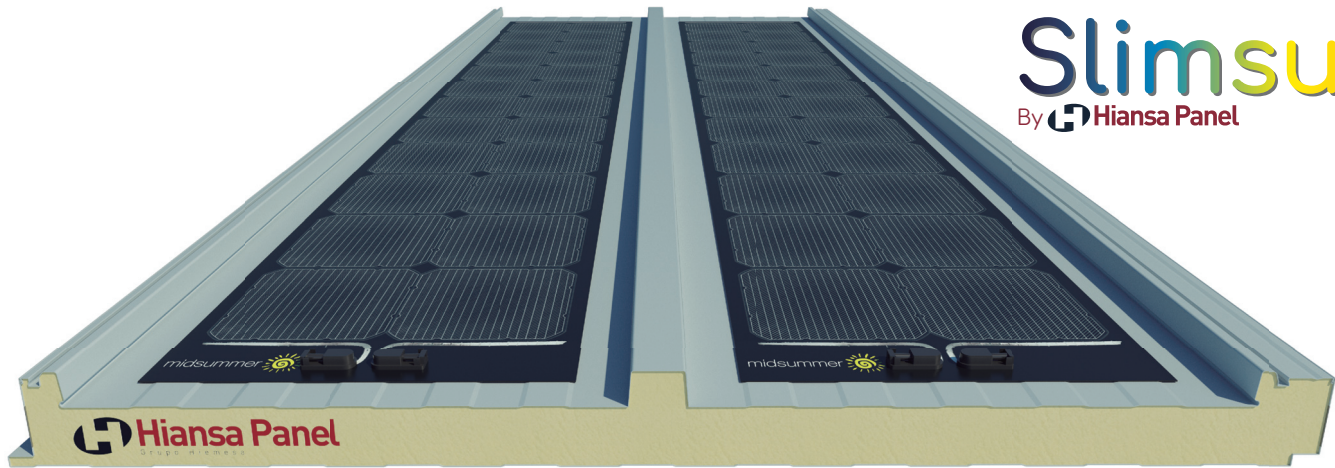


3GR SLIMSUN PANEL

ROOF PANEL WITH SOLAR PANEL

Slimsun

By  Hiansa Panel



EXTERIOR FACE
Pre-painted steel +
Flexible solar panel

USEFUL WIDTH
1000 mm (39.37 in.)

THICKNESSES mm (in.)
30/40/50 (*)
(1.18/1.57/1.97)



INTERIOR FACE
Pre-painted steel
Polyester

USEFUL WIDTH
Polyurethane
continuous manufacturing

USE
Insulated and watertight roof
+ electricity production



DESCRIPTION AND PROPERTIES

(*) for larger thicknesses, consult us.

Panel for sloping roofs with a minimum slope of 7%, developed by Hiansa Panel together with the Swedish company Midsummer, European leader in the manufacture of flexible solar panels, mainly for industrial, agricultural or residential installations that require solar photovoltaic capture on the roof.

The flexible solar sheets can be incorporated into the roof sandwich panel from the factory or can be placed on top of existing Hiansa Panel roof panels. In any case, up to 3 flexible solar panels can be installed in series, reaching a maximum length of 12 m.

Flexible solar sheets have a 10-year warranty and offer a minimum guaranteed yield of 80% for 25 years. In this way, it becomes a high-performance and durable photovoltaic solar collection solution.



CUSTOMIZED PROJECTS

Flexible solar panels up to 4025 mm in length, they are attached to the roof panel, offering a unique solution for each case.



MORE LIGHTWEIGHT PANELS

Flexible solar panel weighing only 3 kg/m, much lower than other solar solutions. Reduces support structures, avoids the effects of wind and is easy to handle.



QUICK AND EASY INSTALLATION

Panels ready for making the electrical connection. Mounting of roof and solar capture in a single operation. Speeds up assembly.



CONTINUOUS MANUFACTURING

Panels with fully continuous and uniform foam core. No air holes, which increases performance of the panel and ensures solid support of the flexible solar panel.



INSULATION THERMAL

Polyurethane panels Great insulating power by means of ensuring the homogeneity and the density of the core. More efficient and sustainable facilities.

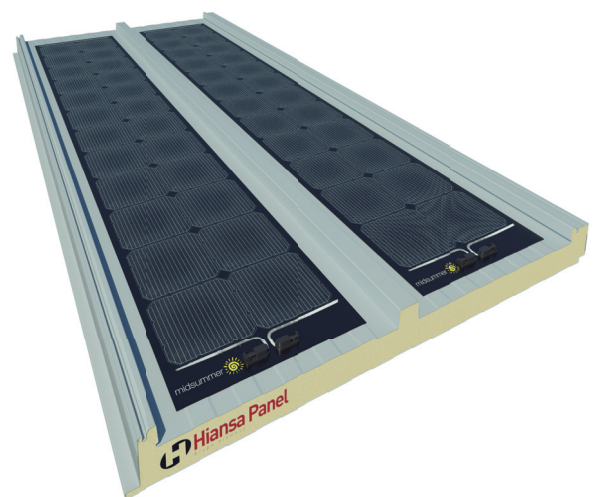


NO NEED FOR DRILLING

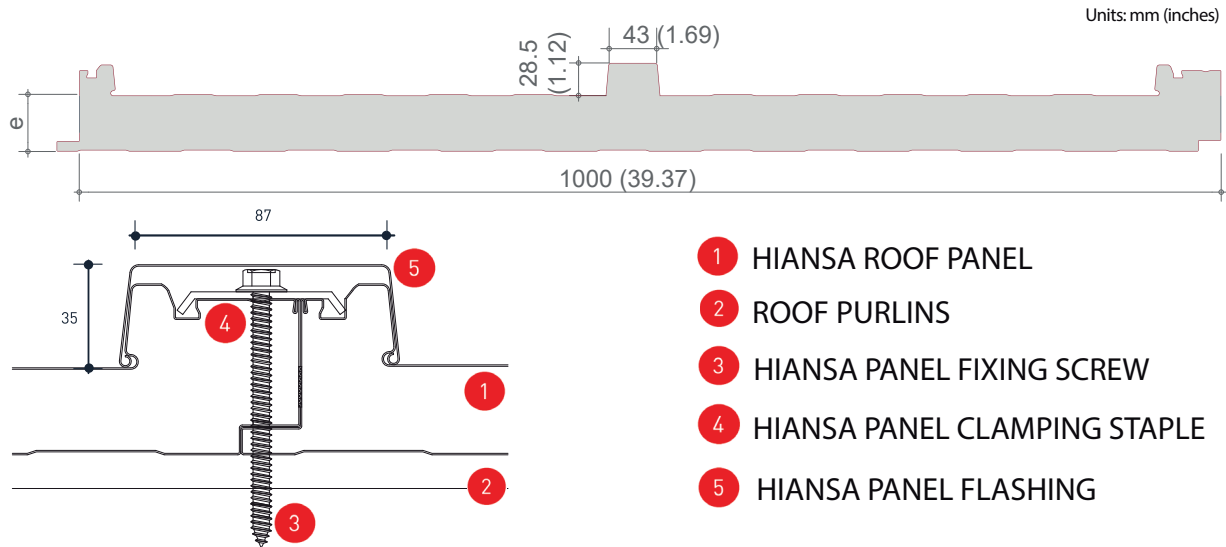
The flexible solar panels are self-adhesive and do not require fixing systems that pierce the support panel, thus ensuring the watertightness and durability of the roof.

TECHNICAL SPECIFICATIONS

3GR-SLIMSUN PANEL	HEAT TRANSFER		WEIGHT (0.5/0.5 + SOLAR)
	K in Kcal/m ² ·h·°C	K in W/m ² ·k	
Nominal thickness in mm (in.)			Kg/m ²
30 (1.18)	0.58	0.68	13.60
40 (1.57)	0.45	0.53	14.00
50 (1.97)	0.36	0.43	14.40
PHOTOVOLTAIC PERFORMANCE			
Flexible solar panel thickness	2.00 mm (0.078 in.)	Rated power	165 W
Flexible solar panel width	358 mm (14.09 in.)	Watt/m ²	114.5 W
Flexible solar panel color	black	Watt/kg	41.3 W
Cell type	CIGS thin sheet	Voltage at max power (V)	25.0 V
Temperature coefficient, Pm (W)	-0.399 %/°C	Current at max power (A)	6.7 A
Temperature coefficient, Voc (V)	-0.328 %/°C	Open circuit voltage (Voc)	30.4 V
Temperature coefficient, Isc (A)	+0.0099 %/°C	Short circuit current (Isc)	7.7A



GEOMETRIC SPECIFICATIONS



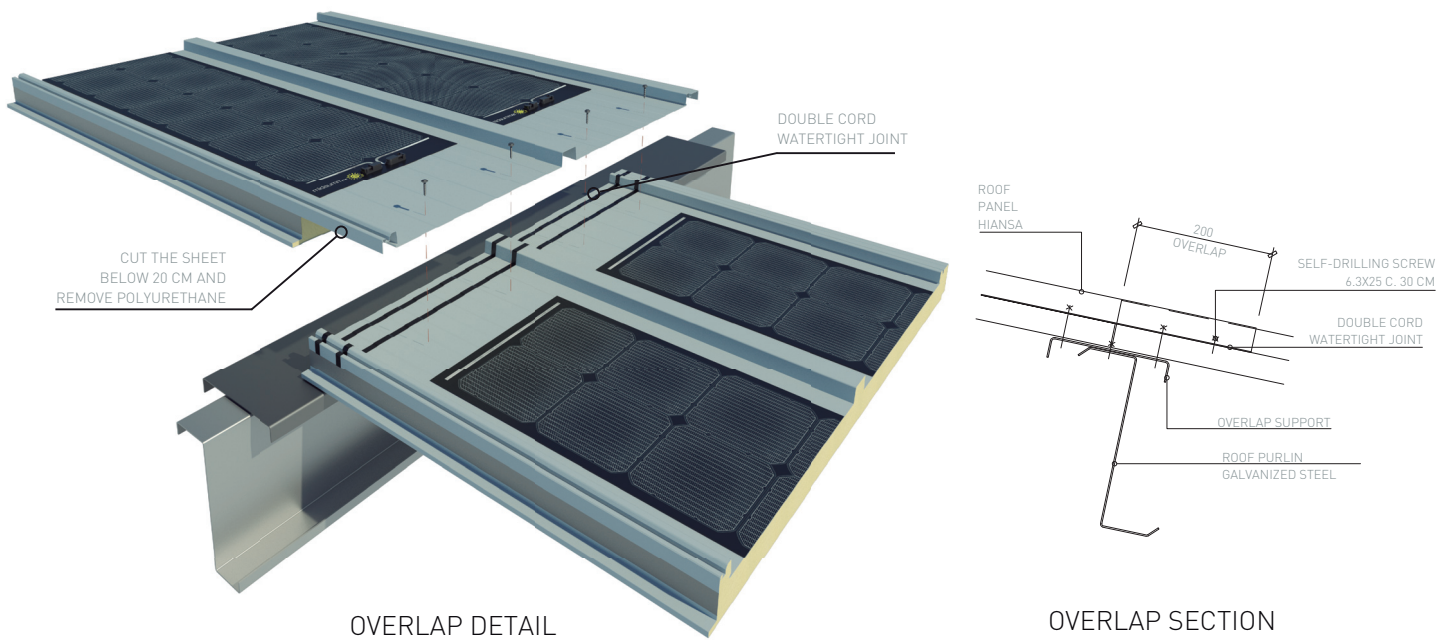
CONSTRUCTION DETAILS TRANSVERSE OVERLAP 2GR/3GR

CONDITIONS OF THE ROOF FOR MAKING THE OVERLAP

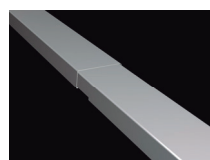
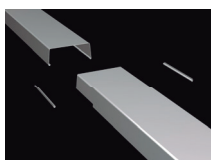
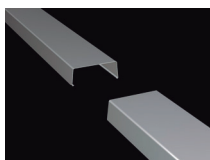
- The roof must have a slope greater than 10%.
- The purlin on which the transverse overlap of panels will be carried out shall have a minimum width of 100 mm.
- The minimum length of the overlap will be 200 mm.
- There must be a minimum offset of 50 cm between overlapping panels and overlapping flashing.

Transverse overlap between roof panels with flashing (designed for waters of considerable length, where the maximum panel size is insufficient).

The roof insulation panels are created with an efficient overlap system (length 200 mm) from the same manufacturing line on request. The overlap between two consecutive panels thus becomes a safe and simple operation since the product undergoes quality control in the same factory.



To resolve the overlap between the flashings of the panel, proceed as indicated in the following figures, taking into account to never perform the panel overlap at the same point as the flashing overlap.



STANDARDS APPLIED

Ref. Standard	Description
EN 14509-2014	Metal double-sided insulated self-supporting sandwich panel. Products made at the factory. Specifications.
EN 13823	Reaction to fire tests of construction products. Construction products, excluding floor coverings exposed to thermal attack caused by a single burning object.
EN 10169	Flat steel products, continuous coated with organic materials (pre-painted). Technical supply conditions.
EN 13501	Classification based on the fire performance of construction products and building elements. Part 1.

RESISTANCE TABLES

ROOF PANEL 3 RIBS

 MAXIMUM PRESSURE AND SUCTION LOAD VALUES (m/n) in kp/m²

Panel thickness (mm)	d	30				40				50				
Thickness of faces (mm)	e1/e2	0.4/0.4	0.5/0.4	0.5/0.5	0.6/0.5	0.4/0.4	0.5/0.4	0.5/0.5	0.6/0.5	0.4/0.4	0.5/0.4	0.5/0.5	0.6/0.5	
SPAN (L) FOR 1 OPENING	1.5	283/285	282/285	281/284	279/283	282/285	281/284	280/284	279/283	282/285	281/284	280/283	278/282	
	2.0	209/212	208/211	207/211	206/210	209/212	208/211	207/210	206/209	208/211	207/211	206/210	205/209	
	2.5	165/168	164/167	163/167	162/166	165/168	164/167	163/166	162/165	164/167	163/167	162/166	161/165	
	3.0	129/129	135/138	134/137	133/136	136/138	134/138	133/137	132/136	135/138	134/137	133/136	132/136	
	3.5	97/97	107/98	111/111	112/115	115/117	114/117	112/116	111/115	114/117	113/116	112/115	111/115	
	4.0	72/71	79/71	83/83	89/89	99/89	98/90	97/100	96/99	98/101	97/101	96/100	95/99	
SPAN (L) FOR 2 OPENINGS	1.5	283/285	282/285	281/284	279/283	282/285	281/284	280/284	279/283	282/285	281/284	280/283	278/282	
	2.0	209/210	208/211	207/211	206/210	209/212	208/211	207/210	206/209	208/211	207/211	206/210	205/209	
	2.5	144/144	164/167	163/167	162/166	165/167	164/167	163/166	162/165	164/167	163/167	162/166	161/165	
	3.0	104/104	123/123	123/123	133/136	123/123	134/138	133/137	132/136	135/138	134/137	133/136	132/136	
	3.5	73/73	80/80	80/80	86/86	93/93	110/110	110/110	111/115	107/107	113/116	112/115	111/115	
	4.0	46/46	51/51	50/50	54/54	70/70	75/75	75/75	79/79	85/85	97/99	96/99	95/99	
SPAN (L) FOR 1 OPENING	4.5	29/29	31/31	30/30	32/32	47/47	50/50	49/49	51/51	67/67	71/71	70/70	72/72	
	Panel thickness (mm)	d	60				80				100 / 120			
	Thickness of faces (mm)	e1/e2	0.4/0.4	0.5/0.4	0.5/0.5	0.6/0.5	0.4/0.4	0.5/0.4	0.5/0.5	0.6/0.5	0.4/0.4	0.5/0.4	0.5/0.5	0.6/0.5
	SPAN (L) FOR 1 OPENING	1.5	281/284	280/283	279/283	278/282	280/283	279/283	278/282	277/281	280/283	279/283	278/282	277/281
		2.0	208/211	207/210	206/209	207/208	207/210	206/209	205/209	203/208	207/210	206/209	205/209	203/208
		2.5	164/167	163/166	162/165	160/164	163/166	162/165	161/165	159/164	163/166	162/165	161/165	159/164
3.0		134/138	133/137	132/136	131/135	133/137	132/136	131/135	130/134	133/137	132/136	131/135	130/134	
3.5		114/117	112/116	111/115	110/114	112/116	111/115	110/114	109/113	112/116	111/115	110/114	109/113	
4.0		98/101	97/100	96/99	94/98	97/100	96/99	95/99	93/98	97/100	96/99	95/99	93/98	
SPAN (L) FOR 2 OPENINGS	4.5	86/89	84/88	83/87	82/86	84/88	83/87	82/86	81/85	84/88	83/87	82/86	81/85	
	1.5	281/284	280/283	279/283	278/282	280/283	279/283	278/282	277/281	280/283	279/283	278/282	277/281	
	2.0	208/211	207/210	206/209	204/208	207/210	206/209	205/209	203/208	207/210	206/209	205/209	203/208	
	2.5	164/167	163/166	162/165	160/164	163/166	162/165	161/165	159/164	163/166	162/165	161/165	159/164	
	3.0	134/138	133/137	132/136	131/135	133/137	132/136	131/135	130/134	133/137	132/136	131/135	130/134	
	3.5	114/117	112/116	111/115	110/114	112/116	111/115	110/114	109/113	112/116	111/115	110/114	109/113	
SPAN (L) FOR 2 OPENINGS	4.0	96/96	97/100	96/99	94/98	97/100	96/99	95/99	93/98	97/100	96/99	95/99	93/98	
	4.5	77/77	84/88	83/87	82/86	84/88	83/87	82/86	81/85	84/88	83/87	82/86	81/85	

Permissible service loads, uniformly distributed in kg/m². The tables have been obtained based on the experimental results determined in the laboratory and the established calculation methodology, in accordance with the provisions of the UNE-EN 14509 standard. These results comply with the Ultimate Limit States prescribed in said standards and with a limitation of the Serviceability Limit State for deformations of L/200.