INSULATED COLD STORAGE SANDWICH PANELS

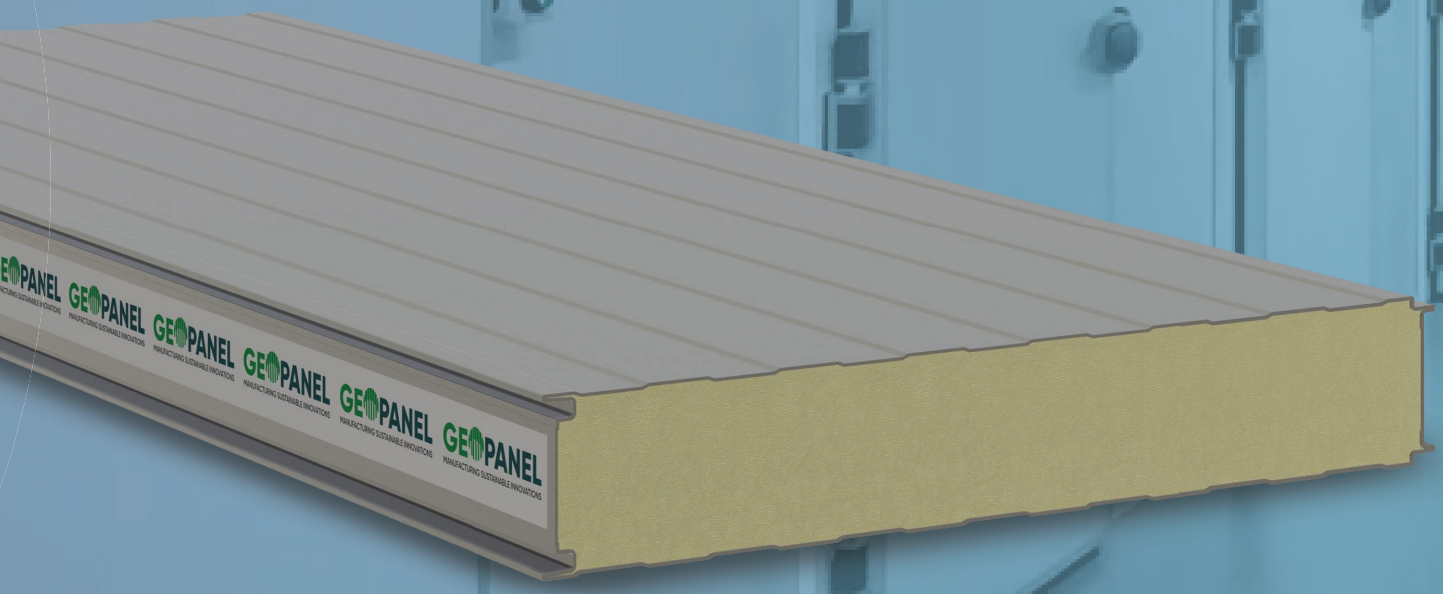


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WITH GEOPANEL INSULATED COLD STORAGE SANDWICHPANELS, TEMPERATURE IS UNDER YOUR CONTROL



With Geopanel Insulated Cold Storage Sandwich Panels, which ensure perfect thermal and humidity insulation in your cold storage, by Qatar's leading sandwich panel manufacturer, the temperature is only under your control.

Geopanel Insulated Cold Storage Sandwich Panels, which have the perfect joining details and high insulation feature, are the best choice for preserving not only food products but also chemical and medical products in healthy and hygienic environments under desired temperatures for a long time.

WHY INSULATED SANDWICH PANEL FOR COLD STORAGES?



High Thermal and Humidity Insulation

The most suitable building material for the insulation of your cold storage areas against thermal and humidity is sandwich panels. The reason is that sandwich panels prevent heat gain or heat loss between indoor and outdoor areas and ensure perfect thermal insulation so that products requiring preservation under a certain temperature are kept healthy, durable and long-lasting.

In addition, insulated cold storage sandwich panels provides humidity insulation by preventing condensation arising from the temperature and humidity pressure difference between the outside atmosphere and the cold room.

As a result, they prevent problems such as mold and humidity, which helps your building to become much more durable and long-lasting



Air and Water Tightness with Perfect Joint Detail

Thanks to the joint details of Geopanel Insulated Cold Storage Sandwich Panels, which ensure perfect assembly, your building is entirely protected against air and water leakage. Thus, you take control of heating and cooling process in your building, ensuring energy efficiency.

Geopanel Insulated Cold Storage Sandwich Panels also prevent humidity and mold because of waterproof against wet weather conditions.



Flexible Production, Quick and Easy Installation

Manufactured in continuous lines, insulated cold storage sandwich panels are prepared as per the size, insulation type and color according to the needs of your project, in contrast to traditional systems. They are produced as perfectly compatible pieces ready to install, reengineered and controlled beforehand at the factory.

With different joint detail alternatives insulated cold storage sandwich panels offer you energy efficient, hygienic and safe environments. Produced at various thicknesses ranging from 80 mm to 200 mm, cold storage sandwich panels have lined and flat surface types, as well as stainless steel and PVC laminated surface options. Sandwich panels reduce the shipping and handling time of the products, because of its composite and lightweight features. Also it can be covering large surfaces and having few joint points make the installation is easier and quicker. Thus, your project will be delivered in a short time, you will save time.



Economical Solution

You provide excellent thermal and moisture insulation in your cold storage with the most suitable sandwich panel to be determined by your selection of PUR or PIR insulation materials according to the needs of your building. In addition you also save energy by keeping the energy consumed to a minimum level to keep the cooling air at the same temperature.

Geopanel Insulated Cold Storage Sandwich Panels offer you cost advantages as, in transportation and basic construction with its lightness, in assembly workmanship with its ability to cover large surfaces, and in maintenance cost with its durability.

Thanks to the possibility of quick and easy assembly, sandwich panels are very economic and practical so you save time and you can expand and renew your building without affecting indoor activities.

USAGE AREAS OF INSULATED COLD STORAGE SANDWICH PANELS



Cleanroom

It refers to specially designed closed areas that are kept under constant pressure in order to determine the amount of airborne particles, minimize their entry, formation and retention within the room, as well as to control atmospheric conditions (such as ventilation, temperature, relative humidity and pressure) and other relevant parameters, in cases where product sterilization is required.

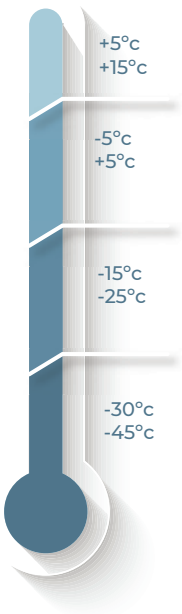
Geopanel Insulated Cold Storage Sandwich Panels ensure the ideal ambient temperature and atmospheric control with thermal and moisture insulation for all products which require attention and diligent care. They prevent air inlet withtheir perfect joint detail. With stainless steel and PVC laminated surface options of insulated cold storage sandwich panels that can be easily cleaned, hygienic environments are provided.



Coldroom

Perishable products, such as agricultural and animal products as well as seafood, must be kept in a cold environment from their production to consumption. Cold rooms are areas insulated against the transfer of thermal and humidity from the external environment, where temperature and humidity levels are controlled, so that food products can be stored for a period longer than their normal storage time. In cold rooms, different storage methods are applied for different products.

Product Storage Methods in Cold Rooms



Cool Storage

Certain food groups and food processing areas are kept within this temperature range.

Cold Storage

It is the ideal temperature range for food products requiring to be kept fresh.

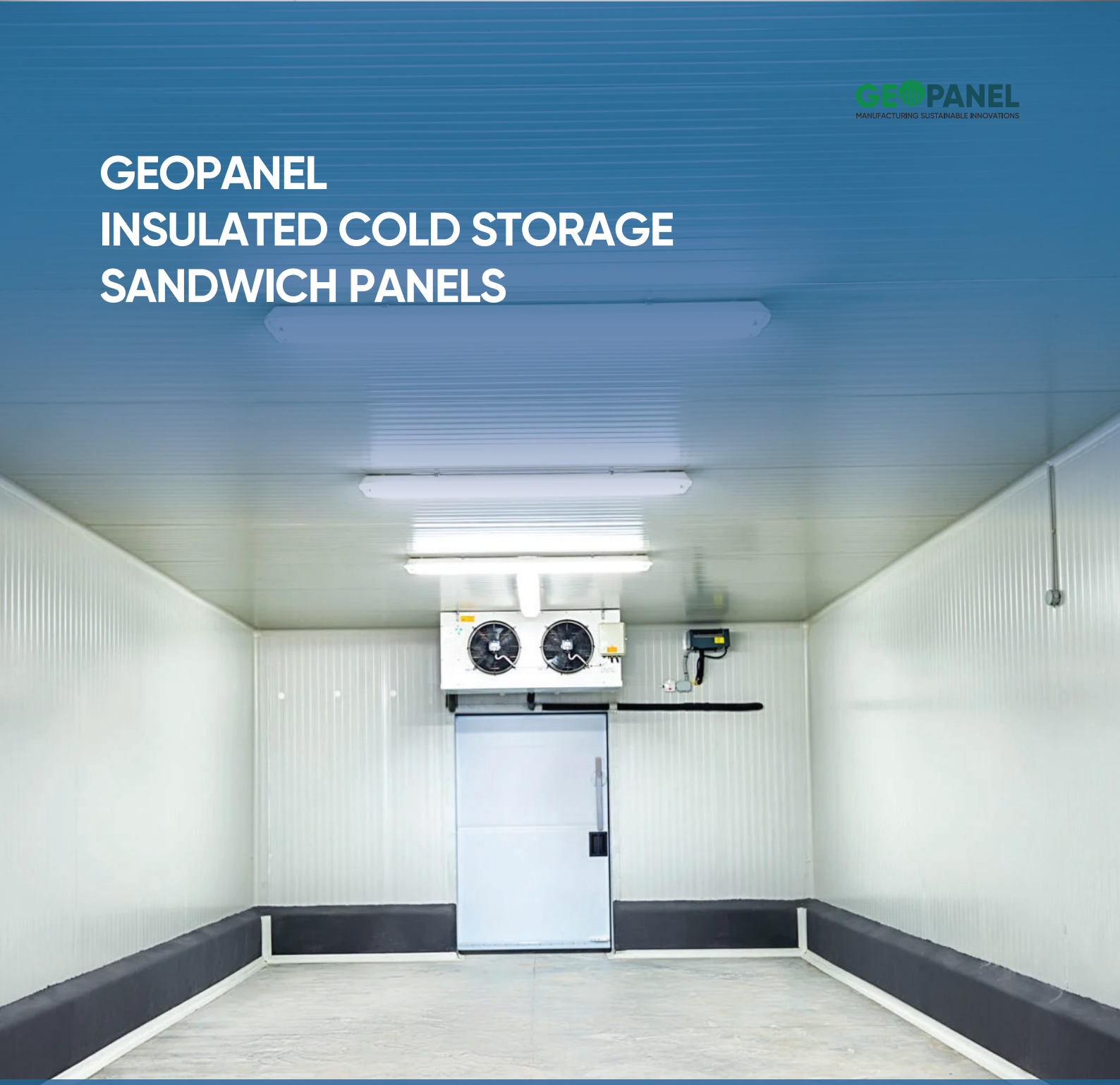
Frozen Storage

Frozen products, which are quick freezed and lowered to a central temperature of -18°C beforehand, are kept in frozen storage.

Quick Freezing

During the process of quick freezing, which is not a storage method, the central temperatures of fresh products are lowered to -18°C within a period of 4-7 hours.

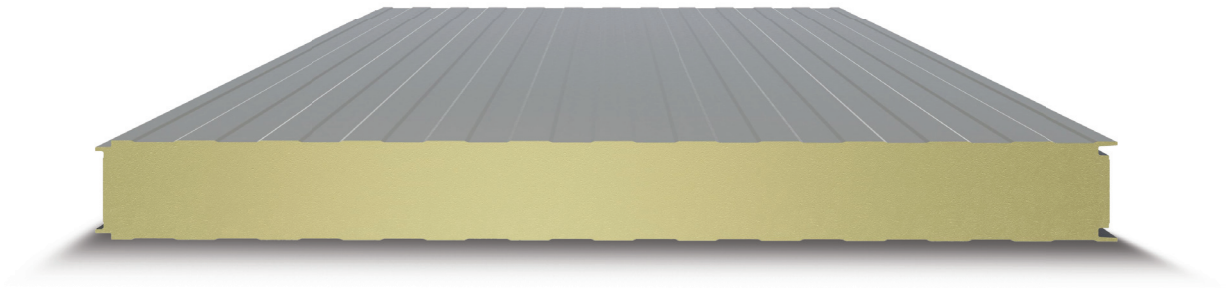
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Geopanel uses PUR and PIR insulation materials compliant to international standards. So that geopanel Insulated Cold Storage Panels ensure the perfect thermal and moisture insulation for your cold storage. With joint detail alternatives and thickness options from 80 mm to 200 mm* for different projects, Geopanel Insulated Cold Storage Sandwich Panels offer you high energy efficient, hygienic and safe environments. In addition, lined and flat surfaces, stainless steel and PVC laminated surface options, you are provided with suitable insulated cold storage sandwich panels for your facility.

*In sandwich panels, the thickness of the insulation material varies according to the load carrying capacity, regional conditions, the usage purpose of the building and the thermal insulation value

PUR/PIR INSULATED COLD STORAGE SANDWICH PANELS

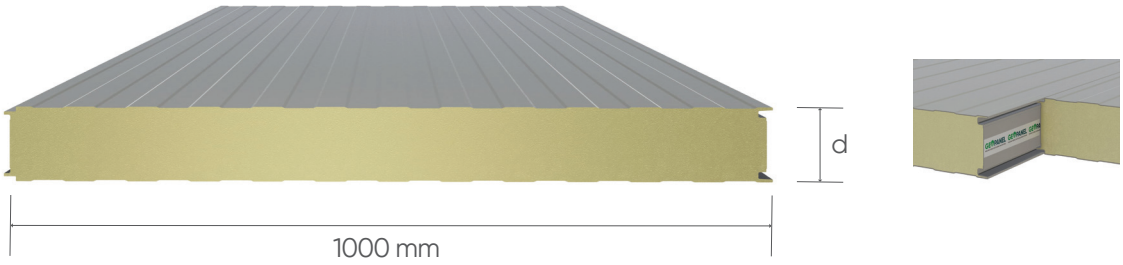


Features

- Lined and flat surface type options
- Prepainted galvanized steel, stainless steel or PVC laminated inner and outer sheet alternatives
- Fire performance according to TS EN 13501-1, B-s2; d0 for PUR insulated cold storage sandwich panels, B-s1; d0 for PIR insulated cold storage sandwich panels
- Production flexibility at any ordered length between 2 m - 12 m
- Core thickness options 80-100-120-150-180-200 mm
- According to TS EN 14509, U values range between 0,27 – 0,11 W/m2K depending on the panel thickness
- PUR and PIR insulation alternatives
  Certificates
- Production in Mersin, Izmir and Sakarya factories

Technical Specifications

PUR/PIR INSULATED COLD STORAGE SANMDWICH PANEL



Physical Data

Product	Core Thickness	Outer Sheet Thickness**	Inner Sheet Thickness**	Min. Length	Max. Length	Heat Transfer Coefficiant*	Thermal Resistance*
	d mm	t_{Ne} mm	t_{Ni} mm	m	m	U W/m²K	R m²K/W
PUR/PIR Insulated sandwich Panel	75	0.50	0.40	2	12	0.27	3.68
	100	0.60	0.50			0.18	5.52
	150	0.70	0.60			0.15	6.88
	200	0.80	0.70			0.12	8.25
			0.80			0.11	9.16

* Calculated according to TS EN 14509

** For further thickness options please contact Geopanel

Load Table

PUR/PIR INSULATED COLD STORAGE SANDWICH PANELS				Single span Uniformly Distributed Loads (kg/m²)									
Outer Sheet mm	Inner Sheet mm	Core Thickness mm	°C	span (m)									
				3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
0,50	0,50	75	Ext: 20°C Int: 0°C	173	128	102	85	73	64	57	46	38	32
		100		220	162	129	107	92	80	71	58	48	40
		150	Ext: 30°C Int: -20°C	312	230	184	153	132	116	103	90	74	61
		200		431	315	249	207	177	155	139	124	100	83

Calculated according to TS EN 14509.
Self weight, live load, wind load and temperature difference are taken into consideration.
L/200 is used as deflection limit.

The values have been calculated by Geopanel. Please contact Geopanel for the panels that are not shown at load table.

HeatTransmission

A useful guide for panel selection based on the operating temperatures is given below.

Panel selection should be based on the worst case result from both tables.The recommended minimum insulation value for Cold stores is 10W/m2 heat gain. (See IACSC Code of Practice for the Design of Coldstore Envelopes).

Panel Thickness (mm)	Declared Product	Temp Differance (-°C)																	
	R-Value(mK/W) at 23°C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
50	2.23	4.4	6.6	8.8	11	13.2	15.4	17.6	19.8	22	24.2	26.4	28.6	30.8	33	35.2	37.4	39.6	41.8
75	3.43	2.93	4.40	5.87	7.33	8.80	10.27	11.73	13.20	14.67	16.13	17.60	19.07	20.53	22.00	23.93	24.93	26.40	27.87
100	4.60	2.20	3.30	4.40	5.50	6.60	7.70	8.80	9.90	11.00	12.10	13.20	14.30	15.40	16.50	17.60	18.70	19.80	20.90
125	5.76	1.76	2.64	3.52	4.40	5.28	6.16	7.04	7.92	8.80	9.68	10.56	11.44	12.32	13.20	14.96	14.96	15.84	16.72
150	6.92	1.47	2.20	2.93	3.67	4.40	5.13	5.87	6.60	7.33	8.07	8.80	9.53	10.27	11.00	12.47	12.47	13.20	13.93
200	9.25	1.10	1.65	2.20	2.75	3.30	3.85	4.40	4.95	5.50	6.05	6.60	7.15	11.00	8.25	9.35	9.35	9.90	10.45

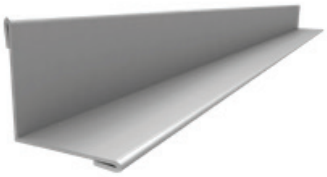


FLASHING AND COMPLEMENTARY PRODUCTS FOR INSULATED COLD STORAGE SANDWICH PANELS

Metal Flashings



Cold Storage Outer Corner



Cold Storage Inner Corner



Cold Storage Floor U





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