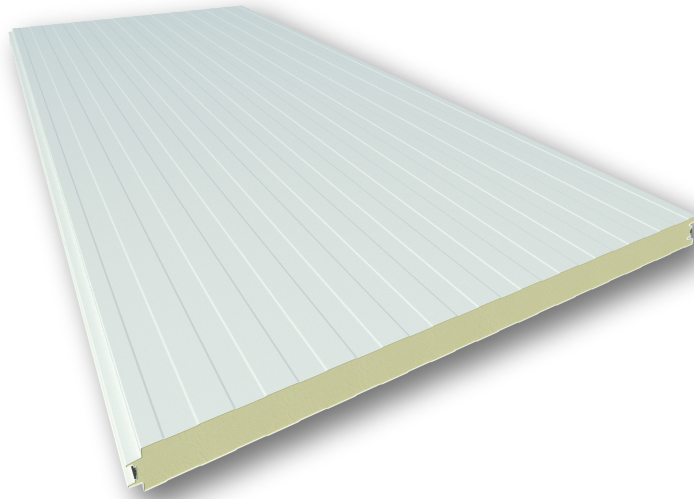


HF - REFRIGERATION PANEL
WALL PANEL - HF


EXTERIOR FACE
Pre-painted steel
≥0.5 mm thickness

INTERIOR FACE
Pre-painted steel
≥0.5 mm thickness

USEFUL WIDTH
1100 mm (43.31 in.)

INSULATION
Polyisocyanurate
High-density PIR

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)

USE
Cold rooms and partitioning
with fire-resistant roof


TECHNICAL SPECIFICATIONS

Refrigerated sandwich panel and partitioning comprised of 2 steel sheets and a high-density polyisocyanurate (PIR) insulating foam core on the inside which guarantees maximum thermal insulation and behavior against fire. 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.

FM GLOBAL - FM APPROVED

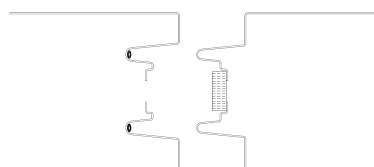
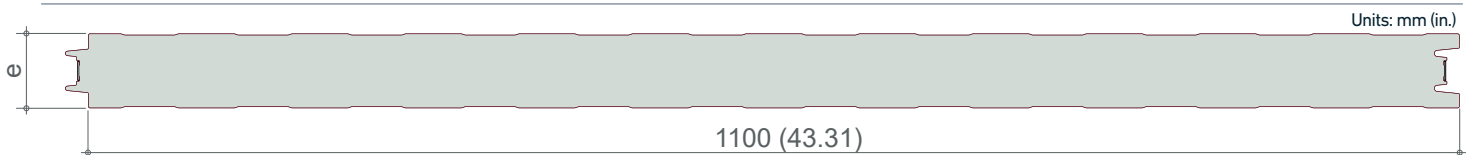
HIANSA PANEL has managed, through an extensive testing campaign, to obtain certification of its REFRIGERATOR panel for vertical interior cladding of buildings by the world famous insurance company FM GLOBAL, obtaining approval in accordance with the Class 4880 standards: CLASS 1 FIRE RATING OF BUILDING PANELS.


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

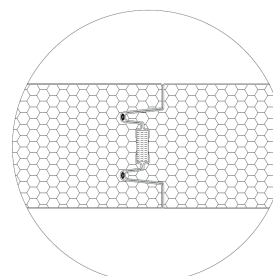
Nominal thickness	100 mm (3.94 in.) (±3 mm/0.12 in.)
Average foam density	42 kg/m ³ (±10%)
Weight	12.92 kg/m ²
Volume	10 m ² /m ³
Useful width	1100 mm (43.31 in.) (±3 mm/0.12 in.)
Straightness	0 mm (±5 mm/0.20 in.)
Contraction - Inflection lengthwise	0 mm (±5 mm/0.20 in.)
Compressive strength	0.096 MPa
Tensile strength	0.092 MPa
Fire resistance PIR-UNE 13501-1	B-s1-d0
FM - Approval Standard 4880 - Class 1	Fire Rating of Building Panels
FM - Height limitation	9.10 m (29.86 ft)
FM - Minimum panel length	2.40 m (7.87 ft)
FM - Finished trim	Pre-painted steel 150*150*1.2 mm (minimum)
FM - Fastening	Screws w/150 mm in panel/trims (minimum)
FM - Sealed	NOT necessary

THERMAL INSULATION AND 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
Weight of the panel	kg/m ²	11.32	12.12	12.92	13.72	14.52	15.32	16.12	16.92

GEOMETRIC SPECIFICATIONS


UNION JOINT PANEL DETAIL

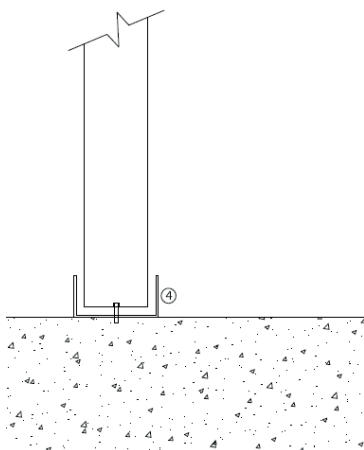


STANDARDS APPLIED

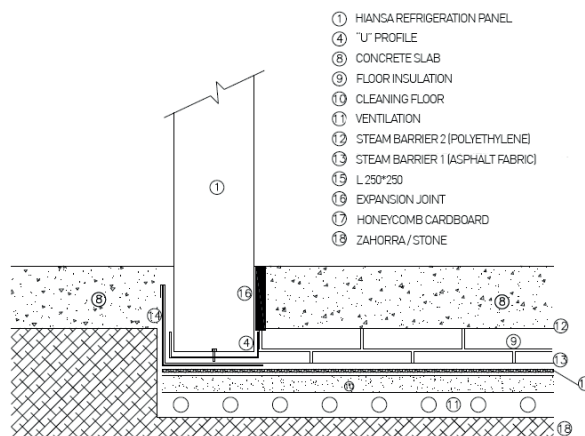
Ref. Standard	Description
EN 14509-2014	Metal double-sided insulated self-supporting sandwich panel. Products made at the factory. Specifications.
EN 13823	Reaction to fire tests of construction products. Construction products, excluding floor coverings exposed to thermal attack caused by a single burning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

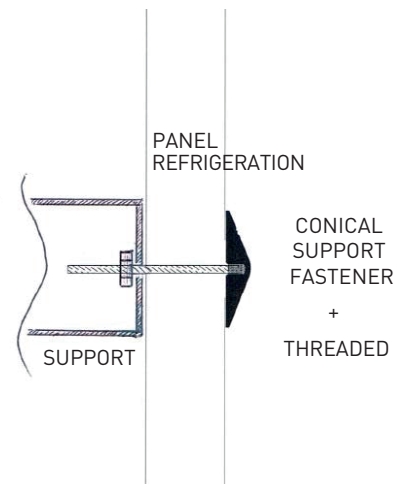
The panel can be mounted both vertically and horizontally by means of the tongue-and-groove joint, ensuring in both cases the continuity of the exterior wall, which guarantees optimal thermal and acoustic performance.



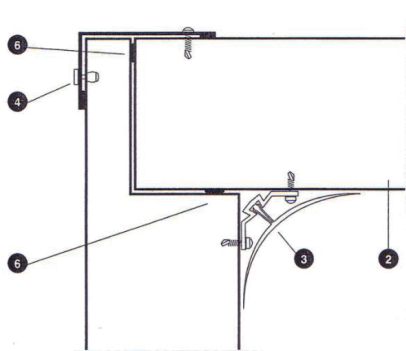
BASE OF CONSERVATION PANEL



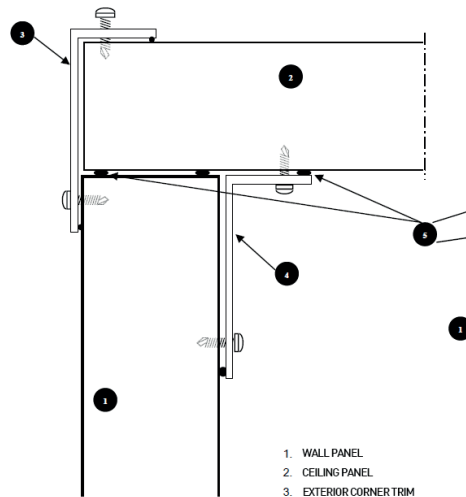
BASE OF FREEZING PANEL



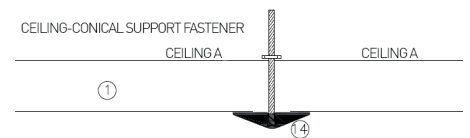
FAÇADE SUPPORT BY CONICAL SUPPORT FASTENER



PRESENTATION STORAGE PANEL

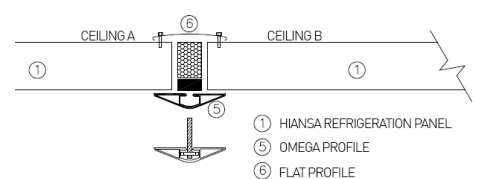


PRESENTATION FREEZING PANEL



- ① HIANSA REFRIGERATION PANEL
- ⑭ CONICAL SUPPORT FASTENER

SUSPENDED CEILING BY CONICAL SUPPORT FASTENER

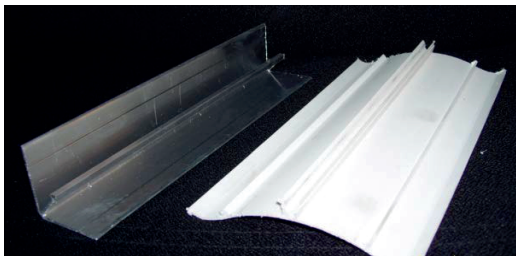


- ① HIANSA REFRIGERATION PANEL
- ⑤ OMEGA PROFILE
- ⑥ FLAT PROFILE

SUSPENDED CEILING BY OMEGA SINGLE-POINT SUPPORT PIECE

ACCESSORIES

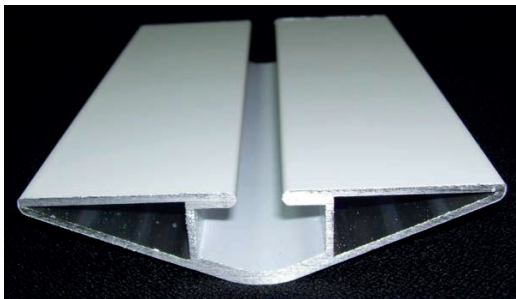
The Hiansa cold storage panels have accessories to facilitate their assembly, such as omega single-point support pieces, conical support fasteners and concave sanitary trims in aluminum + PVC that, combined with threaded bars with their nuts or steel cables with clips, help in mounting the panels to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



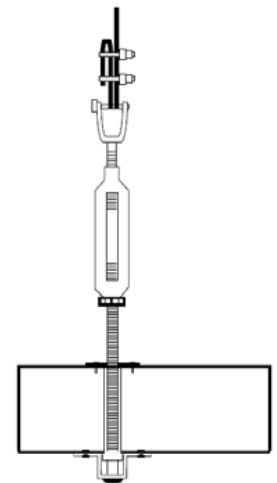
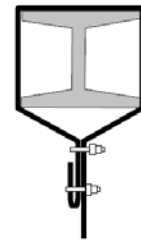
(1)



(2)



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) 0.5/0.5	Spans (m)															
		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	
2 OR MORE OPENINGS (3 OR MORE SUPPORTS)	Panel thickness (mm) 0.5/0.5	Spans (m)															
		2	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5			
	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.

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.
- 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.