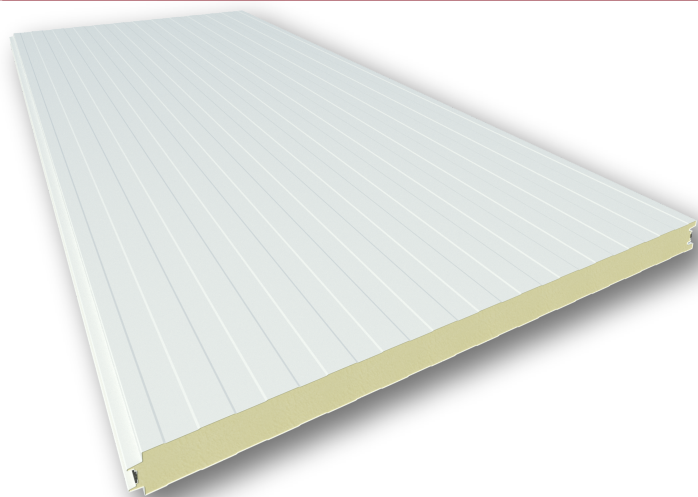


REFRIGERATION PANEL
WALLS AND CEILINGS PANEL

EXTERIOR FACE
 Pre-painted steel

INSULATION
 Polyurethane (PUR) and
 Polyisocyanurate (PIR)

INTERIOR FACE
 Pre-painted steel

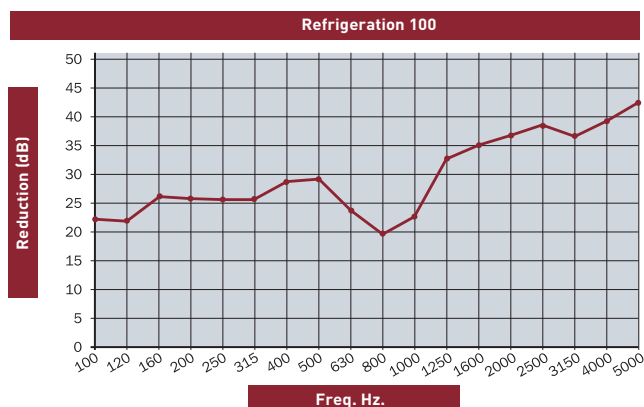
THICKNESSES mm (in.)
60/80/100/120/140/160
180/200
 (2.36/3.15/3.94/4.72/5.51/6.30/
 7.09/7.87)

USEFUL WIDTH:
 1100 mm (43.31 in.)

USE
 Cold rooms
 and partitioning

TECHNICAL SPECIFICATIONS

Refrigerated sandwich panel and partitioning comprised of 2 steel sheets and a polyurethane (PUR) or polyisocyanurate (PIR) insulating foam core on the inside which guarantees maximum thermal and acoustic insulation. The type of ribbing and the thickness of the steel determine the maximum length of the panel both vertically and horizontally. The design of the seal provides airtightness and modifies the fire-resistance characteristics of the seal. It is offered with several pre-painted options depending on the environment where it needs to be placed.

ACOUSTIC INSULATION

MAIN CHARACTERISTICS OF THE 100 mm (3.94 in.) PANEL

Nominal Thickness	100 mm (3.94 in.) (±3 mm/0.12 in.)
Average foam density	42 kg/m ³ (±10%)
Weight	12.92 kg/m ³
Volume	30 m ² /m ³
Useful width	1100 mm (43.31 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	until B-s2-d0 *
Fire resistance PIR-UNE 13501-1	until B-s1-d0 *
Behavior against fire on the exterior	Broof (t1) for sheet thickness →0.4 mm

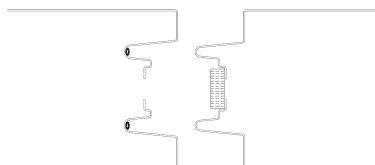
(*) consult regarding other classifications

THERMAL INSULTATION & WEIGHT
TECHNICAL SPECIFICATIONS

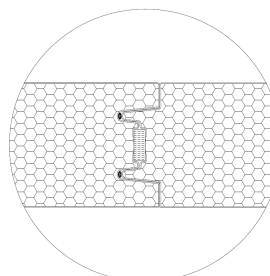
Thickness (mm)		60 (2.36)	80 (3.15)	100 (3.94)	120 (4.72)	140 (5.51)	160 (6.30)	180 (7.09)	200 (7.87)
Heat transfer coefficient (k)	Kcal/h m ² °C	0.270	0.200	0.160	0.130	0.120	1.100	0.090	0.080
	W/m ² °C	0.318	0.241	0.194	0.162	0.140	0.122	0.109	0.098
Panel weight - 0.5/0.5 mm	kg/m	11.32	12.12	12.92	13.72	14.52	15.32	16.12	16.92

GEOMETRIC CHARACTERISTICS

Units: mm (in.)



UNION JOINT PANEL DETAIL

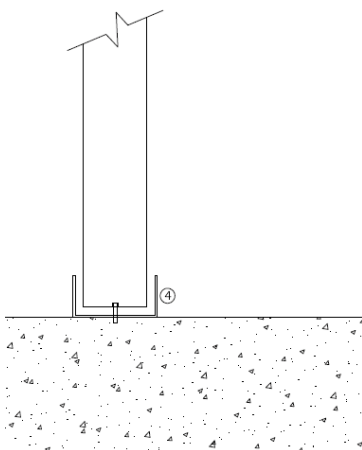


STANDARDS APPLIED

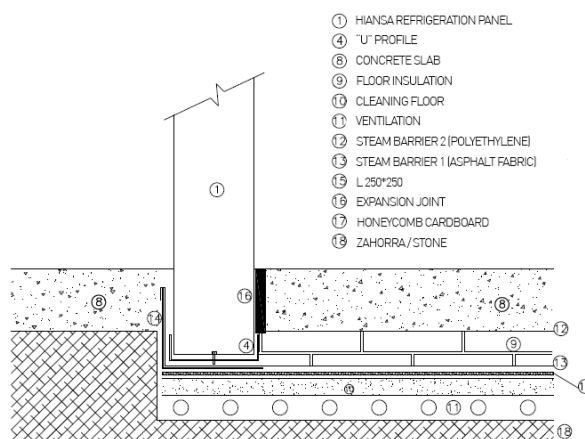
Ref. Standard	Description
EN 14509-2014	Metal double-sided insulated self-supporting sandwich panel. Products made at the factory. Specifications.
EN 13823	Reaction to fire tests of construction products. Construction products, excluding floor coverings exposed to thermal attack caused by a single burning 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

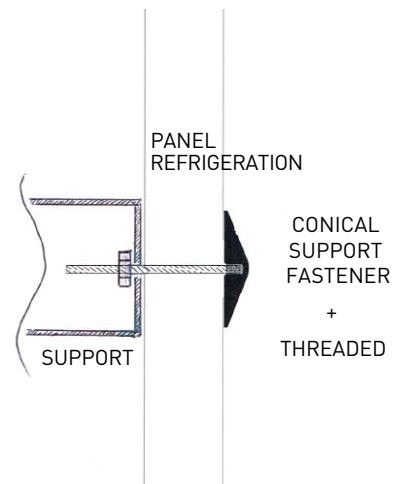
The panel can be mounted both vertically and horizontally by means of the tongue-and-groove joint, ensuring in both cases the continuity of the exterior wall, which guarantees optimal thermal and acoustic performance.



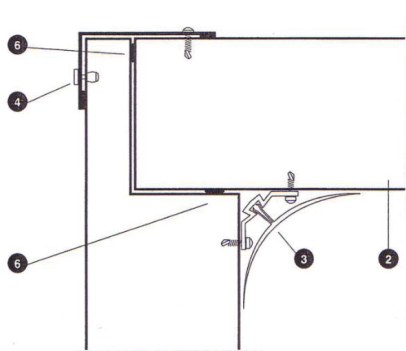
BASE OF CONSERVATION PANEL



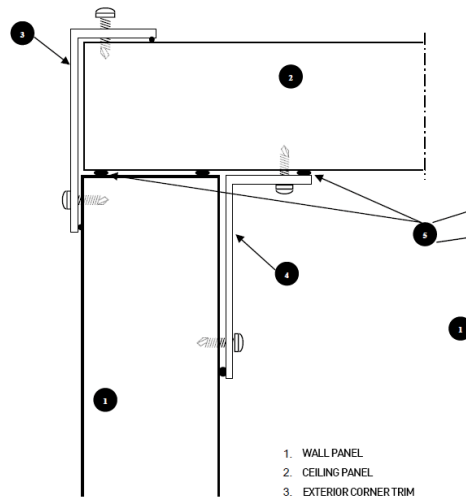
BASE OF FREEZING PANEL



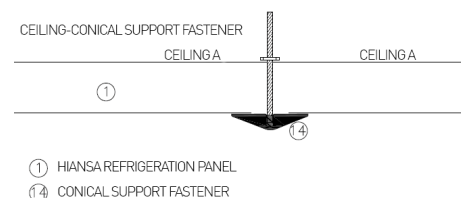
FAÇADE SUPPORT BY CONICAL SUPPORT FASTENER



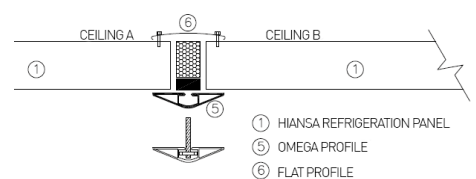
PRESENTATION STORAGE PANEL



PRESENTATION FREEZING PANEL



SUSPENDED CEILING BY CONICAL SUPPORT FASTENER



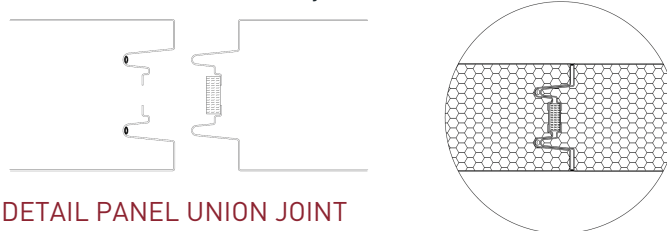
OMEGA SUSPENDED CEILING

BASIC RECOMMENDATIONS FOR ASSEMBLY

- The floor on which the sandwich panels will be placed must be completely level, free of obstacles and smooth.
- If the panel is mounted to a support structure, the planimetry will be checked in all directions of the structure to ensure a correct finish. If there is a "galvanic pair", an EPDM separator or similar will be placed between the panel and the structure.
- Once the panels are installed, the lead (walls) and the level (ceilings and roofs) will always be checked, correcting any type of deviation that is detected.
- The panel's own tongue-and-groove joint system will be secured, pressing one against the other until the correct position is obtained. This joint is sufficiently watertight and airtight for practically all cases of application on site without the need for any additional element, provided that it is done correctly.
- The joints will be made according to the construction details of the previous point, depending on each type of installation.
- Depending on the use for which the premises are intended or even in the case of any particular requirement, it is possible to apply a joint on site.

The choice will depend on the type of joint for each case, and may be:

- Silicone joint:** For air and water tightness.
- Butyl joint:** For water vapor tightness.
- Injected foam gasket on site:** To ensure insulation in the joints without tongue and groove in the negative temperature chambers.



DETAIL PANEL UNION JOINT

- Silicone for joints, can be used for technical reasons or also for aesthetic reasons. When it comes to technical reasons, we can find the following cases:

Conservation chambers

Silicone is applied to the joints of the panels on the visible faces and also the panel profile joint. This is done to prevent the proliferation of bacteria and molds. Silicone should be neutral and fungicidal.

Freezing chambers

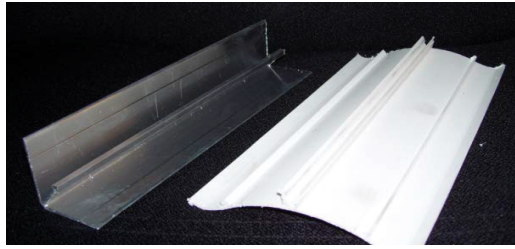
Applying silicone to the joints of the panels both on the interior and exterior and the panel joints with the profiles of the faces of the chamber to give continuity to the vapor barrier formed by the steel and to prevent the passage of water into the chamber, which would first condense and then freeze, thereby breaking the bonds, the polyurethane cells and would increase the conductivity of the foam.

In the case of aesthetic reasons, it is usually used to hide the joint between panels and to cover any small defect, both of panel assembly and of finishing assembly.

- The mounting of roof panels to building structures will be carried out by means of rods or tensioning cables. The structure of the building will be calculated to withstand both the usual overloads and those caused by the weight of the panels.
- The spans determined in the panel resistance table must never be exceeded during assembly or once installed.
- The cold production equipment with its accessories cannot be hung directly from the panels. A separate hanging system is necessary for them, which goes directly to the structure.
- In case of having to cut panels, a circular saw or a saw with blade or disc suitable for metal cutting must be used. The use of a radial cutter is totally discouraged, because its cutting by abrasion significantly damages the sheet and its coating during the cutting. The cutting line must be protected with an adhesive or bodywork tape, where the cut will be marked and the cutting will be done. If necessary, the sheet metal edge will be filed in the cut made to eliminate possible burrs or roughness. In any case, all metal chips that are produced will be immediately removed to avoid rust stains on the panel.
- The use of the correct screws will be ensured at all times and placed with their correct pressure. The use of machines with a pressure limiter is recommended to avoid dents in the panels.
- Remove the plastic film that protects the panels as soon as possible, if it has been manufactured with such protection.
- Once the installation is completed, the sealing of single points will be reviewed, any nicks or scratches that may have occurred during assembly shall be repaired and all panels shall be thoroughly cleaned to remove any metal or other type of debris.
- In a complementary way, it is also recommended that Hiansa Panel's GUIDE TO SANDWICH PANEL OPERATIONS be followed.

ACCESSORIES

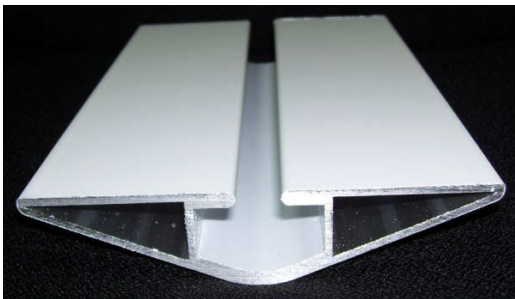
The Hiansa cold storage panels have accessories to facilitate their assembly, such as omega single-point support pieces, conical support fasteners and concave sanitary trims in aluminum + PVC that, combined with threaded bars with their nuts or steel cables with clips, help in mounting the panels to the structure.



(1)

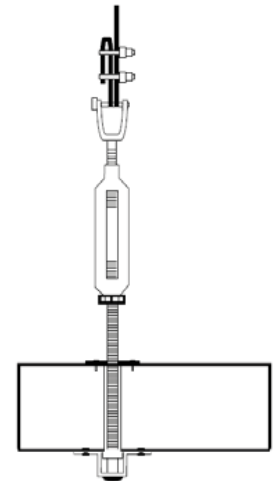
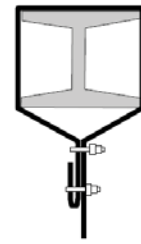


(2)



(3)

1. Alu + PVC profile for sanitary projects
2. Conical single-point support fastener
3. Continuous omega ceiling support



EXAMPLE OF SUSPENDED CEILING SYSTEM

RESISTANCE TABLES

	Panel thickness (mm)	Spans (m)															
	0.5/0.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5
1 OPENING (2 SUPPORTS)	60	198	128	94	64	45	30										
	80	281	179	129	93	73	52	28									
	100	331	228	180	150	118	96	78	64	41							
	120	364	293	230	190	151	120	96	76	63	32						
	140		380	291	231	184	147	121	99	82	54	34					
	160			334	268	213	176	147	123	100	83	69	48				
	180			359	299	240	207	173	146	119	98	82	70	51	27		
	200			383	333	277	230	200	170	141	116	98	85	73	63	22	
	Panel thickness (mm)	Spans (m)															
	0.5/0.5	2	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5			
2 OR MORE OPENINGS (3 OR MORE SUPPORTS)	60	303	216	152	111	90	67	52									
	80	362	287	223	174	138	105	83	65	54							
	100		391	282	210	167	133	108	89	75	63	54					
	120		403	311	271	231	188	153	121	102	83	72	58	51			
	140		416	334	288	245	202	168	136	116	96	85	69	59			
	160			400	341	289	243	208	175	152	131	111	94	81			
	180			439	377	320	270	229	196	169	146	124	108	94			
	200			468	402	344	291	248	211	182	158	142	122	109			

Permissible service loads, uniformly distributed in kg/m². The tables have been obtained based on a calculation methodology established in accordance with the provisions of the EAE-2012 standard and the EC-3, considering only the upper steel sheet as a structural element. These results comply with the Ultimate Limit States of normal and tangential stresses prescribed in said standards and with a limitation of the Serviceability Limit State for deformations of L/200.

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