AGRO 3GR PANEL
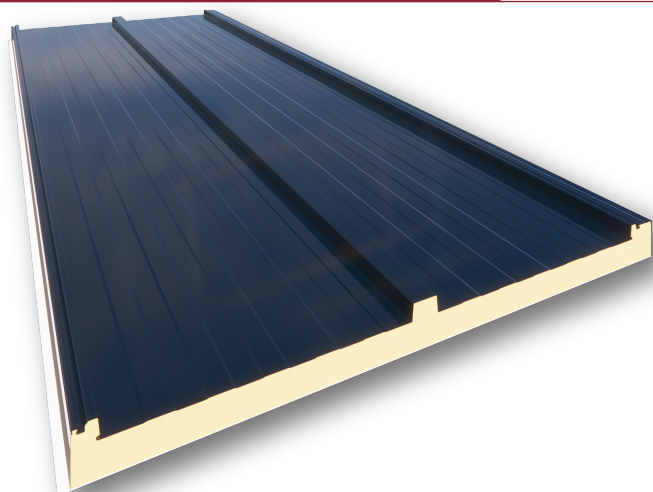
ROOF PANEL WITH FLASHING FOR AGRICULTURAL USE

EXTERIOR FACE
Pre-painted steel

INSULATION
Polyurethane (PUR)

INTERIOR FACE
Polyester

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

USEFUL WIDTH
1000 mm (39.37 in.)

USE
Sloping roof surfaces

ISO 9001
BUREAU VERITAS
Certification

BUREAU VERITAS
1828

CE

TECHNICAL SPECIFICATIONS

Sandwich panel for inclined roofs, in which a polyester sheet is placed on its interior face. A roof panel specially designed for agricultural facilities. Recommended for use in areas of strong corrosion and harsh environments. Its interior cladding is made from polyester resin and reinforced with fiberglass.

THERMAL INSULATION

RIBBED PANEL	HEAT TRANSFER		WEIGHT (sheet 0.5)
Nominal thickness in mm (in.)	K in Kcal/ m²·h. °C	K in W/m²·k	Kg/m²
30 (1.18)	0.58	0.68	5.90
40 (1.57)	0.45	0.53	6.30
50 (1.97)	0.36	0.43	6.70

The weight does not include the proportional part of the accessory elements.

MAIN CHARACTERISTICS OF THE 30 mm (1.18 in.) PANEL	
Nominal thickness	30 mm (1.18 in.) (± 3 mm/0.12 in.)
Average foam density	40 kg/m³ (±10%)
Weight	5.90 kg/m²
Volume	30 m²/m³
Useful width	1000 mm (39.37 in.) (± 3 mm/0.12 in.)
Straightness	0 mm (± 5 mm/0.20 in.)
Contraction - Inflection lengthwise	0 mm (± 5 mm/0.20 in.)
Compressive strength	0.096 MPa
Tensile strength	0.092 MPa
Fire resistance PUR-UNE 13501-1	F

GEOMETRIC SPECIFICATIONS

Units: mm (inches)

28.5 (1.12) 43 (1.69)

1000 (39.37)

87

35
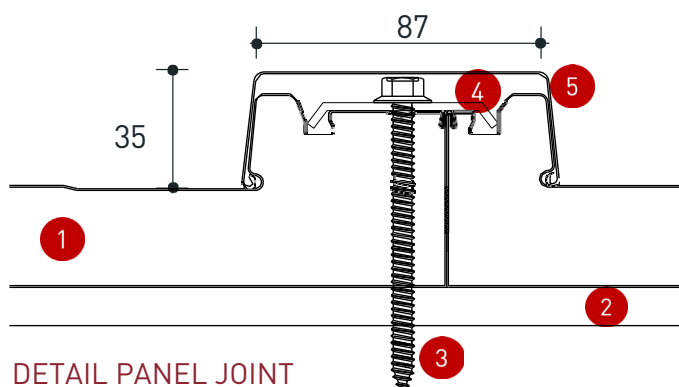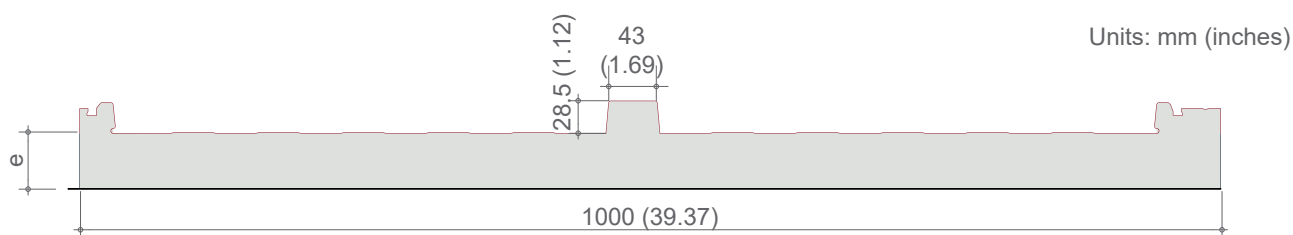
DETAIL PANEL JOINT

1. HIANSA ROOF PANEL
2. ROOF PURLINS
3. HIANSA PANEL FIXING SCREW
4. HIANSA PANEL CLAMPING STAPLE
5. HIANSA PANEL FLASHING

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.

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.

OVERLAP DETAIL

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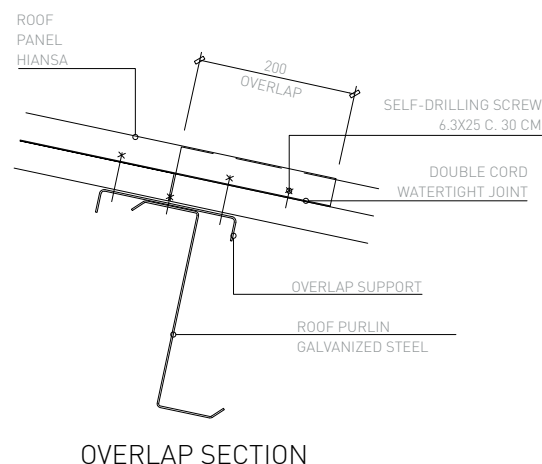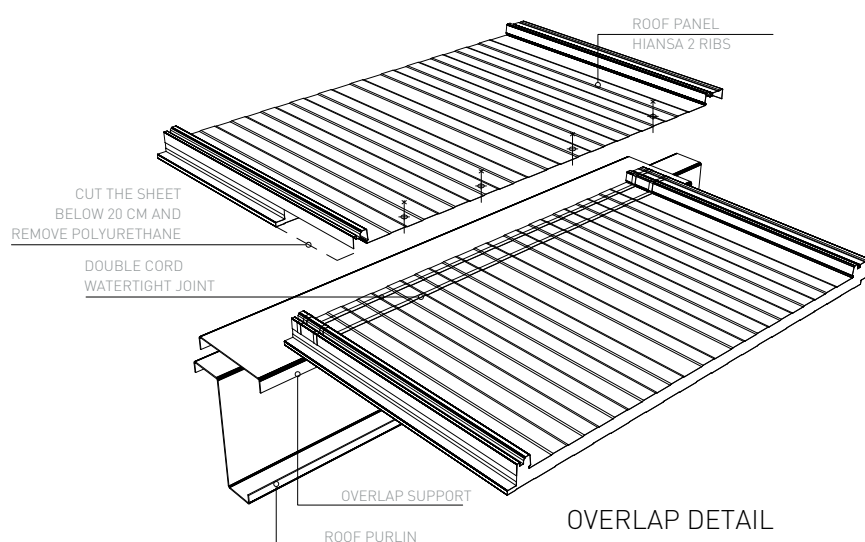
To resolve the overlap between the flashings of the panel, proceed as indicated in the following figures, taking into account to never perform the panel overlap at the same point as the flashing overlap.
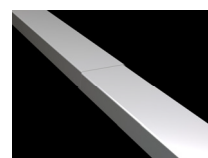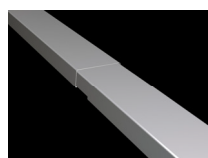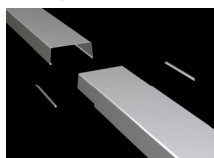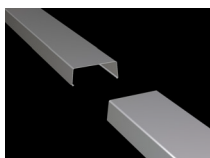
RESISTANCE TABLES

PANEL - sheet 0.3 - (kg/m^2)

L	1 opening		2 openings	
	Pressure	Suction	Pressure	Suction
1.0	142	169	159	151
1.2	92	118	109	107
1.4	62	76	79	80
1.6	40	53	59	62
1.8	-	39	46	50
2.0	-	-	-	41
2.2	-	-	-	-
2.4	-	-	-	-

PANEL - sheet 0.4 - (kg/m^2)

L	1 opening		2 openings	
	Pressure	Suction	Pressure	Suction
1.0	201	224	212	212
1.2	138	156	146	149
1.4	87	101	106	111
1.6	56	70	79	86
1.8	-	51	62	69
2.0	-	-	49	57
2.2	-	-	39	48
2.4	-	-	-	42

PANEL - sheet 0.5 - (kg/m^2)

L	1 opening		2 openings	
	Pressure	Suction	Pressure	Suction
1.0	263	278	265	276
1.2	181	195	182	194
1.4	113	125	132	144
1.6	73	86	100	112
1.8	49	63	77	90
2.0	-	48	61	74
2.2	-	-	50	62
2.4	-	-	41	53
2.6	-	-	-	46
2.8	-	-	-	41

PANEL - sheet 0.6 - (kg/m^2)

L	1 opening		2 openings	
	Pressure	Suction	Pressure	Suction
1.0	293	308	295	306
1.2	206	220	207	219
1.4	133	145	152	164
1.6	88	101	115	127
1.8	59	73	87	99
2.0	-	53	66	79
2.2	-	-	54	66
2.4	-	-	44	56
2.6	-	-	-	51
2.8	-	-	-	45

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.

To determine the resistance of the panel, only the contribution of the upper profiled steel sheet has been considered. This simplification is frequent in the calculation of this type of "agropanel", since there is no specific standard that determines the procedure for calculating self-supporting sandwich panels where one of the sides is not metallic.