GÓR-STAL®
SANDWICH PANELS



Sandwich panels from Gór-Stal

SANDWICH PANELS insPIRe®

MODERN MATERIAL FOR INDUSTRIAL, INVENTORY AND REFRIGERATION FACILITIES



Sandwich Panel Factory, Gorlice

Sandwich panels insPIRe®

SANDWICH PANEL MANUFACTURER

Long-standing experience in the marketplace that guarantees top quality

Gór-Stal has been present in the construction materials manufacturing market since 2003. As it has more than a dozen years' experience in the segment, it is capable of delivering solutions for the residential construction market, for industrial construction as well as the agricultural sector. Two manufacturing facilities offer a wide range of modern sandwich panels and insulation boards. The sandwich panels comprise cores made of PIR foam or mineral rock wool.

Initially, the company's staff included several employees, but their number gradually increased. A new production line that was installed 3 years after the company's establishment had a tremendous effect on the company's expansion. It became necessary to hire new staff. Thus 25 new staff were employed in the sale department, maintenance department and in the warehouse.

In 2007 in Gorlice production of sandwich panels with a polyurethane core was started. The company's expanded operations contributed to a quick increase in employment. At present the company's headcount exceeds 200 staff. The product range offered is intended for industrial sheds, large retail facilities, office buildings, cold stores, deep freeze stores as well as livestock buildings. The company's products are appreciated by designers, contractors and project owners.

What sets Gór-Stal products apart is, above all, suitability for quick and easy installation as well as installation in adverse weather conditions. Additional advantages include low project delivery costs and the modern and universal character of the panel system. These properties make Gór-Stal panels the best construction material.One of the key functions carried out by the company is purchasing raw materials from the most reputable global suppliers, mostly from Western Europe. PIR foam is the basic component used in sandwich panel manufacture. No sandwich panels or insulation boards could be manufactured if such foam were not available. This type of foam is manufactured according to Gór- Stal's original and unique formulation. Another raw material necessary for panel manufacture is mineral rock wool featuring a very good fire resistance rating. Gór-Stal continuously expands its product range by implementing new technologies and offering solutions adapted to the needs of even the most demanding customers

Certificates and approvals

Certificates are important documents not only for the entrepreneur, but also for the client. They are evidence of continued robustness, reliability and credibility of the company. Gór-Stal meets international standards for quality management and environmental protection. The obtained ISO 9001 and 14001 certificates required the implementation of risk management methods recognized in Europe. The company also holds the 1 AVCP system certificate for sandwich panels. As a result, the offered products are subject to constant supervision of the notified body over the method of their production and the declared parameters. In this certification system, samples for fire tests are taken randomly and tested by a certification body independent of the manufacturer.
The obtained certificates are a guarantee that the company's products are of the highest quality.



„LAMEX" EXPORT-IMPORT, Lipówki

SANDWICH PANELS insPIRe® WITH CORE PIR MAX and PIR

High insulation parameters in line with the latest construction standards

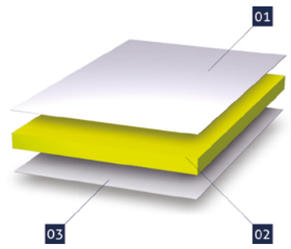
Sandwich panels insPIRe®

A wide range of products, which have found their use in the construction of walls, roofs or coolers to give a wide field of architectural possibilities. Sandwich panels are structures composed of two claddings made of steel sheet and an insulation core. Steel sheets, galvanized on both sides, with organic polyester varnish with a coating thickness of 25 microns are used as claddings. On the other hand, the core is made of a rigid, CFC-free and self-extinguishing PIR foam with very good thermal insulation from: **λ= 0,022 W/m·K.**

PIR foams are materials characterized by increased resistance to high temperatures. Isocyanurate structures decompose at temperatures above 300 ° C. A charred layer caused by the action of fire protects against high temperature penetration through the panel. As a result, it is an effective fire protection.

Sandwich panels insPIRe® MAX

The building materials market is constantly developing, offering newer and more competitive solutions. To meet the needs of the climate, the Gór-Stal company, as one of the few manufacturers, created sandwich panels with a PIR MAX core with a lambda of **0.019**. TThese are currently the best thermal insulation parameters on the market compared to other products of this type. Building standards in force from 2021 will pay off with much lower energy consumption and comfort of use. Lower energy consumption also means less exhaust fumes, thus cleaner air and slowing down the greenhouse effect. The use of panels with the MAX core brings only benefits, namely, we gain more space through thinner walls and a larger usable area inside the hall. Remember that with large halls, each additional centimeter gives an additional space. Another undoubted advantage is excellent thermal insulation, and thus real energy savings and building operating costs.



Polyurethane foam is produced by combining isocyanate and polyol, obtained from crude oil. The mixing of both of these ready-to-process liquid system components, along with various auxiliary materials such as catalysts, foaming agents, and stabilizers, initiates a chemical reaction. By changing the components and proportions of the mixture, the properties of the resulting polyurethane can be precisely adjusted to obtain a material of various stiffness and flexibility meeting specific needs.

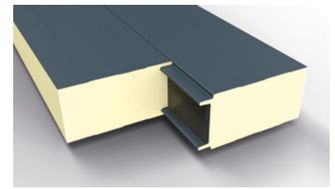
The main component of sandwich panels is the insulation core, which is decisive for the subsequent parameters of the product. It is made of PIR foam produced according to the original and unique recipe of the Gór-Stal company. A qualified team of technologists and chemists ensures the highest quality of products. The core is protected with steel claddings, which are the finish of the wall both outside and inside.

01. outer layer - profiled steel sheet
02. PIR foam core
03. inner layer - profiled steel sheet

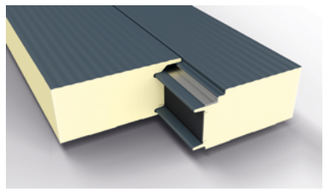
JOINTS AND JOINING OF PANELS

Easy assembly and increased thermal insulation thanks to profiled edges

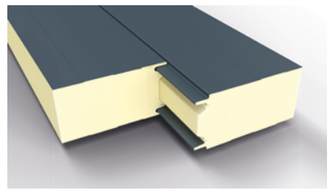
Sandwich panels meet the high requirements for fire tightness, rainwater tightness as well as air and water vapor infiltration. Thanks to precisely shaped connections, as well as properly profiled edges, they increase thermal insulation and eliminate a linear thermal bridge. Easy and quick installation is ensured by a tongue-and-groove connection with a double lock in the wall panels and an overlap system in the roof panels. Double lock from the outside and inside additionally increases fire tightness.



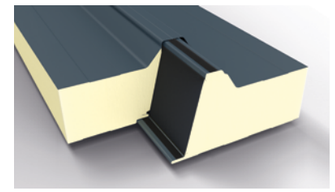
Standard lock for a wall panel GS insPIRe® S



Concealed lock for GS insPIRe® U wall panel

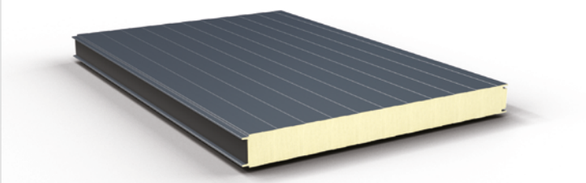


Lock for the GS insPIRe® CH cooling panel



Lock for the GS PIR D roof panel

GS insPIRe® S MAX / GS insPIRe® S
Polyisocyanurate wall panel



Information about the sandwich panel:

GS insPIRe® S MAX / GS insPIRe® S wall panels are designed for external curtain walls and internal partition walls in skeletal structures. The panels can be installed both vertically and horizontally as single and multi-span wall elements. The plate cladding is galvanized steel sheet on both sides according to EN 10346 with organic polyester varnish with a coating thickness of 25 µm. The tightness of panel joints is ensured by the PUS polyurethane gasket applied at the production stage.

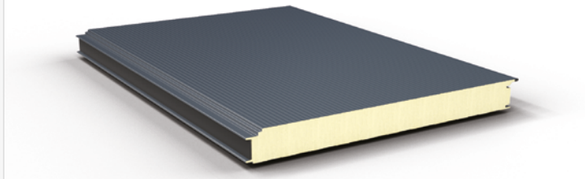
Thickness [mm]		40	60	80	100	120
Mass* [kg/m²]		10,0	11,0	11,8	12,6	13,4
Maximum length [m]		16,5				
Modular width [mm]		1000 / 1140 (for thickness. ≥ 60 mm and profilation L, M and F)				
Exterior lining profiling	module 1000	L - Linear, M - Microfiltered, F - Wavy, R - Grooved, P - Flat				
	module 1140	L - Linear, M - Microfiltered, F - Wavy, P - Flat				
Interior lining profiling		L - Linear, P - Flat				

GS insPIRe® S MAX - Polyisocyanurate wall panel						
Declared heat transfer coefficient λ_D	0,019					
Ratio $U_{d,S}$ [W/m²K]	-	-	0,24	0,19	0,16	
Fire resistance classification ***	-				EI 30	
Fire resistance ***	B-s1, d0					
Fire spread	Non Fire Spreading					
Certificates, approvals, seals of approval	DWU CE according to EN 14509, Certificate of Business Continuity EN 14509,					

GS insPIRe® S - Polyisocyanurate wall panel					
Declared heat transfer coefficient λ_D	0,022				
Ratio $U_{d,S}$ [W/m²K]	0,60	0,38	0,28	0,22	0,19
Fire resistance classification ***	-		EI 20		EI 30
Fire resistance ***	B-s1, d0				
The impact of external fire on the roof	Non Fire Spreading				
Certificates, approvals, seals of approval	DoP CE according to EN 14509, Hygienic Certificate, Certificate of Business Continuity EN 14509, Fire resistance classification				

* Weight per 1 m b. for lining 0.5 / 0.5 mm (width for 1140). Detailed masses in files for download.
** Conditions in accordance with the fire resistance classification. Details of the division of fire resistance in the horizontal and vertical arrangement in Declaration of performance

GS insPIRe® U MAX / GS insPIRe® U
Polyisocyanurate wall panel



Information about the sandwich panel:

GS insPIRe® U MAX / GS insPIRe® U wall panels are designed for external curtain walls and internal partition walls in skeletal structures. The panels can be installed both vertically and horizontally as single and multi-span wall elements. Hidden fastening, invisible from the facade, makes these panels very attractive in terms of architecture and functionality. The plate cladding is galvanized steel sheet on both sides according to EN 10346 with organic polyester varnish with a coating thickness of 25 µm. The tightness of panel joints is ensured by the PUS polyurethane gasket applied at the production stage.

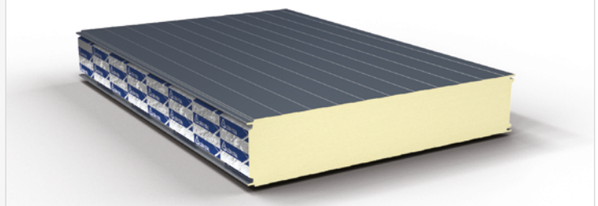
Thickness [mm]		60	80	100	120	140
Mass* [kg/m²]		11,3	12,1	12,9	13,7	14,5
Maximum length [m]		16,5				
Modular width [mm]		1000				
Exterior lining profiling	module 1000	L - Linear, M - Microfiltered, F - Wavy, R - Grooved, P - Flat				
	module 1140	-				
Interior lining profiling		L - Linear, P - Flat				

GS insPIRe® U MAX - Polyisocyanurate wall panel					
Declared heat transfer coefficient λ_D	0,019				
Ratio $U_{d,S}$ [W/m²K]	-	0,26	0,20	0,16	0,14
Fire resistance classification ***	-				
Fire resistance ***	B-s1, d0				
Fire spread	Non Fire Spreading				
Certificates, approvals, seals of approval	DWU CE according to EN 14509, Certificate of Business Continuity EN 14509,				

GS insPIRe® U - Polyisocyanurate wall panel					
Declared heat transfer coefficient λ_D	0,022				
Ratio $U_{d,S}$ [W/m²K]	0,44	0,29	0,23	0,19	0,16
Fire resistance classification ***	-		EI 15	EI 30	
Fire resistance ***	B-s1, d0				
The impact of external fire on the roof	Non Fire Spreading				
Certificates, approvals, seals of approval	DoP CE according to EN 14509, Hygienic Certificate, Certificate of Business Continuity EN 14509, Fire resistance classification				

* Weight per 1 m b. for lining 0.5 / 0.5 mm (width for 1140). Detailed masses in files for download.
** Conditions in accordance with the fire resistance classification. Details of the division of fire resistance in the horizontal and vertical arrangement in Declaration of performance

GS insPIRe® CH MAX / GS insPIRe® CH
Polyisocyanurate cooling panel



Information about the sandwich panel:

GS insPIRe® CH MAX / GS insPIRe® CH cooling panel is designed for walls and ceilings in rooms with reduced temperature, i.e. in cold rooms (t> 0 °) and freezers (t <0 °) and other facilities with controlled temperature and humidity. The panels can be used to erect free-standing buildings and make cold rooms or freezers inside existing buildings. The panels can be mounted both vertically and horizontally as single and multi-span elements.

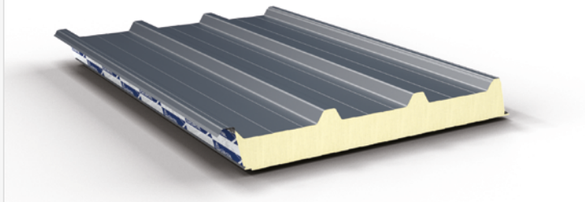
Thickness [mm]		100	120	160	200
Mass* [kg/m²]		12,6	13,4	15,0	16,6
Maximum length [m]		16,5			
Modular width [mm]		1000 / 1140 (for thickness. ≥ 60 mm and profilation L, M and F)			
Exterior lining profiling	module 1000	L - Linear, M - Microfiltered, F - Wavy, R - Grooved			
	module 1140	L - Linear, M - Microfiltered, F - Wavy, P - Flat			
Interior lining profiling		L - Linear, P - Flat			

GS insPIRe® CH MAX - Polyisocyanurate cooling panel				
Declared heat transfer coefficient λ_D	0,019			
Ratio $U_{d,S}$ [W/m²K]	0,19	0,16	0,12	0,10
Fire resistance classification ***	EI 30			
Fire resistance ***	B-s1, d0			
Fire spread	Non Fire Spreading			
Certificates, approvals, seals of approval	DWU CE according to EN 14509, Certificate of Business Continuity EN 14509, Fire resistance classification			

GS insPIRe® CH - Polyisocyanurate cooling panel				
Declared heat transfer coefficient λ_D	0,022			
Ratio $U_{d,S}$ [W/m²K]	0,22	0,18	0,14	0,11
Fire resistance classification ***	EI 30			
Fire resistance ***	B-s1, d0			
Fire spread	Non Fire Spreading			
Certificates, approvals, seals of approval	DoP CE according to EN 14509, Hygienic Certificate, Certificate of Business Continuity EN 14509, Fire resistance classification			

* Weight per 1 m b. for lining 0.5 / 0.5 mm (width for 1140). Detailed masses in files for download.
** Conditions in accordance with the fire resistance classification. Details of the division of fire resistance in the horizontal and vertical arrangement in Declaration of performance

GS PIR D MAX / GS PIR D
Polyisocyanurate roof panel



Information about the sandwich panel:

GS PIR D MAX / GS PIR D roof panels are designed for roofing. They are characterized by a very deep profiling of the trapezoidal outer cladding. This is related to the transmission of long-term service loads. The boards are fastened with screws to the wooden, steel or reinforced concrete structure. The minimum roof pitch is 3 ° (5.2%) without skylights and 5 ° (8.7%) for covering panels joined along their length. The plate cladding is galvanized steel sheet on both sides according to EN 10346 with organic polyester varnish with a coating thickness of 25 µm.

	40/80	60/100	80/120	100/140	120/160	150/190	160/200
Thickness [mm]							
Mass* [kg/m²]	10,8	11,6	12,4	13,2	14,0	15,2	15,6
Maximum length [m]	16,5						
Modular width [mm]	1000						
Exterior lining profiling	T - Trapezoidal						
Interior lining profiling	L - Linear, P - Flat						

GS PIR D MAX - Polyisocyanurate roof panel							
Declared heat transfer coefficient λ_D	0,020						
Ratio $U_{d,S}$ [W/m²K]	-	-	0,25	0,20	0,17	0,13	0,13
Fire resistance classification ***	-		RE 30 / REI 20				
Fire resistance ***	B-s1, d0						
Fire spread	BROOF						
Certificates, approvals, seals of approval	DWU CE according to EN 14509, Certificate of Business Continuity EN 14509, Fire resistance classification						

GS PIR D - PPolyisocyanurate roof panel							
Declared heat transfer coefficient λ_D	0,022						
Ratio $U_{d,S}$ [W/m²K]	0,55	0,37	0,27	0,22	0,18	0,15	0,14
Fire resistance classification ***	-		REI 30 / RE 120				
Fire resistance ***	B-s1, d0						
Fire spread	BROOF						
Certificates, approvals, seals of approval	DoP CE according to EN 14509, Hygienic Certificate, Certificate of Business Continuity EN 14509, Fire resistance classification						

* Weight per 1 m b. for lining 0.5 / 0.5 mm (width for 1140). Detailed masses in files for download.
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WIECH - Factory of furniture fronts, Myślenice

Sandwich panels insPIRe®

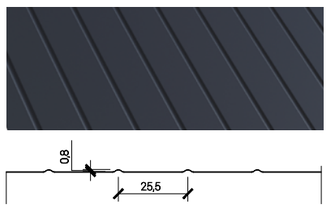
AVAILABLE PROFILES

Aesthetic and unique design of your investment

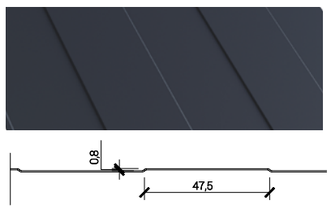
Sandwich panels have claddings made of galvanized sheet metal, profiled on both sides. Thanks to this, it is possible to create a building facade with a unique and modern appearance. Therefore, in order to meet the expectations of even the most demanding customers, Gór-Stal offers the possibility of choosing the profiling of the plates. It is available in six types, giving architects a wide range of design options.



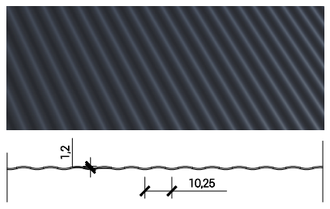
P - Flat



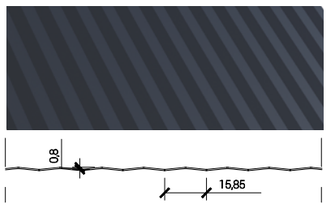
R - Grooved



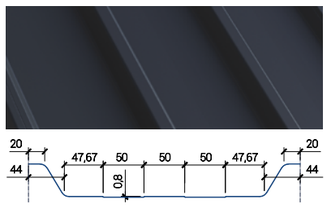
L - Linear



F - Wavy



M - Microfiltered



T - Trapezoidal

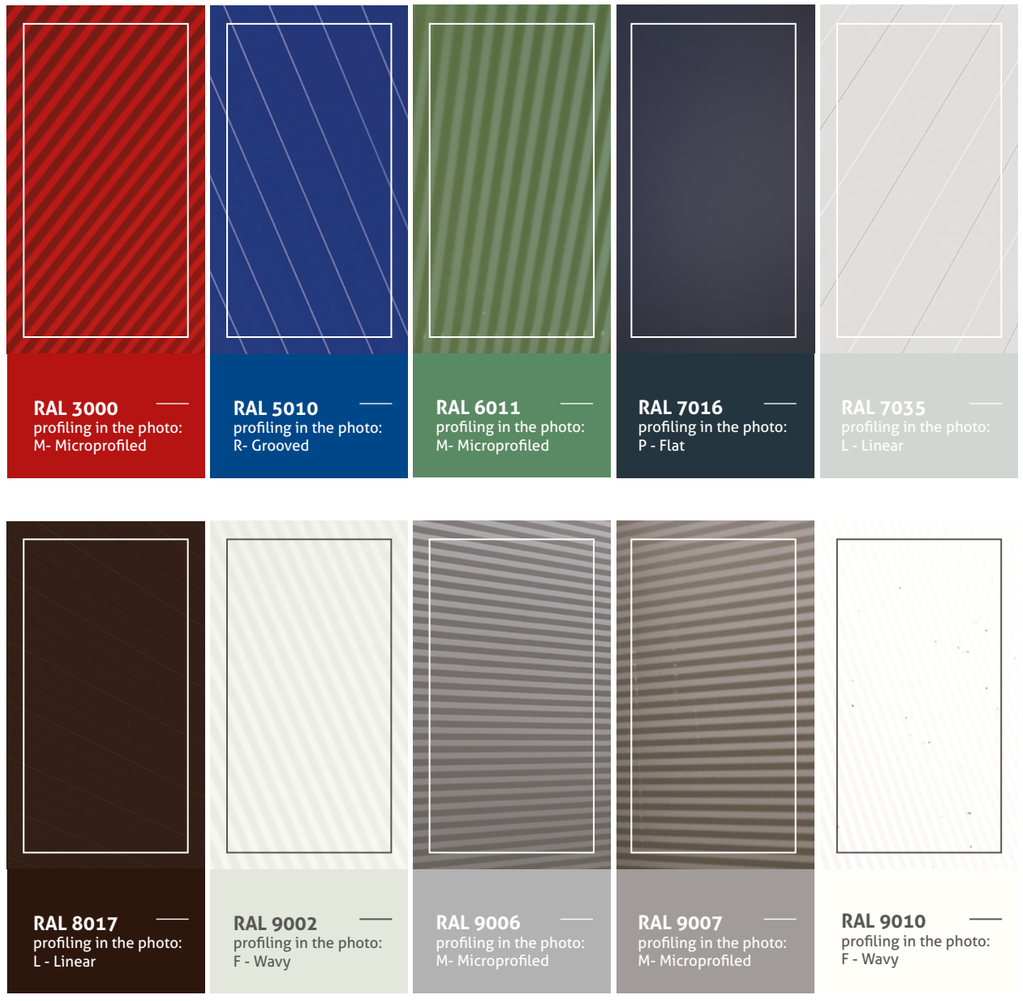
	External profiling						Internal profiling	
Thickness	P	R	L	F	M	T	P	L
GS insPIRe® S / GS insPIRe® S MAX profiling								
Profiling of external cladding for 1000 mm module								
S 40	■	■	■	■	■		■	■
S 60	■	■	■	■	■		■	■
S 80	■	■	■	■	■		■	■
S 100	■	■	■	■	■		■	■
S 120	■	■	■	■	■		■	■
Profiling of the external cladding for the 1140 mm module								
S 40	■		■	■	■		■	■
S 60	■		■	■	■		■	■
S 80	■		■	■	■		■	■
S 100	■		■	■	■		■	■
S 120	■		■	■	■		■	■
GS insPIRe® U / GS insPIRe® U MAX								
U 60	■	■	■	■	■		■	■
U 80	■	■	■	■	■		■	■
U 100	■	■	■	■	■		■	■
U 120	■	■	■	■	■		■	■
U 140	■	■	■	■	■		■	■
GS insPIRe® CH / GS insPIRe® CH MAX								
Profiling of external cladding for 1000 mm module								
CH 100		■	■	■	■		■	■
CH 120		■	■	■	■		■	■
CH 180		■	■	■	■		■	■
CH 200		■	■	■	■		■	■
Profiling of the external cladding for the 1140 mm module								
CH 100			■	■	■		■	■
CH 120			■	■	■		■	■
CH 180			■	■	■		■	■
CH 200			■	■	■		■	■
GS PIR D / GS PIR D MAX								
D 40						■		■
D 60						■		■
D 80						■		■
D 100						■		■
D 120						■		■
D 150						■		■
D 160						■		■

STANDARD CLADDING COLORS

Your facade doesn't have to be boring

The colors of the building should not only be functional and aesthetic, but should also influence the emotions and subconsciousness of the recipient. The appearance of the façade attracts attention and distinguishes the building from others. Therefore, the Gór-Stal company, meeting the expectations of architects and customers, offers a wide range of colors available depending on the thickness of the panel cladding. In this way, it enables the creation of an original and unique architectural design that will satisfy investors.

Standard colors of the cladding are presented below. For more information on other colors we offer, please contact our sales representatives.



Note:
Depending on the quality of print / VDU, actual colours may vary. RAL colour charts with steel sheet colours are available from our sales representatives.

RAL 3000 | RAL 5010 | RAL 6011 | RAL 7016 | RAL 7035 | RAL 8017 | RAL 9002 | RAL 9006 | RAL 9007 | RAL9010

GS insPIRe® S / GS insPIRe® S MAX

Standard colors of external cladding for the modular width of 1000 mm										
S 40							□	■		□
S 60							□	■	■	□
S 80							□	■	■	□
S 100							□	■	■	□
S 120							□	■	■	□
Standard colors of external cladding for the modular width of 1140 mm										
S 40							□	■		□
S 60				■			□	■	■	□
S 80				■			□	■	■	□
S 100				■			□	■	■	□
S 120				■			□	■	■	□

GS insPIRe® U / GS insPIRe® U MAX

Standard colors of external cladding for the modular width of 1000 mm										
U 60	■	■	■	■	■	■	□	■	■	□
U 80	■	■	■	■	■	■	□	■	■	□
U 100	■	■	■	■	■	■	□	■	■	□
U 120	■	■	■	■	■	■	□	■	■	□
U 140	■	■	■	■	■	■	□	■	■	□

GS insPIRe® CH / GS insPIRe® CH MAX

Standard colors of external cladding for the modular width of 1000 mm										
CH 100							□	■	■	□
CH 120							□	■	■	□
CH 180							□	■	■	□
CH 200							□	■	■	□
Standard colors of external cladding for the modular width of 1140 mm										
CH 100				■			□	■	■	□
CH 120				■			□	■	■	□
CH 180				■			□	■	■	□
CH 200				■			□	■	■	□

GS PIR D / GS PIR D MAX

Standard colors of external cladding										
D 40	■	■	■	■	■	■	□	■	■	□
D 60	■	■	■	■	■	■	□	■	■	□
D 80	■	■	■	■	■	■	□	■	■	□
D 100	■	■	■	■	■	■	□	■	■	□
D 120	■	■	■	■	■	■	□	■	■	□
D 150	■	■	■	■	■	■	□	■	■	□
D 160	■	■	■	■	■	■	□	■	■	□

Standard colors of internal cladding										
							□			□



ADEKO Sp. z o.o. Sp. K., Ruda Śląska

Sandwich panels insPIRe®

SYSTEM FLASHING
Necessary architectural details

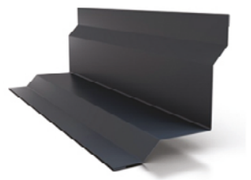
The flashings produced by Gór-Stal are a component of the sandwich panel cladding system. Additionally, they are used as an independent finishing element. The Gór-Stal company has a profiling machine that allows it to perform flashings with standard thicknesses * 0.5 mm, 0.7 mm and 1.0 mm or others on special request. They are made of galvanized sheet in the color of the cladding of the panel, and additionally protected with polyester varnish.

The company's offer includes over 40 typical shapes of flashings, moreover, it is possible to make them on a special request. The minimum processing length is 2.0 m and the maximum 6.0 m. The product is protected against possible damage by foiling the top side. Detailed information on the thickness and colors of the sheet can be found in the catalog dedicated to a specific panel.

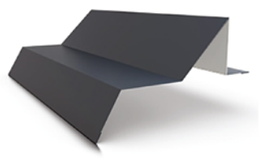
Flashings and other technical solutions from our offer are proposals that meet the highest standards in the field of insulation. For more information, please contact our company. We guarantee that your purchase will be satisfactory for you. Examples of flashings are presented below. We encourage you to read the detailed offer.



Outer corner concealing fasteners



Inner corner concealing fasteners



Snow guard – drip edge

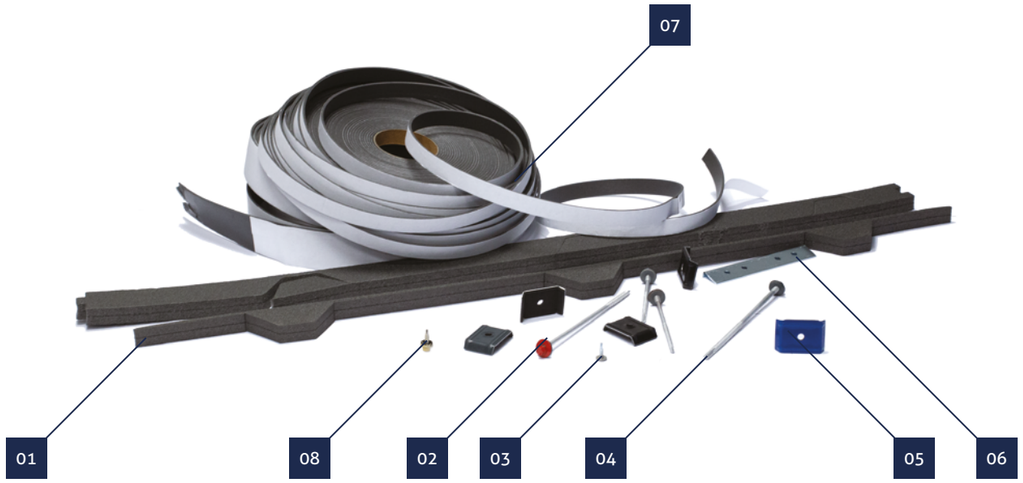
* Maximum sheet thickness is 1,0 mm for lengths up to 6,0 m, and for standard shapes included in the catalogue and , according to the custo--mer's individual design.

Sandwich panels insPIRe®

ACCESSORIES
Components for sandwich panel installation

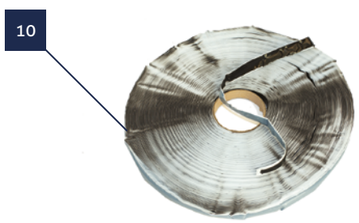
The Gór-Stal company provides its customers with the opportunity to purchase the necessary accessories for the assembly of sandwich panels. Its assortment includes, among others gaskets, sealing flanges intended for passing wires through the housing of panels, sleeves and washers. It also supplies self-adhesive, polyurethane (PUS and PURS), polyethylene (PES) and butyl sealing tapes. Additionally, it offers galvanized self-drilling screws for hot-rolled and cold-bent structures with accessories that facilitate their assembly. The screws are in the color of the external cladding of the panels in order to maintain the color consistency of the facade. Our offer also includes skylights and cooling accessories from reputable suppliers.

Detailed information on the accessories offered by the company for the installation of sandwich panels can be found in the technical catalogs available on our website www.gor-stal.pl or at our sales representative.



Legend:
01. PE profile gasket
02. Concrete and Wood Screw
03. A screw for joining steel sheets with a washer head (pin)
04. Steel screw
05. Calotte
06. Washer PM1
07. PES tape
08. A screw for joining steel sheets with a hexagonal head (farmer)
09. PURS expansion tape
10. Butyl sealing tape





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GÓR-STAL®
SANDWICH PANELS

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