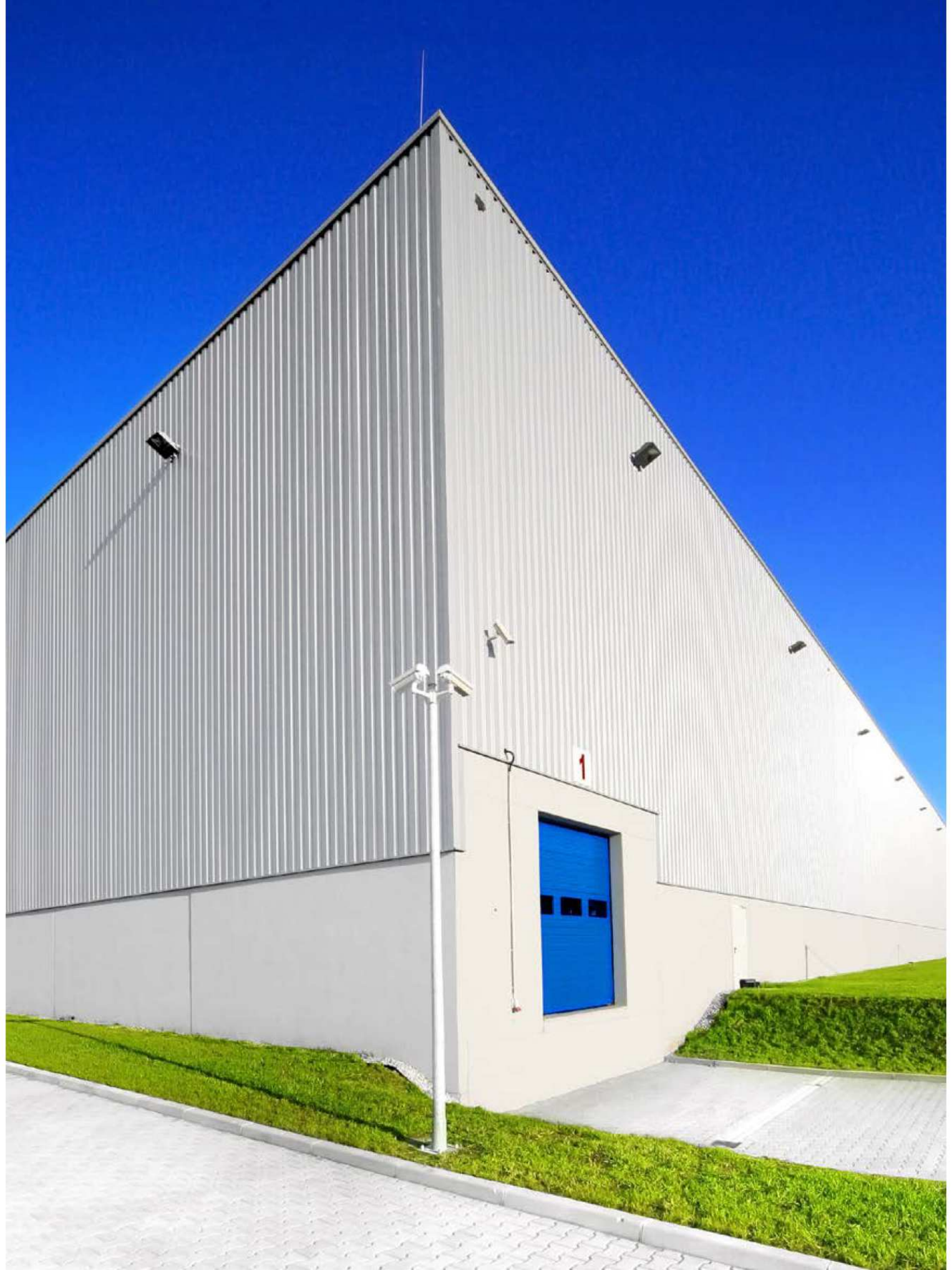




ACH

ACH

A Saint-Gobain brand



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Saint-Gobain Transformados S.A.U

At Paneles ACH, we have extensive experience in the construction industry. We manufacture top-quality, certified sandwich panels, featuring a 10-year warranty.

We are part of the Saint-Gobain Group, a world leader in Sustainable Habitats, developing, manufacturing and marketing innovative and energy efficient solutions and materials, promoting our well-being and environmental protection.

At Paneles ACH, we adapt our panels to the needs of each client. Personalization is our hallmark. The continuous manufacturing process ensures the uniformity of each and every piece and streamlines planning. This allows us to produce a wide range of panels, lengths, thicknesses and finishes. We have all the necessary accessories, which are tailored based on the climatic and environmental factors to which they will be exposed.

Our sandwich panels are adapted to the current needs of the construction sector and have multiple applications: from industrial enclosures, to dividing indoor spaces, wall and roof construction and interior partitions in a wide variety of buildings.

Our goal is to continue growing together with our customers by providing tailor-made wall and roofing solutions and quality service. All in keeping with the Saint-Gobain Group's Principles of Conduct and Operation.

Principles of conduct:

- Professional commitment
- Respect for people
- Integrity
- Loyalty
- Solidarity

Principles of operation:

- Respect for the law
- Respect for the environment
- Respect for workplace health and safety
- Respect for workers' rights

Health, Safety and the Environment

All our sandwich panels and products are manufactured according to current regulations in order to minimize their environmental impact. We are committed to quality, safety and environmental protection.

At Paneles ACH, we strive to prevent occupational safety risks for our employees, temporary workers, contractors, visitors and customers, as well as for the environment. We are committed to achieving the objectives of:

- ZERO workplace accidents.
- ZERO occupational diseases.
- ZERO environmental accidents and minimal impact of our activities.

We are also working to improve the environmental quality in the various sectors for which we build our extensive variety of sandwich panels.

Our sandwich panels are ecological, with each unit of energy used in its manufacture resulting in 25 units saved when in use.

Saint-Gobain Transformados S.A.U

Headquarters

Los Corrales Street

Plots C5 and C6

"La Balletera" Industrial Park

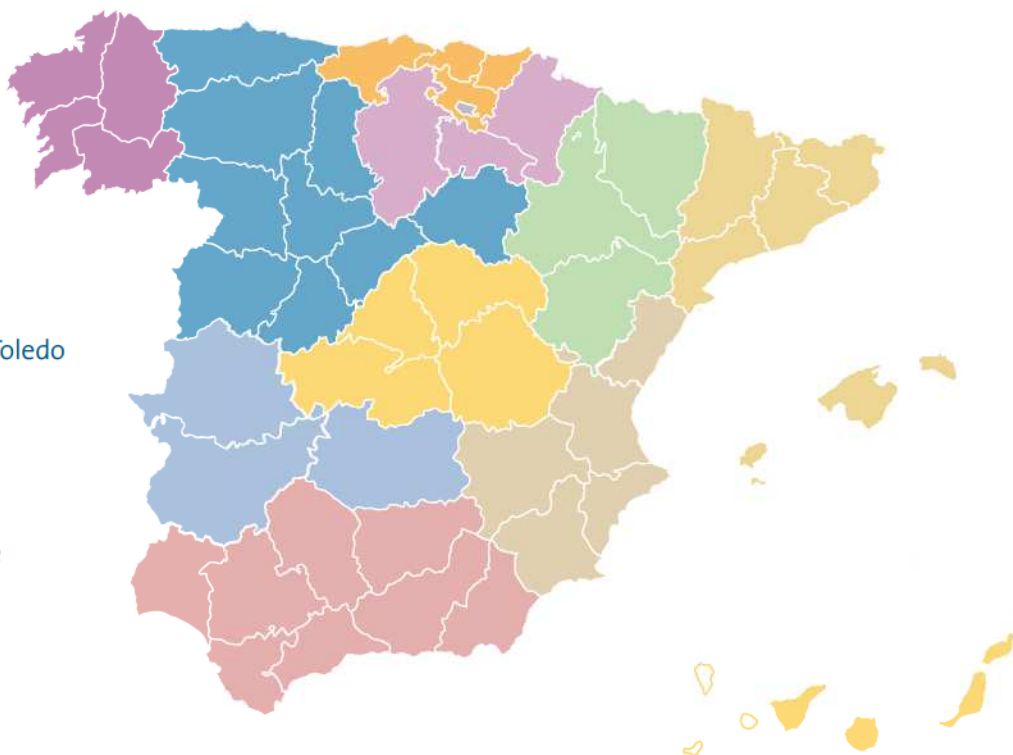
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- Navarra, Burgos, La Rioja
- Galicia
- C. Valenciana, Murcia, Albacete
- Aragón, La Rioja
- Cataluña, Baleares
- Andalucía
- Extremadura, Ciudad Real
- Canarias



*For contact information, visit: <http://www.panelesach.com/red-ventas>

International presence

Our products are used in walls, enclosures, roofs, buildings and roads on every continent. We are committed to opening new markets in order to continue growing and improving every day. We ship materials anywhere in the world.



*For contact information, visit: <http://www.panelesach.com/red-ventas>

ACH

A Saint-Gobain brand

Key



High mechanical strength



Available in a wide range of colors



High level of thermal insulation



Fast installation



High level of acoustic insulation



Low reaction to fire (stability in fire and no emission of flammable gases) CTE (Spanish building code)



Light and easy to transport



Fire resistance



Product certified with the CE Marking



Different finishes: standard, smooth, semi-smooth or microprofiled



High sound absorption

General information

Structure of ACH Panels:

Steel sheets.

Galvanized S220GD steel as per EN10346 Standard, 0.5 to 1.0 mm thick. Organic coating as per EN10169 Standard. It can be made from other materials such as stainless steel, aluminum, etc.

The internal insulating core

- Made of mineral wools (rock or glass) with densities ranging from 55 to 145 kg/m³.
- Made of polyurethane (PUR) or polyisocyanurate (PIR).

Reaction to fire rating based on the core of the panel:

- The reaction-to-fire rating of mineral wool is A2-s1, d0.
- Depending on the profile and the core (PUR-PIR), we have different ratings: F rating, C s3, d0 rating, B s1, d0 rating and B s2, d0 rating, depending on the standard.

Certificates



ER-0589/2003



GA-2013/0292



Panel Cubierta 5 Grecas ACH

Recubrimiento orgánico del acero

Name	Trade Name	Thickness μm	Adherence	Resistance to cracking	Resistance to corrosion	Resistance to UV radiation	Saline fog test
SP15	Granite Access	15	$\leq T2$	$\leq T3$			
SP25*	Standard Granite	25	$\leq T2$	$\leq T3$			
HDP-PA35	Granite HDS	35	$\leq T1$	$\leq T2$	RC4	RUV4	500h
PUR-PA55	Granite HDX	55	$\leq T1$	$\leq T1,5$	RC5	RUV4	700h
PVDF25	PVDF25	25	$\leq T1$	$\leq T2$	RC3	RUV4	360h
PVDF35	PVDF35	35	$\leq T1$	$\leq T2$	RC4	RUV4	500h
PUR-PA50	Prisma	50	$\leq T0,5$	$\leq T0,5$	RC5	RUV4	1000h
PVC (P)	HPS 200 ULTRA	200	$\leq T0$	$\leq T0$	RC5	RUV4	1000h

- Standard Coating ACH Panels

Range of colors

ACH standard colors

Pearl Gray
5001



Silver Metallic
9006



Pyrenees White
1006



Bidasoa Cream
2002



Navarre Green
3000



Brick Red
7001



Other usual colors (on request)

RAL
9005



RAL
6009



RAL
7012



RAL
9007



RAL
9002



RAL
9010



RAL
7022



RAL
7016



Lake Blue
4000



Coral Red
7004



Light Green
3001



RAL
1015







Sandwich panels ACH Mineral Wool




Sandwich panels

ACH Mineral Wool

ACH mineral wool sandwich panels are cold formed. Its two outer sheets are joined by a central insulating core made of mineral wool. This makes our Mineral Wool sandwich panels strong and fire resistant, which is why they are an ideal product for any sector in which this problem is a priority: industrial construction, public facilities, residential construction, naval construction, etc.

Mineral wools are inert elements that do not allow microorganisms or insects to grow. No sirven como aislamiento para roedores and they are rot resistant.

The high noise insulation properties of our sandwich mineral wool panels significantly improve environmental conditions in the industrial sector, providing truly innovative solutions.



ACH Panels are designed for building enclosures in large industrial areas or civil construction projects. They can be used interchangeably to build roofs for the following types of buildings:

- Heated premises.
- Interior noise shielding in industrial installations.
- Manufacturing premises.
- Premises where fire protection is an important requirement.
- Non-combustible enclosures: data centers, garages, hazardous material storage areas, etc.
- Buildings with variable activities, or intended for rent.

There are two types of mineral wool densities, depending on the use and application of the sandwich panels:

- L density: the panels are lighter and absorb noise very well.
- M density: the panels feature higher fire resistance, high mechanical strength and greater noise insulation.

The reaction to fire rating of the mineral wool in the core is A1.



Because the panel is prefabricated, it is easy and fast to install, and it offers a uniform, quality finish. The panels are also certified.

- **EASY TO INSTALL:** the simplicity of the sandwich panels makes the installation faster than with any other enclosure product.
- **COLOGICAL:** each unit of energy consumed in its manufacture is equivalent to 25 units saved when in use.
- **SEALING:** The surfaces of the sandwich panels are watertight and air tight. The mineral wool is waterproof thanks to its water-repellent properties.
- **ACOUSTICS:** The elasticity of the open structure gives the panels a high capacity to absorb the acoustic energy produced by noise, and avoid the coupling effect of standing waves.
- **FIRE RESISTANT AND IMPERMEABLE TO FLAMES:** Due to their inorganic nature, they do not burn or produce fumes, even at high temperatures.
- **HYGIENIC:** Mineral wools are inert elements. They do not allow microorganisms (food source for rodents) to grow and they do not rot.





ACH roof panels

ACH roof panels are formed by two sheets of steel joined to the mineral wool core by an organic adhesive. They are designed for building enclosures in large industrial or civil construction areas.

The difference between standard panels and perforated acoustic panels is that in the latter, there are micro-perforations on the inner side, and between the perforated face and the mineral wool core.

The perforated side has a glass fiber veil that helps the metal sheet adhere, and absorbs noise..

Installation recommendations:

- 7% min. slope with intermediate overlap.
- 5% min. slope with no overlap.

Fire reaction

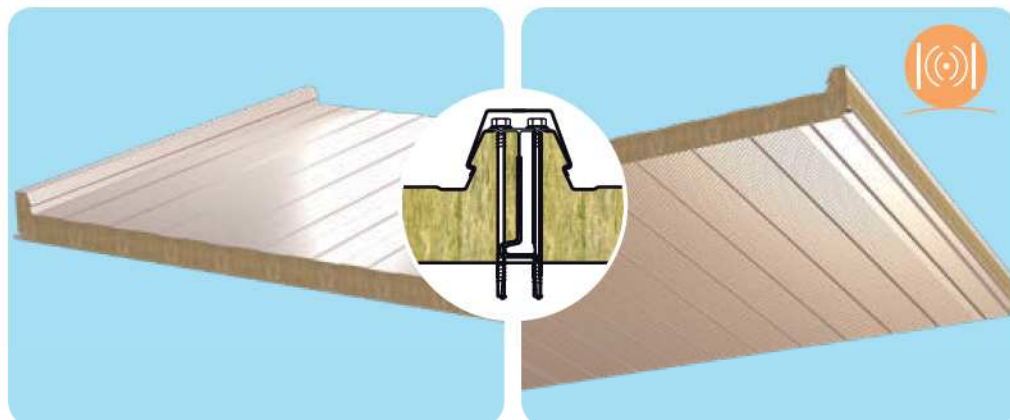
A2-s1, d0 rating as per the EN-13501-1 Standard.

Roof panels with 2 ribs

The attachment points on the 2-rib panels are concealed by flashing, which ensures watertightness, covers and protects the attachments from corrosion and allow ignoring the prevailing winds during their installation.

Standard (not perforated)

Acoustic (perforated)

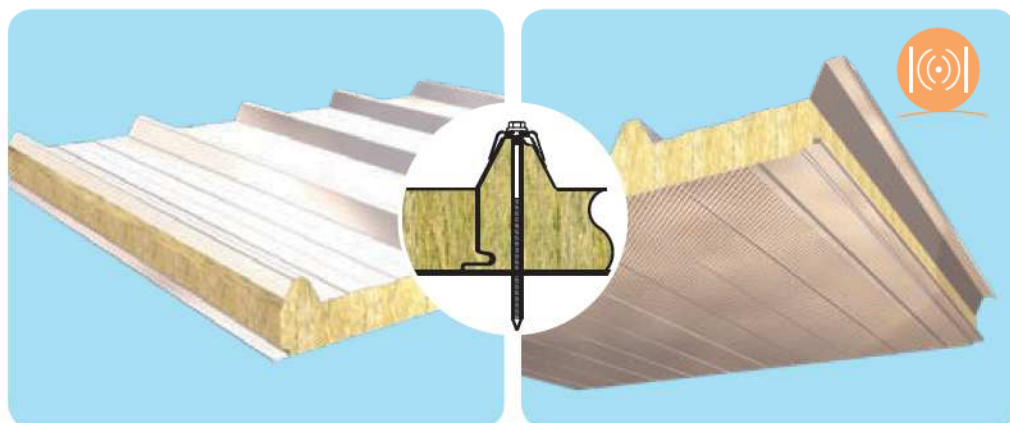


Roof panels with 5 ribs

Thanks to their multi-ribbed design, the 5-rib panels offer high mechanical strength, allowing for larger lights for the same load. They are durable, high-quality panels, guaranteeing total waterproofing, offering high fireproofing performance (up to 120 min, EI120) and a high level of thermal insulation.

Standard (not perforated)

Acoustic (perforated)



CE



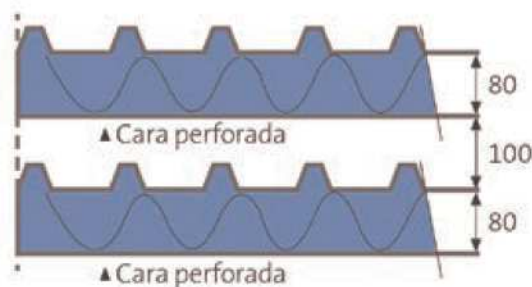
A2-s1, d0



EI30 ► EI120

ACH 5-rib dual roof panel 80 +100 +80 mm

Acoustic solution consisting of two, 5-rib, 80-mm thick sandwich roof panels with a 100-mm thick air chamber between them. The perforated sides on the panels face towards the interior of the building or room.



*See technical information on page 58



ACH Wall

ACH wall panels provide a highly cosmetic solution for vertical wall enclosures that offers excellent mechanical, thermal, acoustic, and, especially, fire resistance characteristics.

They consist of two sheets of steel joined to the mineral wool core by an organic adhesive.

They are designed for building enclosures or interior partitions in large industrial or civil construction areas.

The difference between standard panels and perforated acoustic panels is that in the latter, there are micro-perforations on the inner side.

The perforated side has a glass fiber veil that helps the metal sheet adhere, and absorbs noise.

Fire reaction

A2-s1, d0 rating as per the EN-13501-1 Standard.

Permeability under pressure as per EN 12114 *

+600PA: 0.66 m³/h·m²

-600PA: 0.96 m³/h·m²

Resistance to driving rain under pulsating air pressure EN 12865 *.

600A rating

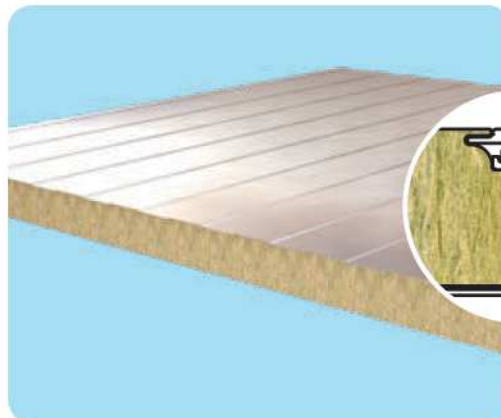
*Wall with invisible fastener 80mm.



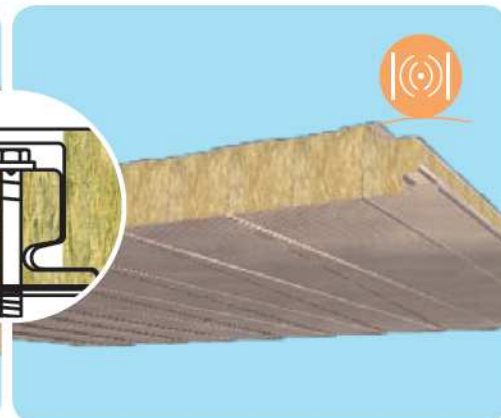
Wall with invisible fastener

Thanks to the design of their joints, the wall panels with invisible fasteners guarantee a union that is fully sealed, whether installed vertically or horizontally.

Standard (not perforated)



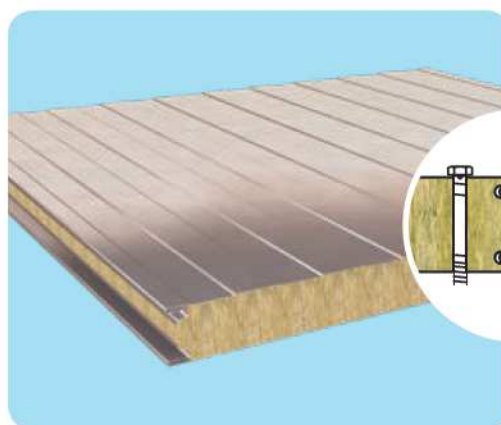
Acoustic (perforated)



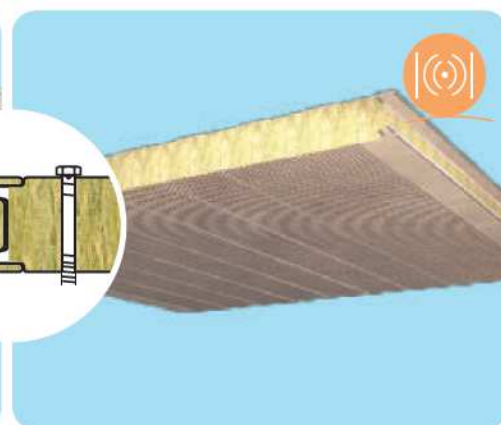
Wall with exposed fastener (subdivisions)

ACH Subdividing Panels are the perfect solution for subdividing any enclosed space where there is a risk of fire. We offer panels that resist up to 240 minutes (EI240).

Standard (not perforated)



Acoustic (perforated)



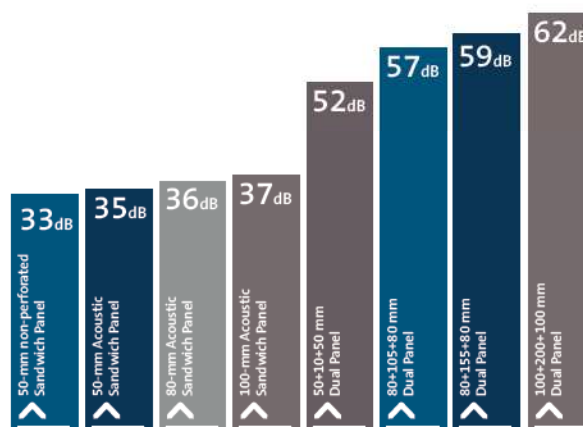
A2-s1, d0



EI30 ► EI240

Acoustic solutions

At ACH we have numerous acoustic solutions that offer great acoustic comfort in rooms that, in addition to high levels of thermal insulation, require excellent levels of sound absorption. These solutions are tailored depending on the requirements to address different noise situations.



*See technical information on page 60



ACH acoustic screens and barriers

ACH Acoustic Screens consist of sandwich panels with an insulating mineral wool core, with one face being multi-perforated to enhance noise absorption. They are specifically designed to eliminate noise pollution from noise emitting sources, both fixed and moving (road traffic), and to withstand high wind loads.

ACH Acoustic Screens have a tongue and groove joint between the panels, which avoids noise conduction to maximize the levels of insulation and sound absorption.

Noise pollution is minimized by placing the barrier between the emitter and receiver, thereby reducing the impact of harmful and annoying effects on the population.

ACH Acoustic Screens are manufactured with a 25u polyester coating (SP25). Optionally, special coatings can be applied on request to optimize durability characteristics or enable self-cleaning of the surface.

ACH Acoustic Screens offer high mechanical strength and excellent acoustic behavior.

It can be used in a wide range of applications thanks to its excellent characteristics.

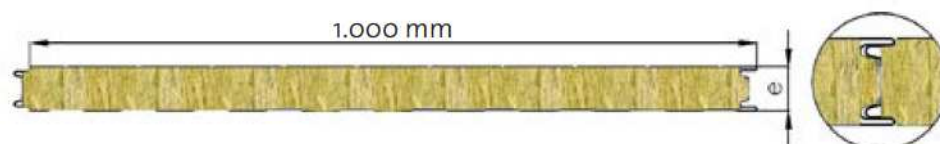
For the most extreme situations, in which the screen is exposed to high winds or turbulence, ACH offers its **Superwind** model, capable of withstanding loads of up to 525 kg/m².

Advantages of ACH screens:

- High level of noise insulation and absorption.
- High mechanical strength (up to 525 kg/m²).
- Very light.
- Fast and easy installation.
- Simple repair if vandalized.
- Safe in case of fire (non-combustible).
- High resistance to humidity.
- Environmentally friendly.
- Choice of colors.
- Easy to maintain.



Module and Profile



Acoustic and mechanical characteristics as per the UNE-EN 14388 Standard

Mechanical and acoustic values verified by test reports from accredited laboratories.



MODEL	THICKNESS (mm)	Weight Kg/m ²	Mechanical properties				Acoustic properties	
			Span (m)	Overload (Kg/m ²)	Report		Absorption rating	Insulation rating
					Number	Date		
Standard	80	18,5	3,00	240	056053-008	23/03/2016	A4 (13dB)	B3 (31 dB)
		18,5	4,00	130	056053-006	23/03/2016		
	100	21,2	3,00	320	056053-003	15/03/2016	A4 (≥13dB)	B3 (≥31dB)
		21,2	4,00	200	056053-002 (M1)	23/03/2016		
Superwind	80	21,1	3,00	390	056053-009	23/03/2016	A4 (13dB)	B3 (31 dB)
		21,1	4,00	225	056053-007	23/03/2016		
	100	23,8	3,00	525	056053-005 (M1)	23/03/2016	A4 (≥13dB)	B3 (≥31dB)
		23,8	4,00	300	056053-004 (M1)	23/03/2016		





Sandwich panels PUR-PIR ACH



Sandwich panels

ACH PUR-PIR

Sandwich panels with a polyurethane core are the perfect choice for most construction and insulation applications.

They provide a comprehensive solution for roofs and walls, with the option of cosmetic finishes and a wide variety of joint systems: 'tongue and groove' or 'invisible fasteners for walls'. Easy to assemble, they also offer a rigid, solid result.

They are a recommended insulation solution for walls and roofs. These panels consist of a polyurethane core

contained between high quality steel sheets. They are highly resistant to corrosion and wear.

The sandwich panel with a polyurethane core is self-supporting and provides excellent thermal insulation characteristics.

The ACH-PIR panel is a complete package that can satisfy the needs of a demanding market in terms of quality, safety and insulation.

The panel's polyisocyanurate (PIR) core comes from a family of polyurethanes in which the polymer structure is modified using isocyanurate structures. This makes the core highly stable and resistant to fire or any type of thermal aggression.

The outstanding quality of the materials used, together with the design of the ACH panels and the application of the latest technological advances in components and production processes, make them a very complete solution.



The ACH-PUR panel offers several advantages, especially in financial terms, as it greatly reduces costs compared to other alternatives. It is manufactured in different thicknesses, finishes and qualities, as determined by the needs of each project.

Fire reaction

Depending on the profile and the core (PUR-PIR), we have different ratings: F rating, C-s3, d0 rating, B-s1, d0 rating and B-s2, d0 rating, as per the EN 13501-1 standard.

Because the panel is prefabricated, it is easy and fast to install, and it offers a uniform, quality finish. The panels are also certified.

- **EASY TO INSTALL:** The simplicity of our sandwich panels, combined with its attachment system, allows for faster assembly than any other industrial enclosure solution.
- **LIGHT:** Its low weight yields savings in terms of handling and assembly compared to other alternatives.
- **DIMENSIONAL STABILITY:** It does not expand or contract significantly due to temperature changes.
- **COMPACT:** Closed cellular structure that allows keeping the enclosure in ideal conditions.



ACH roof panels

ACH roof panels are made using two sheets of steel with a polyurethane foam core. We offer different profiles with and without flashing. They are designed for building enclosures in large industrial areas or civil construction projects.

The high-quality roof panels are very durable, guaranteeing complete watertightness, high fire protection and a high level of thermal insulation.

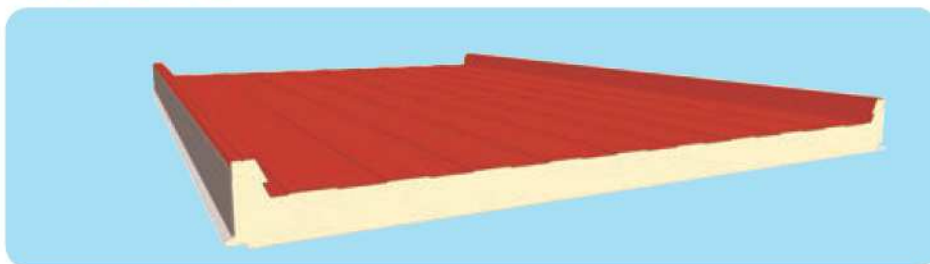
Thanks to their multi-ribbed design, they offer high mechanical strengths, allowing for larger lights for the same load.

Recommendations:

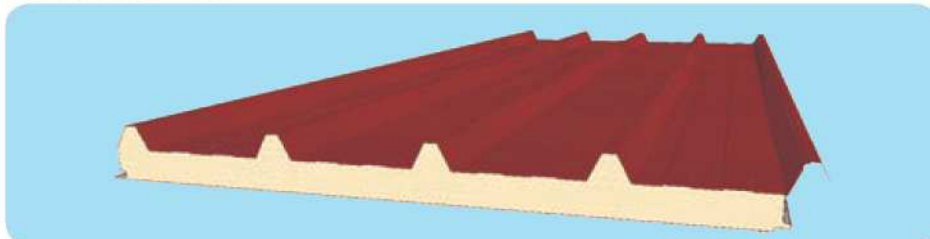
- 7% min. slope with intermediate overlaps.
- 5% min. slope with no overlap.

Roof panel profiles

ACH 2-rib Panel



ACH 5-rib Panel



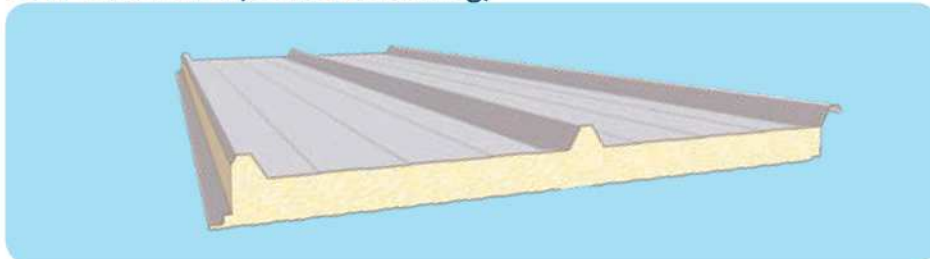
Available with a polyester sheet that is highly resistant to microorganisms, bacteria and the vaporized and condensed organic acids that are present in farms.

ACH 3-rib Panel (with flashing)



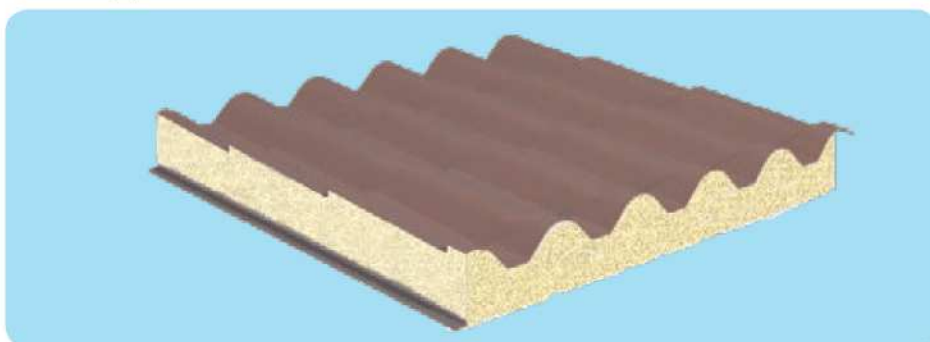
Available with a polyester sheet that is highly resistant to microorganisms, bacteria and the vaporized and condensed organic acids that are present in farms.

ACH 3-rib Panel (without flashing)



Available with a polyester sheet that is highly resistant to microorganisms, bacteria and the vaporized and condensed organic acids that are present in farms.

ACH Coppo Panel



*See technical information on page 64





ACH facade panels

ACH wall sandwich panels are designed for building industrial, commercial or residential walls.

The rigidity of the panels, consisting of a foam core and outer steel sheets, provide high mechanical strength to this construction product. The wall panels meet the highest thermal insulation requirements, resulting in energy savings and comfort inside the enclosure.

They can be installed both vertically and horizontally. Their fastening system ensures a tight seal and protects the fasteners in any position. We offer several finishes,

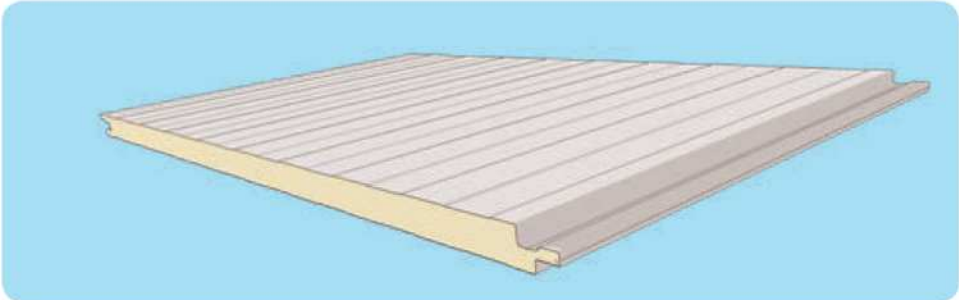
depending on the needs of each project or client: standard, smooth, semi-smooth and micro-profiled.

Advantages:

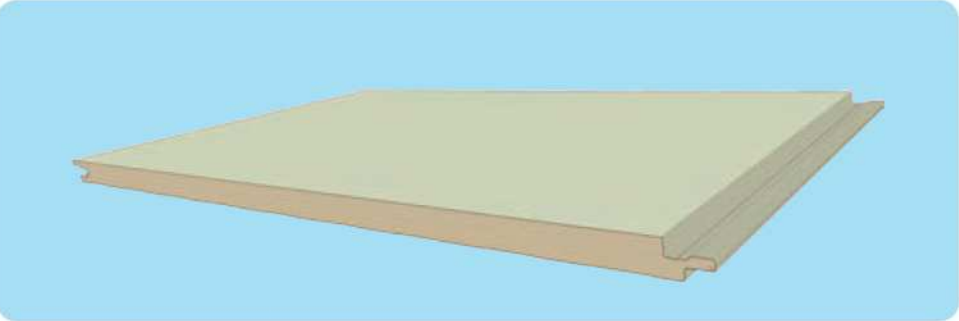
- Highly cosmetic finish.
- Great thermal insulation and mechanical strength.
- Impenetrable to water vapor.
- Quick and easy installation.

Wall panel profiles

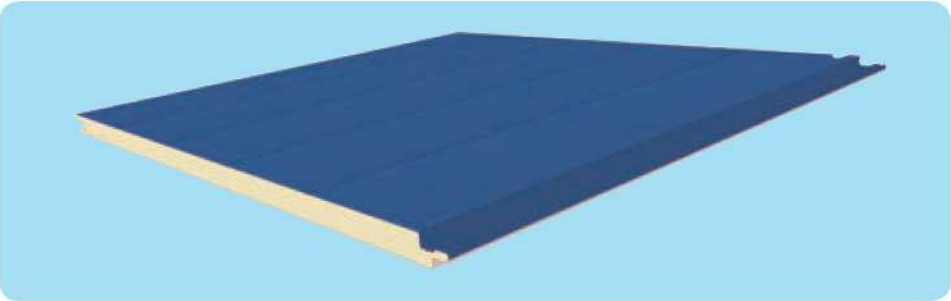
ACH Standard Wall Panel



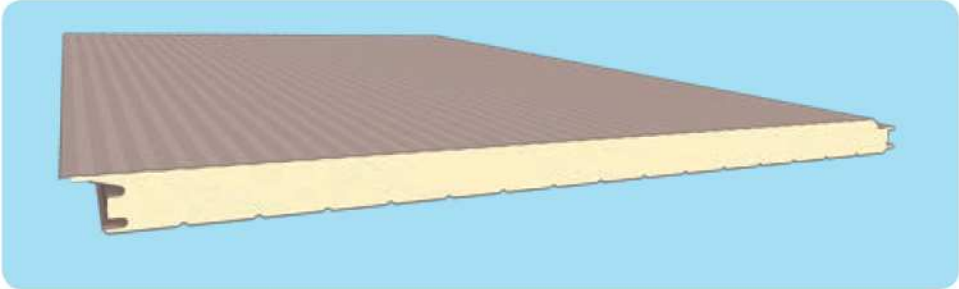
ACH Smooth Wall Panel



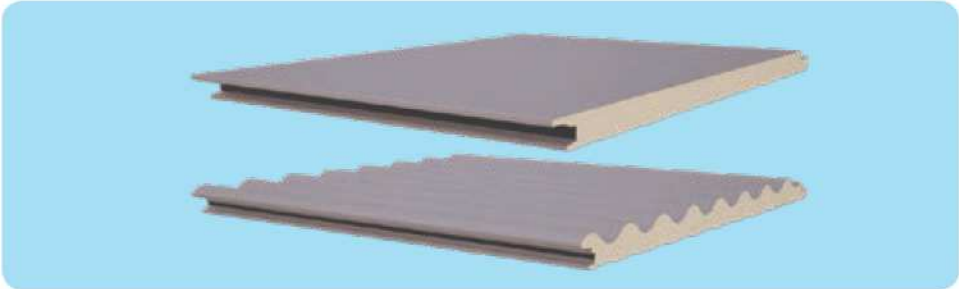
ACH Semi-Smooth Wall Panel



ACH Micro-Profiled Wall Panel



ACH Wall Panel 600 width



*See technical information on page 66





Frigo ACH

The ACH Frigo sandwich panel is a refrigeration panel consisting of two outer sheets of pre-lacquered steel injected with polyurethane foam. It is intended for cold rooms and warehouses.

Frigo ACH sandwich panels offer high thermal resistance, mechanical strength, dimensional stability, watertightness, low weight, a cosmetic appearance, and are fast and easy to install.

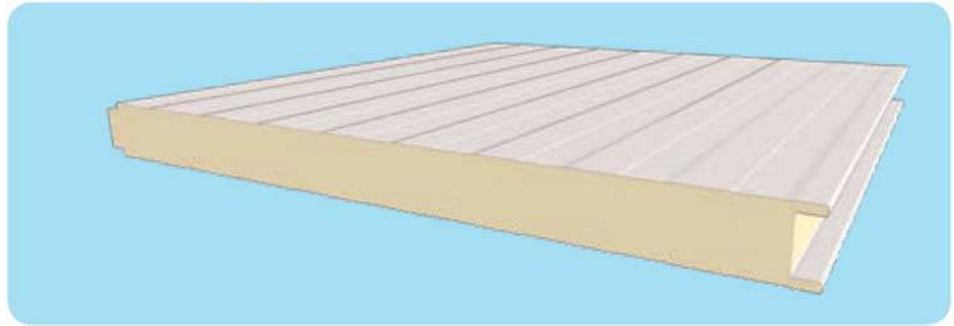
The Frigo ACH sandwich panels are designed both for storage rooms at temperatures above 0° and cold rooms or warehouses at temperatures below 0°.

Characteristics of the polyurethane foam core:

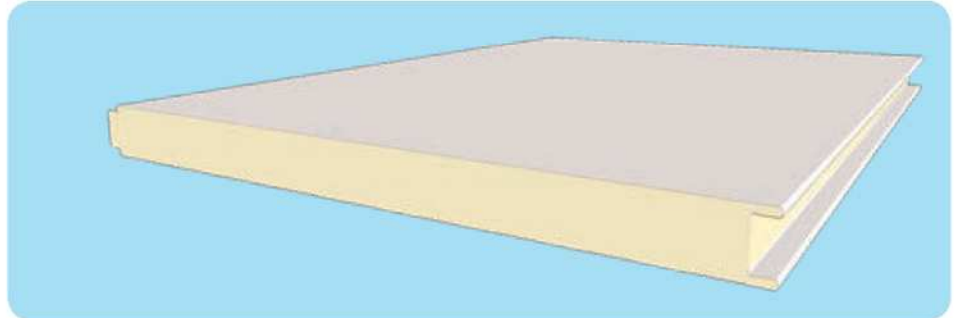
- Thermal conductivity 0.022 W/mK.
- Range of application -40°C to +80°C.
- CFC Free.

Frigo panel profiles

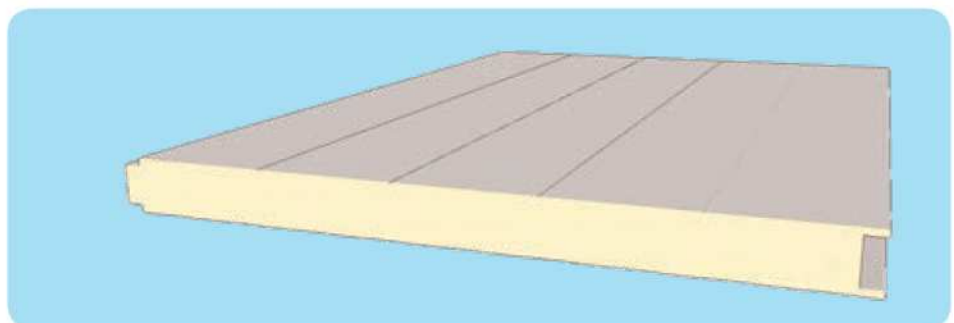
ACH Standard Frigo Panel



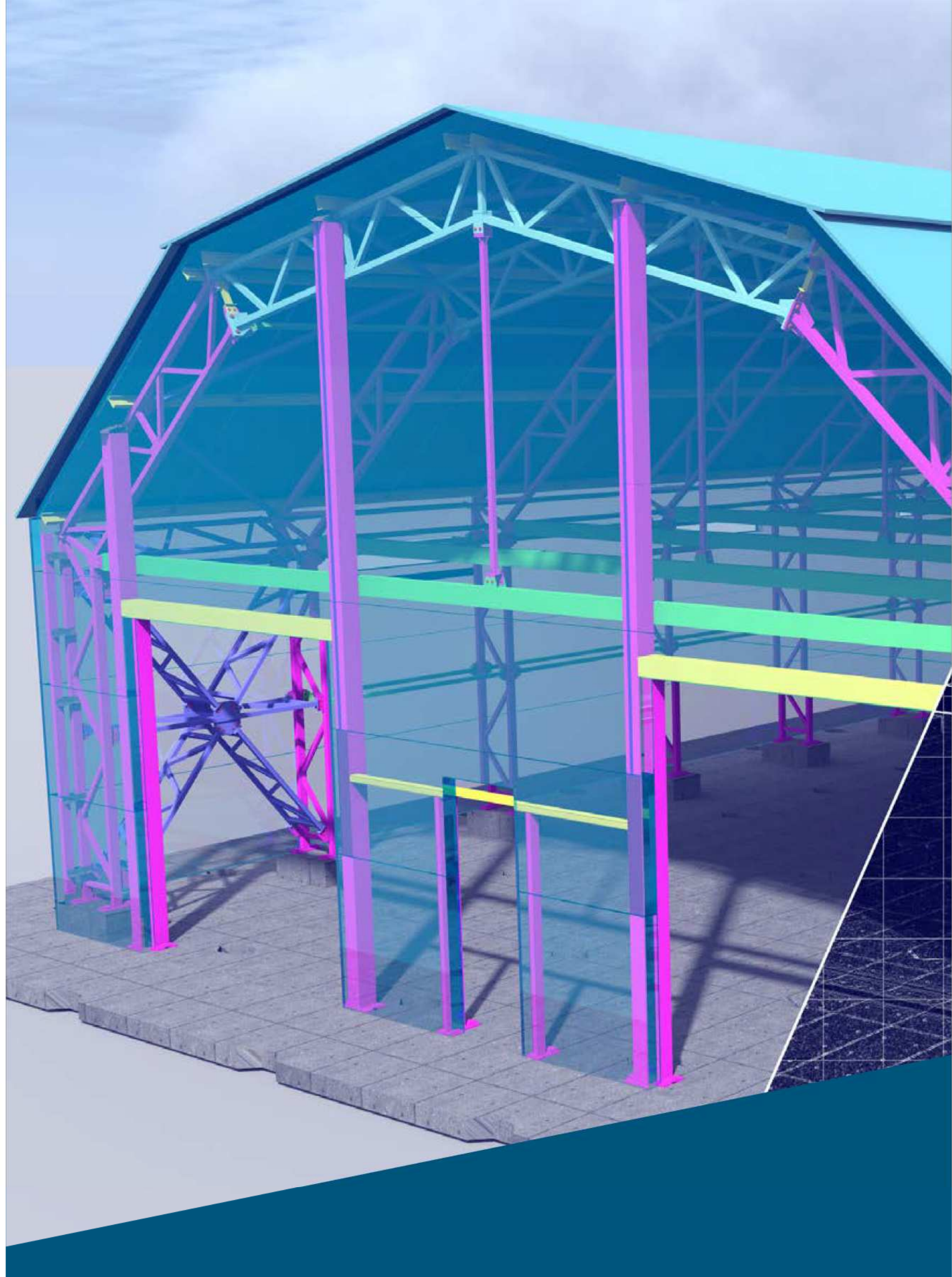
ACH Smooth Frigo Panel



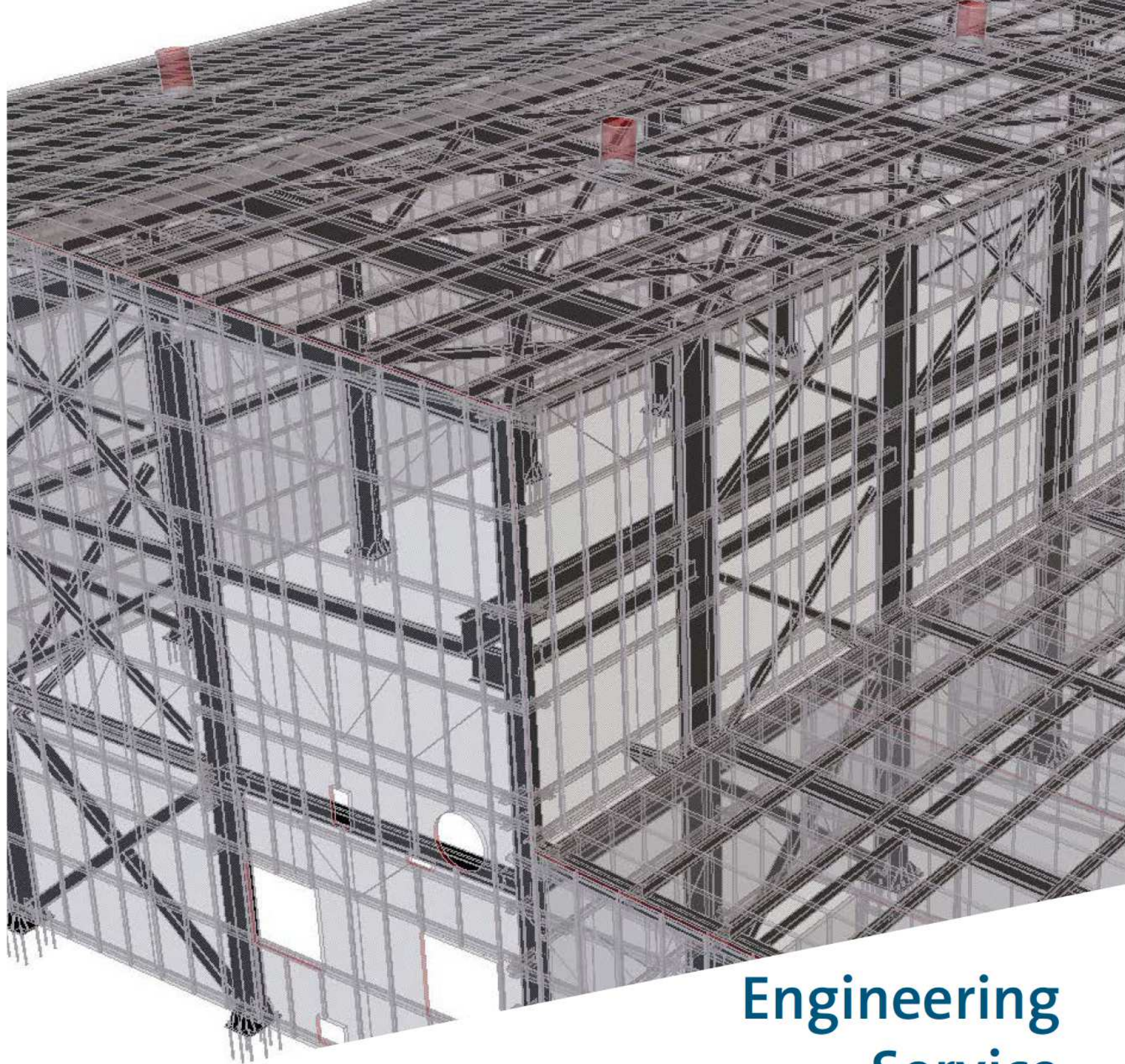
ACH Semi-Smooth Frigo Panel



*See technical information on page 67



Engineering Service

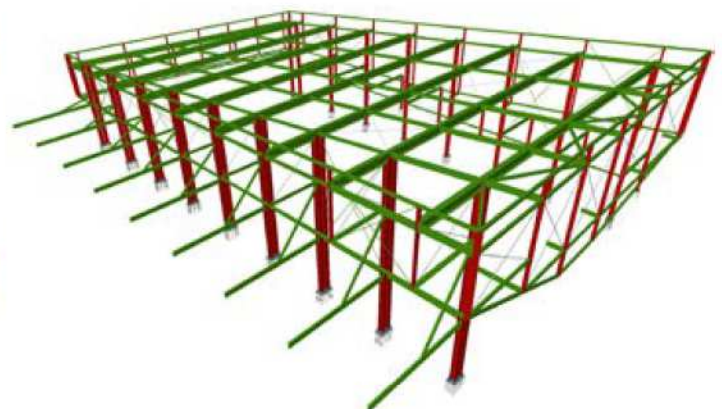


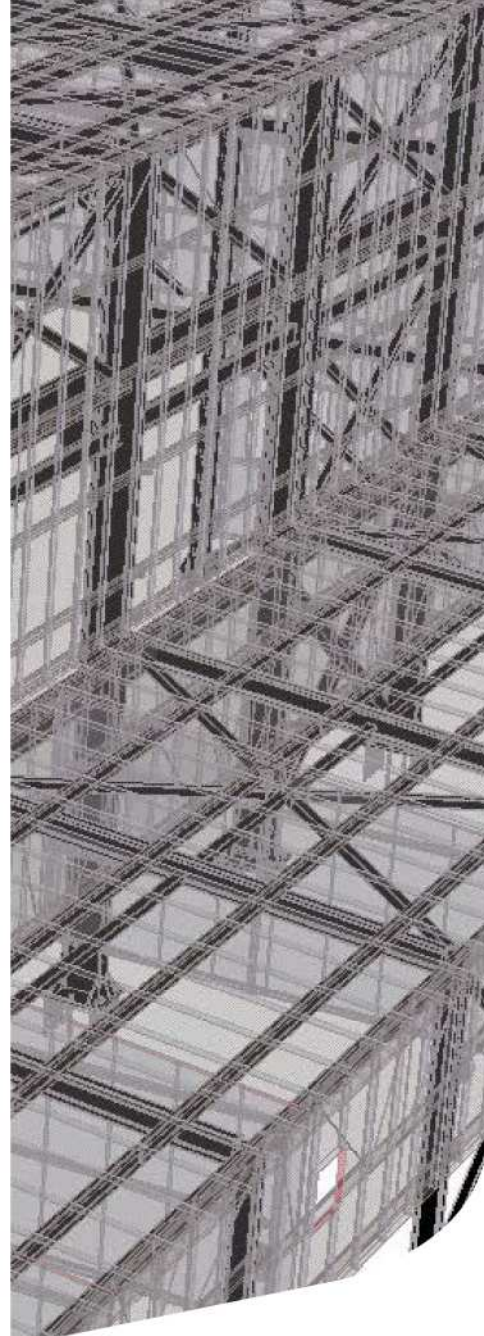
Engineering Service

ACH offers engineering services to all its customers, including advice on assembly, detailed engineering, drawings of its enclosure components, attachment and structural calculations, all provided by highly qualified professionals using the latest technology available in the market.

Structural calculations

Advanced structural design and calculation for any type of building, in keeping with the architectural design and optimizing the structure to the maximum. Study and analysis of all the elements involved.





Detailed engineering

In the field of detailed engineering, we offer the following services:

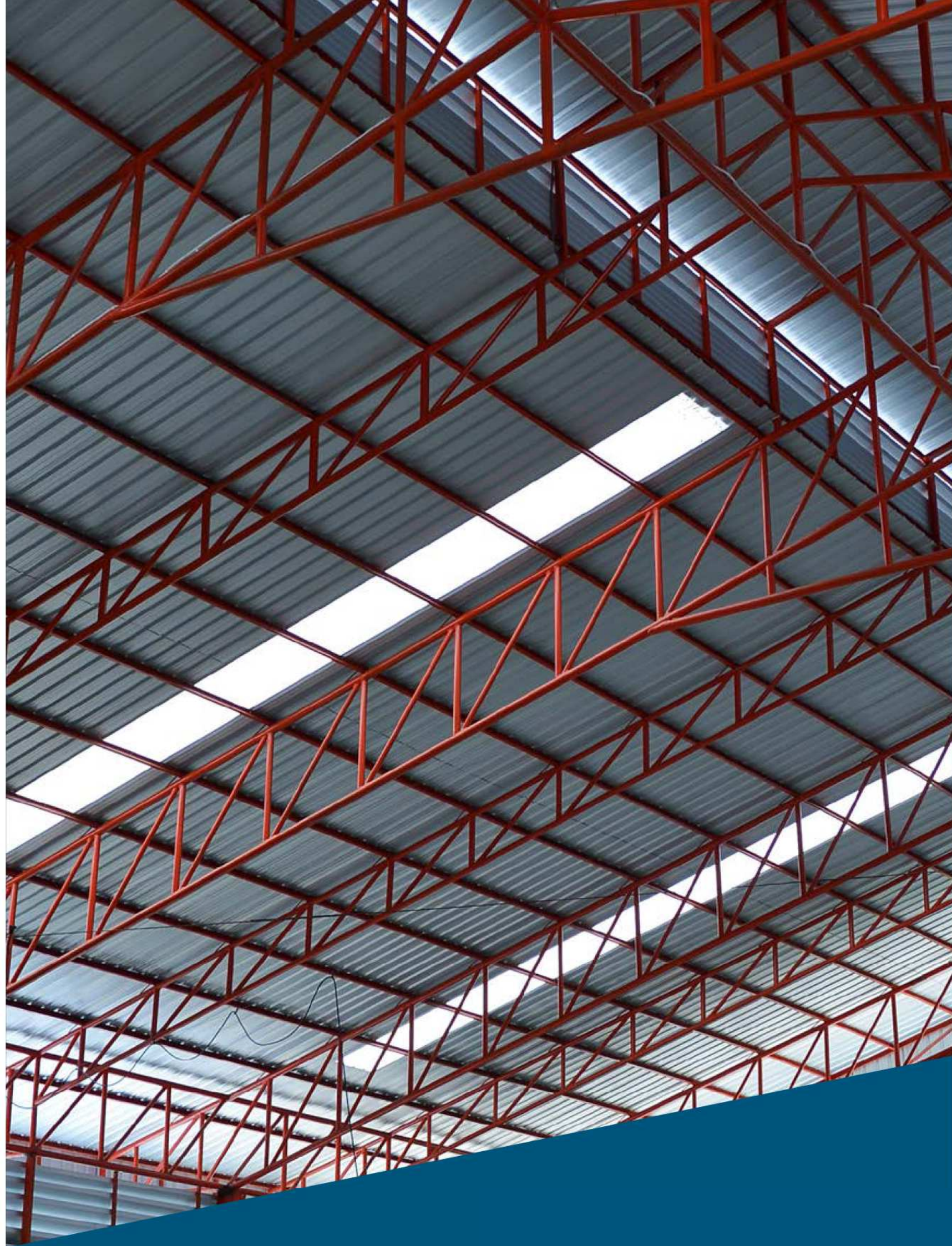
- Implementation of the material execution project in the facility.
- Detailed drawings, assembly and installation.
- Review of basic engineering.
- Technical and functional specifications.
- Calculation of panel attachments as per the design.
- Drawings of enclosure components.



Installation advisory service

Advice and support during the assembly of enclosures, and acoustic and fireproofing systems.





Profiled sheet ACH



ACH Profiled sheet

ACH Profiled Sheets are intended to provide an enclosure solution for areas of buildings where, for construction or other reasons, it is more appropriate to install a simple sheet than some other enclosure product.

For this reason, ACH sells high-quality, designed and tested sheets that provide additional features for use in environments involving high noise, low thermal load, high incombustibility and low-sloped roofs.

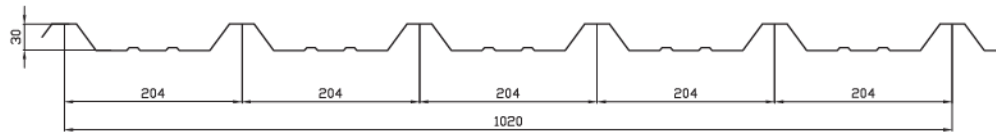
ACH Profiled Sheets can be either perforated and non-perforated, and offer various paint coatings and finishes using polyester SP25, PVDF, HPS200ULTRA, etc. They have excellent corrosion and durability characteristics.

Applications

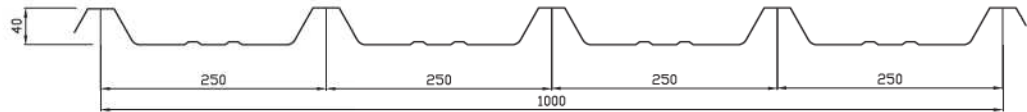
- Acoustic insulation.
- Roof decks.
- Sandwich panels *in situ*.
- Curtain walls.
- Roofs with dropped *ceilings*.
- Absorbent surfaces.

Most common profiles

30/204 profiled sheet



40/250 profiled sheet



Advantages

- Easy to replace if worn or damaged.
- Quick and easy installation.
- Excellent corrosion and durability characteristics.
- Different finishes available.

Curved sheet

ACH offers curved profiled sheets with a 30/206 or 40/250 profile for self-supporting roofs. This system allows for larger lights since the loads are transmitted directly to the supports, thus avoiding the need for intermediate structures.

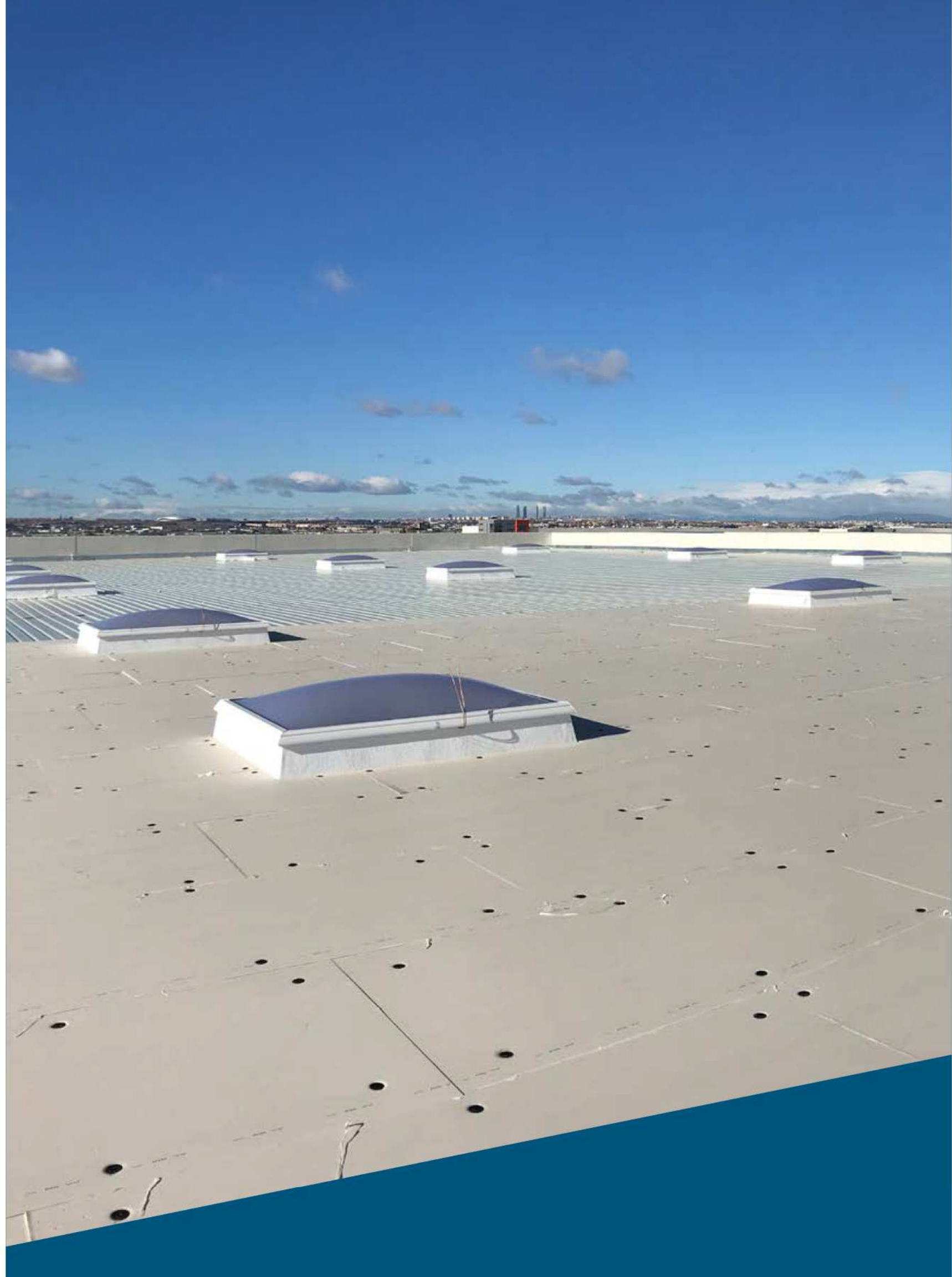


Anti-condensation sheet

We have anti-condensation felt for 40/200 profile sheets.

*See all available profiles on page 68





Deck RoofingACH



ACH Deck Roofing

Complete system

A basic requirement for industrial buildings is the need to have wide open interior spaces. These buildings, therefore, have prefabricated structures made of steel or concrete, where the roof is usually light. Deck-type structures are most prominent.



These lightweight metal roofs or decks are widely used to cover industrial establishments, sports centers and large shopping centers.

This type of roof provides a series of distinct advantages over other light-roofing systems, most notably:

- Light roof (self-protected 18-25 kg/m²).
- Flat roof (1-5% slope).
- High strength: allows installing large lights without the need for intermediate supports.
- Designer roofs, with cosmetic and functional solutions.
- Fully waterproof: continuous roof without joints. Deck roofs are absolutely impermeable to rainwater, air and water vapor.
- High thermal and/or acoustic insulation

A deck roof is a metal roof that is thermally and acoustically insulated and waterproof. It consists of three elements that provide a series of considerable benefits:

- Support: self-supporting ribbed profile made of galvanized or pre-lacquered sheet steel that provides strength to the roof depending on its thickness (0.7mm minimum recommended) and the distance between supports.
- Thermal/acoustic insulation: product featuring high thermal and acoustic resistance that allows modulating any thermal differences between the external and internal environment, and that enhances waterproofing. This element is usually made of mineral wool (which includes both characteristics), with PIR, XPS and cellulose perlite also available.
- Sealing: the impermeability system installed must guarantee the waterproofing of the assembly and ensure that the properties of the thermal insulation remain intact. The same types of waterproofing can be used in traditional flat roofs, although the most commonly used are bituminous sheets, as well as PVC and TPO.



- For more information on each product, please visit
<http://www.panelesach.com/cubierta-deck>



ACH Metal Profiles



ACH metal profiles

Manufacturing process

Metal profiles are lightweight sections of steel that are used as structural elements.

The C-ACH and Z-ACH profiles are cold rolled and recommended for attaching our panels when constructing metal structures.

These profiles are manufactured by roll forming machines, whose components include a movable head for the customized punching of the profiles.

We can manufacture special profiles up to 4 mm thick.

Characteristics

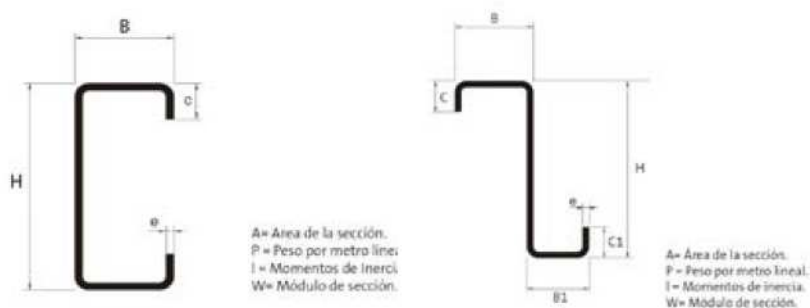
ACH profiles are cold formed from hot-rolled, structural steel sheet as per UNE-EN 10025:2006, and from galvanized steel sheet as per UNE-EN 10346.

Hot-rolled structural steels can be hot-dip galvanized as per UNE-EN ISO 1461.

The lengths of ACH profiles are made to order. We offer various punching options to facilitate the installation and bolted attachment of these components on site.



Profiles



Punching

By applying the latest technology to the machining process, we can punch the profile at any point in any sequence, or lay out vertical and horizontal punching patterns. We can also provide custom punching patterns.

In addition to the standard hole (14x24 mm), we can offer the following hole geometries:

Oval holes
8 x 16 mm
10 x 20 mm
10 x 30 mm
10 x 40 mm
12 x 16 mm
13 x 40 mm
14 x 20 mm
14 x 30 mm
14 x 60 mm
14 x 70 mm
16 x 25 mm
18 x 28 mm
21 x 30 mm



Punzones redondos
Ø 9 mm
Ø 10 mm
Ø 11 mm
Ø 12 mm
Ø 14 mm
Ø 16 mm
Ø 18 mm
Ø 20 mm
Ø 31 mm
Ø 35 mm



Cleats

These are 3-mm thick, hot-rolled pieces to reinforce the support of the profile to the main structure.



*See technical information on page 70





Lighting Natural ACH



ACH Polivalente

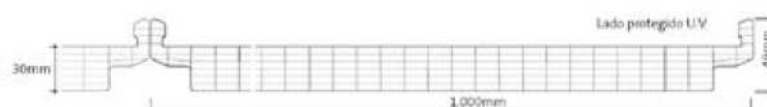
Modular UV protected cellular polycarbonate system for translucent roofs and walls.

The "ACH Polivalente" rooflight is a modular system consisting of co-extruded cellular polycarbonate panels with 7 layers, 30 mm thick and 1,000 mm wide, for assembling flat and curved roofs, as well as vertical walls. It is used as a ridge to gutter skylight interleaved between deck sandwich panels.

A series of anchoring staples make the system both simple and safe for the various types of panels.

Advantages

- Euroclasses B-s1, d0 reaction to fire and thermal insulation.
- Not drilled (completely avoids cracking due to expansion).
- Easy and cheap installation.
- Lets light in, solar factor.
- Resistant to UV rays and hail.
- High load resistance.
- Can be adapted to every panel on the market.

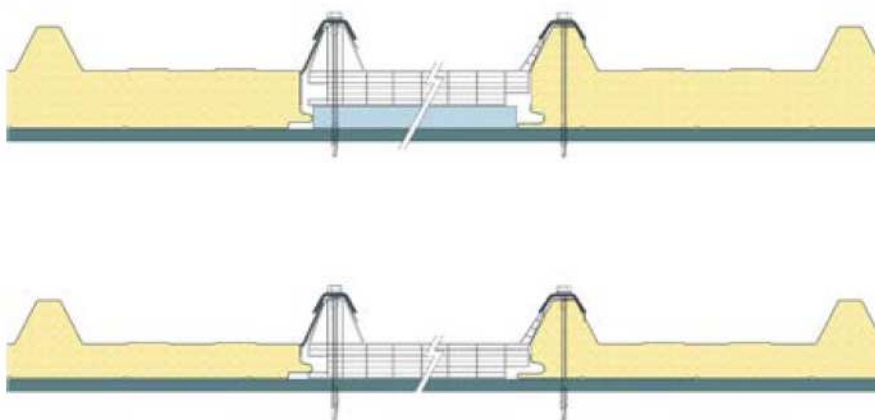


ACH Greca

Our panels have to be installed from the ridge to the gutter with minimum gradients of 7% and not exceed a purlin distance of 2.0 ml. If the sandwich panel is thicker than the panel to be installed, this difference must be offset by adding a shim to the purlin.

The thermal expansion coefficient of polycarbonate is significantly higher than that of structures and other plastic products, so it is essential to include systems that allow the sheets to expand freely. To attach the panel, oval holes must be made in the top of the wings and ribs with a diameter as specified in the following table. A support must be placed under the rib to avoid vibrations when making the hole.

Panel length (mm)	Oval length (mm)
≤ 2000	10
$> 2000; \leq 4000$	14
$> 4000; \leq 6000$	18
> 6000	$18 + 2,6 \text{ mm/m}$



B-s1, d0

*See page 74 for the polycarbonates available





Sanitary Trims and Profiles



ACH Sanitary Trims and Profiles

At ACH we have a wide range of accessories and fasteners needed to install sandwich panels, profiled sheets and metal purlins.

Trims

Trims are steel sheets that can have a multitude of finishes such as pre-lacquered, galvanized, aluminum, and other highly durable coatings. They are used to protect and cover joints or the insulating core of sandwich panels, and keep water or moisture from leaking in. At ACH, we have trims ranging in thicknesses from 0.50 mm to 3.00 mm.

Sanitary profiles

ACH sanitary profiles provide a hygienic and clean finish for clean rooms and cold rooms.

We offer solutions for wall-floor connections, panel protection and suspended ceilings.

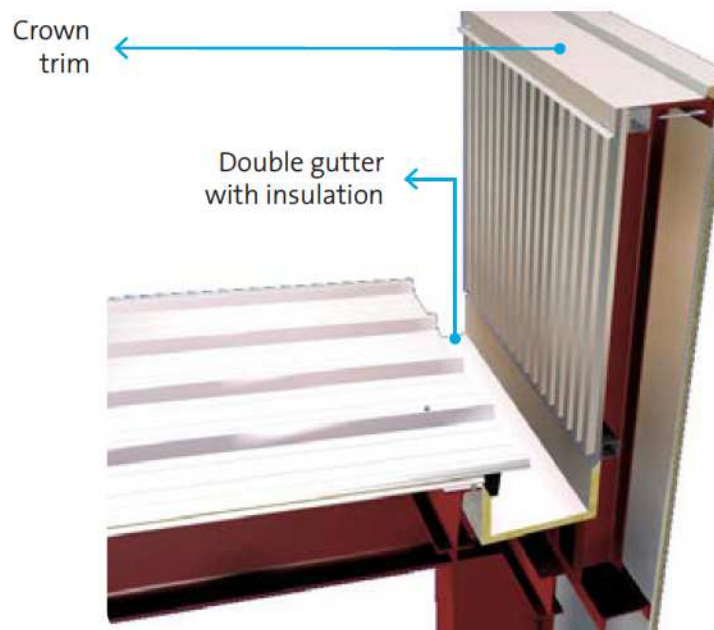
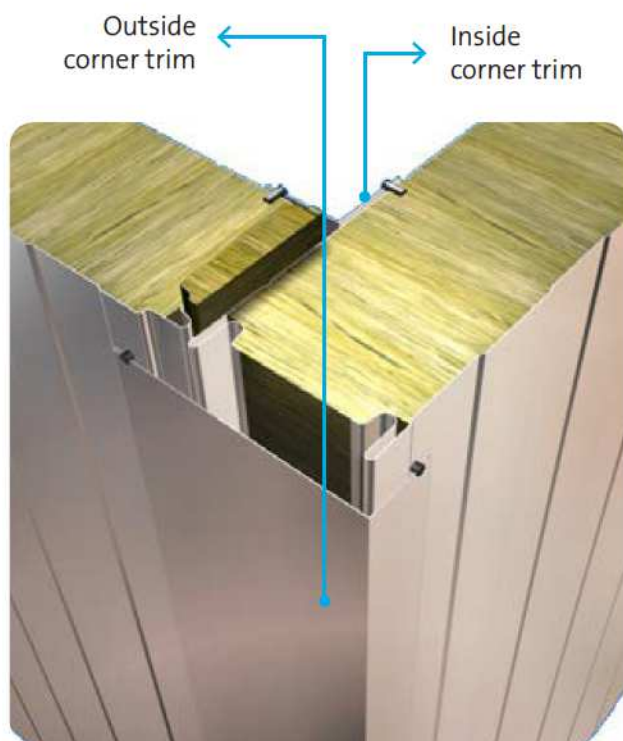
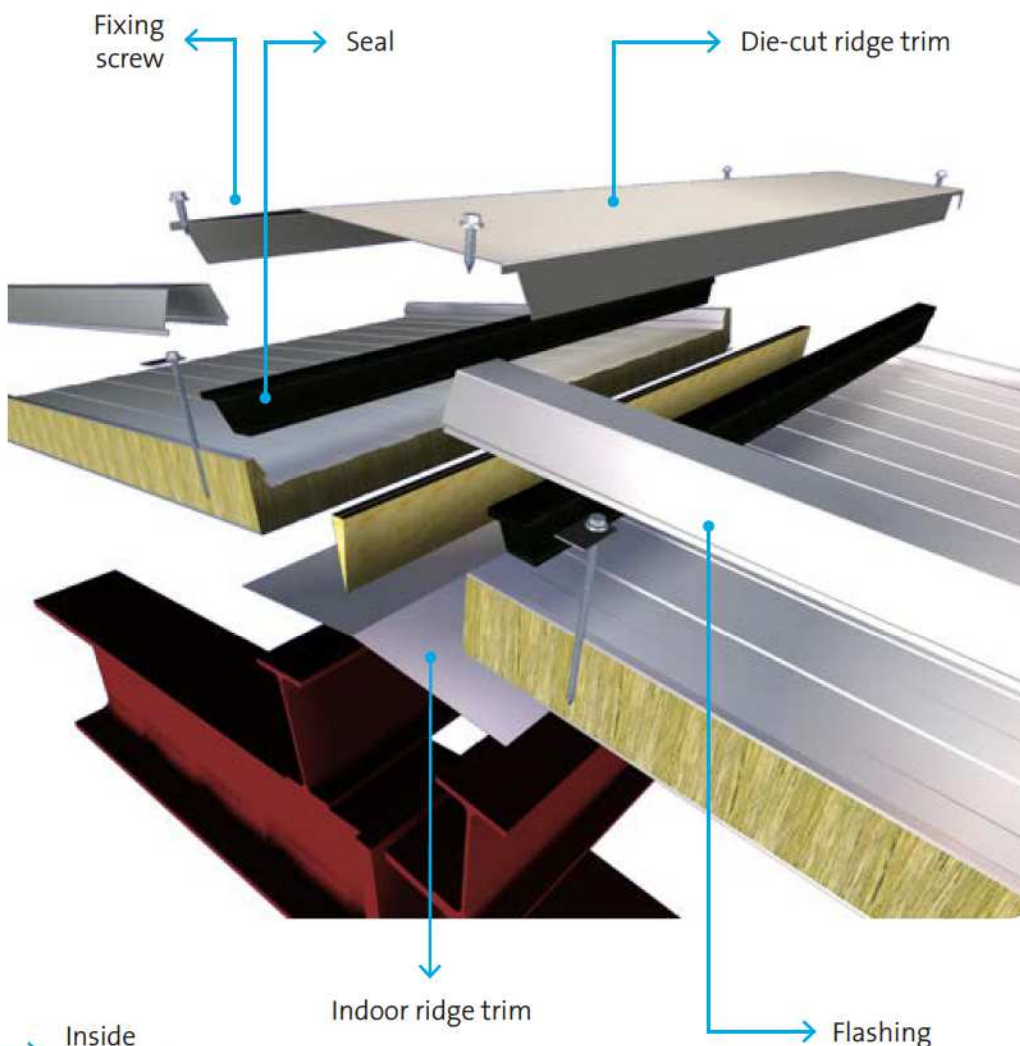
They are available in PVC and aluminum.

- Wall-floor connection.
- Panel protection.
- Suspended ceilings.

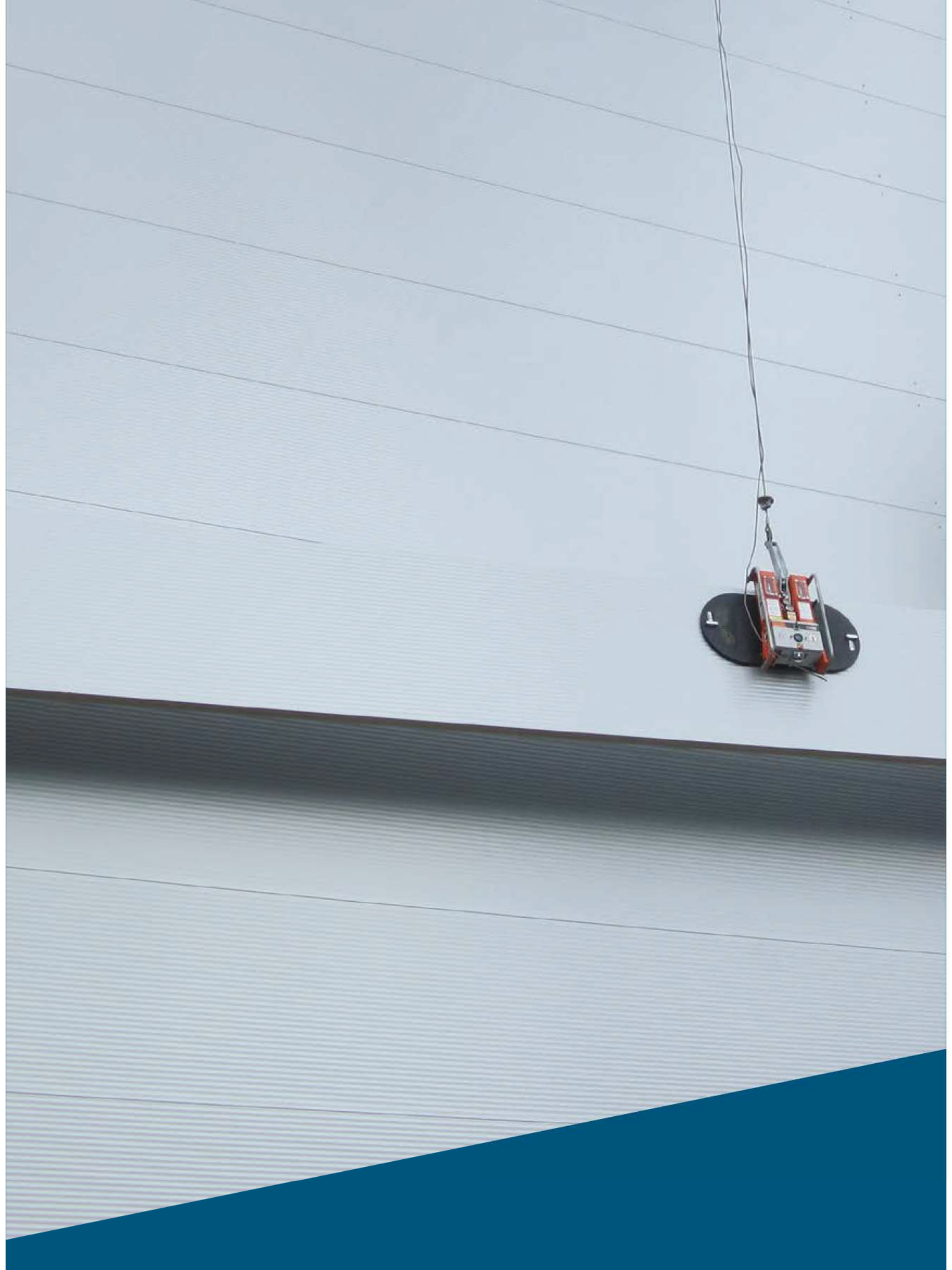


Fasteners and accessories:

We have specific fasteners for each type of product and situation, as required. When installing sandwich panels or profiled sheets, the quantity and location of the fasteners is very important, since it is the fasteners that provide resistance to external forces, such as rain or wind, that can cause leaks or damage.



*Check the types of trims, sanitary profiles, accessories and fasteners on page 76





Vacuum-lifting machines



Lifting machines

At ACH we have a wide variety of lifting machines for installing and handling sandwich panels.

The innovation that ACH applies to the manufacture of its products is now also evident in these cutting-edge machines, which enable our customers to more easily move and handle our products. Some models even feature a remote control that can be used to operate the machine at a distance.

Depending on each project's needs, we can supply the most suitable lifting machine, ideal for quickly and safely moving sandwich panels for both walls and roofs.

All these devices have secondary safety devices as required by the EN13155 standard. The models with a dual vacuum circuit allow the panels to be installed without requiring auxiliary fastening components, such as slings.

They are designed for everyday use and on site, so they have a long service life, and can even be used in the rain.

These devices make it possible to install roof, wall or dividing panels safely and efficiently.

Advantages:

- Quick installation: The handling and precision of these lifting machines reduce the time it takes to install the panels. Depending on the device, they also allow roof sandwich panels up to 25 meters in length to be moved.
- Protection: the suction cups reduce the risk of potentially damaging the sandwich panels.
- Safety: the lifting machines comply with national and international regulations.



Features and benefits

There is a wide range of machines and accessories that adapt to the needs of each work or project and make it possible to safely and quickly install sandwich panels, while avoiding damage thanks to the suction cups.

In addition to the machines shown in the table, models can be configured for enhanced performance. The load amount can reach 800 kg, and the panels installed can be up to 25 meters long.



Model	Description	Load capacity	Max. panel length	P.p. (kg)
GB2.2-250	Vacuum lifting device with dual suction system for installing sandwich panels. The suction cups measure 80x40 cm.	250 kg	Wall 8 m	60
GB2.2r-250	Vacuum lifting device with dual suction system for installing sandwich panels. The suction cups measure 80x40 cm. Includes remote control.	250 kg	8-m wall	60
GB2.2-4FLEX	Vacuum lifting device with 4 adjustable suction cups measuring 110x680 mm. Supports roof and wall sandwich panels (installed horizontally or vertically) weighing up to 200 kg.	200 kg	Roof 8 m Wall 12 m	85
CB4	Vacuum lifting device with crossbar for installing roof and wall sandwich panels.	300 kg 200 kg	Roof 16 m Wall 12 m	125
CB5	Vacuum lifting device with crossbar for installing roof and wall sandwich panels. Dual circuit system.	300 kg 200 kg	Roof 16 m Wall 12 m	150

*For more information, visit www.panelesach.es/montaje-elevacion

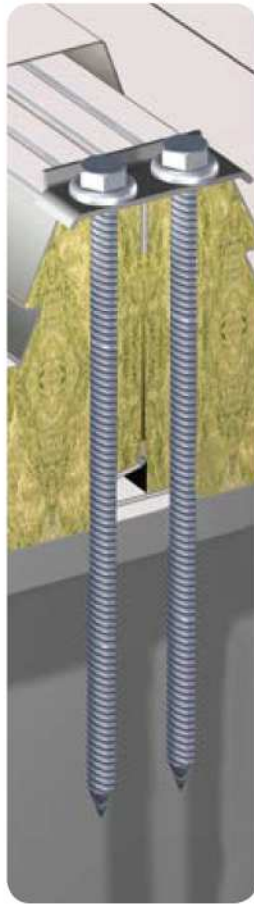
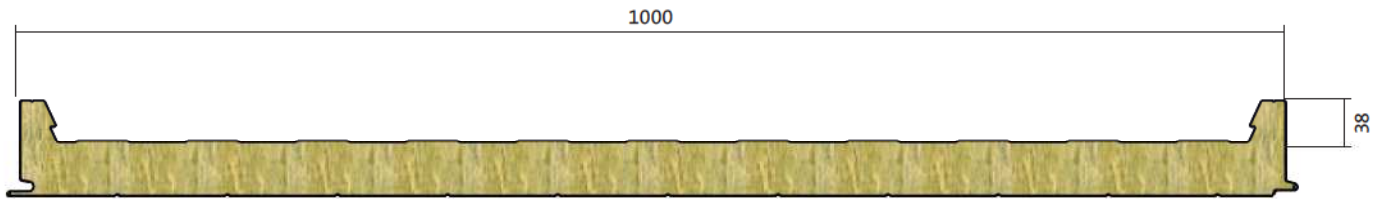




Technical information

ACH Mineral wool Sandwich Panels

Roof Sandwich Panels 2 ribs



STANDARD											
Span (m)		Dual-support panel overload (kg/m ²)									
		80		100		120		150		200	
		L	M	L	M	L	M	L	M	L	M
Thickness (mm)	30	-	3,00	-	2,60	-	2,10	-	1,60	-	1,30
	40	2,90	3,20	2,50	2,80	2,05	2,30	1,5	1,80	1,25	1,40
	50	2,90	3,45	2,50	2,91	2,10	2,44	1,65	1,94	1,29	1,53
	60	3,15	4,40	2,60	4,00	2,55	3,30	1,85	2,80	1,53	1,90
	80	3,80	4,89	3,00	4,33	2,75	3,76	2,20	3,13	1,75	2,50
	100	4,98	5,87	4,45	5,24	3,90	4,60	3,27	3,85	2,00	3,25

- Deflection L/200. Safety coefficient: 2.5.

ACOUSTIC (PERFORATED)											
Span (m)		Dual-support panel overload (kg/m ²)									
		80		100		120		150		200	
		L	M	L	M	L	M	L	M	L	M
Thickness (mm)	30	-	2,13	-	1,66	-	1,53	-	1,49	-	1,00
	40	2,30	2,38	1,79	1,87	1,62	1,70	1,30	1,62	1,10	1,40
	50	2,45	2,95	2,00	2,60	1,80	2,30	1,40	1,90	1,00	1,40
	60	2,68	2,81	2,34	2,51	2,08	2,30	1,87	2,04	1,55	1,83
	80	4,25	4,90	3,46	3,75	3,00	3,50	2,60	3,25	1,80	2,1
	100	4,40	5,20	3,75	4,20	3,00	3,80	2,10	2,90	1,90	2,30

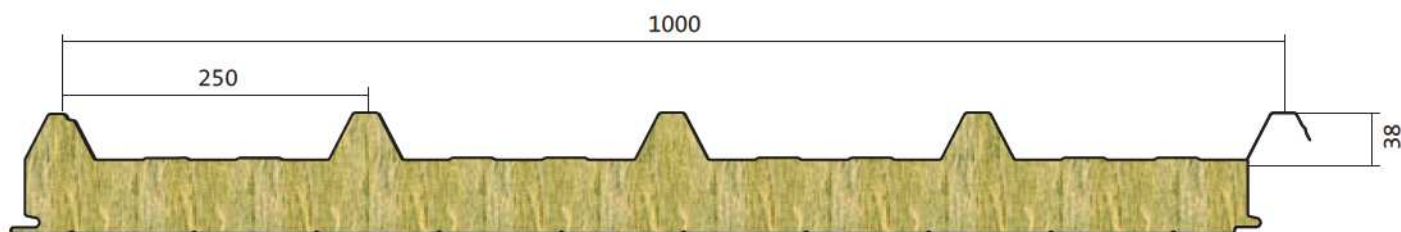
- Deflection L/200. Safety coefficient: 2.5.

Core THICKNESS mm	WIDTH mm	Max. rec. compr.		Weight kg/m2				Therm Trans. Coeff. W/m2K		Res. to Fire EI (min)		Acoustic insulation								Absorption αw	
												Rw (dB)				Ra (dB A)					
		Standard		Acoustic		Standard		Acoustic		Standard		Acoustic		Acoustic							
		L	M	L	M	L	M	L	M	L	M	L	M	L	M	L	M	L	M	L	M
30	1.000	-	7,00	-	11,9	-	10,9	-	1,067	PND	PND	-	≥28,0	-	≥28,0	-	≥28,0	-	≥28,0	-	0,80
40	1.000	7,00	7,00	11,8	13,0	10,8	12,0	0,838	0,838	PND	PND	≥28,0	≥28,0	≥28,0	≥28,0	≥28,0	≥28,0	≥28,0	≥28,0	0,80	0,80
50	1.000	8,00	8,00	13,2	14,7	12,2	13,7	0,695	0,695	PND	PND	≥31	≥32,5	≥31,0	≥32,0	≥30,5	≥32,5	≥30,6	≥31,6	0,90	0,80
60	1.000	8,00	8,00	14,1	15,9	13,1	14,9	0,586	0,586	PND	PND	≥31	≥32,5	≥31,0	≥32,0	≥30,5	≥32,5	≥30,6	≥31,6	0,90	0,80
80	1.000	8,00	9,00	15,9	18,3	14,9	17,3	0,451	0,451	PND	EI120	≥31	≥32,5	≥33,0	≥33,0	≥30,5	≥32,5	≥31,8	≥31,8	0,75	0,80
100	1.000	9,00	9,00	17,7	20,7	16,7	19,7	0,367	0,367	PND	EI120	≥31	≥34,0	≥33,0	≥33,0	≥30,5	≥34,1	≥31,8	≥31,8	0,90	0,80

- PNR: Property not reported

- Acoustic performance: ask manufacturer about certifications

Roof Sandwich Panels 5 ribs



STANDARD											
Span (m)		Dual-support panel overload (kg/m ²)									
		80		100		120		150		200	
		L	M	L	M	L	M	L	M	L	M
Thickness (mm)	30	-	3,40	-	2,90	-	2,60	-	2,21	-	1,80
	40	3,15	3,60	2,50	3,10	1,85	2,85	1,25	2,35	1,00	1,80
	50	3,25	3,96	2,90	3,42	2,65	2,98	2,20	2,50	1,40	1,92
	60	3,40	4,40	3,00	3,75	2,75	3,10	2,35	2,80	1,50	2,25
	80	4,10	5,76	3,80	5,16	3,50	4,48	3,11	3,66	2,35	2,77
	100	5,60	6,60	5,05	5,68	3,80	4,76	3,30	3,88	2,50	2,94
	120	6,00	7,50	5,30	6,10	4,00	5,15	3,50	4,41	2,70	3,12
	150	6,30	8,90	5,8	7,48	5,45	6,50	4,60	5,05	3,00	4,08
	200	7,50	9,40	6,50	8,30	5,80	7,05	5,10	6,00	3,00	5,20

- Deflection L/200. Safety coefficient: 2.5.

ACOUSTIC (PERFORATED)											
Span (m)		Dual-support panel overload (kg/m ²)									
		80		100		120		150		200	
		L	M	L	M	L	M	L	M	L	M
Thickness (mm)	30	-	2,13	-	1,66	-	1,53	-	1,49	-	1,00
	40	2,70	2,80	2,10	2,20	1,90	2,00	1,75	1,90	1,50	1,65
	50	2,93	3,20	2,60	2,80	2,41	2,55	2,00	2,25	1,60	2,00
	60	3,15	3,30	2,75	2,95	2,45	2,70	2,20	2,40	1,82	2,15
	80	3,92	4,6	3,51	4,05	3,04	3,50	2,49	3,02	1,94	2,25
	100	4,58	5,61	3,93	4,83	3,31	4,06	2,68	3,15	2,04	2,50
	120	5,28	5,80	4,35	5,00	3,62	4,2	2,90	3,9	2,18	3,50
	150	6,10	6,29	4,85	5,61	3,98	5,44	3,25	4,59	2,50	3,90
	200	7,60	8,50	5,90	7,50	4,70	6,00	3,90	5,20	3,05	4,30

- Deflection L/200. Safety coefficient: 2.5.

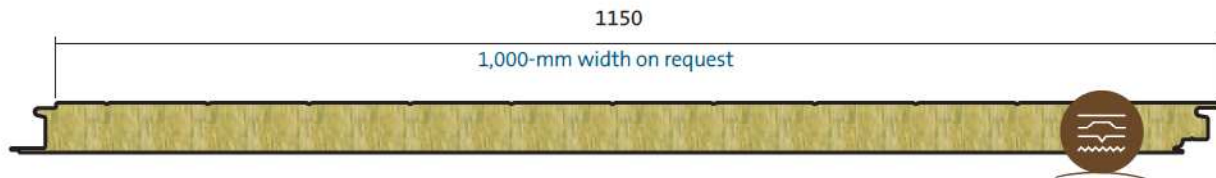
Core THICKN mm	WIDTH mm	Max. rec. compr.				Weight kg/m2				Therm Trans. Coeff. W/m2K	Res. to Fire EI (min)		Acoustic insulation								Absorption αw	
													Rw (dB)				Ra (dB A)					
		Standard		Acoustic		Standard		Acoustic					Standard		Acoustic		Standard		Acoustic		Acoustic	
		L	M	L	M	L	M	L	M		L	M	L	M	L	M	L	M	L	M		
30	1.000	-	8,00	-	7,00	-	13,1	-	10,9	0,974	-	PND	-	≥28,0	-	≥28,0	-	≥28,0	-	≥28,0	-	0,80
40	1.000	8,00	8,00	8,00	8,00	13,1	14,3	12	13,2	0,786	PND	PND	≥28,0	≥28,0	≥28,0	≥28,0	≥28,0	≥28,0	≥28,0	≥28,0	0,80	0,80
50	1.000	8,00	8,00	8,00	8,00	14,4	15,5	12,9	14,4	0,658	EI30	EI30	≥31,0	≥33,0	≥31,0	≥32,0	≥30,5	≥32,5	≥30,6	≥31,6	0,90	0,80
60	1.000	9,00	9,00	8,00	8,00	14,9	16,7	13,8	15,6	0,566	EI30	EI30	≥31,0	≥33,0	≥31,0	≥32,0	≥30,5	≥32,5	≥30,6	≥31,6	0,90	0,80
80	1.000	9,00	9,00	9,00	9,00	17,3	18,3	15,6	18,0	0,443	EI30	EI60	≥31,0	≥33,0	≥33,0	≥32,0	≥30,5	≥32,5	≥32,3	≥31,6	0,85	0,80
100	1.000	9,00	9,00	9,00	9,00	19,2	21,5	17,4	20,4	0,363	EI30	EI120	≥31,0	≥33,0	≥35,0	≥35,0	≥30,5	≥32,5	≥34,7	≥34,8	0,90	0,90
120	1.000	10,00	10,00	10,00	10,00	20,3	23,9	19,2	22,8	0,308	EI30	EI120	≥31,0	≥33,0	≥35,0	≥35,0	≥30,5	≥32,5	≥34,7	≥34,7	0,85	0,80
150	1.000	10,00	10,00	10,00	10,00	23,0	27,5	21,9	26,4	0,251	EI30	EI120	≥31,0	≥33,0	≥35,0	≥35,0	≥30,5	≥32,5	≥34,7	≥34,7	0,85	0,80
200	1.000	10,00	10,00	10,00	10,00	27,5	33,5	26,4	32,4	0,190	EI30	EI120	≥31,0	≥33,0	≥35,0	≥35,0	≥30,5	≥32,5	≥34,7	≥34,7	0,85	0,80

- PNR: Property not reported

- Acoustic performance: ask manufacturer about certifications

ACH Mineral wool Sandwich Panels

Wall Sandwich Panel Invisible Fastener



Span (m)		STANDARD													
		Dual-support panel overload (kg/m ²)													
		30		60		80		100		120		150		200	
Thickness (mm)	40	L	M	L	M	L	M	L	M	L	M	L	M	L	M
	40	-	6,07	-	4,20	-	3,10	-	2,41	-	2,00	-	1,57	-	-
	50	5,50	7,70	4,00	5,30	3,00	3,90	2,40	3,01	2,00	2,52	1,60	2,00	1,30	1,50
	60	5,50	8,15	4,00	6,10	3,00	4,20	2,40	3,50	2,00	3,02	1,60	2,40	1,30	1,90
	80	8,60	9,22	5,32	6,26	4,35	5,15	3,80	4,47	3,45	4,07	2,75	3,24	2,25	2,50
	100	10,00	11,00	6,35	7,50	5,16	6,10	4,60	5,45	4,20	5,00	3,45	4,12	2,75	3,25
	120	10,00	12,00	6,35	8,30	5,16	7,05	4,60	6,35	4,20	5,89	3,45	4,80	2,75	3,75
	150	10,00	13,00	6,35	9,52	5,16	8,30	4,60	7,50	4,20	6,75	3,45	5,50	2,75	4,50
	200	10,00	14,00	6,35	10,80	5,16	8,50	4,60	7,50	4,20	6,84	3,45	6,09	2,75	5,50

- Deflection L/180. Safety coefficient: 2.0.

Span (m)		Acoustic (Perforated)													
		Dual-support panel overload (kg/m ²)													
		30		60		80		100		120		150		200	
Thickness (mm)	40	L	M	L	M	L	M	L	M	L	M	L	M	L	M
	40	-	4,59	-	2,91	-	2,21	-	1,75	-	1,47	-	-	-	-
	50	5,07	5,73	3,22	3,64	2,45	2,77	1,96	2,21	1,64	1,85	1,30	1,47	1,05	1,19
	60	5,25	5,93	3,40	3,84	2,75	3,11	2,50	2,83	2,06	2,33	1,60	1,81	1,20	1,36
	80	5,99	6,77	4,07	4,60	3,35	3,79	2,91	3,29	2,64	2,98	2,11	2,38	1,35	1,53
	100	7,14	8,07	4,85	5,48	3,95	4,46	3,53	3,99	3,22	3,64	2,64	2,98	1,55	1,75
	120	8,20	9,27	5,70	6,44	4,50	5,09	4,12	4,66	3,85	4,35	3,03	3,42	1,90	2,15
	150	9,10	10,28	7,30	8,25	6,08	6,87	5,60	6,33	5,12	5,79	4,25	4,80	2,80	3,16
	200	11,00	12,43	9,80	11,07	8,15	9,21	7,55	8,53	6,25	7,06	5,60	6,33	4,00	4,52

- Deflection L/180. Safety coefficient: 2.0.

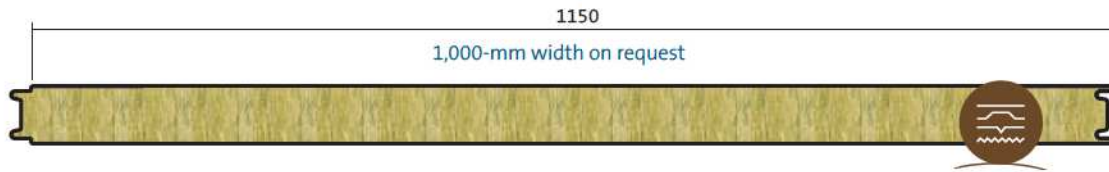
Core THICKN mm	WIDTH mm	Max. rec. compr.		Weight kg/m2				Thermal Trans Coeff W/m2K	Res. to Fire EI (min)*		Acoustic insulation								Absorption αw	
											Rw (dB)				Ra (dB A)					
				Standard		Acoustic					Standard		Acoustic		Standard		Acoustic			
		L	M	L	M	L	M		L	M	L	M	L	M	L	M	L	M		
40	1.150	-	6,00	-	13,3	-	12,5	0,850	-	PND	-	PND	-	PND	-	PND	-	PND	-	PND
50	1.150	7,00	8,50	12,7	14,2	11,9	13,9	0,784	PND	EI30	≥31,0	≥33	≥31,0	≥35,0	≥30,5	≥32,5	≥30,6	≥34,4	0,90	0,85
60	1.150	7,00	8,50	13,6	15,4	12,8	14,6	0,636	PND	EI30	≥31,0	≥33	≥31,0	≥35,0	≥30,5	≥32,5	≥30,6	≥34,4	0,90	0,85
80	1.150	9,00	10,00	15,4	17,8	14,6	17,0	0,489	PND	EI60	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,2	0,85	0,80
100	1.150	10,00	11,00	17,2	20,2	16,4	19,4	0,391	PND	EI120	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,2	0,85	0,80
120	1.150	11,00	12,00	19,0	22,6	18,2	21,8	0,324	PND	EI120	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,2	0,85	0,80
150	1.150	12,00	12,00	21,7	26,2	20,9	25,4	0,260	PND	EI120	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,2	0,85	0,80
200	1.150	12,00	12,00	26,2	32,2	25,4	31,4	0,195	PND	EI120	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,2	0,85	0,80

- Acoustic performance: ask manufacturer about certifications

- 1,000-mm width on request

- PNR: Property not reported

Wall Sandwich Panel Exposed Fastener



Span (m)		STANDARD													
		Dual-support panel overload (kg/m2)													
		30		60		80		100		120		150		200	
		L	M	L	M	L	M	L	M	L	M	L	M	L	M
Thickness (mm)	40	-	6,07	-	4,20	-	3,10	-	2,41	-	2,00	-	1,57	-	-
	50	4,90	7,00	2,96	4,80	2,50	3,30	2,38	2,80	2,19	2,40	2,05	2,00	1,45	1,50
	60	5,50	7,50	4,50	5,00	4,05	4,50	3,50	3,80	2,70	3,00	2,20	2,50	1,65	1,90
	80	6,30	8,00	4,70	5,50	4,10	4,80	3,65	4,30	3,10	3,40	2,45	2,90	1,90	2,30
	100	7,10	10,00	5,00	5,70	4,20	5,00	3,40	4,50	2,80	3,90	2,30	3,50	2,10	2,80
	120	9,00	12,00	5,50	6,30	4,50	5,50	3,60	4,70	4,00	4,30	2,90	3,90	2,30	3,20
	150	11,50	13,00	6,00	7,50	5,40	6,80	4,60	6,10	4,10	5,40	3,60	4,70	2,50	3,70
	200	12,00	14,00	7,50	8,30	6,60	7,30	5,85	6,50	5,30	5,90	4,75	5,30	4,10	4,50

- Deflection L/180. Safety coefficient: 2.0.

Span (m)		Acoustic (Perforated)													
		Dual-support panel overload (kg/m2)													
		30		60		80		100		120		150		200	
		L	M	L	M	L	M	L	M	L	M	L	M	L	M
Thickness (mm)	40	-	4,59	-	2,91	-	2,21	-	1,75	-	1,47	-	-	-	-
	50	3,73	4,21	2,34	2,64	2,00	2,26	1,90	2,15	1,75	1,98	1,65	1,86	1,15	1,30
	60	3,95	4,46	2,60	2,94	2,40	2,71	2,25	2,54	2,15	2,43	1,78	2,01	1,25	1,41
	80	4,85	5,48	3,09	3,49	2,70	3,05	2,52	2,85	2,32	2,62	1,99	2,25	1,35	1,53
	100	5,87	6,63	3,60	4,07	3,03	3,42	2,79	3,15	2,53	2,86	2,17	2,45	1,50	1,70
	120	6,90	7,80	4,10	4,63	3,40	3,84	3,05	3,45	2,75	3,11	2,40	2,71	1,70	1,92
	150	7,75	8,76	4,90	5,54	4,10	4,63	3,60	4,07	3,30	3,73	2,65	2,99	1,90	2,15
	200	9,20	10,40	6,40	7,23	5,25	5,93	4,63	5,23	4,03	4,55	3,18	3,59	2,10	2,37

- Deflection L/180. Safety coefficient: 2.0.

Core THICKN mm	WIDTH mm	Max. rec. compr.		Weight kg/m2				Thermal Trans Coeff W/m2K	Res. to Fire EI * (min)		Acoustic insulation								Absorption αw	
											Rw (dB)				Ra (dB)					
				Standard		Acoustic					Standard		Acoustic		Standard		Acoustic		Acoustic	
		L	M	L	M	L	M		L	M	L	M	L	M	L	M	L	M		
40	1.150	-	6,00	-	13,3	-	12,5	0,850	-	PND	-	PND	-	PND	-	PND	-	PND	-	PND
50	1.150	7,00	8,50	12,7	14,2	11,9	13,9	0,784	PND	EI30	≥31,0	≥33	≥31,0	≥35,0	≥30,5	≥32,5	≥30,6	≥34,4	0,90	0,85
60	1.150	7,00	8,50	13,6	15,4	12,8	14,6	0,636	PND	EI60	≥31,0	≥33	≥31,0	≥35,0	≥30,5	≥32,5	≥30,6	≥34,4	0,90	0,85
80	1.150	9,00	10,00	15,4	17,8	14,6	17,0	0,489	PND	EI90	≥31,0	≥33	≥34,0	≥36,0	≥30,5	≥32,5	≥34,2	≥35,1	0,85	0,90
100	1.150	10,00	11,00	17,2	20,2	16,4	19,4	0,391	PND	EI120	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,1	0,85	0,85
120	1.150	11,00	12,00	19	22,6	18,2	21,8	0,324	PND	EI240	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,2	0,85	0,80
150	1.150	12,00	12,00	21,7	26,2	20,9	25,4	0,260	PND	EI240	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,2	0,85	0,80
200	1.150	12,00	12,00	26,2	32,2	25,4	31,4	0,195	PND	EI240	≥31,0	≥33	≥34,0	≥37,0	≥30,5	≥32,5	≥34,2	≥36,2	0,85	0,80

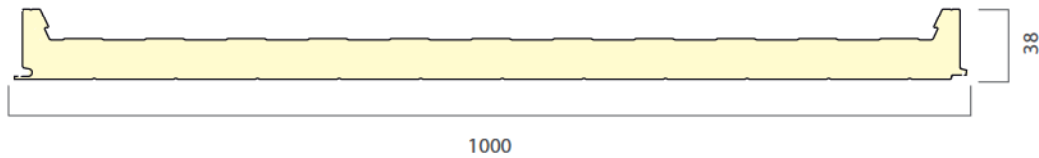
- Acoustic performance: ask manufacturer about certifications

- 1,000-mm width on request

- PNR: Property not reported

ACH PUR-PIR Sandwich Panels

Roof Sandwich Panels 2 ribs



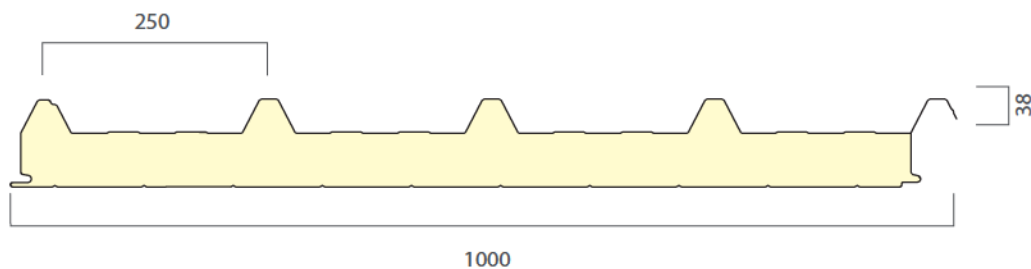
P2G				
Core THICKN mm	WIDTH mm	Max. recommended length m	WEIGHT Kg/m ²	Thermal Trans Coeff W/m ² K
30	1.000	14	9,89	0,670
40	1.000	14	10,2	0,520
50	1.000	14	10,58	0,420
60	1.000	14	10,95	0,350
80	1.000	14	11,77	0,270
100	1.000	14	12,50	0,220

- Weight change due to sheet metal increase or decrease: 0.85 kg/0.1 mm.

Span (m)	Overload (kg/m ²)				
	1,50	1,75	2,00	2,25	2,50
30	190	152	125	104	88
40	270	217	180	152	129
50	328	283	237	202	172
60	-	351	284	252	217
80	-	-	402	353	308
	2,50	3,00	3,50	4,00	4,50
100	280	255	182	136	105

- Deflection L/200.

Roof Sandwich Panels 5 ribs



P5G				
Core THICKN mm	WIDTH mm	Max. recommended length m	WEIGHT Kg/m ²	Thermal Trans Coeff W/m ² K
30	1.000	14	10,37	0,540
40	1.000	14	10,75	0,430
50	1.000	14	11,14	0,370
60	1.000	14	11,53	0,330
80	1.000	14	11,92	0,250
100	1.000	14	12,60	0,210

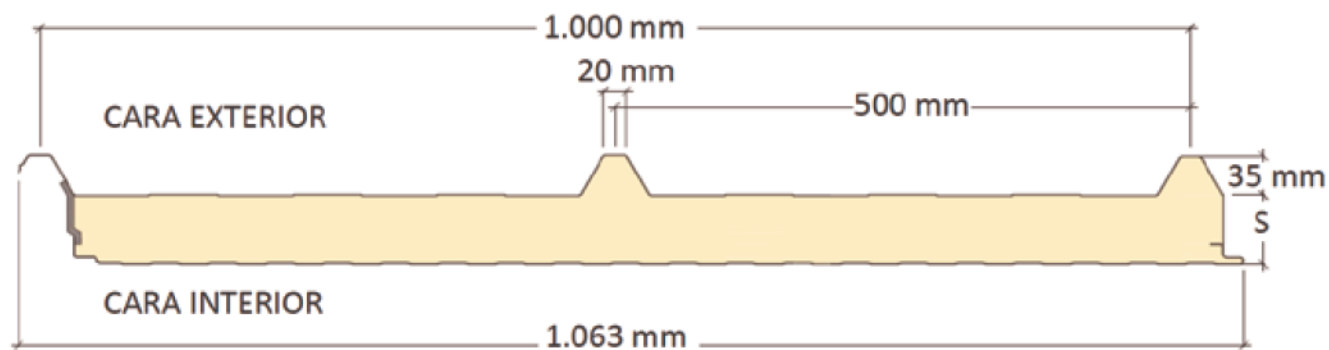
- Weight change due to sheet metal increase or decrease: 0.85 kg/0.1 mm.

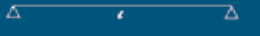
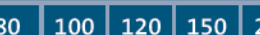

- Weight change due to increase or decrease of outer sheet: 0.95 kg/0.1 mm.

Span (m)	Overload (kg/m ²)				
	2,00	2,25	2,75	3,25	3,50
30	210	175	-	-	-
40	255	218	172	-	-
50	315	279	235	198	165
60	340	320	275	235	220
80	431	379	345	288	250
	3,50	4,00	4,50	5,00	5,50
100	285	200	158	125	104

- Deflection L/200.

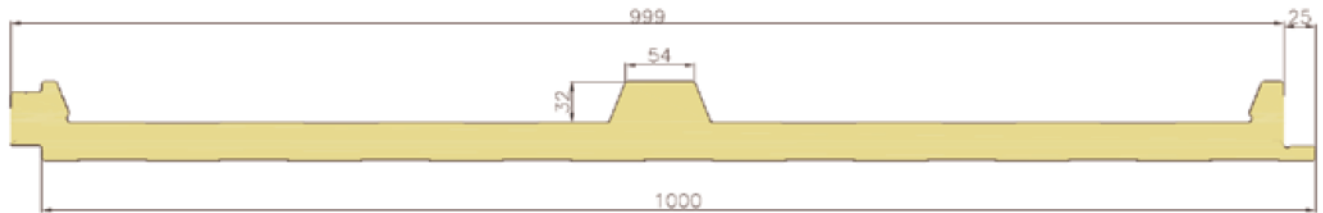
Paneles Sándwich Cubierta 3 grecas sin tapajuntas



Thick- ness (mm)	WEIGHT (kg/m ²) 0,40+0,40	Therm Trans. Coeff. (W/m ² K) U w/o JOINT FACTOR	Admissible light L(m)								Admissible light L(m)							
																		
			60	80	100	120	150	200	250	60	80	100	120	150	200	250	60	250
30	6,67	0,68	2,71	2,38	2,14	1,96	1,77	1,54	1,38	2,25	1,97	1,78	1,63	1,46	1,27	1,14		
40	7,08	0,52	3,02	2,65	2,39	2,19	1,97	1,72	1,54	2,72	2,39	2,15	1,97	1,77	1,54	1,38		
50	7,48	0,42	3,30	2,90	2,62	2,40	2,16	1,88	1,69	3,17	2,78	2,50	2,30	2,07	1,80	1,61		
60	7,88	0,35	3,57	3,14	2,83	2,60	2,34	2,04	1,84	3,59	3,15	2,84	2,60	2,34	2,04	1,83		
	0,50+0,40	U w/o JOINT FACTOR	Overload P (daN/m ²)								Overload P (daN/m ²)							
																		
			60	80	100	120	150	200	250	60	80	100	120	150	200	250	60	250
30	7,56	0,68	3,00	2,64	2,38	2,18	1,96	1,71	1,54	2,99	2,72	2,45	2,25	2,02	1,76	1,58		
40	7,96	0,52	3,33	2,92	2,64	2,42	2,18	1,90	1,71	3,48	3,19	2,97	2,73	2,45	2,14	1,92		
50	8,37	0,42	3,64	3,19	2,88	2,65	2,38	2,08	1,87	3,95	3,62	3,38	3,18	2,86	2,49	2,24		
60	8,77	0,35	3,92	3,45	3,12	2,86	2,58	2,25	2,02	4,39	4,03	3,76	3,55	3,25	2,83	2,54		

ACH PUR-PIR Sandwich Panels

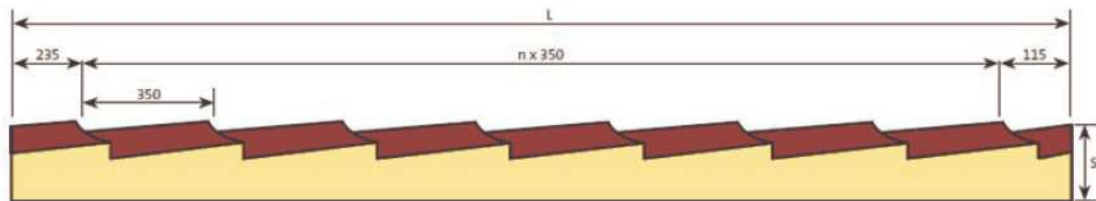
Roof Sandwich Panels 3 ribs with flashing





Thickness (mm)	WEIGHT (kg/m²)	Therm Trans. Coeff. (W/m²K)	Allowable overload (kg/m²)											
			(L) Distance between supports in cm (0.50+0.50 mm panel)											
			150	175	200	225	250	275	300	325	350	375	400	
30	10,66	0,66	229	184	151	126	106	-	-	-	-	-	-	
40	11,06	0,53	323	263	218	184	156	134	116	100	-	-	-	
50	11,46	0,44	419	342	287	243,00	208	180	157	138	121	108	-	
60	11,86	0,37	-	425	356	292,00	261	227	200	175	155	138	123	
80	12,66	0,28	-	-	499	427	371	324	287	254	227	203	184	
100	13,46	0,23	-	-	-	-	-	425	378	336	301	272	246	
120	14,26	0,19	-	-	-	-	-	-	469	420	379	342	311	

Coppo Sandwich Panel



Standard dimensions

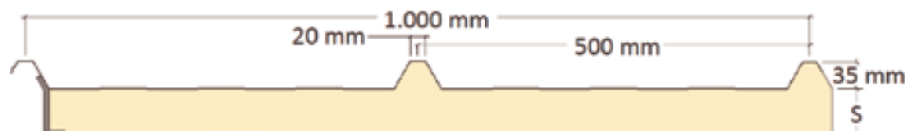




Thickness (mm)	WEIGHT (kg/m²) 0,50 + 0,50	Therm Trans. Coeff. (W/m²K) U w/o JOINT FACTOR															
			60	80	100	120	150	200	250	60	80	100	120	150	200	250	
30	9,54	0,74	3,16	2,78	2,51	2,31	2,08	1,81	1,63	2,82	2,48	2,24	2,06	1,85	1,62	1,45	
40	10,08	0,57	3,49	3,07	2,78	2,55	2,30	2,01	1,81	3,12	2,74	2,48	2,28	2,05	1,79	1,61	

Agropanel 5 ribs and 3 (w/ and w/o flashing)





Thick- ness (mm)	WEIGHT (kg/m²) 0,40 + P	Therm Trans. Coeff. (W/m²K) U w/o JOINT FACTOR	Admissible light L(m) 								Admissible light L(m) 							
			60	80	100	120	150	200	250	60	80	100	120	150	200	250		
30	5,18	0,68	1,41	1,23	1,11	1,02	0,91	0,79	0,71	1,44	1,26	1,13	1,04	0,93	0,81	0,73		
40	5,58	0,52	1,49	1,3	1,17	1,08	0,97	0,84	0,76	1,54	1,35	1,21	1,11	1,00	0,87	0,78		
50	5,99	0,42	1,57	1,37	1,24	1,13	1,02	0,89	0,80	1,65	1,45	1,30	1,19	1,07	0,93	0,84		
	0,50 + P	U w/o JOINT FACTOR	Overload P (daN/m²)								Overload P (daN/m²)							
			60	80	100	120	150	200	250	60	80	100	120	150	200	250		
30	6,07	0,68	1,78	1,56	1,41	1,29	1,16	1,01	0,91	1,83	1,67	1,56	1,47	1,32	1,15	1,03		
40	6,47	0,52	1,84	1,61	1,45	1,33	1,20	1,04	0,93	1,91	1,74	1,63	1,53	1,39	1,21	1,09		
50	6,87	0,42	1,86	1,63	1,47	1,35	1,21	1,06	0,95	1,99	1,83	1,70	1,61	1,48	1,29	1,16		



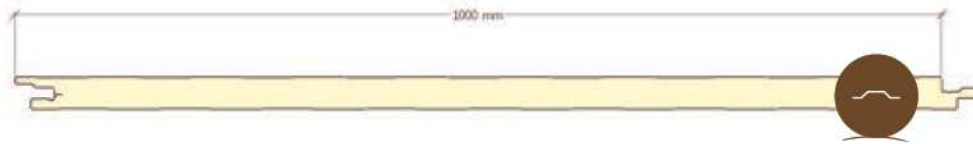
Thick-ness (mm)	WEIGHT (kg/m²) 0,40 + P	Therm Trans. Coeff. (W/m²K) U w/o JOINT FACTOR	Admissible light L(m) 								Admissible light L(m) 							
			60	80	100	120	150	200	250	60	80	100	120	150	200	250		
30	4,98	0,68	1,20	1,05	0,94	0,86	0,78	0,68	0,61	1,23	1,08	0,97	0,89	0,8	0,69	0,62		
40	5,39	0,52	1,31	1,15	1,03	0,95	0,85	0,74	0,66	1,35	1,18	1,06	0,97	0,87	0,76	0,68		
50	5,79	0,42	1,44	1,26	1,13	1,04	0,93	0,81	0,73	1,49	1,30	1,17	1,07	0,96	0,84	0,75		
	0,50 + P	U w/o JOINT FACTOR	Overload P (daN/m²)								Overload P (daN/m²)							
			60	80	100	120	150	200	250	60	80	100	120	150	200	250		
30	5,87	0,68	1,52	1,33	1,19	1,09	0,98	0,86	0,77	1,72	1,50	1,35	1,24	1,11	0,97	0,87		
40	6,27	0,52	1,56	1,37	1,23	1,13	1,01	0,88	0,79	1,86	1,62	1,46	1,34	1,21	1,05	0,94		
50	6,68	0,42	1,66	1,45	1,31	1,20	1,08	0,94	0,84	2,00	1,77	1,59	1,46	1,31	1,14	1,02		



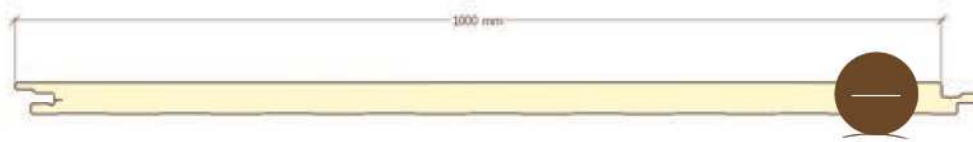
Thick-ness (mm)	WEIGHT (kg/m²) 0,40 + P	Therm Trans. Coeff. (W/m²K) U w/o JOINT FACTOR	Admissible light L(m) 								Admissible light L(m) 							
			60	80	100	120	150	200	250	60	80	100	120	150	200	250		
			60	80	100	120	150	200	250	60	80	100	120	150	200	250		
30	4,98	0,68	1,53	1,34	1,20	1,10	0,99	0,86	0,77	1,56	1,37	1,23	1,12	1,01	0,88	0,79		
40	5,39	0,52	1,63	1,42	1,28	1,17	1,05	0,92	0,82	1,66	1,45	1,31	1,20	1,08	0,94	0,84		
50	5,79	0,42	1,70	1,49	1,34	1,23	1,10	0,96	0,86	1,78	1,56	1,40	1,28	1,15	1,00	0,90		
	0,50 + P	U w/o JOINT FACTOR	Overload P (daN/m²)								Overload P (daN/m²)							
			60	80	100	120	150	200	250	60	80	100	120	150	200	250		
30	6,29	0,68	1,86	1,63	1,47	1,35	1,21	1,05	0,94	1,99	1,82	1,70	1,59	1,43	1,24	1,11		
40	6,70	0,52	1,91	1,68	1,51	1,38	1,24	1,08	0,97	2,07	1,90	1,77	1,67	1,50	1,31	1,17		
50	7,10	0,42	1,93	1,69	1,52	1,40	1,26	1,09	0,98	2,16	1,98	1,85	1,75	1,59	1,39	1,24		

Wall Sandwich Panels

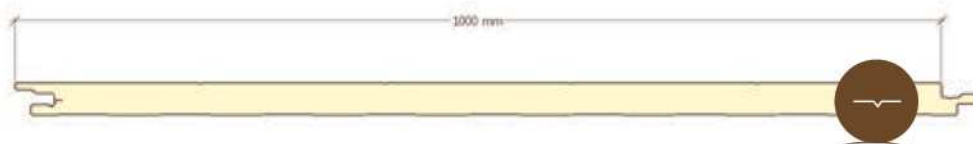
ACH Standard Wall Panel



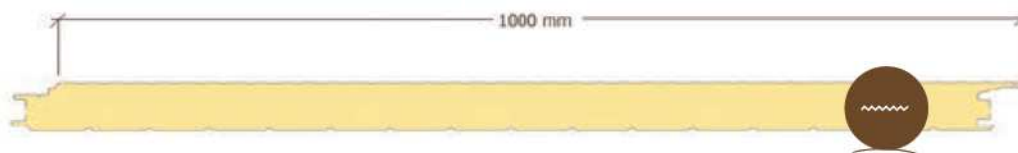
ACH Smooth Wall Panel



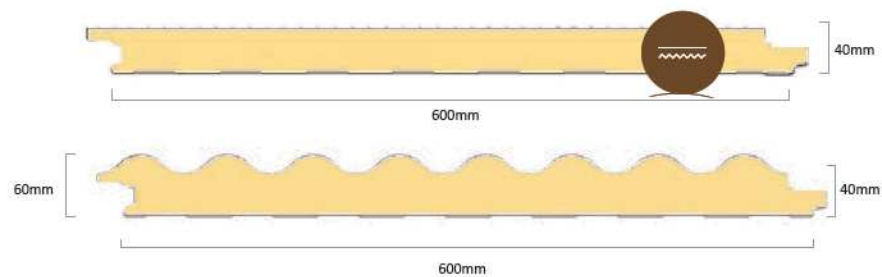
ACH Semi-Smooth Wall Panel



ACH Micro-Profiled Wall Panel



Wall Panel 600 width



Thick-ness	WEI-GHT	Thermal transmittance	
		kcal/m²h°C	W/m²K
35	10,18	0,53	0,61
40	10,38	0,47	0,54
50	10,78	0,39	0,45
60	11,18	0,33	0,38
80	11,98	0,25	0,29

Thick- ness	Overload Admissible (kg/m²)											
	Distance between supports (m)											
	100	150	175	200	225	250	275	300	325	350	375	400
35	379	228	184	152	128	108	92	80	-	-	-	-
40	440	267	217	180	152	129	111	96	83	-	-	-
50	-	346	283	237	201	172	149	130	114	100	89	-
60	-	-	351	294	241	216	188	165	145	128	114	102
80	-	-	-	412	353	307	268	237	210	188	168	152

- Calculations done using 0.50 + 0.50 mm panel.
- Uniformly distributed load for 3 or more supports ($F < L/200$).

Frigo Sandwich Panel

ACH Smooth, Semi-Smooth, Standard Wall



Table of conductivity and thermal resistance of the panels (assuming air film).

Thickness (mm)	WEIGHT (kg/m²)	Thermal transmittance		Thermal resistance (R) (m² k/w)
		kcal/m²h°C	W/m²K	
50	10,64	0,39	0,45	1,22
60	11,04	0,33	0,38	2,63
80	11,84	0,25	0,29	3,45
100	12,64	0,21	0,24	4,17
120	13,44	0,17	0,20	5,00
150	14,64	0,14	0,16	6,25

Table of recommended minimum insulation thicknesses

*Consult for thicknesses greater than 150 mm

Type of chamber	Temperature range	Interior chamber			Exterior chamber		
		Floor	Wall	Ceiling	Floor	Wall	Ceiling
Storage	+15 a +10	NO	50 mm	50 mm	NO	50 mm	50 mm
	+15 a +4	NO	50 mm	50 mm	NO	50 mm	60 mm
	+4 a -4	50 mm	60 mm	60 mm	50 mm	80 mm	80 mm
Storage	-4 a -10	60 mm	80 mm	80 mm	60 mm	80 mm	100 mm
	-10 a -18	80 mm	100 mm	100 mm	80 mm	100 mm	100 mm
	-18 a -26	100 mm	100 mm	100 mm	100 mm	100 mm	120 mm
	-26 a -40	100 mm	120 mm	120 mm	120 mm	120 mm	120 mm
Blast freezer	-40 a -46	120 mm	120 mm	120 mm	120 mm	150 mm	150 mm

Allowable overload (kg/m²)

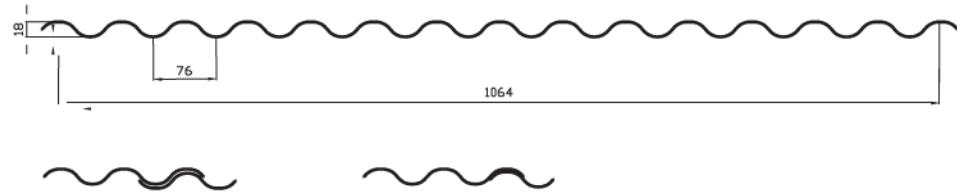
*Consult for thicknesses greater than 150 mm

Thickness (mm)	(L) Distances between supports in cm. Calculations made using 0.5 mm/0.5 mm panel														
	150	175	200	225	250	275	300	325	350	375	400	450	500	550	600
50	346	283	237	201	172	149	130	114	100	89	79	-	-	-	-
60	-	351	294	241	216	188	165	145	128	114	102	82	-	-	-
80	-	-	412	353	307	268	237	210	188	168	152	124	103	86	72
100	-	-	-	-	-	351	312	278	249	225	203	168	141	119	101
120	-	-	-	-	-	-	388	347	313	283	257	214	180	153	131
150	-	-	-	-	-	-	-	453	410	372	339	285	242	207	179

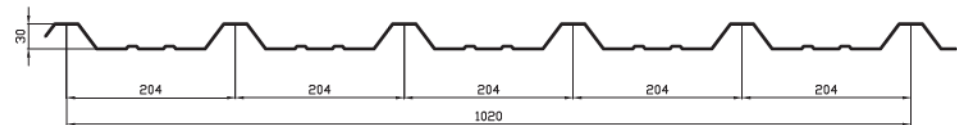
*Consult for thicknesses greater than 150 mm

ACH Profiled Sheet

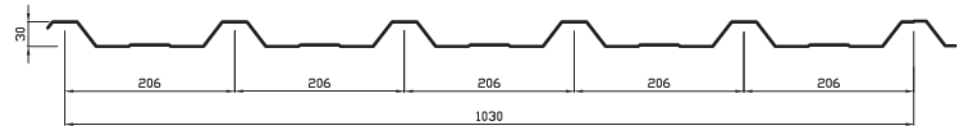
18 Minionda Profiled Sheet



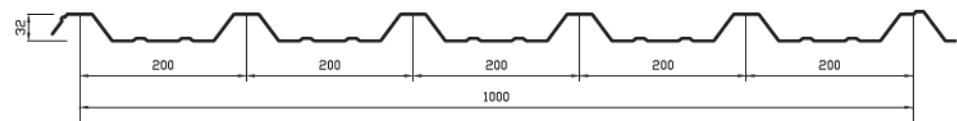
30/204 profiled sheet



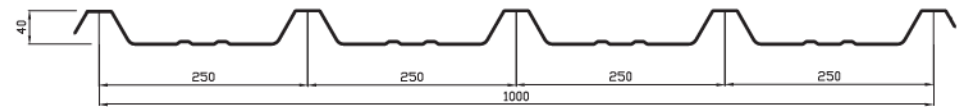
30/206 profiled sheet*



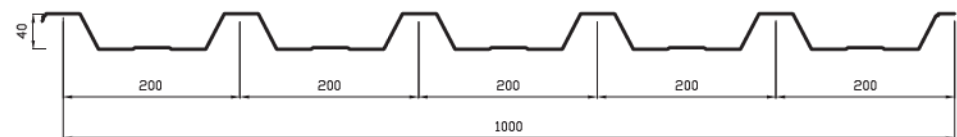
32/200 profiled sheet



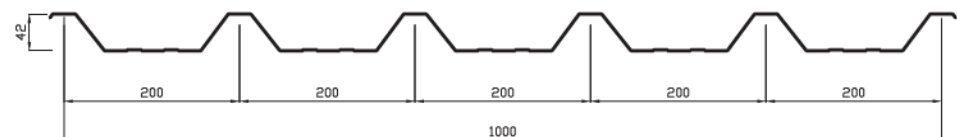
40/250 profiled sheet*



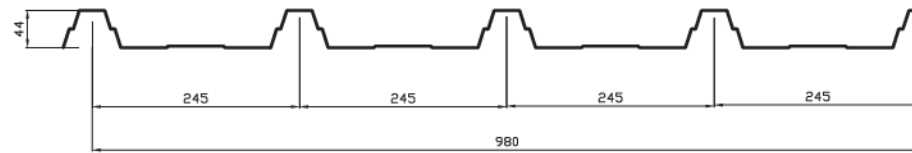
40/200 profiled sheet



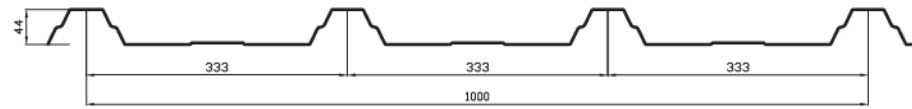
42/200 profiled sheet



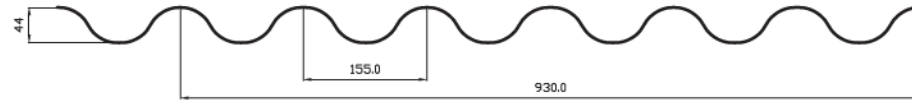
44/245 profiled sheet



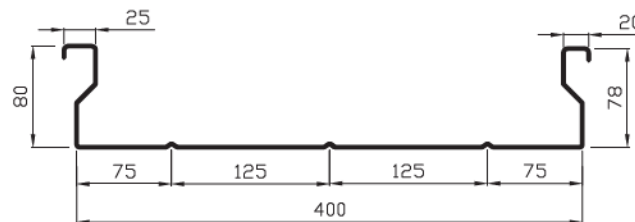
44/333 profiled sheet



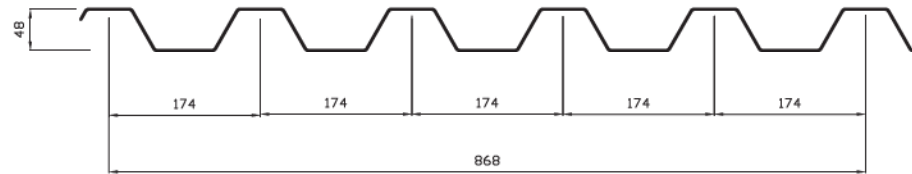
44/155 profiled sheet



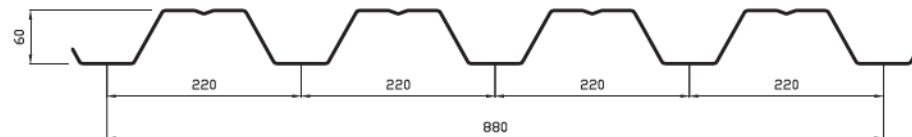
80/400 profiled sheet



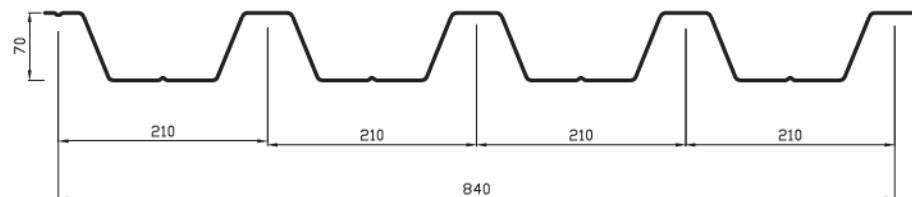
48/174 profiled sheet



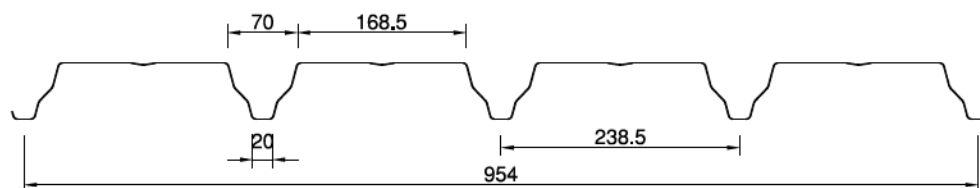
60/220 profiled sheet



70/210 profiled sheet



56 profiled sheet

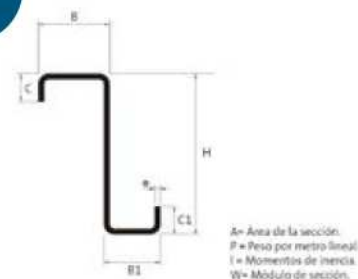


*Available curved

- For technical data, see www.panelesach.com/chapa-perfilada-ACH

ACH metal profiles

Z-ACH profile



Dimensions H - B - B1 - C - C1	e mm	P kg/m***	A cm ²	IXX cm ⁴	IYY cm ⁴	WXX cm ³	WYY cm ³
100 x 55 x 48 x 15 x 12 mm	2	3,33	4,32	69,05	27,00	13,04	5,30
100 x 55 x 48 x 15 x 12 mm	2,5	4,12	5,32	84,14	33,11	16,75	6,60
100 x 55 x 48 x 15 x 12 mm	3	4,90	6,33	99,08	40,62	19,49	8,00
125 x 55 x 48 x 15 x 12 mm	2	3,72	4,87	119,67	28,22	17,46	3,70
125 x 55 x 48 x 15 x 12 mm	2,5	4,61	6,17	147,91	34,99	21,64	4,59
125 x 55 x 48 x 15 x 12 mm	3	5,49	7,32	175,49	41,65	25,76	5,47
150 x 55 x 48 x 15 x 12 mm	2	4,11	5,49	183,45	28,28	22,50	3,94
150 x 55 x 48 x 15 x 12 mm	2,5	5,10	6,79	227,06	35,07	27,93	4,89
150 x 55 x 48 x 15 x 12 mm	3	6,08	8,07	269,78	41,74	33,27	5,82
160 x 55 x 48 x 15 x 12 mm	2	4,27	5,74	218,27	29,06	25,42	5,90
160 x 55 x 48 x 15 x 12 mm	2,5	5,30	6,71	258,03	35,07	31,62	7,10
160 x 55 x 48 x 15 x 12 mm	3	6,31	7,97	297,12	42,36	36,15	8,80
175 x 55 x 48 x 15 x 12 mm	2	4,51	5,99	264,22	28,33	28,05	4,12
175 x 55 x 48 x 15 x 12 mm	2,5	5,59	7,42	327,37	35,13	34,84	5,11
175 x 55 x 48 x 15 x 12 mm	3	6,66	8,82	389,37	41,81	41,53	6,09
200 x 80 x 70 x 17 x 17 mm	2	5,75	7,13	463,32	82,93	43,08	7,57
200 x 80 x 70 x 17 x 17 mm	2,5	7,14	8,84	575,50	103,50	53,59	9,42
200 x 80 x 70 x 17 x 17 mm	3	8,48	10,53	686,23	124,02	64,00	11,26
200 x 80 x 70 x 17 x 17 mm	4	11,18	14,49	876,12	174,28	85,33	22,00
225 x 80 x 70 x 17 x 17 mm	2	6,14	7,94	600,70	81,38	50,66	7,76
225 x 80 x 70 x 17 x 17 mm	2,5	7,63	9,90	745,92	101,08	63,02	9,64
225 x 80 x 70 x 17 x 17 mm	3	9,07	11,85	889,17	120,54	75,26	11,50
225 x 80 x 70 x 17 x 17 mm	4	11,96	15,72	1169,85	158,69	99,37	15,16
250 x 80 x 70 x 17 x 17 mm	2	6,53	8,44	770,54	81,40	58,82	7,95
250 x 80 x 70 x 17 x 17 mm	2,5	8,12	10,53	957,27	101,11	73,19	9,88
250 x 80 x 70 x 17 x 17 mm	3	9,66	12,60	1141,66	120,58	87,43	11,79
250 x 80 x 70 x 17 x 17 mm	4	12,75	16,72	1503,48	158,75	115,51	15,53
275 x 80 x 70 x 17 x 17 mm	2	6,92	8,94	966,74	81,42	67,41	8,12
275 x 80 x 70 x 17 x 17 mm	2,5	8,61	11,15	1201,50	101,14	83,91	10,09
275 x 80 x 70 x 17 x 17 mm	3	10,24	13,35	1443,52	120,61	100,27	12,03
275 x 80 x 70 x 17 x 17 mm	4	13,53	17,72	1889,37	158,81	132,55	15,85
300 x 80 x 70 x 17 x 17 mm	2	7,32	9,44	1190,89	81,44	76,45	8,26
300 x 80 x 70 x 17 x 17 mm	2,5	9,11	11,78	1480,58	101,17	95,18	10,26
300 x 80 x 70 x 17 x 17 mm	3	10,83	14,10	1767,10	120,64	113,76	12,24
300 x 80 x 70 x 17 x 17 mm	4	14,32	18,72	2330,63	158,85	150,47	16,13

- Manufacture purlins with H = 40, H = 50, H = 60, H = 80, H = 110, H = 120, H = 140, H = 200, H = 350 with 60-mm edge, on request.

- 1.5 thickness on request

- The weights shown are theoretical. There may be small differences as a consequence of thickness variations allowed by the standard. In no case can the theoretical weight be required as the billing weight. The invoice will be based on the actual weights supplied, as determined by a scale.

C-ACH profile



A = Área de la sección.
P = Peso por metro lineal.
I = Momentos de Inercia.
W = Módulo de sección.

Dimensions H - B - B1 - C - C1	e mm	P kg/m***	A cm ²	IXX cm ⁴	IYY cm ⁴	WXX cm ³	WYY cm ³
100x48x15mm	2	3,33	3,92	69,10	14,88	13,85	5,22
100x48x15mm	2,5	4,12	4,84	83,78	17,95	16,81	6,46
100x48x15mm	3	4,90	5,70	97,46	20,60	19,57	7,68
100x48x15mm	4	6,56	6,56	110,45	23,05	22,63	9,92
125x48x15mm	2	3,72	4,99	119,67	28,22	17,46	3,70
125x48x15mm	2,5	4,61	6,17	147,91	34,99	21,64	4,59
125x48x15mm	3	5,49	7,32	175,49	41,65	25,76	5,47
125x48x15mm	4	7,27	8,47	203,63	50,01	28,18	6,35
150x48x15mm	2	4,11	5,49	183,45	28,28	22,50	3,94
150x48x15mm	2,5	5,10	6,79	227,06	35,07	27,93	4,89
150x48x15mm	3	6,08	8,07	269,78	41,74	33,27	5,82
150x48x15mm	4	8,05	9,35	311,50	48,41	38,61	6,77
160x48x15mm	2	4,27	6,12	140,40	30,50	32,23	7,37
160x48x15mm	2,5	5,30	7,58	295,20	37,00	30,00	8,95
160x48x15mm	3	6,31	9,00	346,30	30,50	36,80	10,40
160x48x15mm	4	8,30	10,43	406,40	42,90	43,30	11,90
175x48x15mm	2	4,51	4,57	264,22	28,33	28,05	4,12
175x48x15mm	2,5	5,59	5,65	327,37	35,13	34,84	5,11
175x48x15mm	3	6,66	6,71	389,37	41,81	41,53	6,09
175x48x15mm	4	8,68	7,77	451,17	48,06	48,22	7,07
200x70x20mm	2	5,75	7,03	463,32	82,93	43,08	7,57
200x70x20mm	2,5	7,14	8,72	575,50	103,50	53,59	9,42
200x70x20mm	3	8,48	10,38	686,23	124,02	64,00	11,26
200x70x20mm	4	11,18	14,54	870,46	132,52	73,14	16,10
225x70x20mm	2	6,14	9,94	607,27	81,38	50,66	7,76
225x70x20mm	2,5	7,63	9,90	753,99	101,08	63,02	9,64
225x70x20mm	3	9,07	11,85	898,69	120,54	75,26	11,50
225x70x20mm	4	11,96	15,72	1182,10	158,69	99,37	15,16
250x70x20mm	2	6,53	8,44	777,87	81,40	58,82	7,95
250x70x20mm	2,5	8,12	10,53	966,28	101,11	73,19	9,88
250x70x20mm	3	9,66	12,60	1152,30	120,58	87,43	11,79
250x70x20mm	4	12,75	16,72	1517,20	158,75	115,51	15,53
275x70x20mm	2	6,92	8,94	974,85	81,42	67,41	8,12
275x70x20mm	2,5	8,61	11,15	1211,50	101,14	83,91	10,09
275x70x20mm	3	10,24	13,35	1445,30	120,61	100,27	12,03
275x70x20mm	4	13,53	17,72	1904,50	158,81	132,55	15,85
300x70x20mm	2	7,32	9,44	1199,80	81,44	76,45	8,26
300x70x20mm	2,5	9,11	11,78	1491,50	101,17	95,18	10,26
300x70x20mm	3	10,83	14,10	1780,00	120,64	113,76	12,24
300x70x20mm	4	14,32	18,72	2347,20	158,85	150,47	16,13

- Manufacture purlins with H = 40, H = 50, H = 60, H = 80, H = 110, H = 120, H = 140, H = 200, H = 350 with 60-mm edge, on request.

- 1.5 thickness on request

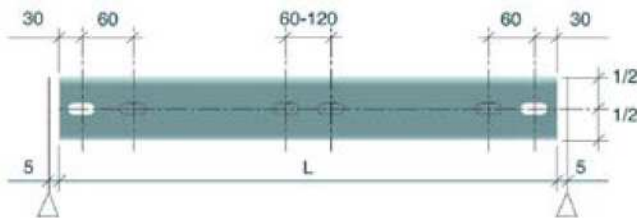
- The weights shown are theoretical. There may be small differences as a consequence of thickness variations allowed by the standard. In no case can the theoretical weight be required as the billing weight. The invoice will be based on the actual weights supplied, as determined by a scale.

ACH metal profiles

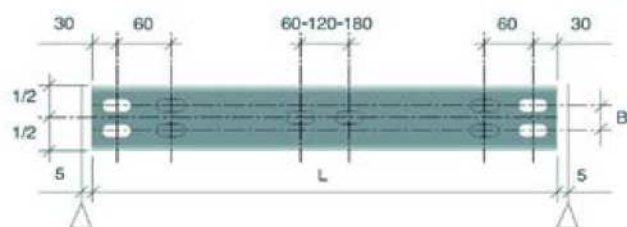
Standard Punching - Machining

This machining is required to use ACH cleats.

ONE LINE OF HOLES



DOS LÍNEAS DE PUNZONES



Geometry of cleats	Purlin height (mm)				
	80-100	120-125-140	150-160-175	200	225-250
	ACH-1				
		ACH-2	ACH-3	ACH-4	ACH-5
		ACH-9	ACH-10	ACH-11	ACH-12

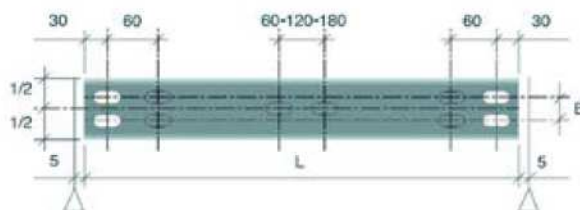
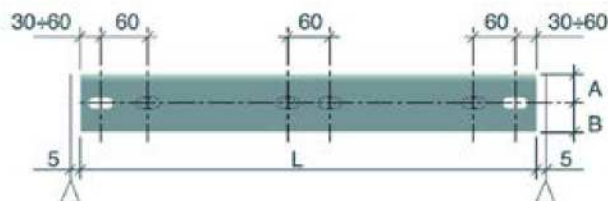
* Only C purlins

Cleat Geometry						
H (mm)	200	225	250	275	300	350
B (mm)	50	75	100	75	100	150
	ACH-6		ACH-7			ACH-8
	ACH-13					

* Only C purlins

Machining of Variable Dimensions

ONE LINE OF HOLES

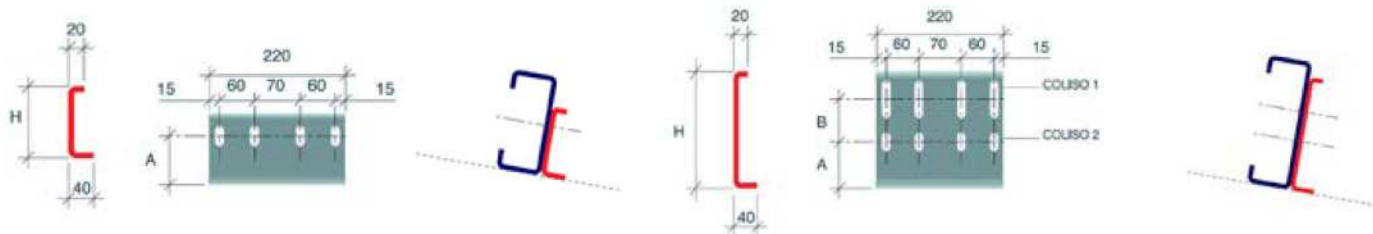


This machining allows varying the distance from the center of the first hole to the end between 30 and 60 mm, provided that the remaining distances are 60 mm.

Dimensions "A", "B" and "C" are variable upon request.

Cleats

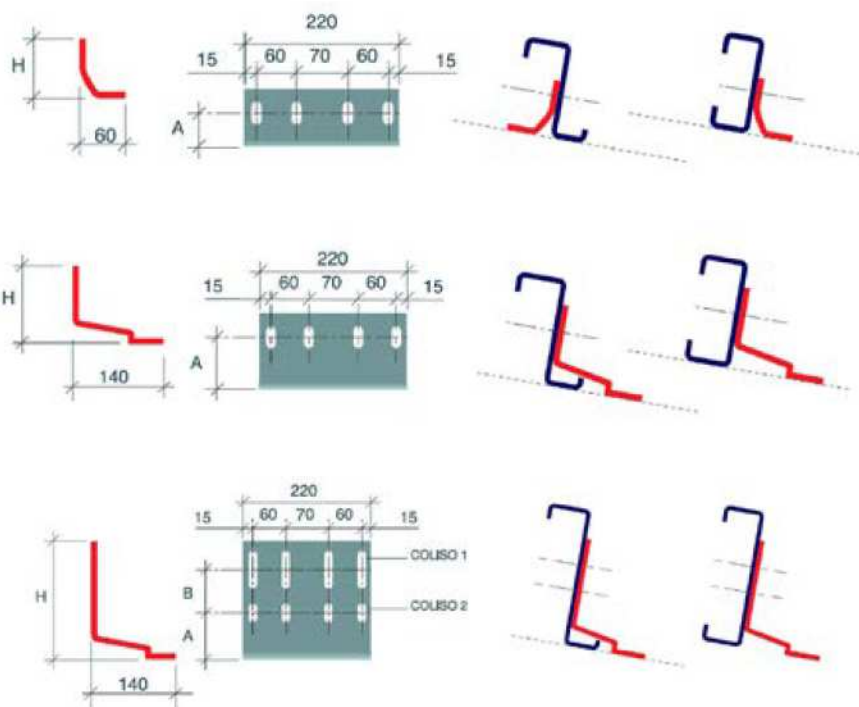
3-mm thick steel part for C and Z purlins, from 100 to 250 mm in height.

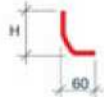
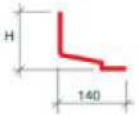
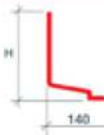
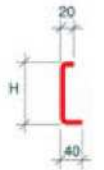
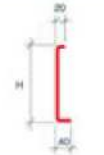


Cleats



3-mm thick steel part for C and Z purlins, from 100 to 350 mm in height.

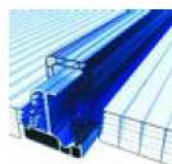
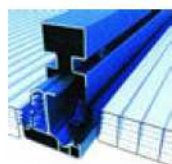
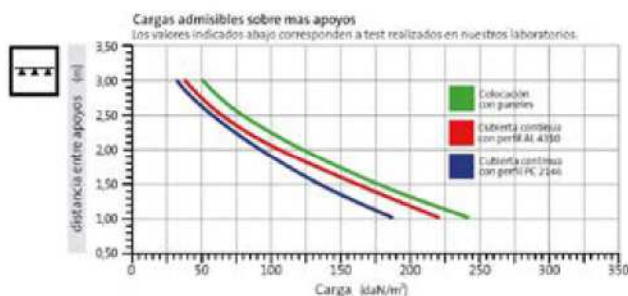


Cleit		Height of structural profile (mm)	Purlin height (mm)				
			A	B	H	OVAL 1	OVAL 2
	ACH-1	80 - 100	45	-	75	27,5 x 14,5	-
	ACH-2	120-125-140	65	-	98	27,5 x 14,5	-
	ACH-3	150-160-175	81,25	-	148	27,5 x 14,5	-
	ACH-4	180-200	95	-	148	27,5 x 14,5	-
	ACH-5	225-250	118,75	-	198	27,5 x 16	-
	ACH-6*	200-225-250	75	75	198	68 x 16	27,5X16
	ACH-7*	275-300-325	100	100	248	68 x 16	27,5X16
	ACH-8*	350	100	150	280	27,5 x 16	27,5X16
	ACH-9	120-125-140	65	-	98	27,5 x 14,5	-
	ACH-10	150-160-175	81,25	-	148	27,5 x 14,5	-
	ACH-11	180-200	95	-	148	27,5 x 14,5	-
	ACH-12	225-250	118,75	-	198	27,5 x 16	-
	ACH-13*	200-225-250	75	75	198	68 x 16	27,5 x 16

* Two lines of holes

ACH Natural Lighting

ACH Polivalente



■ Panel placement

■ Continuous roof with AL 4310 profile

■ Continuous roof with PC 2146 profile

Thickness (mm)	30
Horizontal walls	7
Useful sheet width	1.000 mm
Length	unlimited
Thermal insulation	1,28 w/m²/°C
Acoustic insulation	21 - dB
Expansion	0,065 mm/m °C
UV protection	by coextrusion
Fire rating	B-s1, d0 (UNE-EN 13501-1:2007)
Normal temperature range	-40° + 120°C
Colors available	ask...

ACH Greca

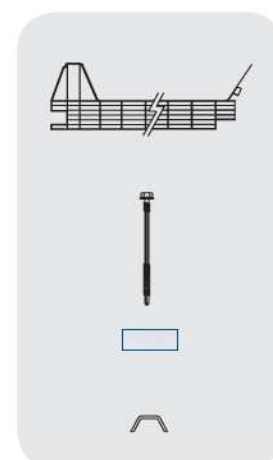
Characteristics

Thickness (mm)	30	40
Vertical cells	24 mm	
Horizontal walls	7	
Useful sheet width	1.000 mm	
Heel	with/without	
Length	to order	
Solar control (G = value)	Neutral 60%	Neutral 59%
	Opaline 54%	Opaline 58%
Light transmission	Neutral 59%	Neutral 57%
	Opaline 32%	Opaline 30%
Thermal insulation	1,28 w/m²/°C	1,14 w/m²/°C
Acoustic insulation	23 - dB	
Expansion	0,065 mm/m °C	
UV protection	coextrusion exterior side	
Fire rating	B-s1, d0 (UNE-EN 13501-1:2007)	
Normal temperature range	-30° + 120°C	
Ten-year guarantee	against hail, transmission loss, light yellowing	

Load table

Distance between 3 or more supports	Pressure (Pa)	Depression (Pa)
1000 mm	3240	1650
1250 mm	2540	1320
1500 mm	2150	1100
1750 mm	1785	940
2000 mm	1485	825
2250 mm	980	710

Components



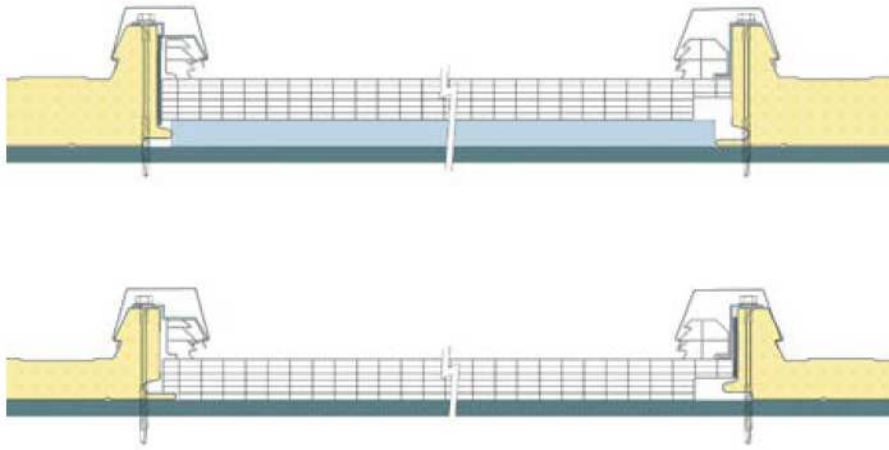
• Polycarbonate ACH GRECA 30 mm

• Fastening screw

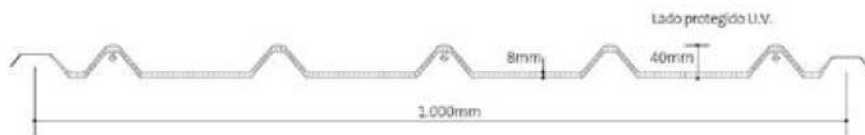
• Supplement for panels > 30 mm

• Stand EPDM ACH P5G

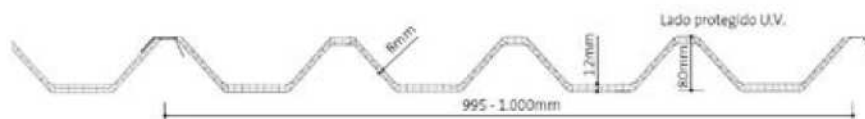
ACH Danpalon



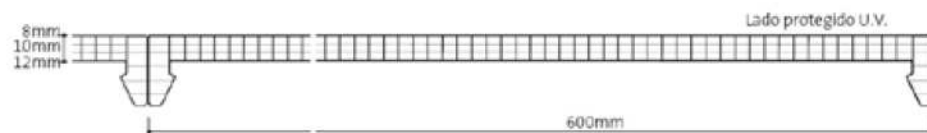
ACH Click



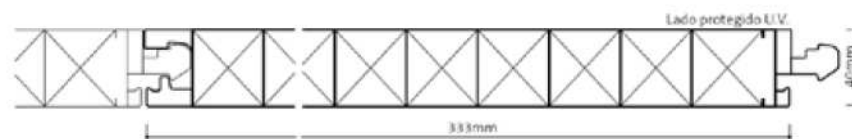
ACH 80/1000



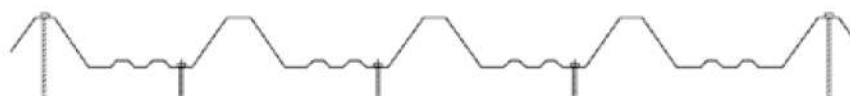
ACH 8/600 – 10/600 – 12/600



ACH 40/333



ACH Compact polycarbonate
 ACH Polyester reinforced mesh plus
 ACH Reinforced polyester
 ACH Embossed polyester, high durability



* Ask about polycarbonate and polyester profiles

- For more information on each product, please visit <http://www.panelesach.com/Iluminacion-Natural#>

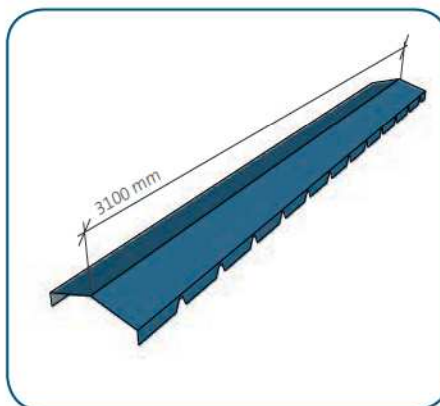
Sanitary Trims and Profiles

Trims

Die-cut ridge P2G



Die-cut ridge P5g



Low ridge



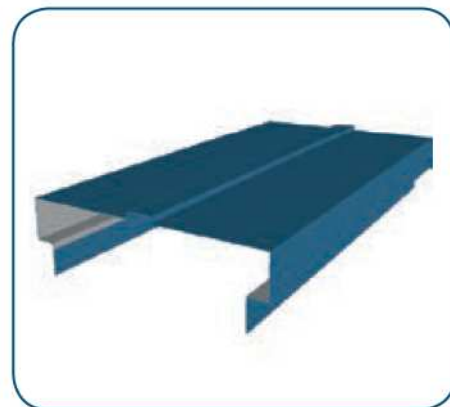
Cover and edge closure P2G



Cover and edge closure P5G



Crown piece



Lateral to gable



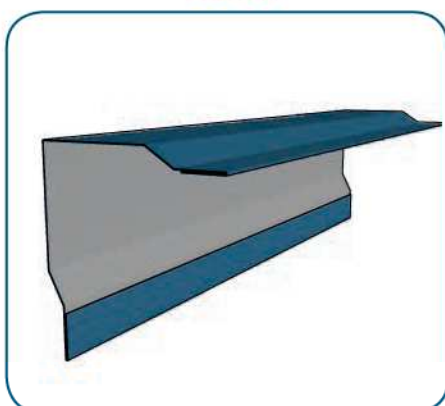
Lateral to wall



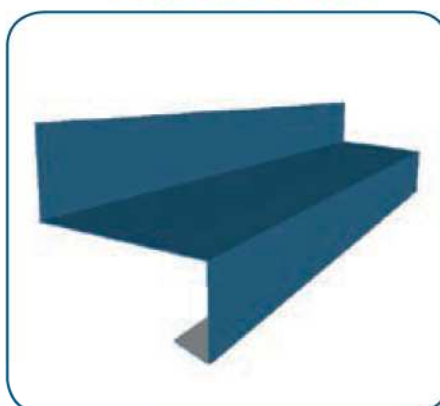
Corner



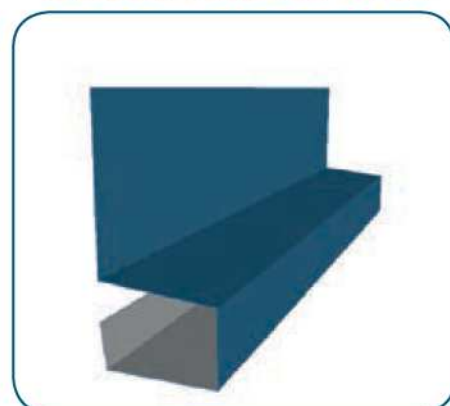
Corner



Baseboard on wall



Baseboard attached to wall



Sanitary profiles

Aluminum Angle



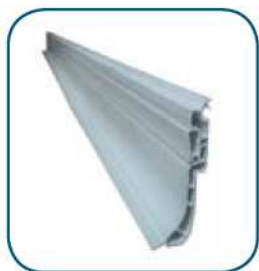
PVC Sanitary



Sanitary Corner



Base



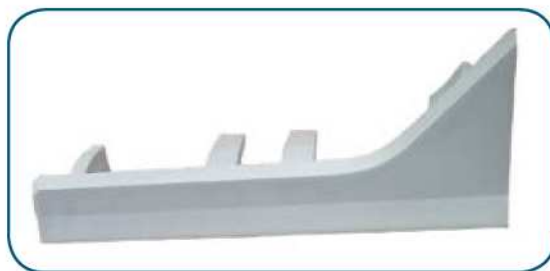
Baseboard outer corner piece



Baseboard inner corner piece



Baseboard side cover



Omega pin



Chino



Eyebolt M10



Tensioner



Omega system



Chino w/ accessories



Cable clamp



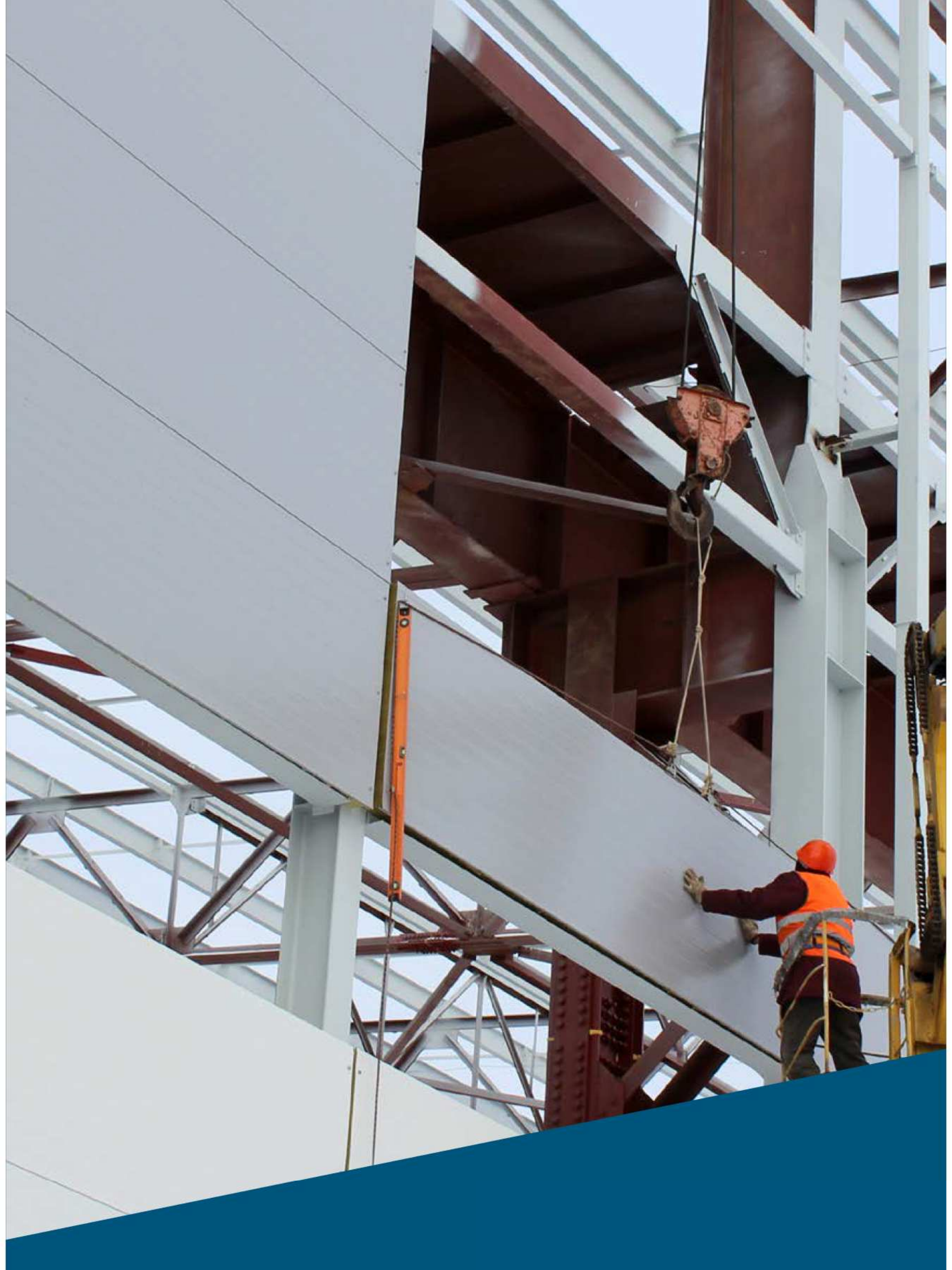
Omega

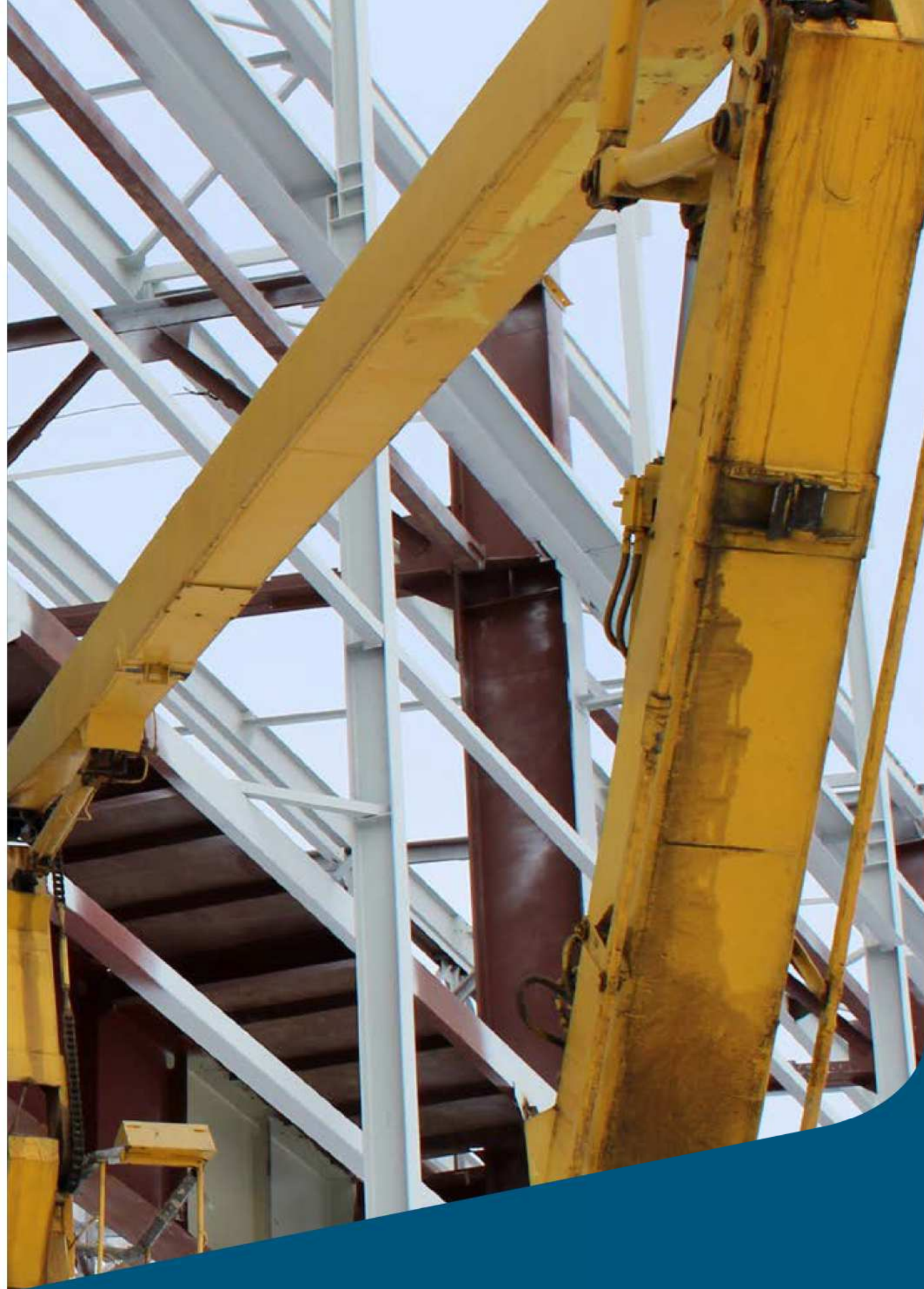


Kits available

Kit Chino
1 WHITE CHINO M10
1 TENSIONER
1 ROD M10
1 EYEBOLT
4 CABLE CLAMPS

Kit Ceiling
4ml – OMEGA PROFILE+NYLON STUD
4 – OPEN TENSIONER EYEBOLT+HOOK M10
1 – THREADED ROD M10 (1ml)
4 – FEMALE ZINC-PLATED EYEBOLT M10
25ml – ROLL OF GALVANIZED CABLE 4MM 6x7+1
16 – GALV CABLE CLAMPS. 3/16"





Handling and storage tips

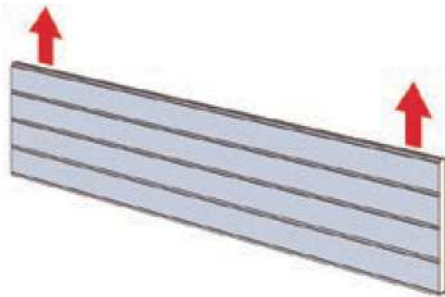
Handling and storage tips

Sandwich panels have a long service life, which is why it is necessary to take certain measures and precautions when handling, storing, transporting and installing them.

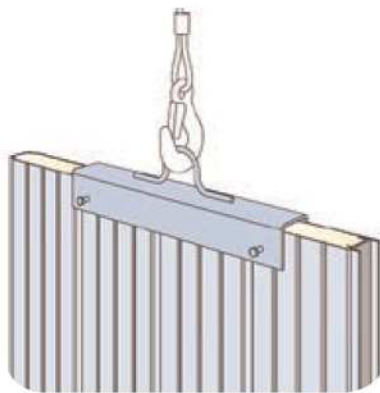
Here are some general guidelines we recommend to avoid damaging the sandwich panels before and during installation.

Transportation, handling and installation

- The panels must be well supported and their weight uniformly distributed during transport. They must be protected by the packaging and tied down on the trucks with slings. If the panels are going to be transported individually, they should be on their side, as shown in the image, to keep them from sagging under their own weight:



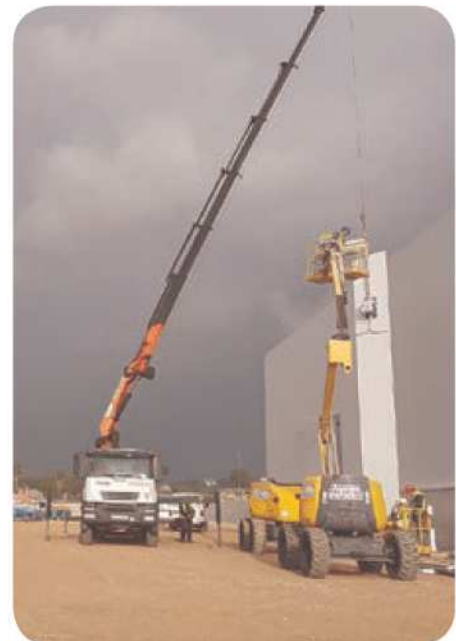
- To raise or move the sandwich panels, proceed as follows:
 - Lift the panel vertically, supported on a “U” profile that has previously been screwed to the panel.



- Lift the packages by means of a single or double sling beam. If a double sling beam is used, depending on the length of the panels, a minimum distance between the arms and a maximum distance between the last arm and the end of the panel will be determined. Always use straps so as not to leave marks on the panels. Forklift or pallet trucks can only be used to transport packages that have been expressly ordered with this type of packaging, and only if the panel length makes this possible.



- Sandwich panels can be installed with help from a vacuum lifter or lifting machines with suction cups, since they have a high load capacity and considerably reduce the assembly time without the need to drill the panels. The first panel to be installed has to be leveled. Vacuum lifters can be safely used by a small team to install panels up to 25 m in length.



- If a panel has to be cut, the core must not be removed until it is installed. Appropriate tools must be used if the cut is made on site.
- If sandwich panels are installed as a false ceiling, the panels must not be moved. There are systems designed for this that comply with the current regulations. When access to different areas is required, transit paths must be designed specifically for this purpose, supported in a structure specifically installed for this purpose. Where this structure cannot be installed for said paths, the panels in work or transit areas will be protected with wooden panels that are at least 6 mm thick so as to spread out the load over the panels. These boards must be attached using screws and fastening systems in areas that are not prone to leaking.
- For roof panels, and so as to preserve the warranty, the parts furthest away from the roof access area must be installed first in order to avoid walking on the panels. The installers must only walk on the gutter and, if necessary, transit areas will be reinforced by means of walkways. Installers are advised to install "NO STEP" signs on finished roofs in order to protect it.
- Before lifting the panel, place an edge guard on the bottom of the panel so as not to scratch the outer face of the next panel.

Storage

- Do not remove the protection from the package until the moment of installation. The packages will be on wooden or EPS slats spaced no more than 1 meter apart so that they are not in contact with the ground. This keeps water out if it rains and also allows air flow, preventing potential condensation.
- The packages should not be stored outside; if they are, this time should be minimized since high temperatures or changes in the weather can damage them. If rain is expected, they must be placed on a slope so that the water does not stagnate inside the panels.
- If the panels are wrapped in film, they cannot be stored outside since if they are left in the sun for a long time, the protective film will adhere to the panels and it will be very difficult to remove later.
- They must be stacked no more than 2 high if they have a mineral wool core, and 3 high if the core is made of PIR or PUR.
- The protective film must be removed before the panel is installed, since otherwise, the film may be difficult to remove. Keep in mind that, depending on the type of sandwich panel, this can occur in different phases of the process.



- Avoid storing materials on a suspended ceiling, since individual panels may appear lightweight, but grouped in packages, they can be extremely heavy. If unavoidable, some means must be used to distribute the loads.
- Polycarbonate and polyester panels must never be stored outdoors.
- When storing on a roof, do not stack the packages. Place them perpendicular to the purlins.

*Due to their uniqueness, certain sandwich panels require specific handling and installation methods. The tips provided here are general.

Terms of Sale of Saint-Gobain Transformados, S.A.U.

1. In the wording of these terms, SELLER shall refer to Saint-Gobain Transformados, S.A.U. and BUYER to the customer.
2. Any agreement, condition or term that is not expressed herein must be expressly accepted by the parties and recorded in a reliable manner for it to be valid.
3. The conditions of sale, together with the specific conditions contained in the Seller's order confirmation, and only these documents, constitute the entirety of the agreement between the Buyer and Seller, and void and replace in full any contrary term or condition proposed by the Buyer, as well as any oral or written communication not expressly contained in this document. The agreements established between the Seller or its agents and third parties shall only be valid if confirmed in writing by the Seller. Unless stipulated otherwise, documentation, catalogs and estimates are provided for information purposes only. Any offers made by the Seller are not binding. Additions or variations to the terms set forth herein, mentioned in the Buyer's order or in any other document, including shipping documents, shall not be binding on the Seller, unless expressly agreed to in writing by the Seller. The return of the order confirmation signed by the Buyer, or alternatively, the absence of rejection thereof by the Buyer within three days of its receipt, shall constitute acceptance by the Buyer of the contract contained in this document.

The sales contract shall be deemed to be finalized when the parties, aware of the content herein, enter into the corresponding contract. The seller can insure the sale by purchasing a sale credit insurance from any Insurance Company. If the seller opts to purchase this insurance and the Insurance Company refuses to insure the sale, the sales contract will be voided. In this case, the seller shall inform the buyer that the contract is voided and return any amounts received on account, with no further obligation on its part. The seller reserves the right to make any other arrangements with the buyer to finalize the purchase.
4. Ownership of the merchandise subject to the sale shall be deemed to be transferred when the seller makes it available to the buyer at the place of delivery, as specified in point 12.
5. If the seller receives and accepts an order from the buyer, this will be binding on both and it can only be canceled with the consent of both parties.
6. Once the buyer signs the original order conditions, changes can only be made if agreed by the seller. In any case, the manufacturing parameters accepted by the buyer will be firm from the time they are accepted and signed. As a result, the production of this material shall not be open to any demand for modifications that occur after signing that have not been expressly accepted by the seller.
7. The price agreed shall be for the merchandise with the exact accessories that are specified in the purchase contract. The price of transporting the materials to the destination, if not done by the buyer, shall be agreed and reflected in the sales contract.
8. The method of payment shall be determined by the parties when the sales contract is finalized.
9. The agreed purchase price may be subject to modifications by the seller from the time the sales contract is signed until the items are delivered to the buyer. Said revision to the price may occur when the price changes unexpectedly due to: a change in the legal provisions on which it is based, further variations in the costs involving the manufacturing materials used, labor, insurance or transport, or, if the merchandise contains imported materials, due to changes in customs duties, euro exchange rates, etc.
10. The bank charges that may be applied for postponing the payment of the price agreed in the sales contract shall be calculated at the legally specified delay interest rate.
11. All taxes, fees or duties resulting from the transfer of possession and ownership of the goods shall be borne by the buyer.
12. The goods supplied shall remain the property of the seller until the buyer satisfies its payment obligations as stipulated above.
13. The transportation of the goods subject to sale is regulated by Law 16/1987 of 30 July, Title 1, Chapter III.
14. The merchandise subject to sale shall be deemed to be delivered to the buyer when it is received by the carrier hired to transport it to the destination specified by the buyer.
15. When, at the request of the buyer or for reasons attributable to it, the shipment of the goods is delayed, the delivery shall be deemed to be finalized once the seller notifies the buyer that the goods are available at its warehouse. Therefore, the seller shall not be responsible for any damage to the goods, since their prolonged exposure to the weather affects their external appearance, can cause rust and modifies the physical characteristics of the removable film protecting them and the packaging material. Twenty days after the buyer is notified that the goods are available, the seller shall apply a fee for each additional day of 0.02 €/m², to be added to the price of the goods as storage costs. The seller shall not be responsible for any damage to the goods, as specified above.
16. The seller reserves the right to cancel the agreed delivery if the buyer fails to make any scheduled intermediate payments that are due between the order and delivery dates.
17. Unless otherwise expressly stipulated, delivery periods shall not be considered binding and delivery delays

shall not entitle the buyer to compensation. A binding delivery period shall only entitle the buyer to compensation to the extent that the seller has been fully informed in writing at the time the contract is signed of the possible damages and losses that would result from a delay in delivery.

18. If for reasons beyond the control of the seller, the goods cannot be made available at their destination, or if they cannot be delivered or unloaded, this shall not absolve the buyer from any payment obligations it has accepted.

19. Expenses arising from the transportation and insurance of the goods shall be borne by the buyer, unless otherwise stated in the sales contract.

20. Any advice or assistance that the buyer provides to the seller involving any product supplied shall not entail any liability for the seller when said advice or assistance is not required by the sales contract.

21. If the buyer transfers ownership of or leases the products referred to in this sales contract, the buyer must obtain from the third party a statement in which it exonerates the seller from any potential claims that may arise. Failure to obtain said statement shall in no way assign fault-based liability to the seller.

22. The seller guarantees that the products supplied are free from any legitimate third-party claim involving patent infringement in Spain or in the country of origin of the product.

23. The above article shall not apply to any product or part thereof designed by the buyer, or to the use of any product supplied in conjunction with any other product in a combination not provided by the seller. In this case, the seller assumes no responsibility, and the buyer expressly agrees to hold the seller harmless for any dispute arising from the aforementioned case.

24. Each and every one of the conditions of sale set forth herein is mandatory for any sales contract that is entered into with Saint-Gobain Transformados, S.A.U.

25. Force Majeure. The inability or delay by the seller in executing the manufacture, dispatch or delivery of the goods covered by this contract resulting, in whole or in part, from situations of war (declared or undeclared), strike, labor dispute, accident, fire, flooding, acts of God, transportation delays, material shortages, equipment failures, conditions of the facilities, laws, regulations, ordinances or decrees issued by any agency or Government body, or any cause that is reasonably beyond the control of seller, or the occurrence of a contingency that prevents the seller from carrying out its obligations, when their absence was implied as a condition for issuing this order confirmation, shall not give rise to liability for the seller.

26. In the event of a dispute, all parties expressly submit to the Courts of the city of Madrid.

27. Definitions

1. SMOOTH PANEL.

The panel supplied by Saint-Gobain Transformados, S.A.U. is an industrial type panel. Therefore, it is perfectly acceptable if its surface, especially when it is smooth, exhibits slight undulations typical of the sheet metal winding process. Likewise, the tension to which the adhesive subjects the top layers can cause slight undulations and/or random concavities on its surface, especially when the surface is smooth, and therefore less supportive than if it were micro-profiled. This does not imply any manufacturing defect or deficiencies in the mechanical performance of the panels.

2. PANEL AND SHEET WITH METAL COLORS

None of the steelmakers producing pre-lacquered sheet metal guarantees the optical homogeneity of two sheets from different paint batches in the case of metallic colors (especially Silver Metallic RAL 9006). These colors may not exhibit uniform optical behavior. That is, the tone may differ from one reel (or paint batch) to another. This does not mean that they are different colors, but that the tone and the optical perception change. It is the buyer's responsibility to notify the manufacturer if a metallic-colored panel order is going to be used as an extension or continuation of a previous order. If this is not the case, given that the steelmaker does not guarantee it, there may be differences in tone between panels that are not due to negligence by Saint-Gobain Transformados S.A.U. That being said, it is highly recommended to divide the order by walls or sides to ensure that different reels are not mixed in the same span.

3. PERFORATED PANELS

Perforated panels are not subject to cosmetic specifications. The product is designed for industrial applications in which the aesthetic is consistent with the environment in which it is applied, this determination being subjective. In addition, if the panel is drilled on both sides, during the manufacturing process the glue is applied to each sheet differently: one with (the outer sheet) and another against (inner sheet) the force of gravity. This produces a slight difference between the two sheets in terms of the overflow of adhesive through the holes. This effect from the adhesive is highlighted based on the observer's proximity to the panel and the tonality of the sheet, with darker colors contrasting more with the color of the adhesive. The sheet where the adhesive is applied in the direction of gravity can exhibit adhesive overflow that is acceptable in an industrial environment but detrimental to a cosmetic finish. These evaluations are always subjective. Complaints or claims involving the product for reasons of this nature will not be accepted.

Saint-Gobain Transformados S.A.U.

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* 2019 edition

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live and improve your everyday life"

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