PRODUCT DATA SHEET



Midsummer SLIM

Lightweight and flexible solar roofs for low-load-bearing structures, specially designed for standing seam metal roofs

The Midsummer SLIM ultralight, flexible thin-film solar panels are designed for standing seam metal roofs, combining efficiency with aesthetics to transform roofs into powerful energy sources. SLIM is ideal for low-load-bearing roofs, as it requires no structural reinforcements, frame, or ballast during installation. Roof penetration is not needed, as the solar panels are securely mounted using a double-sided adhesive which protects the roof's waterproofing layer. SLIM is compatible with flat, sloping, and vaulted designs and is suitable for commercial properties, industrial buildings, warehouses, sports arenas, apartment buildings, and residential properties.

Midsummer SLIM is 2 mm thin and is available in two variants:

- SLIM 2: 0.36 meter wide and 0.86 – 6 meters in length
- SLIM 3: 0.52 meter wide and 0.86 – 6 meters in length

For roofs longer than 6 meters, SLIM-Extended panels can be connected in series, extending up to 12 meters and increasing the installed power. The wiring is discreetly concealed under a cover, to maintain the roof's aesthetics. SLIM 3 is specifically designed to fit traditional Swedish metal roofs.

SLIM weighs just 2.8 kg/m², and its lightweight design enables it to cover 90% of the roof area, ensuring optimal energy production per square meter while fully utilizing the roof surface without exceeding the maximum load capacity.

SLIM can be retrofitted onto an existing roof or installed during roof replacement. Midsummer offers in-house manufactured metal plates tailored to maximize the surface area for SLIM 2 panels. Midsummer ensures fast, secure installations with turnkey solutions, providing full roof access as the panels are safe to walk on and require minimal maintenance. The solar panels are resistant to microcracks, withstand harsh weather, and protect the roof from UV damage. Bypass diodes for each cell enhance shading performance by isolating affected cells without impacting the entire panel.

Swedish innovation, manufactured in Stockholm, Sweden, and Bari, Italy

CSR AND SUSTAINABILITY

Midsummer ensures CSR-compliant sourcing - has full control over our value chain, from raw materials to final products, enabling full social responsibility across economic, environmental, and social dimensions.

We provide the most sustainable energy solution with the lowest CO₂ on the market, and 90% lower life cycle emissions compared to silicon panels.

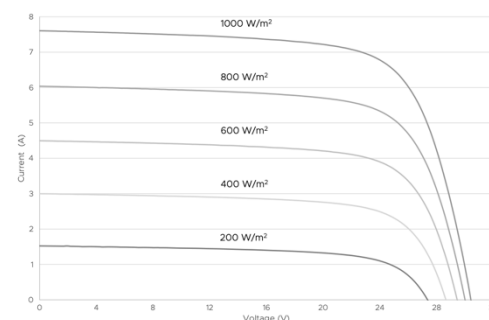
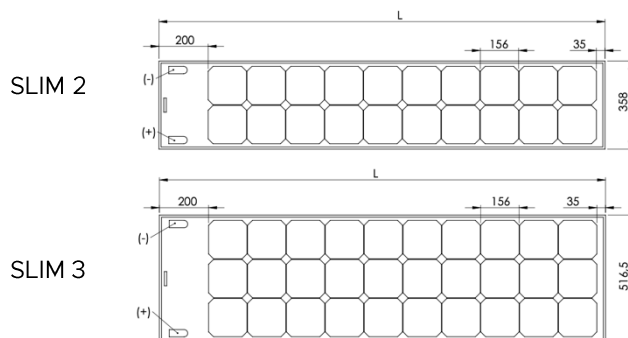
Midsummer solar cells have **98% recyclability** and **contain 63% recycled material**.

Highly efficient CIGS cells without toxic cadmium, due to our unique and innovative machinery, the Midsummer DUO system.



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Technical Characteristics



ARTICLE INFORMATION	SLIM 2	SLIM 3
SLIM model	SLIM 2x24	SLIM 3x24
Number of cells (1 bypass diode between each cell)	48	72
Width	358 ±5 mm	516.5 ±5 mm
Length	4025 ±10 mm	4025 ±10 mm
Weight	2.8 kg/m²	
Thickness	2 mm	
Roof pitch	min 2°	
Minimum bend radius	0.25 m	
Cell type thin film	CIGS (Cu (In, Ga) Se₂)	
Product warranty	25 years	
Power guarantee after 10 years	90 %	
Power guarantee after 25 years	80 %	
Certifications (TÜV Rheinland certified)	IEC 61730, IEC 61215	
Fire Safety	BROOF (t2)***	
Color of the panel	Black	

TECHNICAL DATA	SLIM 2	SLIM 3
Nominal Power, P _{MAX} *	165 W	245 W
Power/m²	114.5 W/m²	117.8 W/m²
Power/kg	41.3 W/kg	42.2 W/kg
Maximum Power Voltage, V _{MPP}	25 V	36.4 V
Maximum Power Current, I _{MPP}	6.6 A	6.6 A
Open Circuit Voltage, V _{OC} *	30.4 V	45.6 V
Short Circuit Current, I _{SC} *	7.6 A	7.6 A
Maximum Series Fuse Rating	10 A	
Maximum System Voltage, V _{DC}	1000 V	
Protection class against electrical shock	II	
Design Load**	± 3600 Pa	
Module operating range	-40 to +85 °C	
Temperature coefficient, P _{MAX} (W), γ	-0.3992 % / °C	
Temperature coefficient, V _{OC} (V), β	-0.3279 % / °C	
Temperature coefficient, I _{SC} (A), α	0.0099 % / °C	

* Testing performed at STC (Standard test conditions): solar radiation of 1000 W/m² with perpendicular incidence towards the module surface, module temperature 25°C, Air mass 1.5 (AM 1.5 spectrum). The tolerance for the value is ±10%.

** Test load ± 5400 Pa, Max altitude: 2000 m

*** Classification has been carried out by RISE Research Institutes of Sweden AB in accordance with EN 13501-5:2016.

SLIM Models – electrical parameters for different sizes

SLIM 2

Panel dimension	Number of cells	Length (mm)	Extended length (mm)	P _{MAX} (W)	V _{OC} (V)	I _{SC} (A)	V _{MPP} (V)	I _{MPP} (A)
2 x 4	8	865	1025	25	5.1	7.6	3.8	6.6
2 x 5	10	1023	1183	35	6.4	7.6	5.3	6.6
2 x 6	12	1181	1341	40	7.6	7.6	6.0	6.6
2 x 7	14	1339	1499	45	8.9	7.6	6.8	6.6
2 x 8	16	1497	1657	55	10.1	7.6	8.3	6.6
2 x 9	18	1655	1815	60	11.4	7.6	9.0	6.6
2 x 10	20	1813	1973	65	12.7	7.6	9.8	6.6
2 x 11	22	1971	2131	75	13.9	7.6	11.4	6.6
2 x 12	24	2129	2289	80	15.2	7.6	12.1	6.6
2 x 13	26	2287	2447	90	16.5	7.6	13.5	6.6
2 x 14	28	2445	2605	95	17.8	7.6	14.4	6.6
2 x 15	30	2603	2763	100	19.0	7.6	15.6	6.6
2 x 16	32	2761	2921	110	20.3	7.6	16.7	6.6
2 x 17	34	2919	3079	115	21.6	7.6	17.7	6.6
2 x 18	36	3077	3237	125	22.8	7.6	18.9	6.6
2 x 19	38	3235	3395	130	24.1	7.6	19.8	6.6
2 x 20	40	3393	3553	135	25.4	7.6	21.2	6.6
2 x 21	42	3551	3711	145	26.6	7.6	21.9	6.6
2 x 22	44	3709	3869	150	27.9	7.6	22.7	6.6
2 x 23	46	3867	4027	155	29.2	7.6	24.0	6.6
2 x 24	48	4025	4185	165	30.4	7.6	25.0	6.6
2 x 25	50	4183	4343	170	31.7	7.6	26.1	6.6
2 x 26	52	4341	4501	180	33.0	7.6	27.1	6.6
2 x 27	54	4499	4659	185	34.2	7.6	28.1	6.6
2 x 28	56	4657	4817	190	35.5	7.6	29.2	6.6
2 x 29	58	4815	4975	200	36.8	7.6	30.2	6.6
2 x 30	60	4973	5133	205	38.0	7.6	31.3	6.6
2 x 31	62	5131	5291	210	39.3	7.6	32.3	6.6
2 x 32	64	5289	5449	220	40.6	7.6	33.3	6.6
2 x 33	66	5447	5607	225	41.8	7.6	34.4	6.6
2 x 34	68	5605	5765	235	43.1	7.6	35.4	6.6
2 x 35	70	5763	5923	240	44.4	7.6	36.5	6.6
2 x 36	72	5921	6081	245	45.6	7.6	37.5	6.6

SLIM 3

Panel dimension	Number of cells	Length (mm)	Extended length (mm)	P _{MAX} (W)	V _{OC} (V)	I _{SC} (A)	V _{MPP} (V)	I _{MPP} (A)
3 x 4	12	865	1025	40	7.6	7.6	6.1	6.6
3 x 5	15	1023	1183	50	9.5	7.6	7.6	6.6
3 x 6	18	1181	1341	60	11.4	7.6	9.1	6.6
3 x 7	21	1339	1499	70	13.3	7.6	10.6	6.6
3 x 8	24	1497	1657	80	15.2	7.6	12.1	6.6
3 x 9	27	1655	1815	90	17.1	7.6	13.6	6.6
3 x 10	30	1813	1973	100	19.0	7.6	15.2	6.6
3 x 11	33	1971	2131	115	20.9	7.6	16.7	6.6
3 x 12	36	2129	2289	125	22.8	7.6	18.2	6.6
3 x 13	39	2287	2447	135	24.7	7.6	19.7	6.6
3 x 14	42	2445	2605	145	26.6	7.6	21.2	6.6
3 x 15	45	2603	2763	155	28.5	7.6	22.7	6.6
3 x 16	48	2761	2921	165	30.4	7.6	24.3	6.6
3 x 17	51	2919	3079	175	32.3	7.6	25.8	6.6
3 x 18	54	3077	3237	185	34.2	7.6	27.3	6.6
3 x 19	57	3235	3395	195	36.1	7.6	28.8	6.6
3 x 20	60	3393	3553	205	38.0	7.6	30.3	6.6
3 x 21	63	3551	3711	215	39.9	7.6	31.8	6.6
3 x 22	66	3709	3869	225	41.8	7.6	33.4	6.6
3 x 23	69	3867	4027	235	43.7	7.6	34.9	6.6
3 x 24	72	4025	4185	245	45.6	7.6	36.4	6.6
3 x 25	75	4183	4343	255	47.6	7.6	37.9	6.6
3 x 26	78	4341	4501	265	49.5	7.6	39.4	6.6
3 x 27	81	4499	4659	275	51.4	7.6	40.9	6.6
3 x 28	84	4657	4817	285	53.3	7.6	42.5	6.6
3 x 29	87	4815	4975	300	55.2	7.6	44.0	6.6
3 x 30	90	4973	5133	310	57.1	7.6	45.5	6.6
3 x 31	93	5131	5291	320	59.0	7.6	47.0	6.6
3 x 32	96	5289	5449	330	60.9	7.6	48.5	6.6
3 x 33	99	5447	5607	340	62.8	7.6	50.0	6.6
3 x 34	102	5605	5765	350	64.7	7.6	51.5	6.6
3 x 35	105	5763	5923	360	66.6	7.6	53.1	6.6
3 x 36	108	5921	6081	370	68.5	7.6	54.6	6.6



For roofs longer than 6 meters, SLIM-Extended panels can be connected in series, extending up to 12 meters and increasing the installed power. The wiring is discreetly concealed under a cover, to maintain the roof's aesthetics.