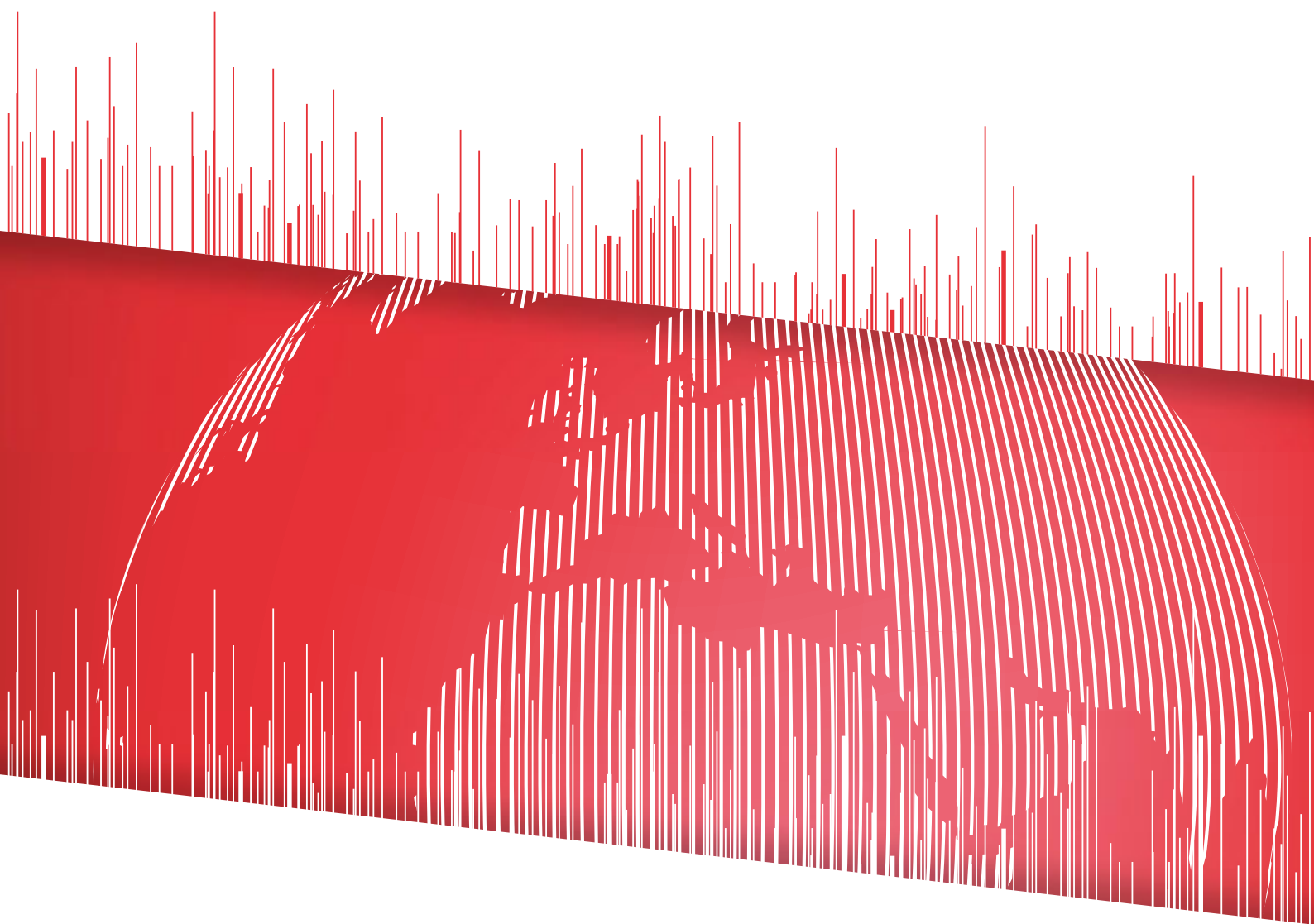




CATALOGUE  
2022 EDITION



ANNIVERSARY

YEARS



1990 - 2020

**DC** DC-SYSTEM  
IBERICA, S.A.U.

LIGHT END CONSTRUCTION · PROJECTS OF ALL SIZES · QUICK INSTALLATION · EXCEPTIONAL INSULATION · LOW MAINTENANCE COSTS · INNOVATION · LIGHT END CONSTRUCTION · PROJECTS OF ALL SIZES · QUICK INSTALLATION

4th Edition – January 2022

Dc-System is not responsible for errors or misinterpretations of the information contained in this catalog. It also reserves the right to modify, without prior notice, the data and values contained therein. These data do not constitute a contractual guarantee.



## INSULATION **PANELS**

DC-SYSTEM IBÉRICA, S.A.U. is a company of one of the most important groups worldwide, involved in the manufacture of insulation panels.

It's perfectly well known that for both economic and environmental reasons it is important to minimize energy consumption.

DC-SYSTEM is permanently listening to its customers' wishes. Our R+D department is in constant development trying to achieve the optimization and excellence in all its technical solutions.



# The company



## origins

The holding company *DC-SYSTEM INSULATION* was founded in Denmark in 1973 by the brothers Vagn and Villy Andersen, who were true pioneers in promoting the use of injected polyurethane in the food and agriculture sectors.

## quality

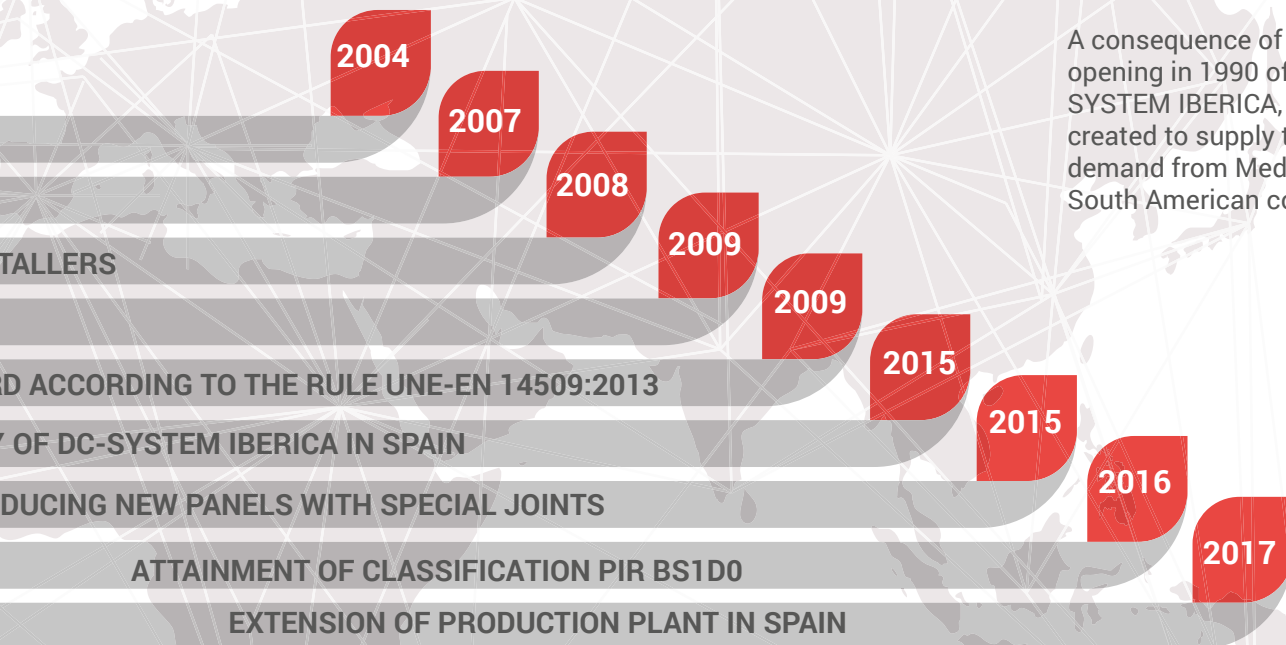
DC-SYSTEM has always placed the utmost importance on the quality control, proof of which, is the prestige which its products enjoy in the worldwide market. It is not surprising that DC-SYSTEM panels were also pioneers in obtaining the certification of Lloyd's Register of Shipping.



## consolidation

Today DC-SYSTEM is a consolidated group present in over 70 countries.

A consequence of this was the opening in 1990 of the factory DC-SYSTEM IBERICA, S.A. in Palencia, created to supply the increasing demand from Mediterranean and South American countries.



## projection

Nowadays the group has modern production plants; professional staff and a team of highlyqualified and experienced engineers. This can be clearly seen in the constant quest for improvement in R+D in line with the environmental requirements of the European Union.





# The energy saving

## we create some of the best panels for the industry

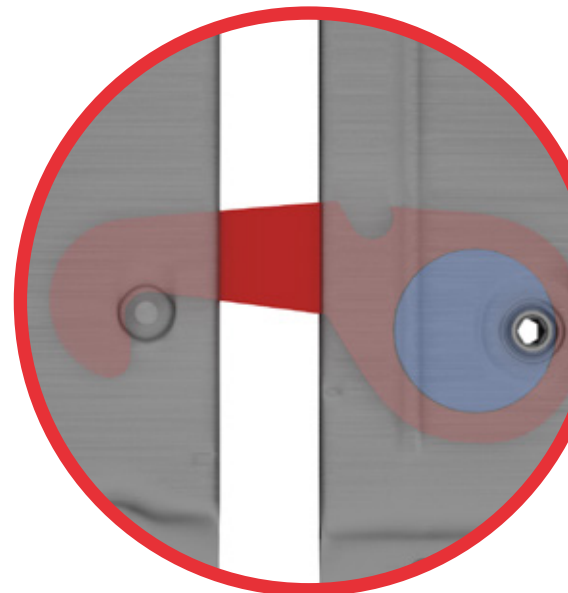
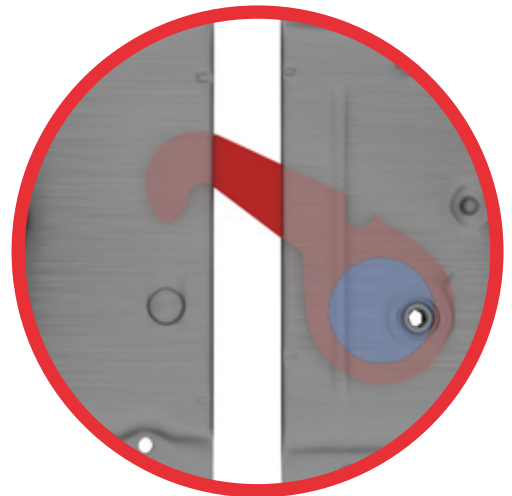
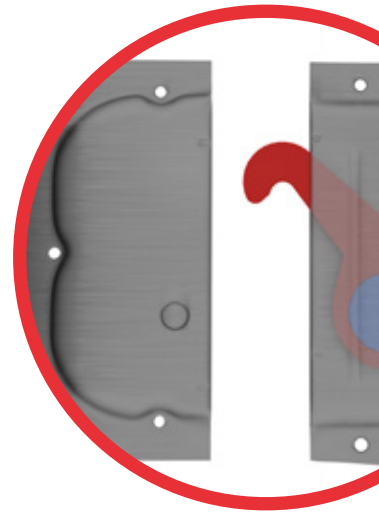
Injected polyurethane sandwich panel, with dry tongued and grooved joints and an interlocking system using eccentric galvanized steel hooks.

This panel offers excellent air and water tightness and provides control against temperature and moisture, which satisfies the strict requirements of the food and agriculture industries.

## simple assembly with perfect insulation

The DC-SYSTEM panel utilizes a joining system with eccentric clasps that apply a force of 280 kg per hook, allowing the panel to be both totally air and water tight and to have a great mechanical resistance.

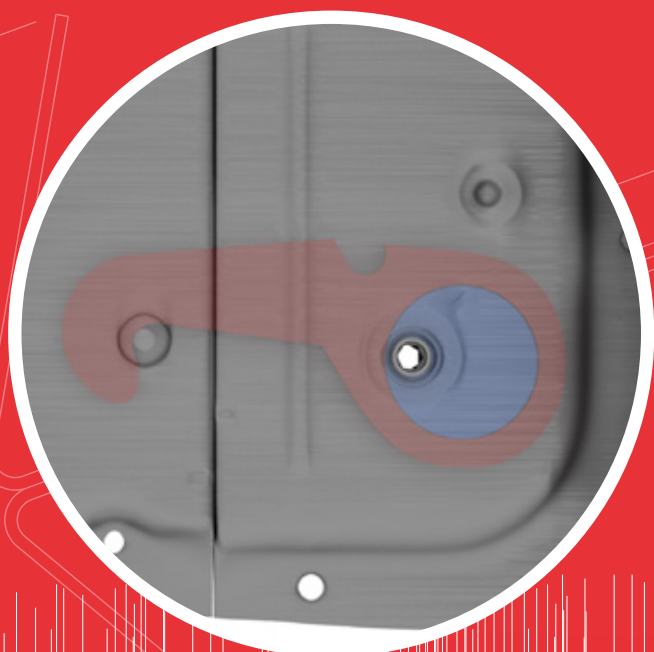
The eccentric hook system furthermore allows the assembly of cooling facilities to be carried out in a minimum time, given that the linking system between panels is both safe and extremely simple.



# the heart of our system: our eccentric hook

Our assembly system allows a quick, simple, safe and economical installation. It also has a notable difference compared to other panels in the market: ANCHOR TOLERANCE (2 cm)

This feature results in low cost assembly by significantly reducing installation times.



Our eccentric hook is the core around which the entire assembly of our insulating panels rotates.

Our panels are built integrally with the hook, achieving a perfect union with the foam. In this way we achieve a more solid connection of the hook with the panel, a higher insulation rate and a perfect hook position in the finished panel.

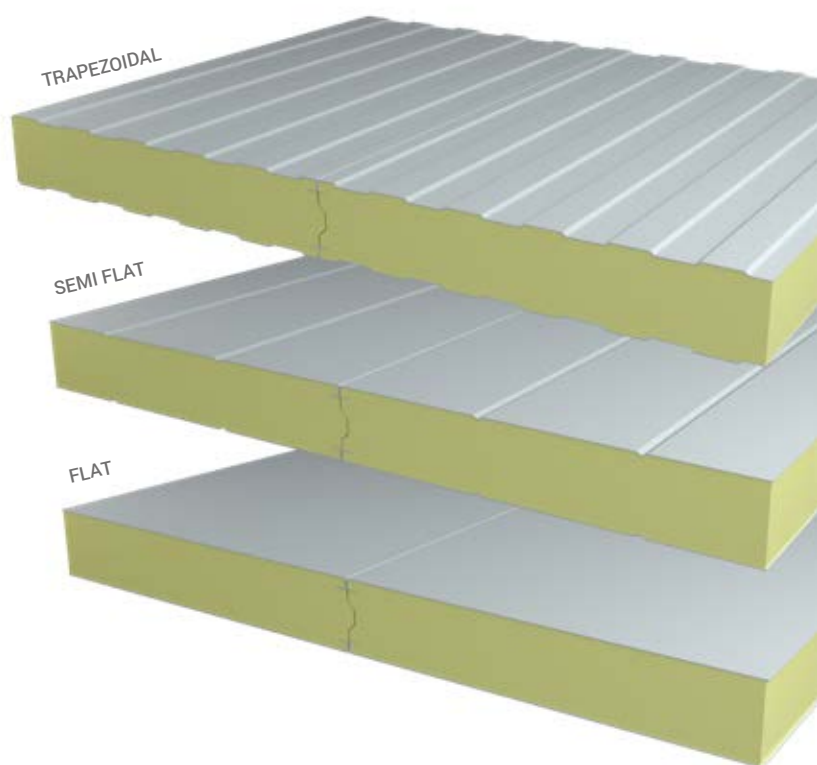
# Our panel

## types of profiles:

**TRAPEZOIDAL:** Maximum mechanical resistance.  
One wrinkle every 5 cm

**SEMI FLAT:** Intermediate mechanical resistance.  
One groove every 20 cm

**FLAT:** Lower mechanical resistance.  
Made with sheet metal of 0.6 mm.



## profiling and doors

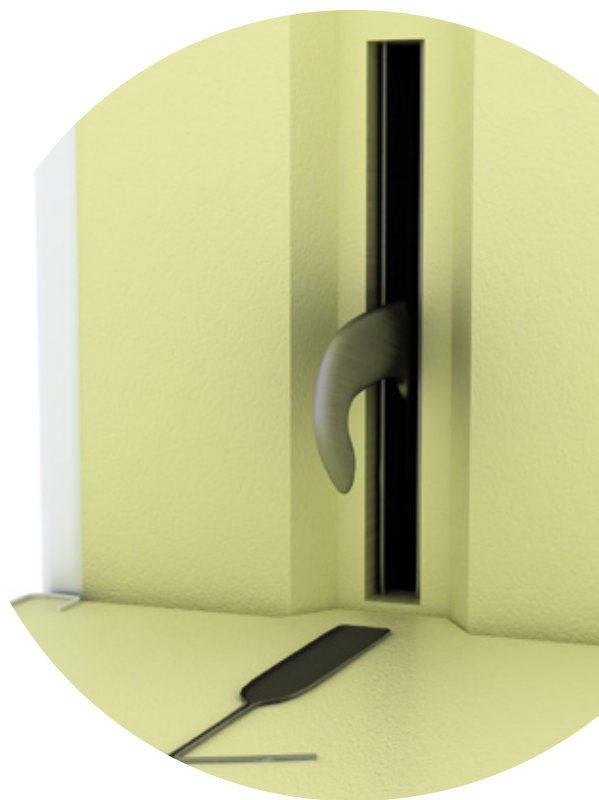
DC-System manufactures and supplies all the necessary profiles and accessories for assembly; finishing angles, screws, sanitary concave, omega profiles for fixing roofs, etc.

Likewise, we offer the possibility to the installer the option of supplying the most suitable doors for their installation. In this way the installer is offered all the materials they need, and a single shipment is made.

## finishings

The DC-SYSTEM panel offers a wide variety of finishes due to its ability to be combined with the following:

- Pre lacquered sheet (25 µm)
- Plastisol, HPS (200 µm)
- PVC Foodsafe / PET / GRANITE / PVDF
- Stainless steel AISI 304, 316 and with white PVC
- Anti humidity wood
- Flat / embossed / trapezoidal polyester fiber
- Corten steel / galvanized steel
- Aluminium
- Sheet imitation wood
- Phenolic resin





## Tightness

Air permeability 0.000 m<sup>3</sup>/h m<sup>2</sup> at 50 Pa  
Air permeability 0.014 m<sup>3</sup>/h m<sup>2</sup> at 100 Pa  
Water permeability CLASS A - 1200 Pa

## dimensions

Width: 1,200 mm  
Length: Up to 17 m.  
Thicknesses: 40, 60, 80, 100, 125, 150, 175, 200, 225 and 250 mm.



## eccentric hooks

Our anchoring system is embedded in the insulating foam.

The installation of the closure is not carried out after the manufacture of the panel. In this way we achieve a perfect union between hook and foam

## insulation

Rigid polyurethane foam  
Foam density: 40-42 kg/m<sup>3</sup>  
Thermal conductivity=  $\lambda$  0.021 W/mK  
Panel with classification after fire reacting test: PUR BS2D0 and PIR BS1D0, according to the norm UNE-EN 14509:2013

# Advantages of the panel

## 1 joint design

Joint design guarantees the best possible sealing in the connection between panels, and the panel width of 1200 mm minimizes the number of joints and therefore the temperature loss from the cold room.

## 2 eccentric hook

The union by means of an EXCENTRIC HOOK DC-System type provides the following advantages:

- Strengthens and guarantees the tightness in the joint
- Flexibility in the joint, compensating the thermal movements of the panel
- Distribution of loads, as the weight that is applied on a panel is distributed through the rest of the panels
- Tolerance of +/- 2 cm, facilitating that the panels are always joined together
- Optimization of assembly times, due to its ease of connection
- Facilitates the assembly of longer panels

## 3 discontinuous production

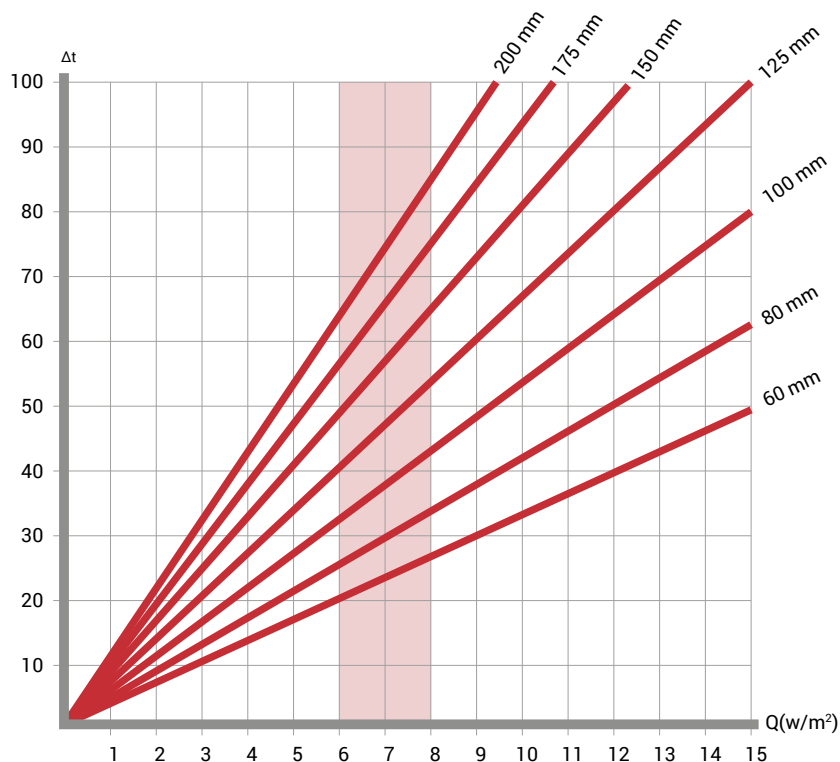
Discontinuous production offers the advantages that the market demands:

- Great flexibility of production, adapting to the demands of each client
- Greater mechanical strength and adhesion, also benefited by the 4 mm depth of our profile
- Flexibility in the combination of different finishes, thicknesses and profiles
- Controlled and homogeneous density in all panels
- Minimizes assembly costs, since a panel made with the requested modifications is delivered to be mounted directly (top steps, etc....)

# Technical properties

## thermographic dimensions

Choice of panel thickness based on acceptable losses (6 W/m<sup>2</sup> in freezing and 8 W/m<sup>2</sup> in conservation) and the temperature gradient.



## weight chart

expressed in Kg / m<sup>2</sup>

SEPARATION	THICKNESS										
	mm m	250	225	200	175	150	125	100	80	60	40
	2.0	698	630	562	494	421	354	281	225	169	86
	2.5	476	426	376	326	281	230	185	152	112	57
	3.0	476	426	376	326	281	230	185	152	112	57
	3.5	398	359	320	281	242	214	163	129	96	35
	4.0	349	315	281	247	214	174	141	112	84	41
	4.5	303	275	247	219	185	157	124	101	73	30
	5.0	281	253	225	197	169	141	112	90	67	
	5.5	246	224	202	180	152	129	101	84	62	
	6.0	226	204	182	160	127	114	91	71		
	6.5	193	173	153	133	117	98	78			
	7.0	165	149	133	117	101	84				
7.5	149	133	117	101	88						
8.0	127	114	101	88							

## valuables K

THICKNESS (mm)	WEIGHT (kg/m <sup>2</sup> )	K (W/m <sup>2</sup> K)	K (Kcal/m <sup>2</sup> h°C)
40	10,01	0,525	0,454
60	10,38	0,305	0,302
80	11,57	0,263	0,227
100	12,29	0,210	0,181
125	13,29	0,168	0,145
150	14,29	0,140	0,121
175	15,21	0,120	0,104
200	16,09	0,105	0,091
225	17,07	0,093	0,081
250	18,04	0,084	0,073

The value is applicable for panels with trapezoidal profiling.  
The given values refer to Kg/m<sup>2</sup>.  
For an arrow less than 1:200 of the distance between supports.

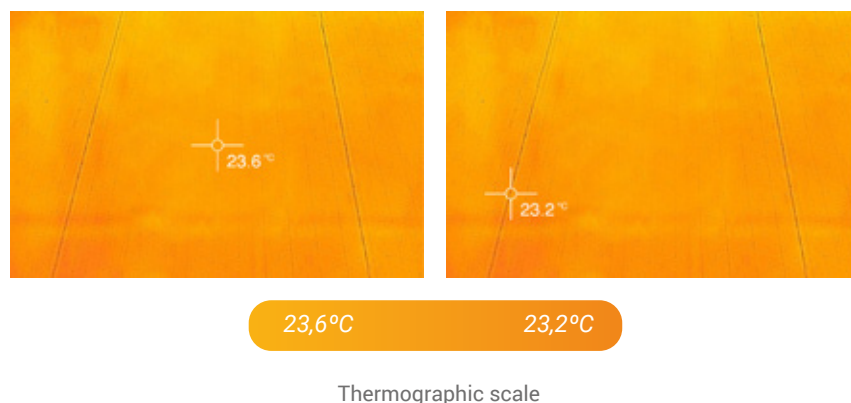
# Thermographs

Thermography is a technique that allows a colour graphic register of the differences in the temperature variations on the surface of a body or object due to the infrared radiation that it emits. In the case of refrigeration panels,

a thermographic study allows us to check the operation of the panels, and to see if they are watertight and are fulfilling their function, or if on the contrary they have cold leaks and result in a silent excess of energy to the user.

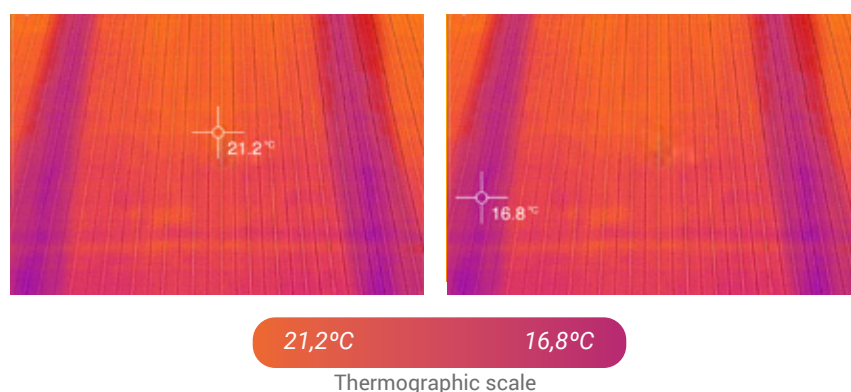
## discontinuous panel thermography with excentric hook

In this thermography performed on a DC-SYSTEM panel (discontinuous manufacture with eccentric hook) the uniformity in the colour of both the central part of the panel and the joints is observed, which indicates that the sheet has the same temperature throughout its surface. The eccentric hook of the panel seals all the joints of the panels under pressure, making the tightness between them so high that it prevents cold leaks, with the consequent energy savings throughout the life of the cold-room.



## continuous panel thermography

As seen in this thermography of continuous manufacturing panel without hook, the joints of the panel present a completely different colour to the central parts of the panel (temperature difference). This indicates that the panels, as they are not joined by any physical force between them, have high cold leaks through the joints. This results in an excess of energy consumption to constantly compensate for the cold that escapes from said joints.

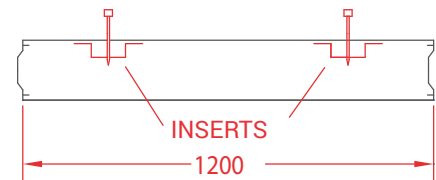


# Modifications in the panel

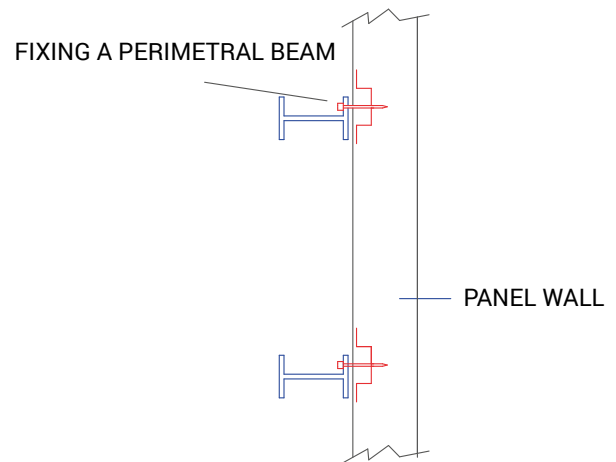
## panel with inserts

The discontinuous production of the DC-SYSTEM panel allows the placement inside the panel of small elements embedded in the foam, such as sheet metal inserts and even pipes.

Sheet metal inserts can be used to brace the vertical panel to auxiliary structures and to fasten the roof panels, so that no kind of auxiliary elements are seen on the interior of the panel and no fastening elements pass completely through the panel, which always affects the insulation negatively.

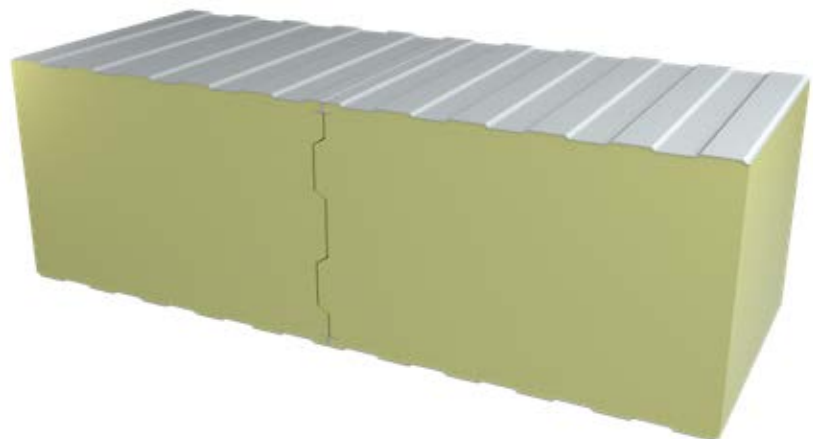


SECTION PANEL WITH INSERTS



## double tongue and groove panel

The panels of 225 and 250 mm are panels with a high thermal isolation, since they are used for gradients of up to 80-90°C. For that reason they are manufactured with double tongue and groove and two rows of eccentric hooks (one in each tongue and groove). This results in both the cold side and the hot side of the panel being completely watertight with the hooks. Furthermore the path of the panel joint is more sinuous so that there is less cold loss and the temperature gradient is not a problem for installation.



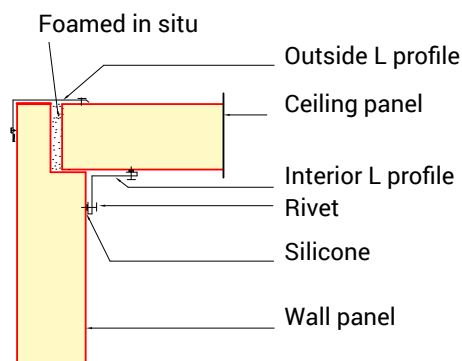


## panel folded on the four faces

DC-SYSTEM is able to manufacture the folded panel on its 4 faces, both longitudinally and transversally. This ensures that there is no sharp edge on the panels, which, under certain conditions of humidity and temperature, can be a possible starting point for oxidation. This also means that, in certain types of chambers, it is not necessary to use interior trim, since all panels are finished on all four sides.

## panel with top steps

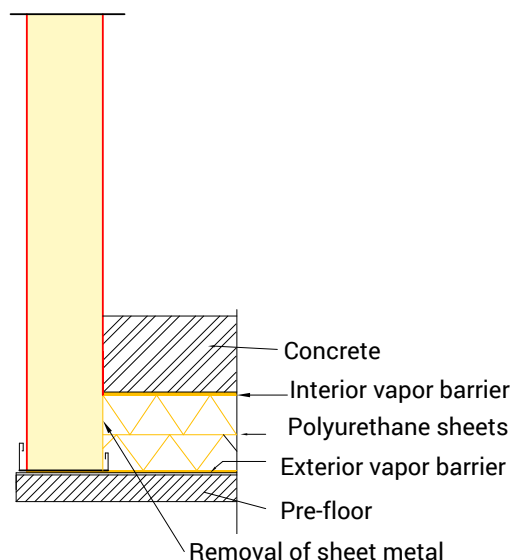
In the panels of high thickness and high thermal insulation, it is essential to make a step in the upper part of the wall panels to break the thermal bridge, and thus the union is perfectly tight. Our production system allows us to make this type of top steps and sending them directly from the factory with this modification without increasing the price, which means that the installer can save assembly time since he does not have to do any type of work on site.



## panel with bottom steps

In below zero temperature chambers the insulation of the wall panels must be continuous with the floor, since any other case can cause ice to form on the floor of the chamber and its operation is not adequate. For this it is necessary that the inside of the wall panel does not reach the floor, breaking the thermal bridge and ensuring that there is no transmission between the floor of the installation and the interior of the chamber.

DC-SYSTEM directly supplies the wall panel with the bottom step, with which we ensure the breakage of the thermal bridge and the installer saves doing this type of work on site.



# Prisma panel

The DC-SYSTEM panel with PRISMA\* joint is a panel **WITHOUT HOOK** and is designed for areas that do not have high refrigeration requirements, as well as for clean rooms. The characteristics of the panel are the same as those of the standard panel, with the only difference being the rectangular tongue and groove which favours a clean union of the panels until the sheet metals touch. It can be manufactured in both sheet metal and phenolic resin.



# Prisma plus panel

The DC-SYSTEM panel with PRISMA PLUS\* joint is a panel **WITHOUT HOOK** and with an inside hole in the joint to favor the passage of wiring and / or conduits through its interior. It is a panel specially designed for clean rooms, laboratories and the chemical and pharmaceutical industry. It can be combined in its assembly with PRISMA PANEL, since externally they are exactly the same. As with the prisma panel, it can be manufactured in both sheet metal and phenolic resin.



\*The PRISMA and PRISMA PLUS panels are only available in thicknesses of 60, 80 and 100 mm.

# Certifications

The DC-SYSTEM panels have the following certificates:



The DC-SYSTEM panels have the following certificates

The EN 13501-1: 2007+A1:2010 standard classifies building materials according to fire resistance. They are classified in three parameters:

1. The first letter indicates the reaction to fire: A1, A2, B, C, D, E and F. The DC-SYSTEM panel has a high fire rating (B)
2. The next two digits indicate the degree of smoke opacity: S1, S2 and S3. The DC-SYSTEM panel has a good rating in this aspect (S1, S2)
3. The last two digits indicate the degree of detachment of droplets and / or particles: D0, D1, D2. The DC-SYSTEM panel has the best rating in this aspect (D0)

The EC mark symbolizes the conformity of the product with the essential requirements of health and safety that are applicable to it and imposed on the manufacturer.

The ISO 9001 standard guarantees that DC-SYSTEM has implemented a quality management system.

## applications

The DC-SYSTEM panel has, among others, the following applications:

- Processing rooms
- Cutting and conservation rooms
- Slaughterhouses
- Freezing rooms and tunnels
- Curing rooms for the fishing, meat, fruit and dairy industries
- Clean rooms
- Offices, etc.

# Success stories

## panel with wood finish

Wooden panels for floors of freezing rooms



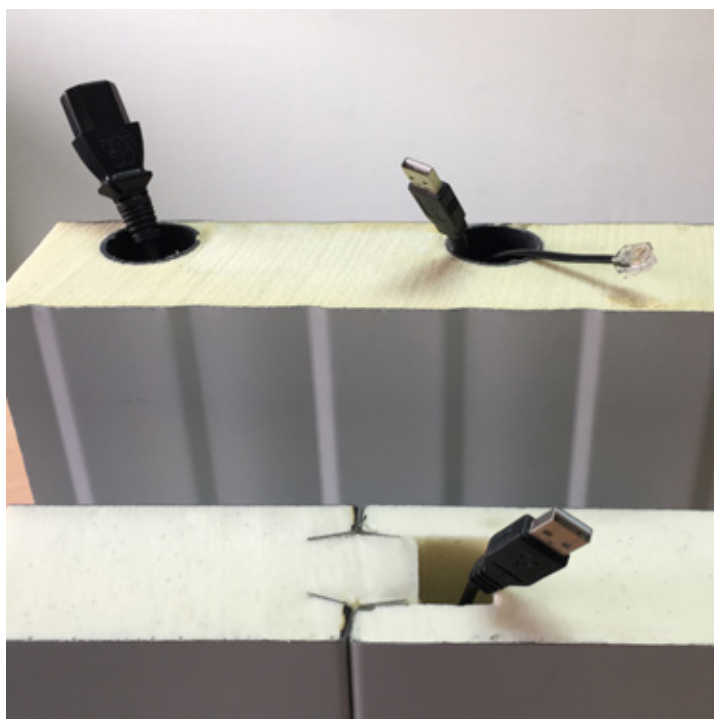
## polyester panel

Panel with polyester finish against corrosion in saline environments

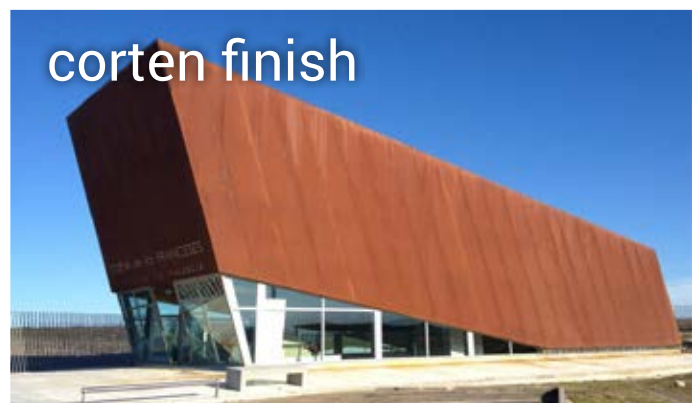
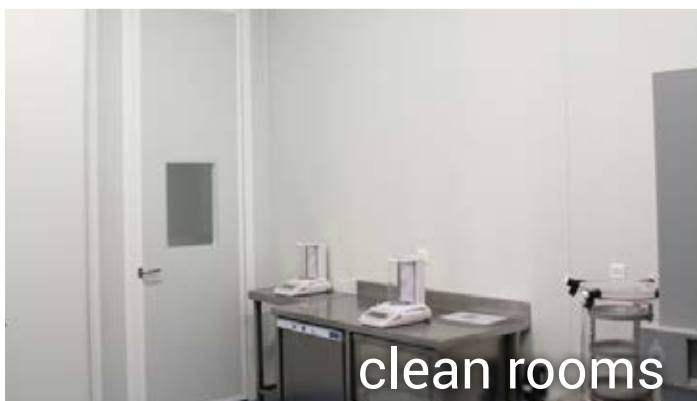


## panel with technical duct

Panels with holes and inner tubes for passage of cables or conduits



# Success stories







# the sky is our only limit

Robotized warehouse built with  
DC-System panels



Factory and office in Spain:  
DC-SYSTEM Iberica, S.A.U.  
C/Dinamarca nº67 Polígono Industrial de Villamuriel  
34190 Villamuriel de Cerrato (Palencia, España)  
Teléfono: +34 979 772 299  
[comercial@dcsystemiberica.com](mailto:comercial@dcsystemiberica.com)  
[www.dcsystemiberica.com](http://www.dcsystemiberica.com)

Factory and office in Denmark:  
DC-SYSTEM Insulation A/S  
Nordvestvej 8  
DK-9600 Aars (Denmark)  
Telephone: +45 9862 4200  
Web site: [www.dc-system.dk](http://www.dc-system.dk)  
E-mail: [info@dc-system.dk](mailto:info@dc-system.dk)

Office in Cuba:  
DC-SYSTEM Cuba, S.A.  
96-A, No. 510, Miramar  
La Habana  
Código postal: 300  
Antigua provincia de La Habana  
Cuba