

BALEX METAL 2022 PRODUCT CATALOGUE

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WE BUILD TOGETHER.

Balex Metal hails from the Kashubian region of Poland, a place unique in many respects. The picturesque beauty of the landscape clashes with the harsh climate and the difficulties of working a land that has hardened generations. The unpredictable Baltic Sea, the wild winds, and the unforgiving land have together shaped the people into what they are today. Kashubians are said to be practical, enterprising and reliable, which has maintained Balex Metal's success for over a quarter of a century.

The austerity of the north brings people closer. Kashubians care highly for their family values and the bonds they feel with their communities, on which they know they can always rely, not just in their private lives, but also in business. We believe that business is made up of people, not numbers. Our business relations have helped us to develop products which exactly match the needs of modern construction markets. By fostering them, Balex Metal builds long and strong business partnerships.

We Build Together is our respect for our customers, first. It is a sense of common responsibility and trust which drive projects that work and inspire.



MEET
BALEX METAL



SUSTAINABILITY WITH RESPECT FOR THE CULTURE AND CUSTOM OF LOCAL COMMUNITIES.



Sustainability and respect for the culture and customs of local communities are key strategic pillars and an integral part of the business of Balex Metal.

The connection to our place of origin is reflected in our policies: respect for local communities and their traditions, and maintaining a stake in their growth. Balex Metal cares greatly for manufacturing things which harmonize with the cultural landscape of their origins and help minimize CO₂ emissions to the environment.

Sustainability is closely related to our research and development operations. Balex Metal ensures its engineers, implements and promotes sustainable products and services which contribute tangibly to the reduction of smog. The solutions we provide help customers reduce their energy consumption, helping them to foster a culture of sustainability at the point of use.



A GALLERY
OF INSPIRATION



Energy

- We want to achieve zero net energy consumption for 2030
- We will produce our own renewable energy at the level of 20%.
- Our goal is also to install photovoltaic panels in all Balex Metal locations.

Carbon dioxide

- We want to achieve zero carbon emissions by 2030
- We strive to make the Balex Metal fleet zero-emission already in 2025
- We are committed to halving the CO₂ generated when delivering to our partners.

Waste management

- Waste management is also our priority closed circuit. Everyone at Balex Metal will be there played a huge role in the implementation of this plan.
- Our production processes will become zero-waste by 2030
- Recycled PET bottles will be used in our production processes.

Water

- We want to significantly influence the saving processes water. Taking care of water resources is another of ours obligations.
- Collection of rainwater will take place in all Balex Metal locations.
- We have also become part of ambitious projects cleaning up the oceans.

SERVICE AND SUPPORT.

Here at Balex Metal we are well aware that professional support and service at every stage of the process are critical to every business interaction. Our extensive team of field technical consultants helps us to reach out to our customer's at their project sites. We give our partners full access to professional help from the Technical Support and Design Office, which provide support in various areas of engineering:

- cutting of sandwich panels,
- calculation of wind and snow loads,
- strength calculations and sandwich panel optimisation,
- training,
- on-site support.

The combination of technical sales assistants and the Customer Support Office at Balex Metal supports customers at the stages of quotation, ordering, administrative handling and delivery scheduling. Balex Metal employs over 80 technical consultants throughout its sales organisation.



FIND YOUR
CONTACT.



BIM LIBRARIES
OF BALEX METAL
PRODUCTS
FOR REVIT





KNOW-HOW & TECHNICAL CONSULTING.

Balex Metal believes that knowledge is the key to success. That's why we do everything to share our knowledge. Over 80 field technical sales assistants are ready to provide support on-site at every stage of your project. The entire team at Balex Metal is committed to efficient support of customers in resolving engineering problems.

And there's more. We pass on the experience we gather from our daily interactions with customers through the provision of extra services. Balex Metal holds dedicated training programs and reaches out to you via different media and materials, while also generating many different engineering and support tools. This empowers us to solve current problems and prevent related issues while sharing the best practices in the application of Balex Metal products.

You are welcome to enrol for our Balex Metal training programmes, subscribe to our channels on YouTube and Facebook as well as our newsletter, read our We Build Together (Budujemy Razem) magazine and visit our web portals. All these resources give access to a great number of training materials, installation hints and tips, market news, inspiring products, and much more.



CONTACT
OUR TECHNICAL
ASSISTANT.



SUBSCRIBE
THE BALEX METAL
YOUTUBE
CHANNEL.



SUBSCRIBE
THE BALEX METAL
FACEBOOK
CHANNEL.





BALEX METAL BUILDING ACADEMY

Balex Metal welcomes roofers, product distributors and architects to free two-day training sessions in roofing installation. The training programs feature two parts: theory classes to introduce material properties and correct roofing and thermal insulation installation procedures; and practical courses on dedicated rooftop mock-ups.

During these hands-on sessions, the trainees are tasked with building entire roofing systems from scratch. The practical training on pitched roofs include the over the rafter installation of Thermano PIR core panels. The flat roof insulation installation training applies to the laying of panels on trapezoidal profile sheets. The practical training includes all flashing, gutterwork and roof window installation.

The training sessions are hosted by technical assistants and trainers from the Balex Metal Building Academy. A Regional Assistant attends every training session. All the classes are held in Tomaszów Mazowiecki, where the Balex Metal Building Academy operates a dedicated 1500 m² training complex with a full size training roof.

The Balex Metal Building Academy has been operating since 2014 and in that time has successfully trained hundreds of roofers, product distributors and architects.

Learn more: marketing@balex.eu



TAKE A PEEK
BACKSTAGE





THERE IS NO QUESTION WITHOUT AN ANSWER.

Read our tutorials, see the installation videos, follow our vlog, and learn about the latest development results.

WHAT SHOULD THE GUTTER DOWNGRADE BE?

- It is recommended that the downgrade for the gutter line should be at least 0.5 mm per running metre.

WHICH IS THE MOST DURABLE SHEET METAL TILE COATING?

- CESAR 55, or a polyamide and polyurethane mixture, provides superior roofing protection.

HOW CAN THERMAL INSULATION BE PROTECTED FROM MARTENS?

- Martens like to dig tunnels in mineral wool, so it is better to replace it with sandwich panels that feature a PIR rigid polyurethane core



BALEX.EU/EN/
KNOWLEDGE-BASE



THERMAL
INSULATION



mgr inż. Jacek Łazuka, Product Manager

POWŁOKI I KOLORY

Produkty Balex Metal powstają ze stali
najwyższej jakości i są dostępne
w wyjątkowych powłokach.



CESAR 65 MAT Powłoka nowej generacji

Nowa powłoka CESAR 65 to specjalny stop cynku i aluminium, który spełnia najwyższe normy odporności m.in. na zarysowania, ścieranie, uderzenia, na temperaturę i korozję, a także promieniowanie UV. Starannie dobrane proporcje stopów metali powodują, że powłoka ma właściwości antykorozyjne nawet na krawędziach ciętych.

trwałość ★★★★★ / 65 µm
odporność na korozję ★★★★★ / do C5
estetyka — mat
Technical warranty**: 65 years
Aesthetic guarantee**: 25 years



* See the colour table at the back of the catalogue.

** When purchasing the entire system – see the warranty conditions at www.balex.eu




Najwyższa odporność na
odbarwienia RUV4 (ISO4892-3)

Dodatkowa przezroczysta
warstwa ochronna 15 μm

Barwna warstwa 25 μm
z granulkami poliamidowymi

Najwyższa odporność na korozję: mgła
solna i wilgotność (EN 13523-8/-26)



ISO 6270
moisture resistance

Strong Z275 metallic substrate

Highest discolouration resistance:
RUV4 (ISO 4892-3)

Belgian steel of superior quality



CESAR 55 SEMI-MAT

Superior strength

The 55 micron coating is a combination of polyurethane and polyamide, like an armour coat for a metal sheet roof. The extremely durable CESAR PUR coating ensures the roofing sheet metal remains safe from degradation for many years.

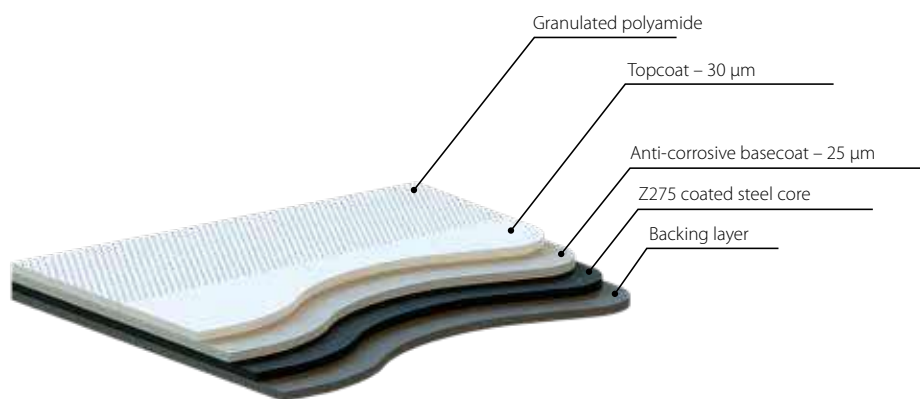
Durability ★★★★★ / 55 µm

Corrosion resistance ★★★★★ / max. C5

Finish – semi-mat

Technical warranty**: 55 years

Aesthetic guarantee**: 20 years



* See the colour table at the back of the catalogue.

** When purchasing the entire system – see the warranty conditions at www.balex.eu

SP35 MAT

High aesthetic value

Mat coatings add a touch of refinement to every roof. Designers seem to have fallen in love with shades of graphite and grey, which now dominate prestigious home design folders.

Durability ★★★★★☆ / 35 µm

Corrosion resistance ★★★★★ / C3

Finish — mat

Gwarancja techniczna**: 25 lat

Gwarancja estetyczna**: 10 lat

* See the colour table at the back of the catalogue.

** When purchasing the entire system – see the warranty conditions at www.balex.eu





SP25 GLOSS

Cost efficient

One of the most preferred coatings available in a wide selection of colours. It remains popular, with the best durability to price ratio.

Durability ★★★★★ / 25 µm

Corrosion resistance ★★★★★ / C3

Finish — gloss

Gwarancja techniczna**: 20 lat

Gwarancja estetyczna**: 5 lat

* See the colour table at the back of the catalogue.

** When purchasing the entire system – see the warranty conditions at www.balex.eu

1.

THERMAL INSULATION

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THERMAL INSULATION

SANDWICH PANELS

BOX PROFILE SHEETS

ROOFING

ROOF & WALL INSTALLATION ACCESSORIES

ROOF GUTTERS

COLD-FORMED SECTIONS

FAÇADE CLADDING

GENERAL TERMS & CONDITIONS OF SALE

1.

THERMAL
INSULATION

2.

SANDWICH
PANELS

3.

BOX PROFILE
SHEETS

4.

ROOFING

5.

ROOF & WALL
INSTALLATION
ACCESSORIES

6.

ROOF GUTTERS

7.

COLD-FORMED
SECTIONS

8.

FAÇADE
CLADDING

9.

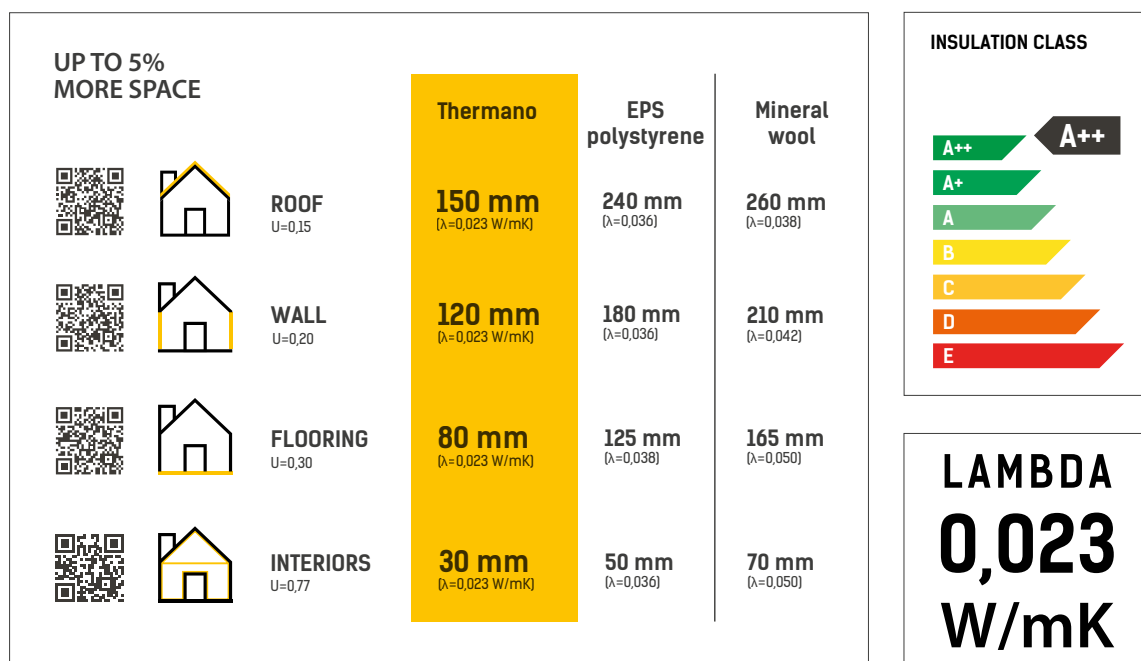
GENERAL TERMS
& CONDITIONS
OF SALE

THERMANO

CLASS A++

THERMAL INSULATION.

When you are in the market for a new TV, you want to know the screen size.
 When you choose a new PC, you want to know how much RAM it has.
 When you need thermal insulation for your home, your key question should be the lambda (λ). The lower the lambda, the better the thermal insulation performance. Here, the Thermano sandwich panels lead the pack with a rigid PIR core in gas-tight cladding with an A++ insulation class.



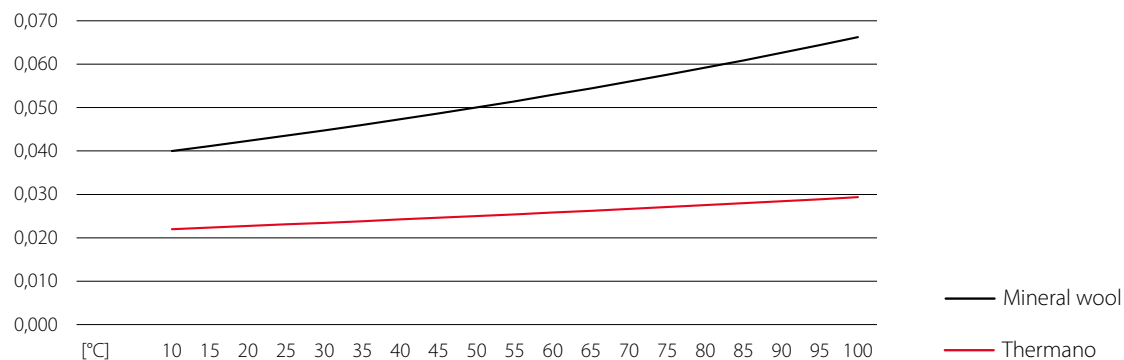
SEE YOUR SAVINGS
WITH THERMANO

Comparison of thermal insulation systems

Applica- tion	Require- ments	Required Coefficient U	THERMANO $\lambda=0,023 \text{ W/mK}$, $\rho=30 \text{ kg/m}^3$		EPS $\lambda=0,036 \text{ W/mK}$, $\rho=15 \text{ kg/m}^3$		Mineral wool $\lambda=0,040 \text{ W/mK}$, $\rho=130 \text{ kg/m}^3$	
			Thickness [mm]	R [m ² K/W]	Thickness [mm]	R [m ² K/W]	Thickness [mm]	R [m ² K/W]
	od 1 I 2021	0,15	150**	5,50	240	6,65	260	6,50
	Energy-efficient housing*	0,12	200***	8,70	300	8,30	340	8,50
	Zero-energy housing**	0,10	240***	10,40	350	9,70	390	9,75
	od 1 I 2021	0,20	113	4,90	180	5,00	200	5,00
	Energy-efficient housing*	0,15	150***	6,50	240	6,65	260	6,50
	Zero-energy housing**	0,10	240***	10,40	350	9,70	390	9,75

* Ref. NF40; ** ref. NF15; *** thickness in 2 layers

Simplified λ conversion to summer weather



NOTE!

Not every lambda is equal.

Balex Metal uses ageing lambda, $\lambda_d = 0,023 \text{ W/mK}$, a parameter which defines how the thermal insulation material will perform on site for decades. Most competitors specify the declared lambda, which is misleading as it specifies the product as it comes off the production line and significantly degrades as time goes by. That lambda is standard and determined by laboratory testing at an outdoor temperature of 10°C and an indoor temperature of 20°C. In real conditions, the lambda varies; when the outdoor temperature directly at the roof surface is approximately 60°C – which happens often in the summer – the lambda can be over 30% worse with traditional thermal insulating materials. This means that for extremely hot weather, the thermal insulation must be thicker. With THERMANO, the lambda variations are much lower, as shown in the diagram above. This is why THERMANO is the best thermal insulation to fend off heat during hot summer days.

1.









THERMAL
INSULATION

THERMANO

COMPARISON OF THERMAL INSULATION PERFORMANCE

The thermal insulation materials on the market today are so diverse that any summary has to be arbitrary. The following gives the most popular thermal insulation categories: THERMANO PIR sandwich panels, EPS, XPS, and mineral wool (with a conventional breakdown into light mineral wool (of up to 40 kg/m³) and heavy mineral wool (of more than 100 kg/m³).

Thermal insulation performance

	<div><div><div>•••••</div><div>Best</div></div><div><div>•</div><div>Worst</div></div></div>	<div><div></div><div>THERMAL INSULATION</div></div>	<div><div></div><div>REACTION TO FIRE</div></div>	<div><div></div><div>NOISE INSULATION</div></div>	<div><div></div><div>WATER RESISTANCE</div></div>	<div><div></div><div>COMPRESSION STRENGTH</div></div>	<div><div></div><div>WEIGHT</div></div>	<div><div></div><div>BIOLOGICAL CORROSION RESISTANCE</div></div>	<div><div></div></div>
Thermano PIR	•••••	•••	••	•••••	•••••	•••••	•••••	•••••	•••••
Mineral wool									
- Light	•	•••••	•	•	•	••••	•	•	
- Hard	••	•••••	•••••	•	••	•	•	•	
XPS	•••	•	••	•••••	•••••	•••••	•••	•••••	
EPS	••	•	•	•••	•••	•••••	•••	•••••	



1.

THERMAL
INSULATION

THERMANO

DURABLE FOR DECADES

The material used for THERMANO panels is the most durable thermal insulation solution in the construction industry, with a service life comparable to the overall life cycle of bricks: it may last for generations.

The FIW Thermal Insulation Research Institute of Munich (Forschungsinstitut für Wärmeschutz e.V.) has evaluated decades-old polyurethane insulation samples from existing buildings for thermal conductivity, compression strength, humidity, dimensional stability and the integrity of insulating panels.

The FIW demonstrated that a sample from an insulation layer installed in 1982 showed no signs of damage, holes, blisters, cavities or other discontinuities after 30 years of use. The sampled PU (polyurethane) insulation panel was still perfectly fit for use and retained all its declared characteristics and performance.



THERMANO
SANDWICH
PANELS FIRE
TESTING



THERMANO
WATER
RESISTANCE



THERMANO
NOISE
PERFORMANCE



THE 'CLEAN AIR'
SMOG
REDUCTION
PROGRAM:
KEY TAKEAWAYS!





1.

THERMAL
INSULATION

Packaging size and m² per Thermano thickness

Type	Lock	Thickness [mm]	U [W/m²·K]	R [m²·K/W]	Lambda [W/mK]	Panel size	Sale unit	Panels/ pack	m² Total / pack	m³ Total / pack
THERMANO ROOF	BASIC	30*	0,77	1,30	0,023	Overall / coverage width: 1200/1185mm Overall / coverage length: 2400/ 2385mm	1200x2400x1200 pack	40	115,20	3,46
		40*	0,59	1,70	30			86,40	3,46	
		50*	0,47	2,15	24			69,12	3,46	
		60*	0,38	2,60	20			57,60	3,46	
		80	0,29	3,45	15			43,20	3,46	
		100	0,23	4,30	12			34,56	3,46	
		120*	0,19	5,20	10			28,80	3,46	
		125	0,19	5,40	9			25,92	3,24	
		140*	0,17	6,05	8			23,04	3,23	
		150	0,15	6,50	8			23,04	3,46	
		160	0,14	6,95	7			20,16	3,23	
THERMANO COMPACT	BASIC	20	1,18	0,85	0,023	Overall / coverage width: 1200/1190mm Overall / coverage length: 600/590mm	1200x600x600 pack	30	21,60	0,43
		30	0,77	1,30	20			14,40	0,43	
	TOP	40	0,59	1,70	15			10,80	0,43	
		50	0,47	2,15	12			8,64	0,43	
		80	0,29	3,45	7			5,04	0,40	
		100	0,23	4,30	6			4,32	0,43	
125	0,19	5,40	4	2,88	0,36					
THERMANO FLOOR	BASIC	20	1,18	0,85	0,023	Overall / coverage width: 1200/1185mm Overall / coverage length: 2400/2385mm	1200x2400x1200 pack	60	172,80	3,46
		30	0,77	1,30	40			115,20	3,46	
	TOP	50	0,47	2,15	0,023			24	69,12	3,46
		75	0,29	3,40	0,022			16	46,08	3,46
	TOP	100	0,22	4,50	0,022			12	34,56	3,46
		120	0,18	5,45	10			28,80	3,46	
	BASIC	20	1,18	0,85	0,023	Overall / coverage width: 600/585mm Overall / coverage length: 1200/1185mm	1200x600x600 pack	30	21,60	0,43
		30	0,77	1,30	20			14,40	0,43	
	TOP	50	0,47	2,15	0,023			12	8,64	0,43
		75	0,29	3,40	0,022			8	5,76	0,43
	TOP	100	0,22	4,50	0,022			6	4,32	0,43
		120	0,18	5,45	5			3,60	0,43	
THERMANO WALL GK	BASIC	30	0,77	1,30	0,023	Overall width: 1200 mm Overall length: 2600 mm	1200x2600x1200 pack	40	124,80	3,74
		50	0,47	2,15	24			74,88	3,74	
		60	0,38	2,60	20			62,40	3,74	
	BASIC	60	0,38	2,60	0,023	Overall / coverage width: 1200/1190mm Overall / coverage length: 600/590mm	1200x600x600 pack	10	7,20	0,43
		80*	0,29	3,45	7			5,04	0,40	
		120*	0,19	5,20	5			3,60	0,43	
THERMANO AGRO ALU	BASIC	40*	0,59	1,70	0,023	Overall width: 1200mm Standard overall length: 4000mm Max length: 5000mm	standard pack 1200x4000x1200	30	144,0	5,76
		50*	0,47	2,15				24	115,2	5,76
		60*	0,38	2,60				20	96,0	5,76
		80*	0,29	3,45				15	72,0	5,76
		100*	0,23	4,30				12	57,6	5,76
THERMANO AGRO FIBERGLASS	BASIC	30*	0,95	1,05	0,028	Overall width: 1200mm Standard overall length: 4000mm Max length: 5000mm	standard pack 1200x4000x1200	40	192,0	5,76
		40*	0,71	1,40				30	144,0	5,76
		50*	0,57	1,75				24	115,2	5,76
		60*	0,48	2,10	0,027	20	96,0	5,76		
		80*	0,34	2,95		15	72,0	5,76		
		100*	0,27	3,70		12	57,6	5,76		

* product available on request

THERMANO ROOF application options



Pitched roof with thermal insulation over the rafters

- High thermal insulation without cold bridges
- Superior protection against infestation by martens
- Extra protection for the roof framing
- Provides a higher ceiling clearance and visible rafters
- Increases the room volume



INSTALLATION
OF THERMANO OVER
THE RAFTERS
OF A PITCHED ROOF.



Pitched roof with thermal insulation under the rafters

- Thinner thermal insulation.
- Higher ceiling clearance.
- Superior protection against infestation by martens
- Easy and fool-proof installation
- Lower installation costs



INSTALLATION
OF THERMANO
UNDER THE RAFTERS
OF A PITCHED ROOF.



Flat roof

- High compression strength: 200 kPa (20 t/m²)
- Good resistance to walking damage
- 4 x lighter than mineral wool
- No risk of condensation



INSTALLATION
OF THERMANO
ON A FLAT ROOF.



Green flat roof

- High compression strength: 200 kPa (20 t/m²)
- Applicable to extensive and intensive roof systems
- 4 x lighter than mineral wool



INSTALLATION
OF THERMANO
ON A GREEN ROOF.



Adhesive bonded flat roof

- Resists chemical action from construction adhesives
- Ensures a tight lay-up. No cold bridges
- No fasteners visible
- Perfect adhesion (with a smooth surface)
- Compatible with every adhesive bonding system



INSTALLATION
OF THERMANO
ON A FLAT ROOF
WITH ADHESIVE
BONDING.

Alternative:

ETICS
Thermal insulation for balconies and patios
Indoor wall thermal insulation
Foundations



THERMANO
PRODUCT
CATALOGUE

THERMANO COMPACT application options



All application options

- Dedicated applications:
- Insulations inside the facility
 - Insulation of window sills,
 - Window insulation
 - Door insulation
 - Leveling floors
 - Sealing, the so-called thermal bridges



FIND OUT
MORE

1.

THERMAL
INSULATION

THERMANO WALL GK application options



Staircase thermal insulation

- Thinner thermal insulation layer
- Increases the staircase volume
- Fast and reliable installation
- 2 products in one



Internal insulation

- Suitable for thermal upgrades to heritage buildings
- Thinner walls
- Increases room volume for better space management



Under-the-rafter pitched roof installation / suspended ceiling

- Fast and reliable installation
- Clean and neat finish
- Higher ceiling clearance with thinner thermal insulation
- Cool in summer and warm in winter

THERMANO FLOOR application options



Posadzka

- No moisture wicking; resists flooding
- Great compression strength: 150 kPa (15 t/m²)
- Longer flooring life



INSTALLATION
OF THERMANO
IN HEATED FLOORS.



Szalunki tracone

- Thinner walls and floor slabs (by up to 14 cm)
- Lower costs due to thinner foundation sections
- More indoor space



Ściana trójwarstwowa

- Fast and easy installation
- Narrower foundations
- Thermal insulation to last for years



INSTRUKCJA MONTAŻU
THERMANO NA ŚCIANIE
TRÓJWARSTWOWEJ

THERMANO AGRO ALU application options



**Livestock
buildings /
suspended
ceiling**

- Superior thermal insulation performance:
 $\lambda = 0,023 \text{ W/mK}$
- Higher livestock productivity
- Pressure washable
- Uniform white finish
- Quick and easy installation
(as Soffitt panelwork)



INSTALLATION
OF THERMANO AGRO
ALU IN LIVESTOCK
BUILDINGS.

1.
THERMAL
INSULATION

THERMANO AGRO FIBERGLASS application options



Garage walls

- High mechanical strength
- Easily washable
- High pressure washing resistance
- Uniform white finish



**Industrial
and commercial
building walls**

- High mechanical strength
- Easily washable
- High pressure washing resistance
- Highly aesthetic finish



CHECK HOW
TO CLEAN THE PLATE
WITH A PRESSURE
WASHER



**Wet room walls
and ceiling**

- Resists fungi and mould
- Resists biological and chemical corrosion
- High mechanical strength
- High pressure washing resistance



THERMANO
AGRO ALU /
THERMANO
AGRO FIBERGLASS
CATALOGUE



**Livestock
buildings /
suspended
ceiling**

- High pressure washing resistance
- Uniform white finish
- Enhanced resistance to ammonia
- Higher livestock productivity



INSTALLATION
OF THERMANO AGRO
FIBERGLASS
IN LIVESTOCK BUILDINGS



THERMANO ROOF

1.

THERMAL
INSULATION

Thermano is a revolution in the thermal insulation industry. A single panel provides almost twice the thermal insulation level of EPS or mineral wool layers of the same thickness. Polyurethane thermal insulation is safe and does not absorb water. That is why the Thermano sandwich panels make for perfect thermal insulation that lasts for decades, are simple to install, and resist both biological corrosion and inadvertent flooding.

Features of Thermano Roof sandwich panels:

- The highest ageing lambda: 0,023 W/mK with A++ insulation class.
- Durability: the sandwich panels retain their thermal insulation performance for years. The service life is comparable to that of a solid brick.
- The smoothest sandwich panel cladding on the market today. A perfect substrate for adhesive bonded roofing.
- Versatile use.
- A barrier to vermin more effective than EPS, XPS or mineral wool, which animals and insects usually infest and inhabit.
- Resists biological corrosion from lichens, moss, fungi and mould.

The extreme moisture ingress resistance is yet another reason for the multi-decade stable performance. Moisture ingress reduces the thermal insulation performance in traditional products by up to 85%. Thermano is impervious to this issue.



MACIEJ LALICKI,
DESIGN ENGINEER,
SPEAKS ABOUT
A PERFECT HOME WITH
THERMANO INSULATION



LEARN MORE
ABOUT THERMANO
THERMAL
INSULATION

TECHNICAL PARAMETERS

Specifications

Designation	Thermano Roof
Lock types	TOP, BASIC (30mm)
Cladding	Multi-layered, with aluminium cladding
Overall width [mm]	1200
Module coverage width [mm]	1185 (TOP)
PIR foam thickness [mm]	30, 40, 50, 60, 80, 100, 120, 125, 140, 150, 160
Standard length [mm]	2400
Age-weighted thermal conductivity coefficient, λ [W/mK]	0,023
Bulk density [kg/m ³]	30
Relative diffusion resistance, μ	50-100
Absorbability	$\leq 2\%$
Compression strength	min. 200 kPa (10% deformation)
Fire reaction class	Euroclass E (EN ISO 11925-2)
Certificates	CE (PN-EN 13165:2001)

The chief material used in the production of Thermano panels is polyisocyanurate (PIR), secured on both sides with a gas-tight cladding, comprising several polymer layers and aluminium foil.

The high gas-tightness of Thermano panels ensures the stability of the thermal insulating parameters over long periods of time, unlike other polyurethane-based materials without the cladding, i.e. spray-applied (in situ) materials.

Thermano panels exhibit excellent mechanical performance, durability, low absorbability and other physical and chemical characteristics which mark the material out for application in even the most demanding of construction environments.

Flat roof



Pitched roof



Green roof



CHECK OUT
OTHER
APPLICATIONS.

Thermano thickness vs. thermal insulation ratings

$\lambda = 0,023 \text{ (W/mK)}$

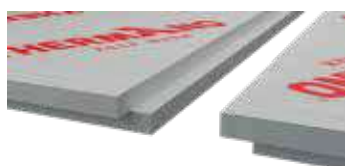
THERMANO ROOF panel thickness	U-value	Thermal resistance	Typical application	Sale unit	Panels / pack	m ² Total / pack	m ³ Total / pack
d [mm]	U [W/m ² K]	R [m ² K/W]					
30	0,77	1,30	Separating floor	1200x 2400x 1200 pack	40	115,20	3,46
40	0,59	1,70	Separating floor		30	86,40	3,46
50	0,47	2,15			24	69,12	3,46
60	0,38	2,60			20	57,60	3,46
80	0,29	3,45	Outdoor floor on ground		15	43,20	3,46
100	0,23	4,30	outer wall		12	34,56	3,46
120	0,19	5,20			10	28,80	3,46
125	0,19	5,40	Roofs and patios		9	25,92	3,24
140	0,17	6,05			8	23,04	3,23
150	0,15	6,50			8	23,04	3,46
160	0,14	6,95			7	20,16	3,23

The boards are available in thicknesses from 30 to 160 mm. Currently, the required heat transfer coefficient in Poland is, according to the Regulation of the Minister of Infrastructure and Development:

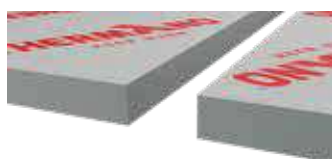
- for roofs $U = 0.15 \text{ (W/m}^2\text{K)}$
- for walls $U = 0.20 \text{ (W/m}^2\text{K)}$
- for floors $U = 0.30 \text{ (W/m}^2\text{K)}$

Panel joint types

TOP lock (overlapping)



BASIC lock (straight edge)



THERMANO
INSTALLATION
INSTRUCTIONS



DECLARATIONS
& CERTIFICATIONS

ACCESSORIES

Gauge

67 gauge angle

Fixing screws

Selection for an under-the-rafter installation. Calculating the screw lengths:

Thermano thickness + 20 mm

Quantity: 1 to 2 per Thermano panel (0,5 pcs. per m² of Thermano panels)

Selection for an over-the-rafter installation

Size & length:

min. 185 mm for 100 mm Thermano panels – installed at 90 degrees
+ 30 mm when installed at 67 degrees

min. 210 mm for 100-120 mm Thermano panels – installed at 90 degrees
+ 30 mm when installed at 67 degrees

250 mm for 120-160 mm Thermano panels – installed at 90 degrees
+ 30 mm when installed at 67 degrees

Calculating the screw length:

Thermano panel thickness + counterlathing (40 mm) thickness + rafter penetration depth (30 mm) + spare for a 67 degree cant (30 mm)

Size & diameter: Ø6 for light-weight roofing (box profile sheets, steel sheet tiles, or upright seam panels), Ø8 for heavy roofing (ceramic or concrete tiles).

Quantity: depending on the rafter spacing, use 3 to 4 screws per square metre of THERMANO insulation panelwork.



Aluminium sealing

Size: 75 mm or 120 mm wide (50 m / roll).

Average yield: 1,5 m per square metre of Thermano panel (when sealing one side only)



Aspira membrane

Quantity: 1 m² / 1 m² of Thermano



Long plastic pins on flat roofs

The screw size may vary with the Thermano layer thickness and the substrate thickness. The total length of the pin and the screw must exceed the Thermano layer thickness by 40 mm on steel sheet substrates (box profile sheets) or at least 60 mm (on reinforced concrete substrates).

Estimated yield: 2 pcs. per square metre of Thermano panel in a single layer



Selection of fasteners for Thermano insulation on a flat roof

Thermano thickness [mm]	R45 sleeve + PS4,8 screw [mm]
80	60 + 60
100	80 + 60
120	100 + 60
140	120 + 60
160	120 + 80





THERMANO COMPACT

1.

THERMAL
INSULATION

Thermano COMPACT is a product for applications where the best insulation parameters with minimum thickness are important. The product has the best features of other Thermano products, including excellent insulation (Lambda 0.023 W/mK) and diffusion parameters as well as a compact dimension of 600x1200 mm in thicknesses from 20 mm. The product is dedicated in particular to insulation works inside the facility, including the insulation of window sills, windows, doors, leveling floors, sealing the so-called thermal bridges and other places where the best thermal insulation and diffusion tightness is required, with minimum thickness.

Features of Thermano Compact panels:

- optimal size 60x120 cm
- a large range of thicknesses from 20mm
- insulation class A ++ (Lambda 0.023 W / mK)
- light weight – approx. 30 kg / m³
- plasticity – the board is easy to process and cut into pieces
- excellent stiffness and excellent compressive parameters up to 20 tons/m²
- resistance to flooding. Thermano does not absorb water
- provides the best protection against insects, rodents and other pests and is insensitive to biological factors

TECHNICAL PARAMETERS

Specifications

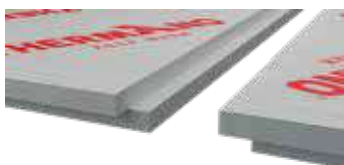
Designation	Thermano Compact
Lock types	TOP, BASIC
Core	Rigid polyurethane foam (PIR)
Okladzina	Multi-layered, with aluminium cladding
Overall width [mm]	1200
Module coverage width [mm]	1185 (TOP), 1200 (BASIC)
PIR foam thickness [mm]	20, 30, 40, 50, 80, 100, 125
Standard length [mm]	600
Age-weighted thermal conductivity coefficient, λ [W/mK]	0,023
Bulk density [kg/m ³]	30
Relative diffusion resistance, μ	50-100
Absorbability	$\leq 2\%$
Compression strength	min. 150 kPa at 10% deformation for th. up to 30mm; min. 200 kPa at 10% deformation for th. from 40mm
Fire reaction class	euroclass E, according to EN ISO 11925-2
Certificates	CE according to EN 13165:2001

Thermano Comapact thickness vs. thermal insulation ratings

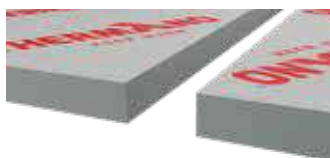
	THERMANO PANEL THICKNESS d [mm]	TOTAL THERMAL CONDUCTIVITY U [W/m ² · K]	TOTAL THERMAL RESISTANCE R [m ² · K/W]
$\lambda = 0,023$ [W/mK]	20	1,18	0,85
	30	0,77	1,30
	40	0,59	1,70
	50	0,47	2,15
	80	0,29	3,45
	100	0,23	4,30
	125	0,19	5,40

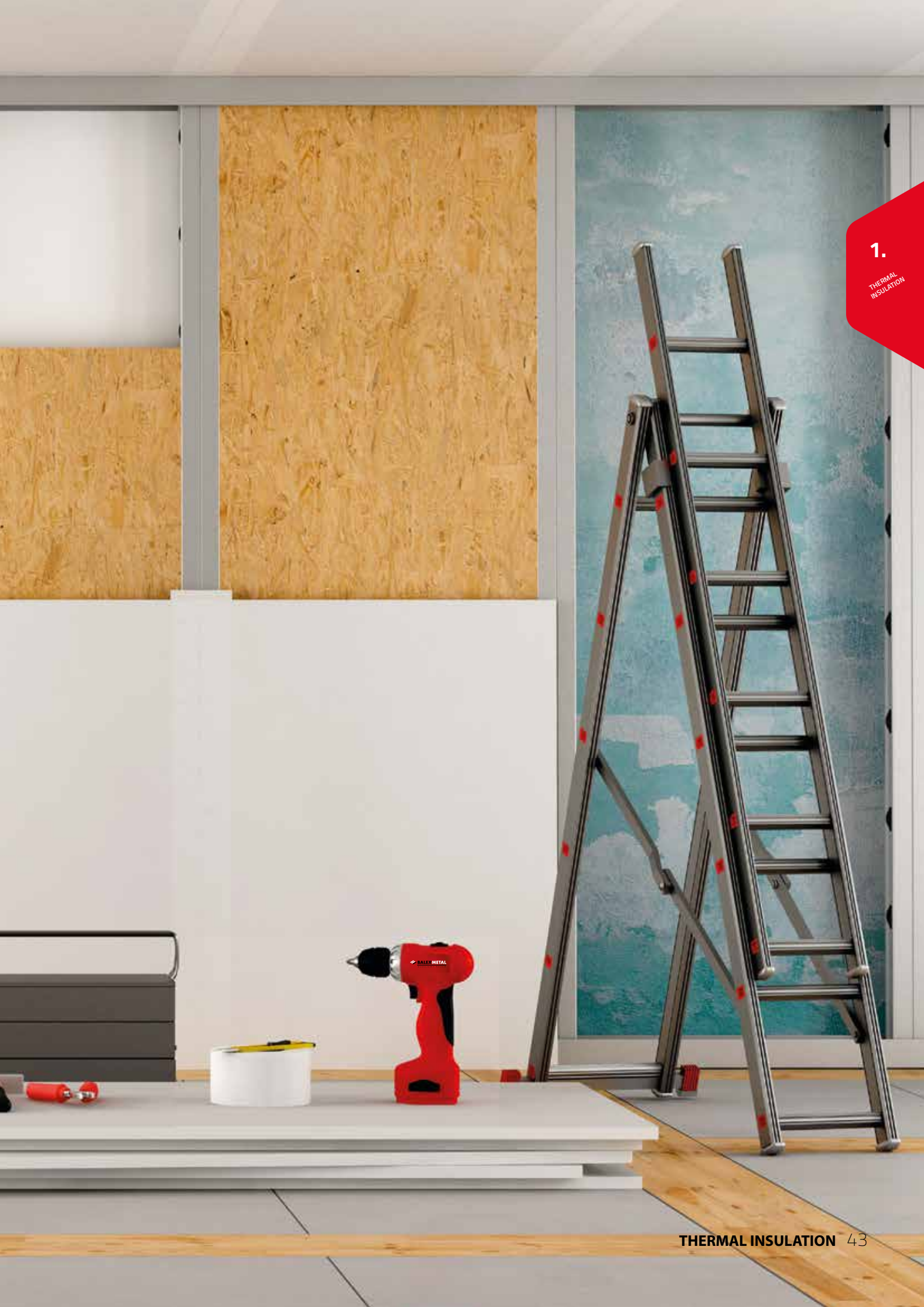
Panel joint types

TOP lock (overlapping)



BASIC lock (straight edge)





1.

THERMAL
INSULATION





THERMANO WALL GK

NEW!

Available from Q2 2022

1.

THERMAL
INSULATION

Thermano Wall GK is the best way to thermally improve the walls and ceilings from the inside: the thickness to thermal insulation performance of this product is nothing short of superior. With one of the lowest thermal conductivity coefficient values, or lambda, of 0,023 W/(m·K), Thermano Wall GK can be as much as half the thickness of traditional thermoinsulating materials. This thermal insulation sandwich panel is integrated with a drywall panel to ensure the lowest installation footprint possible. It is very advantageous in locations where every inch of free room is needed; this increases the property value and provides more living space. The benefits make Thermano Wall GK the thermal insulation of choice for staircases, suspended ceilings, sloping ceilings, and framed building walls.

Features of Thermano Wall GK panels:

- The highest ageing lambda: 0,023 W/mK with A++ insulation class.
- Fast and easy installation with an integrated drywall panel.
- Provides an effective barrier to martens, rodents and insects from penetrating the thermal insulation.
- High durability: the sandwich panels retain their thermal insulation performance for years. The service life is comparable to that of solid brick.

TECHNICAL PARAMETERS

Specifications

Designation	Thermano Wall GK
Lock types	BASIC
Core	Rigid polyurethane foam (PIR)
Outer (visible) side cladding	12,5 mm drywall panel
Inner (concealed) cladding (the thermal insulation performance layers)	Multi-layered, gas-tight, with aluminium cladding
Overall width [mm]	1200
Overall thickness (PIR+GK) [mm]	30, 50, 60, 80, 120
Overall length [mm]	2600 / 600
Age-weighted thermal conductivity coefficient, λ [W/mK]	0,023
Core bulk density [kg/m ³]	30
Compression strength [kPa]	min. 200 kPa
Tensile strength [kPa]	min. 70 kPa
PIR core fire reaction class	euroclass B, according to EN ISO 11925-2

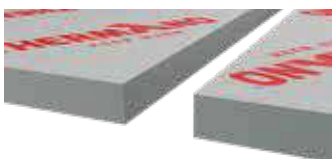
Thermano Wall GK thickness vs. thermal insulation ratings

	THERMANO PANEL THICKNESS d [mm]	TOTAL THERMAL CONDUCTIVITY U [W/m ² · K]	TOTAL THERMAL RESISTANCE R [m ² · K/W]
$\lambda = 0,023$ [W/mK]	30	0,77	1,30
	50	0,47	2,15
	60	0,38	2,60
	80*	0,29	3,45
	120*	0,19	5,20

* product available on request

Panel joint types

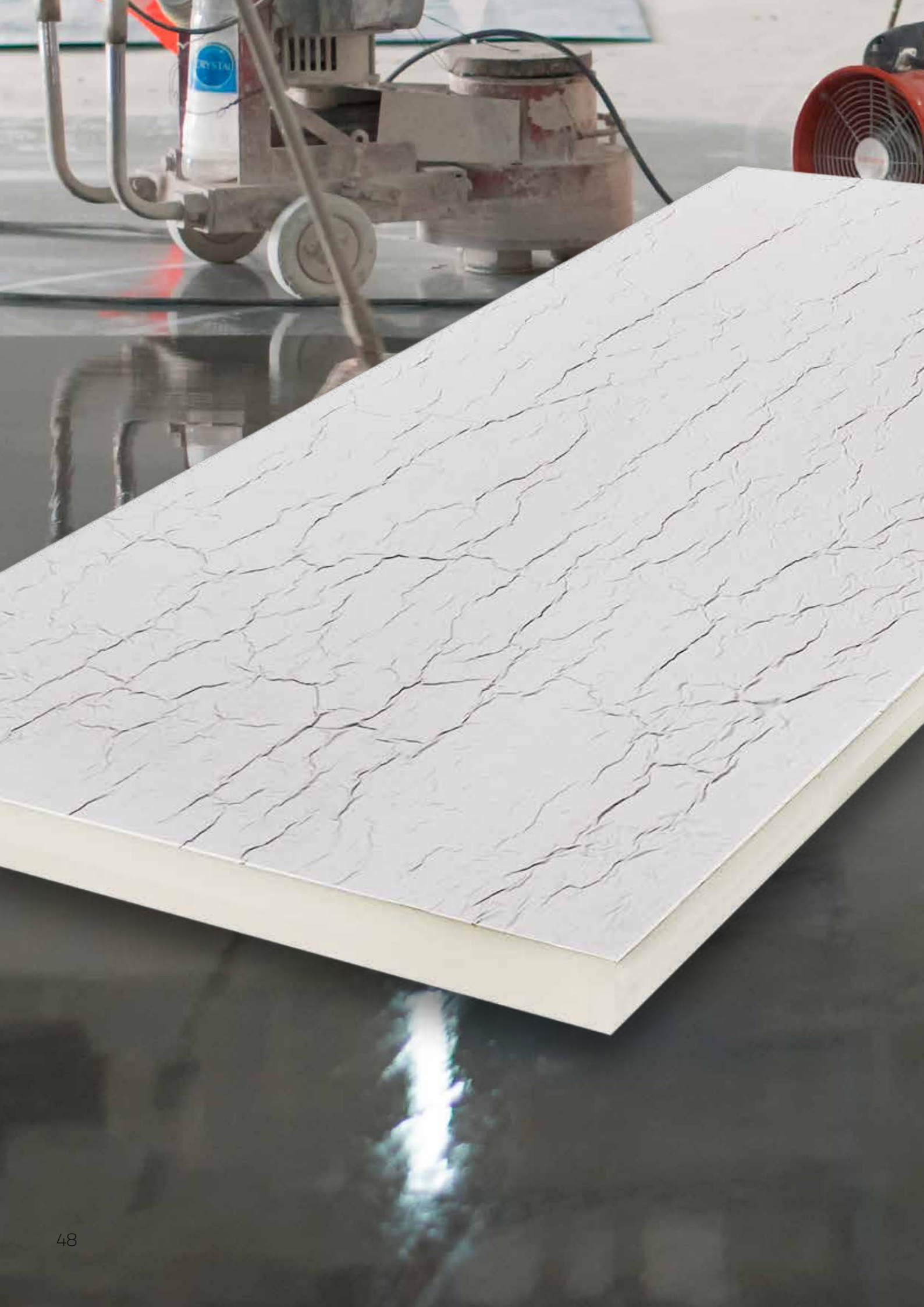
BASIC lock (straight edge)





1.

THERMAL
INSULATION





THERMANO FLOOR

HIGH DURABILITY

1.

THERMAL
INSULATION

Thermano Floor is the perfect sandwich panel for thermal insulation of flooring, walls and separating floors built off-form. The lambda of $0,022 \text{ W/(m}\cdot\text{K)}$ and a compression strength of approximately 15 t/m^2 are among the best thermal insulation and strength performances in all products marketed today. A Thermano Floor sandwich panel is up to half the thickness of traditional thermal insulation materials; its installation takes less space and increases the usable volume of rooms. The high compression strength makes the sandwich panel highly resistant to cracking and perfect for flooring insulation. A dedicated cladding material includes a heat reflector intended for improving the heat output of underfloor heating systems. The Thermano Floor sandwich panels may last as long as a solid brick: this means decades of performance.

Features of Thermano Floor sandwich panels:

- The highest ageing lambda: 0.022 W/mK with A++ insulation class.
- Thinner than traditional thermal insulation materials.
- Approximate compression strength: 15 t/m^2 .
- The outer cladding is a heat reflector which improves underfloor heating system efficiency.
- High durability: the sandwich panels retain their thermal insulation performance for years. The service life and durability are comparable to that of solid brick.

TECHNICAL PARAMETERS

Specifications

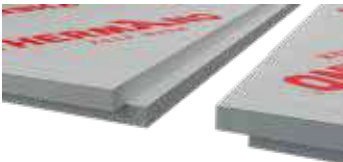
Designation	Thermano Floor
Lock types	TOP, BASIC
Core	Rigid polyurethane foam (PIR)
Cladding	Walki Gypsum - multilayer, gastight
Overall width [mm]	1200
Module unit width [mm]	1200 (BASIC) / 1185 (TOP)
Thickness [mm]	20, 30, 50, 75, 100, 120
Standard overall length [mm]	600x1200 (small panels); 1200x2400 (standard panels)
Age-weighted thermal conductivity coefficient, λ [W/mK]	0,023 (th. up to 50mm); 0,022 (th. from 75mm)
Core bulk density [kg/m ³]	30
Compression strength [kPa]	min. 150 kPa
Tensile strength [kPa]	min. 70 kPa
Fire reaction class	Euroclass E (EN ISO 11925-2)

Thermano Floor thickness vs. thermal insulation ratings

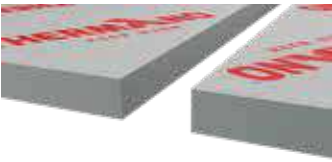
	THERMANO PANEL THICKNESS d [mm]	THERMAL CONDUCTIVITY U [W/m ² · K]	THERMAL RESISTANCE R [m ² · K/W]
$\lambda = 0,023$ [W/mK]	20	1,18	0,85
	30	0,77	1,30
	50	0,47	2,15
$\lambda = 0,022$ [W/mK]	75	0,29	3,40
	100	0,22	4,50
	120	0,18	5,45

Panel joint types

TOP lock (overlapping)



BASIC lock (straight edge)





1.
THERMAL INSULATION



THERMANO AGRO ALU

1.

THERMAL
INSULATION

Thermally stable with mould and fungi resistance the Thermano Agro ALU thermal insulation for buildings is the best solution for superior optimization and stability of the indoor climate in farming buildings — whatever the weather.

The right insulation of livestock buildings gives:

- Better productivity and profitability of animal rearing
- Maximum lactation yield and stable body mass build-up
- Optimum usage of feed value
- Eliminated heat stress in summer
- Lower disease incidence rate among the animals
- Longer storage of crops
- Minimised daily temperature variations



INSTALLATION
OF THERMANO
AGRO ALU

TECHNICAL PARAMETERS

Specifications

Designation	Thermano Agro ALU
Lock types	BASIC
Cladding	gruba, karbowana folia aluminiowa o podwyższonej odporności mechanicznej
Overall width [mm]	1200
Module coverage width [mm]	1200 (BASIC)
Thickness [mm]	30, 40, 50, 60, 80, 100
Standard length [mm]	4000
Maximum length [mm]	5000
Age-weighted thermal conductivity coefficient, λ [W/mK]	0,023
Bulk density [kg/m ³]	30
Relative diffusion resistance, μ	50-100
Absorbability	$\leq 2\%$
Compression strength	min. 200 kPa (10% deformation)
Fire reaction class	Euroclass E (EN ISO 11925-2)
Certificates	CE (PN-EN 13165:2001)

Thermano Agro ALU thickness vs. thermal insulation ratings

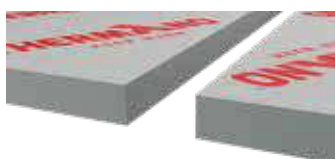
	THERMANO PANEL THICKNESS	U-VALUE	THERMAL RESISTANCE
	d [mm]	U [W/m ² · K]	R [m ² · K/W]
$\lambda = 0,023$ [W/mK]	40*	0,59	1,70
	50*	0,47	2,15
	60*	0,38	2,60
	80*	0,29	3,45
	100*	0,23	4,30

* product available on request

Panel joint types

BASIC lock (straight edge)

Thermano Agro ALU as soffit panels



ACCESSORIES

For soffit installation

Examples of indicative selection of accessories for the Thermano Agro ALU sandwich panels:

C-section:

Ceiling plane envelope = number of C-sections [lin.m.]

H-section

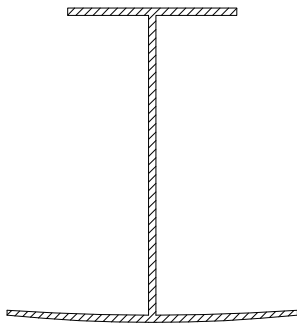
No. of panels [pcs.] x (panel length [m] + panel width [m]) = no. of H-sections [lin.m.]

Fastening hanger:

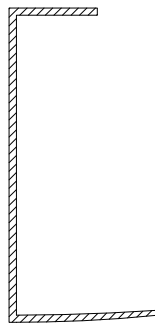
Quantity in lin.m. H-section/girder (framework) spacing = no. of hangers [pcs.]

The calculated quantities should be rounded to the length of full profiles. The C-sections and H-sections are available in 4 metre long sections.

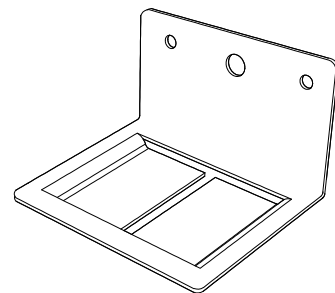
H-shape



C-section



Hanger



Available height options: 50, 60, 80 mm.

1.

THERMAL
INSULATION



THERMANO AGRO FIBERGLASS

1.

THERMAL
INSULATION

Thermano Agro Fibreglass is a thermal insulation material for livestock facilities, such as: pigsties, henhouses or barns. The boards have a core of hard PIR foam, which guarantees excellent thermal insulation properties and is completely safe for people and animals.

The most important feature of Thermano Agro Fiberglass is its extreme durability. It is ensured by the use of a special resin lining on the inside polyester with the addition of glass fibers. This combination makes it possible safe cleaning of plates with very high pressure washers. The plates have very high compressive strength (200 kPa), which additionally makes them less sensitive to mechanical damage. The boards are also very resistant to action volatile organic compounds, and even interference from insects, rodents or martens.

Providing thermal comfort with Thermano Agro Fiberglass panels is a number of benefits related to breeding:

- greater productivity and profitability of animal husbandry
- maximum milk yield and stable weight gain of the stock
- optimal use of the feed value
- eliminating the problem of heat stress in summer
- reducing the incidence of livestock
- extension of the storage period of agricultural produce
- minimizing temperature fluctuations throughout the day



INSTALLATION
OF THERMANO
AGRO FIBERGLASS
IN SUSPENDED
CEILING SYSTEMS.

TECHNICAL PARAMETERS

Specifications

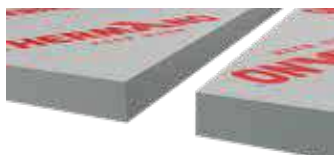
Designation	Thermano Agro Fiberglass
Lock types	BASIC
Cladding	One side: unsaturated GFR polyester resin with enhanced mechanical strength; other side: multi-layered, with aluminium cladding
Overall width [mm]	1200
Module coverage width [mm]	1200 (BASIC)
Thickness [mm]	30, 40, 50, 60, 80, 100
Standard length [mm]	4000
Maximum length [mm]	5000
Age-weighted thermal conductivity coefficient, λ [W/mK]	0,027-0,028
Bulk density [kg/m ³]	30
Relative diffusion resistance, μ	50-100
Absorbability	$\leq 2\%$
Compression strength	min. 200 kPa (10% deformation)
Fire reaction class	Euroclass F (EN ISO 11925-2)
Certificates	CE (PN-EN 13165:2001)

Thermano Agro Fiberglass thickness vs. thermal insulation ratings

	THERMANO PANEL THICKNESS	U-VALUE	THERMAL RESISTANCE
	d [mm]	U (W/m ² K)	R (m ² K/W)
$\lambda = 0,028$ (W/mK)	30	0,93	1,05
	40	0,70	1,40
	50	0,56	1,75
	60	0,47	2,10
$\lambda = 0,027$ (W/mK)	80	0,34	2,95
	100	0,27	3,70

Panel joint types

BASIC lock (straight edge)



Thermano Agro Fiberglass as soffit panels



ACCESSORIES

For soffit installation

Examples of indicative selection of accessories for the Thermano Agro Fiberglass sandwich panels:

C-section:

Ceiling plane envelope = number of C-sections [lin.m.]

H-section

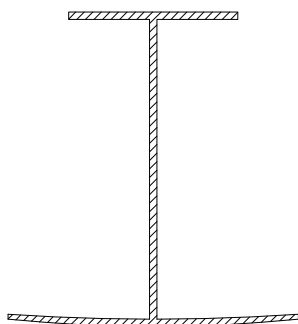
No. of panels [pcs.] x (panel length [m] + panel width [m]) = no. of H-sections [lin.m.]

Wieszak mocujący:

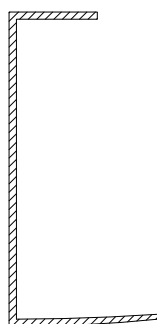
Quantity in lin.m. H-section/girder (framework) spacing = no. of hangers [pcs.]

Round the calculated quantity to the length of full profiles. The C-sections and H-sections are available in 4 metre long sections.

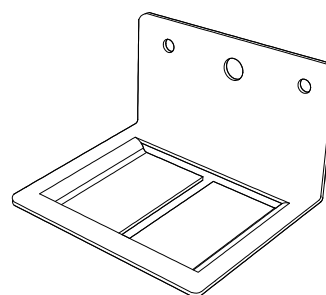
H-shape



C-section



Hanger



Available height options: 50, 60, 80 mm.

1.

THERMAL
INSULATION

2.

SANDWICH PANELS

- 75** PIR Standard roof sandwich panel
- 79** PIR Fiberglass roof sandwich panel
- 83** PIR ALU roof sandwich panel
- 87** MW Standard roof sandwich panel
- 91** PIR Standard wall sandwich panel
- 95** Slate panel – Wall/Roof sandwich panel
- 99** PIR Plus wall sandwich panel
- 103** PIR Light wall sandwich panel
- 107** PIR cold storage sandwich panel
- 111** MW Standard wall sandwich panel
- 115** MW Plus wall sandwich panel
- 119** MW Light wall sandwich panel
- 123** MW Defender wall sandwich panel
- 126** Universal flashing for sandwich panels

THERMAL INSULATION

SANDWICH PANELS

BOX PROFILE SHEETS

ROOFING

ROOF & WALL INSTALLATION ACCESSORIES

ROOF GUTTERS

COLD-FORMED SECTIONS

FAÇADE CLADDING

GENERAL TERMS & CONDITIONS OF SALE

1.

THERMAL
INSULATION

2.

SANDWICH
PANELS

3.

BOX PROFILE
SHEETS

4.

ROOFING

5.

ROOF & WALL
INSTALLATION
ACCESSORIES

6.

ROOF GUTTERS

7.

COLD-FORMED
SECTIONS

8.

FAÇADE
CLADDING

9.

GENERAL TERMS
& CONDITIONS
OF SALE

EASY, SIMPLE, COST-EFFICIENT AND QUICK TO INSTALL.

A comparison between a framed (stud) building (clad in sandwich panels) with traditional structures (with masonry walls) reveals that the direct costs of construction are similar. However, the sandwich panels have two major advantages which makes them a unique and more preferable choice, also in terms of reducing the overall construction process time.

Construction time

A building with a traditional masonry process may take 6 to 7 months to complete. A building of the same volume with stud partitions takes just 1 month to complete. The construction time is business-critical. The sooner a production or warehouse building is commissioned, the quicker the return on investment.

The construction process

In some industry sectors, the construction process requirements are critical for a building project. A stud partition building is made in a 'dry process', with no water required for the construction materials. A dry process requires only assembling the structure and fastening of the sandwich panels with screws. Traditional masonry buildings are 'wet processes' which require significant amounts of water to complete the construction process.



WHY BUILD
WITH SANDWICH
PANELS? ASK OUR
EXPERT.





2.

SANDWICH
PANELS



SANDWICH PANEL

VERSATILE APPLICATIONS WITH A SINGLE SOLUTION

2.

SANDWICH
PANELS

In the last few decades, sandwich panels have proved to be a revolutionary solution in the construction industry. By definition, this material is a self-supporting component that serves two purposes at the same time – partition (roof or wall) and thermal insulation. The external layers (both cladding sides) feature good mechanical strength performance, while the inner layer (the core) provides the thermal insulating performance.

The sandwich panels can be used in a great variety of applications. Indoor partitions, curtain walls and load bearing walls, suspended ceiling systems, and roofing for different structures, including shopping malls, industrial buildings, office premises, farm and livestock buildings, indoor sports arenas, fruit and vegetable storage rooms, logistic hubs, garage buildings, open-sided sheds, and more.

The performance of the sandwich panels make them the first choice for decorative (non-load bearing) indoor partitions and lining for walls and ceilings in container units, small cold boxes, reefer body shells, garage doors, or external façade cladding in single-family housing.

The sandwich panels are true all-rounders, whether installed as partitions, thermal insulation layers or decorative cladding, the number of applications is huge.



SANDWICH PANELS
ARE A UNIVERSAL
MATERIAL. SEE MORE
APPLICATION EXAMPLES.

TESTING AND ACCREDITATION BUY FROM TRUSTED SOURCES

The Balex Metal sandwich panels have been thoroughly tested for compliance with applicable construction standards and regulations. Over 25 years of presence on the market is a testament to the quality and reliability of the products.

The sandwich panels conform to fire performance requirements and can reach class A2-s2.d0, depending on the core material. The systems from Balex Metal have won the trust of construction project owners, insurance companies and design engineers. Repeatedly tested and proven in real-life conditions, the thermal insulation sandwich panels have fire resistance classifications certified by testing in accredited laboratories in Poland and abroad.

The polyurethane-core sandwich panels have a superior and unique thermal conductivity coefficient of $\lambda = 0,022 \text{ W/mK}$ (EN 13165). All sandwich panels from Balex Metal come with proprietary joints,

which include edge locks with dedicated gaskets for perfect adhesion between the panel cores and a continuous, tight thermal insulation barrier.

The patented joint system for installation of sandwich panels with different core materials expands the range of possible applications with an assurance of reliability when various requirements apply to thermal, fire and acoustic safety.

The structural performance of the sandwich panels conform to EN 14509, "Self-supporting double skin metal faced insulating panels – Factory made products – Specifications".



SANDWICH
PANEL TYPES.



NOISE INSULATION
IN SANDWICH
PANELS.



FIRE RESISTANCE
OF SANDWICH
PANELS.

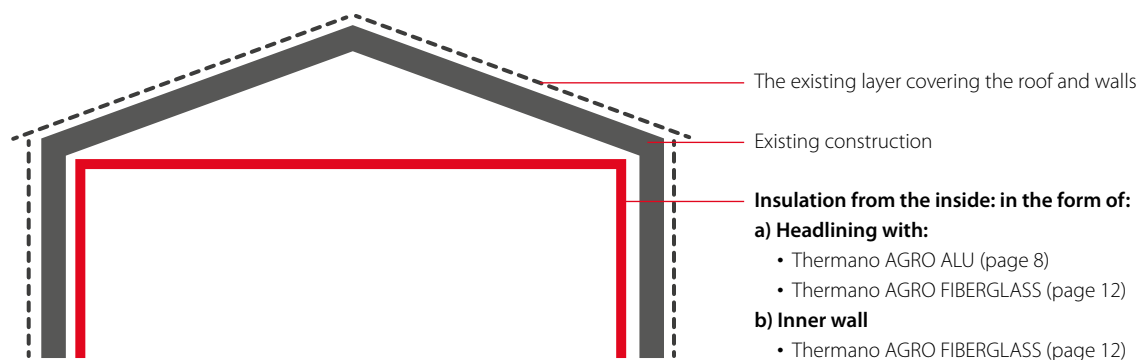


DECLARATIONS
& CERTIFICATIONS.

THERMO- MODERNIZATION OF AGRICULTURAL BUILDINGS

VARIANTS

Wall and ceiling insulation (in the form of a soffit) from the inside.
Plates for application: Thermano Agro Alu, Thermano Agro Fiberglass

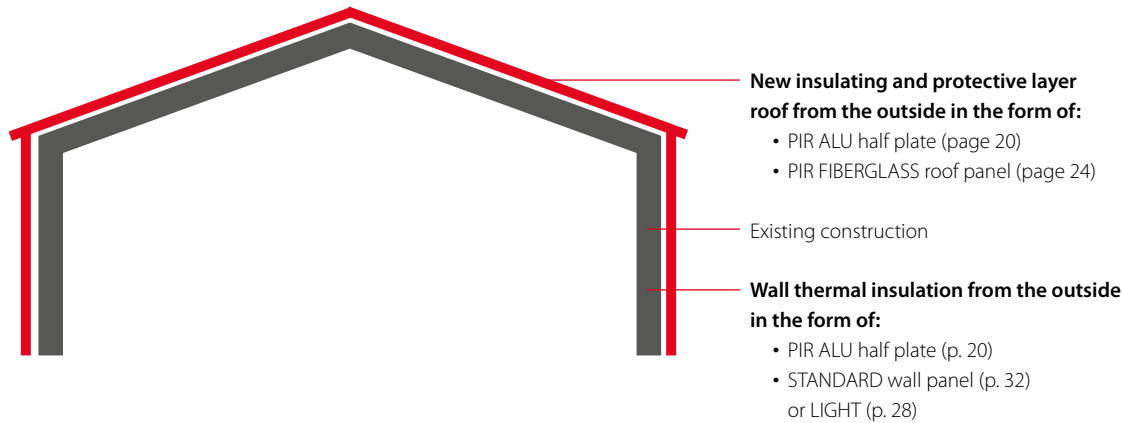


Benefits of this application:

- No need to obtain construction permits.
- Possibility to leave the existing roof and facade in their current form.
- Much better thermal insulation ensuring optimal conditions for storing vegetables.
- Wall insulation ensures continuity of thermal insulation and greater possibilities for thermal stability regardless of weather conditions.
- Fast, easy and cheap assembly.
- Resistant to acids, ammonia and other organic compounds.
- Can be cleaned with professional high-pressure washers.
- Much higher resistance to rodents such as martens and mice.

Insulation of walls and roof from the outside.

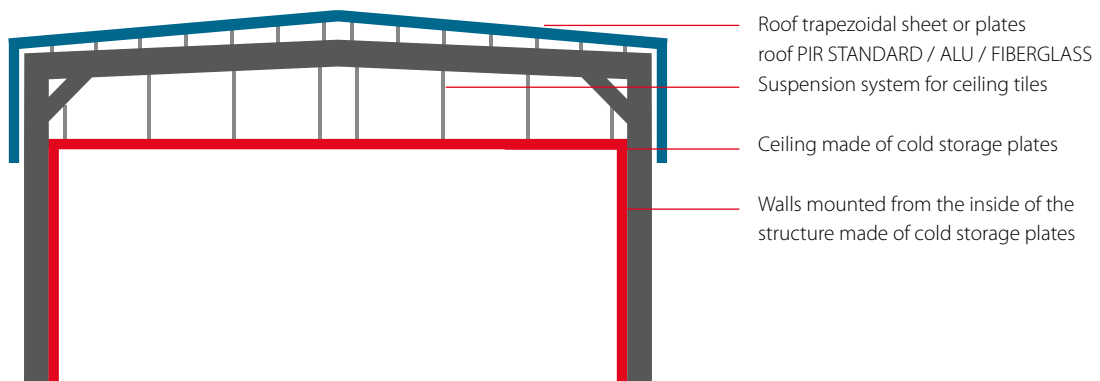
Application plates: PIR ALU half plate, PIR Fiberglass roof panel, PIR Standard wall panel, PIR Light wall panel.



Benefits of this application:

- Replacing the roof with a new one, ensuring tightness for years and easy to maintain.
- Fast, cheap and the most thermally effective way to insulate brick walls with sandwich panels or PIR ALU half panels.
- More space inside - wall insulation from the outside allows you to keep the current one building cubature.
- Easier adaptation of the hall to other utility needs in the future.
- Half PIR ALU panels are quick to install and an economical solution.
- The ALU version has an internal, thick and corrugated aluminum foil that does not corrode and is perfect for facilities with increased requirements of resistance to factors chemical, and the FIBERGLASS version can be easily cleaned with a high-pressure cleaner.
- The boards perform very well both as a roofing material and as a ceiling features inside.
- The outer layer is a trapezoidal metal cladding with the highest load capacity parameters.
- Insulation parameters and the thermal conductivity coefficient at the lambda level of 0,022 W/mK will allow to maintain a constant temperature inside the facility.

Object as a cold store or freezer



Benefits of this application:

- The best insulation parameters on the market.
- The most effective possible solution for refrigeration and freezing facilities it provides excellent insulation parameters.
- Hard polyurethane foam core provides excellent thermal protection for buildings.
- It is guaranteed by an excellent thermal conductivity coefficient of $\lambda = 0,022$, unattainable for panels with a polystyrene or mineral wool core.
- High tightness guaranteed.
- Rapid assembly of even very large objects.
- Easy to keep the surface of the boards clean.

WHICH STANDARD CHOOSE?

2.

SANDWICH
PANELS

Grade insulation	Product designation	Maximum U factor	ROOF FROM OUTSIDE Plate roof PIR FIBERGLASS [mm]	ROOF AND WALL FROM THE OUTSIDE Plate roof PIR ALU [mm]	WALL FROM THE OUTSIDE Plate wall PIR LIGHT [mm]	WALL AND CEILING Cold storage plate [mm]	WALL FROM INTERNAL & CEILING Thermano AGRO FIBERGLASS [mm]	SOFFIT PANELS Thermano AGRO ALU [mm]
REFRIGERATION AND FROZEN FACILITIES								
A+++	Deep-freeze objects and "shockers" – temperatures approx. -30/-40°C	0,10	-	-	-	min 180	-	-
A++	Freezing facilities – scope temperatures -5/-25°C	0,13	-	-	-	min 160	-	-
A+	Cooling facilities, storage rooms food – scope temperatures 0/+10°C, also with CO ₂ controlled atmosphere; temperature range 0/+55°C	0,18	min 120	min 120	min 120	min 120	-	-
PRODUCTION, AGRICULTURAL AND STORAGE FACILITIES								
A+	Warehouses, workshops, plants production with very high insulation parameters thermal – temperature range above +16°C;	0,18	min 120	min 120	min 120	-	-	-
A	Warehouses, workshops, high production facilities thermal insulation - temperature range up to +16°C Chicken farms (broilers)	0,22	min 100	min 100	min 100	-	-	min 100
B	Breeding pigs, providing the best conditions for weight gain	0,30	min 80	min 80	min 80	-	min 100	min 80
C	Breeding barns, providing the best conditions for the milk yield of cows	0,40	min 60	min 60	min 60	-	min 80	min 60
D	Breeding barns, providing the best conditions for weight gain	0,70	min 40	min 40	min 40	-	min 40	min 30
E	"Cold" halls secured from rain and wind without thermal insulation	1,20	-	-	-	-	min 30	min 30
F	"Cold" halls secured from rain and wind without thermal insulation	no requirements	-	-	-	-	-	-

SANDWICH PANELS IN STOCK*

A polyurethane-core sandwich panel forms a cost-effective material for cladding residential façades and roofs, warehouse buildings, utility buildings, garage units or open-sided sheds, and its installation is really quick. This is a perfect construction material for thermally insulated walls and partitions of many types. The structure of the sandwich panel ensures a fast installation with a neat finish, with several versions of the product currently in stock.

Designation	RAL coating colour (outer / inner)	Profiling (inner / outer)	Cladding thickness (inner / outer) [mm]	Panel thickness [mm]	Available panel length [m]
PIR Standard roof sandwich panel	7016/9010	Box profile / Lined	0,5/0,4	100	6
					8
				80	6
					8
PIR Standard wall sandwich panel	9006/9010	Micro-profile / Lined	0,4/0,4	100	6
					8
				50	6
					8

* Available at Balex Metal locations in Bolszewo, Tomaszów Mazowiecki and Wrocław (Długołęka) (all locations in Poland).



2.

SANDWICH
PANELS





PIR STANDARD ROOF SANDWICH PANEL

2.

SANDWICH
PANELS

The rigid polyurethane foam core provides excellent thermal insulation for buildings. This comes from an excellent thermal conductivity coefficient, $\lambda=0,022$ (available with PIR-core sandwich panels) unparalleled by any mineral wool or EPS sandwich panel. A total solution from Balex Metal can be less expensive than mineral wool sandwich panels, by some 40-60%.

Easy installation

The carefully-designed joint lock profile and tapered inner contact edges aid in the rapid laying of the panels.

High load capacity

The box profile of the outer cladding improves the load bearing strength and increases the sealing of the roof installation.

TECHNICAL PARAMETERS

Specifications

Designation	PIR Standard roof sandwich panel with polyurethane (PIR) core					
Core	Rigid polyurethane foam, PIR / density: 40 (± 3) kg/m³					
Cladding thickness [mm]	0,40 / 0,50 / 0,60 / 0,70					
Steel grade	S250GD, stainless steel (1.4301)					
Coating	SP Polyester, SP Polyester Mat Pearl, Food Safe PVC(F), Aluzinc + Easyfilm, CESAR 55, CESAR65					
Panel length [mm]	2500-18000					
Effective width [mm]	1000					
Overall width [mm]	1062,50					
Core thickness [mm]	40	60	80	100	120	160
Mass [kg/m²]	10,84	11,65	12,45	13,26	14,07	15,69
Insulating efficiency, U _c [W/m²K]	0,54	0,35	0,27	0,21	0,18	0,14
Fire resistance	–		REI 30 / RE 60			
Roof external fire performance	Broof (t1), Broof(t2), Broof(t3)					
Reaction to fire	B-s2;d0 B			B-s1;d0		
Minimum roof slope	> 7% with sandwich panels joined and locked lengthwise or with skylights					
	> 5% for continuous sandwich panels and without skylights					

Panel length		Coating								
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc	Stainless steel
2500	16000 (gr. 40)	outer	0,50 / 0,60 / 0,70	T	x	x	x		x	
	17000 (gr. 60) 18000 (gr. 80-160)	inner	0,40 / 0,50 / 0,60	L / G	x	x	x	x		

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Inner cladding



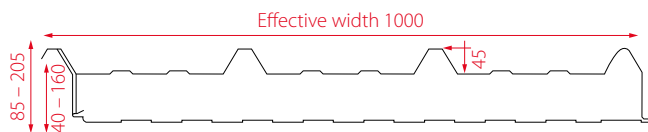
Box profile (T)

Outer cladding



Plain (G) – available for a cladding thickness of 0.50 mm or higher

Inner cladding



Exposed fastener







PIR FIBERGLASS ROOF SANDWICH PANEL

2.

SANDWICH
PANELS

This sandwich panel is one of the most practical roofing products for buildings, especially these of an agricultural nature. Hard polyurethane foam core provides excellent heat conduction parameters at the level of 0,026-0,028 W/mK (aging lambda). Therefore, the PIR Fiberglass roof panel makes it much easier maintaining a constant temperature inside the facility.

PIR FIBERGLASS roof sandwich panels are characterized by:

- Excellent insulation parameters – aging lambda at the level of 0,026-0,028 W/mK – allow the use of the board for objects with specific conditions temperature.
- Lightness – quick and easy installation of boards on rafters during thermo-modernization works.
- Trapezoidal profiling of the external cladding improves the load-bearing capacity parameters and increasing the tightness of the roof.
- Internal fiberglass lining to protect against volatile compounds organic. Allows cleaning of the object with high-pressure cleaners and meeting the increased hygiene requirements to which the facilities are subject livestock.
- Impermeability – the board is also suitable for use in buildings, where crops and forage are stored.
- Resistant to corrosion and heavy organic compounds.
- Increased resistance to pests: birds, insects, rodents.

TECHNICAL PARAMETERS

Specifications

Designation	PIR Fiberglass roof sandwich panel				
Core	Rigid polyurethane foam, PIR / density: 40 (+/-3) kg/m ³				
Cladding	Inner: unsaturated polyester resin reinforced with glass fiber with increased mechanical resistance. Outer: sheet steel				
Steel grade	S250GD				
Coating	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, CESAR 55 µm, CESAR65				
Modular width [mm]	1000				
Panel length [mm]	2500 - 10 000				
Core thickness [mm]	40	60	80	100	120
Insulating efficiency, U_c [W/m²K]	0,69	0,45	0,33	0,26	0,21

Panel length		Coating							
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc Stainless steel
2500	10 000	outer	0,50 / 0,60 / 0,70	T	x	x	x		
		inner	Fiberglass						

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

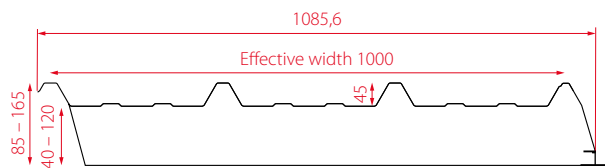
Box profile (T)

Outer cladding



Fiberglass

Inner cladding



Exposed fastener



Chair profile







PIR ALU SANDWICH PANEL

NEW!

2.

SANDWICH
PANELS

The PIR ALU sandwich panel is practical and at the same time economical solution for roofing buildings, dedicated especially the agricultural industry. The outer layer is a trapezoidal metal cladding of the highest load parameters. The core is polyurethane foam with excellent insulation parameters and coefficient heat conduction at the lambda level of 0.022 W / mK . The inner layer of the board is made of thick, notched aluminum foil, which is an excellent protection for volatile organic compounds present in elevated concentrations in animal husbandry. Application such an internal lining ensures durability for years and much higher protection against occurrence rust. An additional feature is the lower price of up to 10-30% in relation to other boards with a similar purpose.

PIR ALU sandwich panels are characterized by:

- Highest efficiency available within an optimal budget.
- Internal aluminum cladding as protection against volatile matter organic compounds.
- The trapezoidal profile of the external cladding improves the load-bearing capacity panels and increases the tightness of the roof.
- The best aging lambda - 0.022 W / mK in A ++ insulation class.

TECHNICAL PARAMETERS

Specifications

Designation	PIR ALU sandwich panel				
Core	Rigid polyurethane foam, PIR / density: 40 (+/-3) kg/m ³				
Cladding	Inner: Thick, corrugated aluminum foil. Outer: sheet steel				
Steel grade	S250GD				
Coating	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, CESAR 55 µm, CESAR65				
Module [mm]	1000				
Panel length [mm]	2500 - 10 000				
Core thickness [mm]	40	60	80	100	120
Insulating efficiency, U_c [W/m²K]	0,54	0,35	0,27	0,21	0,18

Panel length		Coating								
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc	Stainless steel
2500	10 000	outer	0,50 / 0,60 / 0,70	T	x	x	x			
		inner	Thick, corrugated aluminum foil.							

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

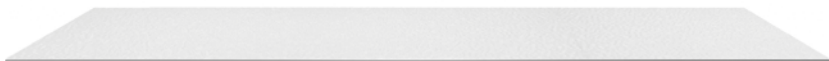
Box profile (T)

Outer cladding

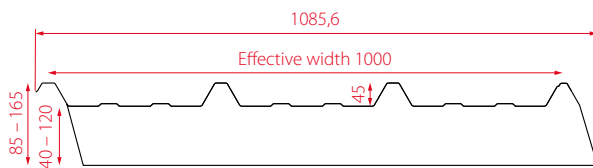


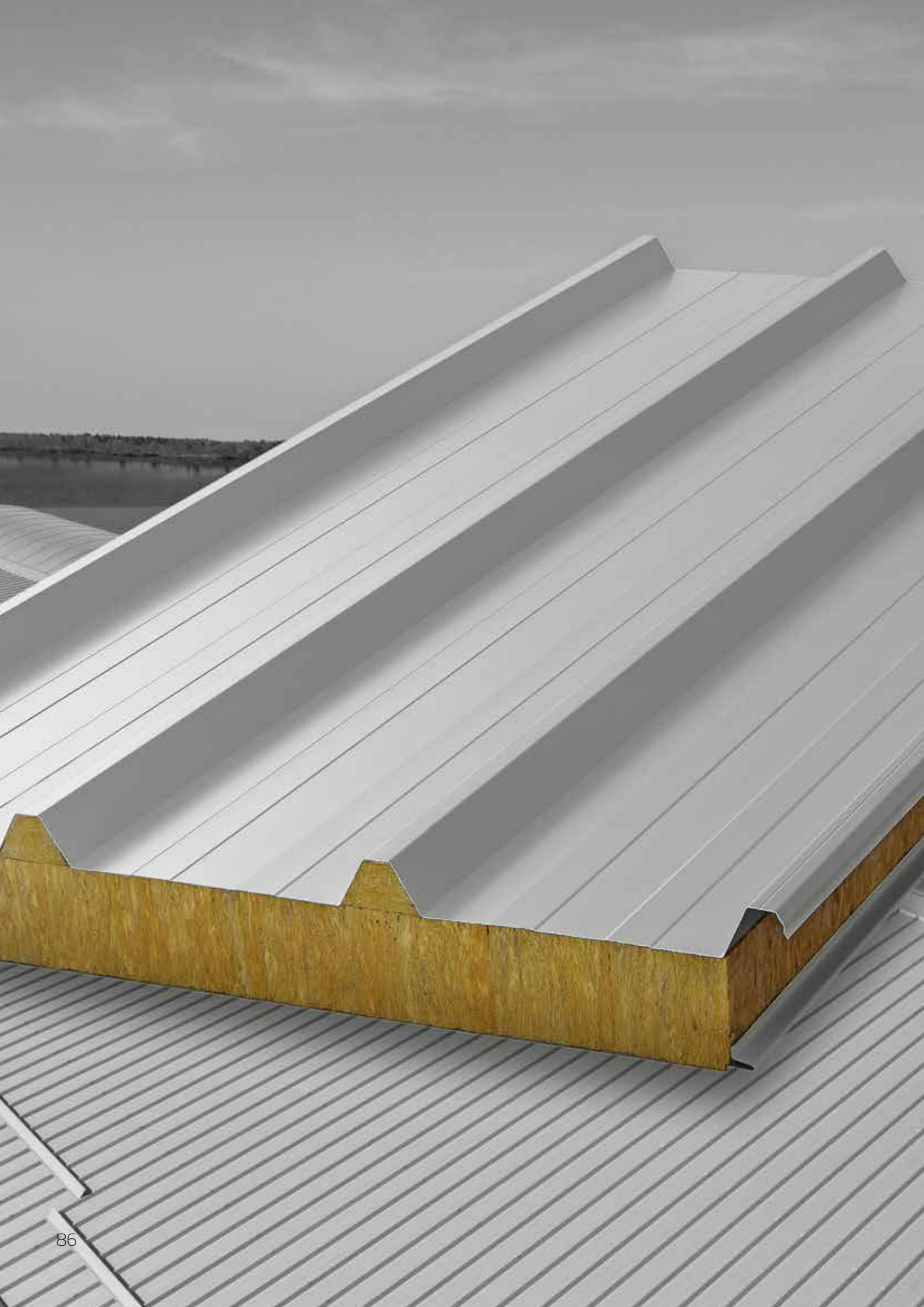
Thick, corrugated aluminum foil.

Inner cladding



Exposed fastener







MW STANDARD ROOF SANDWICH PANEL

2.

SANDWICH
PANELS

Sandwich panels with a mineral wool core are non-flammable. They can be used in projects which require above-standard fire protection ratings.

Superior resistance to fire.

The BALEX THERM MW-R roof sandwich panels exceed the minimum resistance to fire specifications imposed by applicable Technical Requirements at RE30. These products meet the fire resistance criteria (classes A to E) for all building types.

Durability

The Balex Metal sandwich panels are preserved with strong anti-corrosive coating systems, to ensure extremely durable partition materials able to withstand a wide range of weather conditions.

Easy installation

The installation of the sandwich panels is very quick. Unlike other roof covering solutions, the sandwich panels greatly optimise the assembly time.

TECHNICAL PARAMETERS

Specifications

Designation	MW Standard roof sandwich panel with mineral wool core				
Core	Rigid mineral wool (nominal apparent density: 110 kg/m³)				
Cladding thickness [mm]	0,50 / 0,60 / 0,70				
Steel grade	S250GD, steel 1.4301 from the inside				
Coatings	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, CESAR 55 µm, CESAR65				
Effective width [mm]	1000				
Overall width [mm]	1063,5				
Panel length [mm]	2500-15000				
Core thickness [mm]	100	120	150	160	200
Panel weight [kg/m²]	20,3	22,4	25,6	26,6	30,9
Insulating efficiency, U _c [W/m²K]	0,38	0,32	0,26	0,24	0,19
Fire resistance	–	REI90			
Roof external fire performance	BROOF (t1)				
Minimum roof slope	> 7% with sandwich panels joined and locked lengthwise or with skylights > 5% for continuous sandwich panels and without skylights				

Panel length		Coating								
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc	Stainless steel
2500	15000	outer	0,50 / 0,60 / 0,70	T	x	x	x	x		
		inner	0,50 / 0,60 / 0,70	L / G	x	x	x	x		x

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Inner cladding



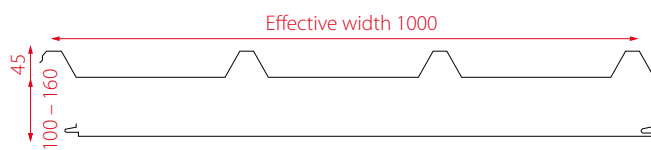
Box profile (T)

Outer cladding



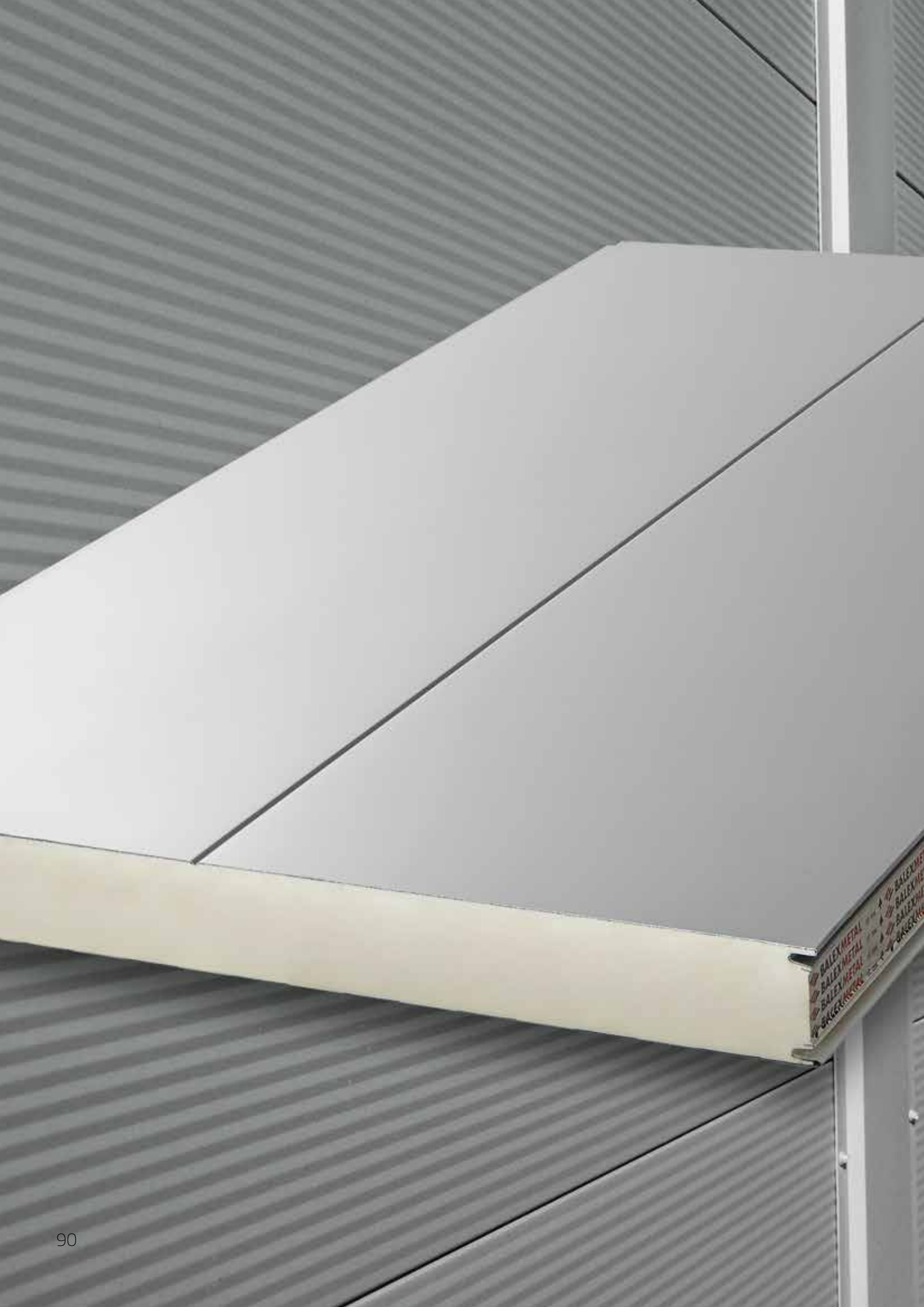
Plain (G)

Inner cladding



Exposed fastener







PIR STANDARD WALL SANDWICH PANEL

2.

SANDWICH
PANELS

The rigid polyurethane foam core provides excellent thermal insulation for buildings. This comes from an excellent thermal conductivity coefficient, $\lambda=0,022$, unparalleled by any mineral wool or EPS sandwich panel.

A choice of designs

The panels provide a very neat and appealing finish. The large selection of profiling patterns, wide colour palette, and high durability of the corrosion protection coatings ensure that the wall panels remain a preferred choice for projects intended to last for years, all with a modern and sophisticated finish.

Easy installation

The carefully-designed joint lock profile, lengthwise groove, and tapered inner contact edges aid in the rapid laying of the panels.

TECHNICAL PARAMETERS

Specifications

Designation	PIR Standard wall sandwich panel with polyurethane (PIR) core and exposed fasteners							
Core	Rigid polyurethane foam: PIR / density: 40 (± 3) kg/m³							
Cladding thickness [mm]	0,40 / 0,50 / 0,60 / 0,70							
Steel grade	S250GD, stainless steel (1.4301)							
Coatings	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, CESAR 55 µm, CESAR65							
Effective width [mm]	1000, 1100							
Overall width [mm]	1020, 1120							
Panel length [mm]	2000-18000							
Core thickness [mm]	40	50	60	80	100	110	120	130
Panel weight* [kg/m²]	10,30	10,60	11,10	11,79	12,60	12,90	13,20	13,50
Insulating efficiency, U _c [W/m²K]	0,59	0,45	0,36	0,27	0,22	0,20	0,19	0,17
Fire resistance	NPD				EI20/EW30			
Roof external fire performance	NSF (not spreading fire)							
Reaction to fire	B-s1;d0							

* Mass is specified for an 1100 mm effective width

Panel length		Coating								
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc	Stainless steel
2000	16500*	outer	0,50 / 0,60 / 0,70	L / M / G / 1L / 2L	x	x	x	x	x	x
		inner	0,40 / 0,50 / 0,60 / 0,70	L / G	x	x	x	x	x	x

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Outer cladding

Inner cladding



Micro-profile (M)

Outer cladding



Plain (G) – available for a cladding thickness of 0.50 mm or higher

Outer cladding

Inner cladding



Clearline (1L) – available for a cladding thickness from 0,60 mm

Outer cladding

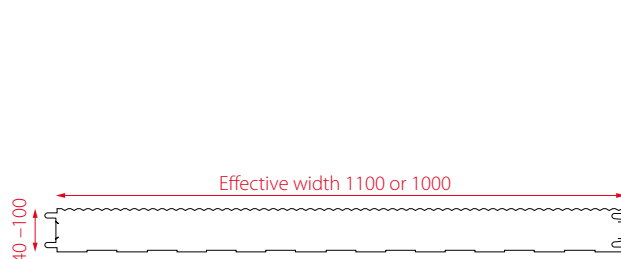


Clearline (2L) – available for a cladding thickness from 0,60 mm

Outer cladding



* for a cladding thickness of 0.5mm, please ask your traders for additional information



Exposed fastener







SLATE PANEL

NEW!

2.

SANDWICH
PANELS

Slate panel is a sandwich panel with a unique purpose, decorative. It retains all the features of the board with a core of hard polyurethane foam – great insulating material to be used as a facade on various types of construction. Slate, just like the others sandwich panels, can be attached to the grate steel, wood, aluminum and directly to a traditional brick wall.

In addition, the panel has been designed in such a way that it works equally well up on a sloping roof. Thanks to this, slate allows for the construction of buildings with unique, modern aesthetics. Covered roof – without eaves – and walls create a minimalist shape with a designer character.

The slate is available in 2 thicknesses, 60 and 120 mm, which allows for very good thermal insulation parameters. And its color – granite matte – will emphasize aesthetic qualities of the building.

The slate panel is characterized by:

- Unique, decorative character while maintaining very good insulating parameters
- Can be mounted both on walls and on a sloping roof.
- Concealed mounting that allows for a great visual effect.
- The horizontal assembly of the panel makes the installation works very much fast.
- Available lengths will meet the requirements of everyone, even several stories building.

TECHNICAL PARAMETERS

Specifications

Designation	Slate panel for wall and roof sandwich panel with polyurethane (PIR) core and concealed fasteners	
Core	Rigid polyurethane foam: PIR / density: 40 (± 5) kg/m³	
Cladding thickness [mm]	0,50 (outer) / 0,4 (inner)	
Steel grade	S280GD	
Coatings	7591 MAT, 9002	
Effective width [mm]	1000	
Overall width [mm]	1072	
Panel length [mm]	3000-10000	
Core thickness [mm]	60	120
Panel weight [kg/m²]	12,19	14,59
Insulating efficiency, U _c [W/m²K]	0,41	0,18
Fire resistance	-	
Roof external fire performance	no research	
Reaction to fire	B-s2;d0	
Minimalny spadek dachu	25° (47%)	

Panel length*				
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Coating
3000	10000	outer	0,50	Grandem RAL 7591M
		inner	0,50	9002

* The lengths are constant every meter, from 3000, 4000, (...), 10000 [mm]

Available cladding profile types:

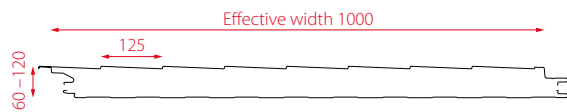
Lined (L)

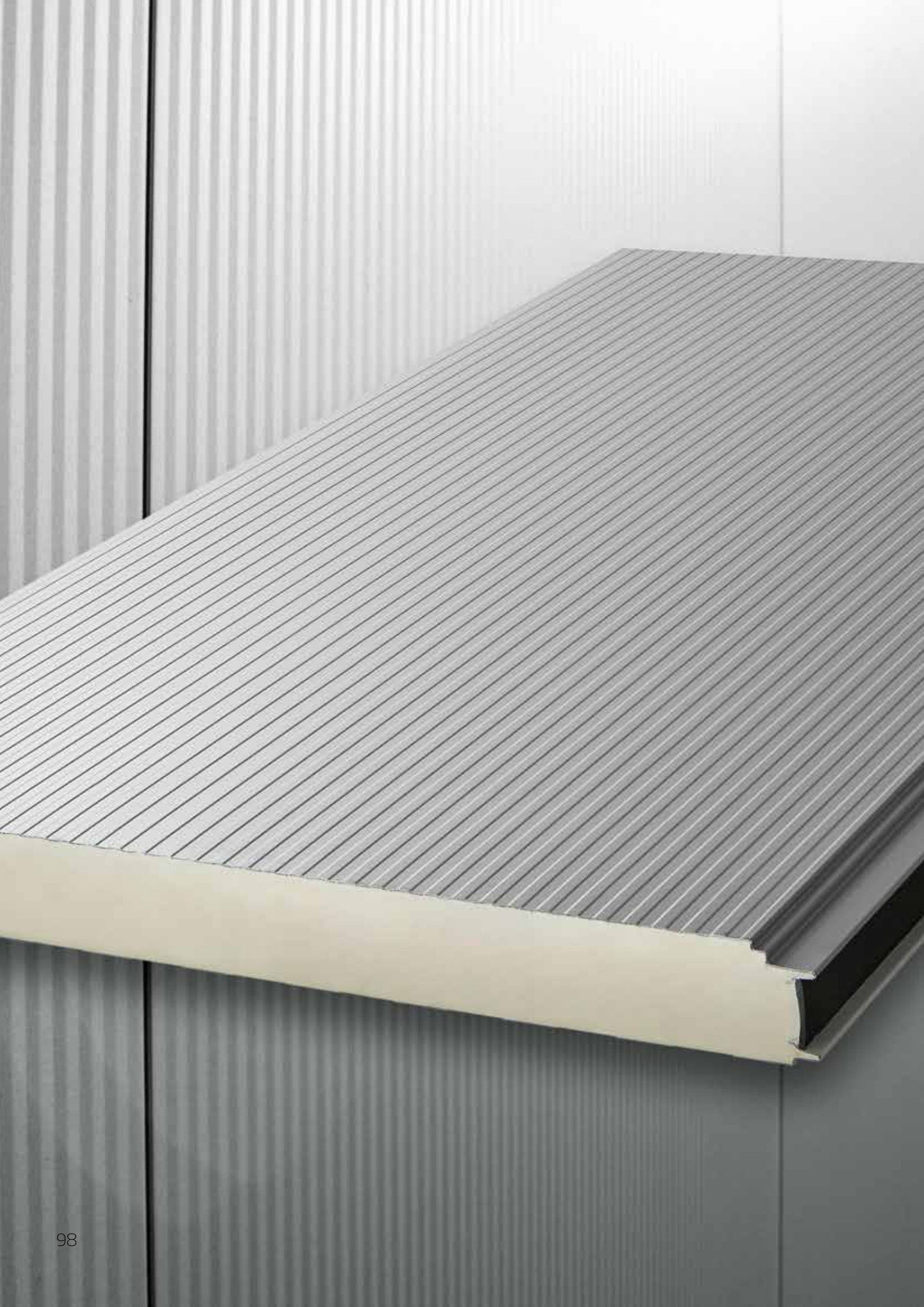
Inner cladding




Outer cladding

Slate panel







PIR PLUS WALL SANDWICH PANEL

2.

SANDWICH
PANELS

The rigid polyurethane foam core provides excellent thermal insulation for buildings. This comes from an excellent thermal conductivity coefficient, $\lambda=0,022$, unparalleled by any mineral wool or EPS sandwich panel. The concealed fasteners mean just that: the joints between the panels are hidden from sight, which improves the aesthetic value of the project.

An aesthetic façade finish

The concealed structural joints gives the outer surface of the panels a sophisticated look, especially when the sandwich panels are installed parallel in a vertical orientation. The wide selection of texture profiles for the outer cladding provides great freedom in the design of a truly unique appearance.

Easy installation

The carefully-designed joint lock profile, lengthwise groove, and tapered inner contact edges aid in the rapid laying of the panels.

TECHNICAL PARAMETERS

Specifications

Designation	PIR PLUS wall sandwich panel with polyurethane (PIR) core and concealed fasteners			
Core	Rigid polyurethane foam, PIR / density: 40 (± 3) kg/m³			
Cladding thickness [mm]	0,40-0,70			
Steel grade	S250GD, stainless steel (1.4301)			
Coatings	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, CESAR 55 µm, CESAR65			
Panel length [mm]	2000-18000*			
Effective width [mm]	1000, 1050			
Overall width [mm]	1050, 1100			
Core thickness [mm]	60	80	100	120
Mass [kg/m²]	11,41	12,11	12,91	13,81
Insulating efficiency, U _c [W/m²K]	0,39	0,28	0,22	0,19
Fire resistance	–	EI15		
External fire performance	NSF (not spreading fire)			
Reaction to fire	B-s2.d0			

* Longer width options available on request

PU-W-PLUS 1000

Panel length		Coating							
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc Stainless steel
2000	18000	outer	0,50 / 0,60 / 0,70	S / L / M / G / 1L / 2L	x	x	x	x	
		inner	0,40 / 0,50 / 0,60 / 0,70	L / G	x	x	x	x	x

* Clearline profiling is available for panels with a core thickness of 60-100mm

PU-W-PLUS 1050

Panel length		Coating							
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc Stainless steel
2000	18000	outer	0,50 / 0,60 / 0,70	R / M / G / 1L / 2L	x	x	x	x	
		inner	0,40 / 0,50 / 0,60 / 0,70	L / G	x	x	x	x	x

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Outer cladding (1000 module)

Inner cladding



Softline (S)

Outer cladding



Micro-profile (M)

Outer cladding



Plain (G) – available for a cladding thickness of 0,50 mm or higher

Outer cladding

Inner cladding



Grooved (R)

Outer cladding (1050 module)



Clearline (1L) – available for a cladding thickness from 0,60 mm

Outer cladding

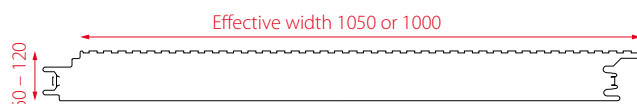


Clearline (2L) – available for a cladding thickness from 0,60 mm

Outer cladding



* for panels with a thickness of 60-100mm; for a cladding thickness of 0.5mm, please ask your traders for additional information



Exposed fastener





PIR LIGHT WALL SANDWICH PANEL

2.

SANDWICH
PANELS

Sandwich panel with a hard polyurethane core in the lining coated steel. It guarantees thermal stability (aging λ at the level of 0,022 W / mK) for thinner ones the dimensions of the panels. Lock of "cooling" type used makes the plates maintain the highest tightness and thermal insulation continuity. The PIR Light wall panel is capillary and practically inactive non-absorbent. It's a great option for those who do they need a wall sandwich panel, with leaving all its advantages as an external cladding, in an economic form. Its great advantage is lightness – comparable to panels with polystyrene core. At the same time, PIR Light provides better thermal conductivity at using a thinner version of the board (60 instead of 100 mm).

PIR Light wall sandwich panels are characterized by:

- stability of thermal parameters – aging λ 0,022 W/mK
- high resistance to soaking
- lightweight panels – an excellent alternative to boards with a polystyrene core
- resistance to fungi and mold growth
- a very difficult barrier for rodents
- economical solution while maintaining the most important functions

TECHNICAL PARAMETERS

Specifications

Designation	PIR Light wall sandwich			
Core	Rigid polyurethane foam, PIR / density: 40 (\pm 3) kg/m ³			
Cladding thickness [mm]	0,40			
Steel grade	S250GD			
Coatings	SP Polyester 25 μ m, SP Polyester 15 μ m			
Panel length [mm]	2500-16500			
Effective width [mm]	1150			
Overall width [mm]	1170			
Core thickness [mm]	50	60	80	100
Mass [kg/m ²]	9,8	10,3	11,0	11,8
Insulating efficiency, U _c [W/m ² K]	0,48	0,37	0,28	0,22
Fire resistance	during research			
External fire performance	NSF (not spreading fire)			
Reaction to fire	during research			

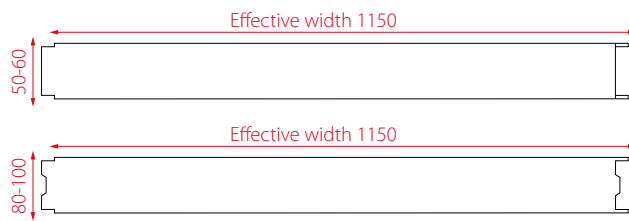
Panel length		Coating							
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc Stainless steel
2500	16500	outer	0,40	L	x				
		inner	0,40	L	x				

Available cladding profile types:

Lined (L)

Outer cladding

Inner cladding



2.

SANDWICH
PANELS





PIR COLD STORAGE SANDWICH PANEL

2.

SANDWICH
PANELS

The superior thermal insulation for reefers, cold stores and freezers. The rigid polyurethane foam core provides excellent thermal insulation for buildings. This comes from the excellent thermal conductivity coefficient, $\lambda=0,022$.

High fire integrity

Provided by the unique profiling of the edge panel contact faces and join on both sides with extremely high performance of the PIR core.

A perfect panel joint

The milled core contact face removes cold bridges at the joints to provide maximum thermal insulating performance in wall partition and ceiling lining applications.

Easy installation

The carefully-designed joint lock profile and tapered inner contact edges aid in the rapid laying of the panels.

TECHNICAL PARAMETERS

Specifications

Designation	PIR cold storage sandwich panel with polyurethane core			
Core	Rigid polyurethane foam, PIR / density: 40 (± 3) kg/m ³			
Cladding thickness [mm]	0,50 (available on request: 0,40 / 0,60 / 0,70)			
Steel grade	S250GD, stainless steel (1.4301)			
Coatings	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, CESAR 55 µm, CESAR65			
Panel length [mm]	2000-18000*			
Effective width [mm]	1000, 1100			
Overall width [mm]	1020, 1120			
Core thickness [mm]	120	160	180	200
Mass [kg/m²]	13,37	15,00	15,82	16,80
Insulating efficiency, U_c [W/m²K]	0,18	0,14	0,12	0,11
Fire resistance	EI30/EW90			EI60/EW60
External fire performance	NSF (not spreading fire)			
Reaction to fire	B-s1;d0			

* Longer panels available on request.

** Mass is specified for an 1100 mm effective width.

Panel length		Coating								
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc	Stainless steel
2000	16500*	outer	0,50 / 0,60 / 0,70	L / M / G / 1L / 2L	x	x	x	x	x	x
		inner	0,40 / 0,50 / 0,60 / 0,70	L / G	x	x	x	x	x	x

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Outer cladding

Inner cladding



Micro-profile (M)

Outer cladding



Plain (G)

Outer cladding

Inner cladding (min. thk. 0,50)



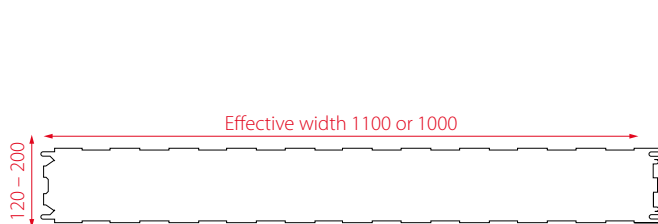
Clearline (1L) – available for a cladding thickness from 0,50 mm

Outer cladding



Clearline (2L) – available for a cladding thickness from 0,50 mm

Outer cladding




Exposed fastener



2.

SANDWICH
PANELS





MW STANDARD WALL SANDWICH PANEL

Sandwich panels with a mineral wool core are non-flammable. They can be used in projects which require above-standard fire protection ratings.

Highest fire resistance

The BALEXOTHERM MW-W-ST wall sandwich panels exceed the minimum resistance to fire specifications imposed by applicable Technical Requirements at EI240. These products meet the fire resistance criteria (in classes A to E) for all building types.

Easy installation

The carefully-designed joint lock profile and tapered inner contact edges aid in the rapid laying of the panels. .

TECHNICAL PARAMETERS

Specifications

Designation	MW Standard wall sandwich panel with mineral wool core and exposed fasteners						
Core	Rigid mineral wool (nominal apparent density: 110 kg/m³)						
Cladding thickness [mm]	0,50 / 0,60 / 0,70						
Steel grade	S250GD, stainless steel (1.4301)						
Coatings	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, CESAR 55 µm, CESAR65						
Effective width [mm]	1000, 1100						
Overall width [mm]	1020, 1120						
Panel length [mm]	2500-15000						
Core thickness [mm]	80	100	120	150	175	200	240
Panel weight* [kg/m²]	17,6	19,8	22,0	25,3	28,1	30,8	35,2
Insulating efficiency, U _c [W/m²K]	0,47	0,38	0,32	0,26	0,23	0,19	0,17
Fire resistance	–	EI 120		EI 240			
Roof external fire performance	NSF (not spreading fire)						
Reaction to fire	A2-s1.d0						

* Mass is specified for an 1100 mm effective width.

Panel length		Coating								
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc	Stainless steel
2500	10000 (thk. 80)	outer	0,50 / 0,60 / 0,70	M / L / R / G / 1L / 2L	x	x	x	x	x	x
	12000 (thk. 100) 15000 (other panels)	inner	0,50 / 0,60 / 0,70	L / G	x	x	x	x	x	x

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Outer cladding

Inner cladding



Micro-profile (M)

Outer cladding



Grooved (R)

Outer cladding



Plain (G)

Outer cladding

Inner cladding



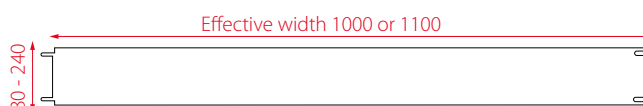
Clearline (1L) – available for a cladding thickness from 0,50 mm

Outer cladding

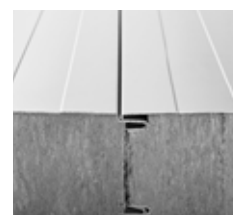


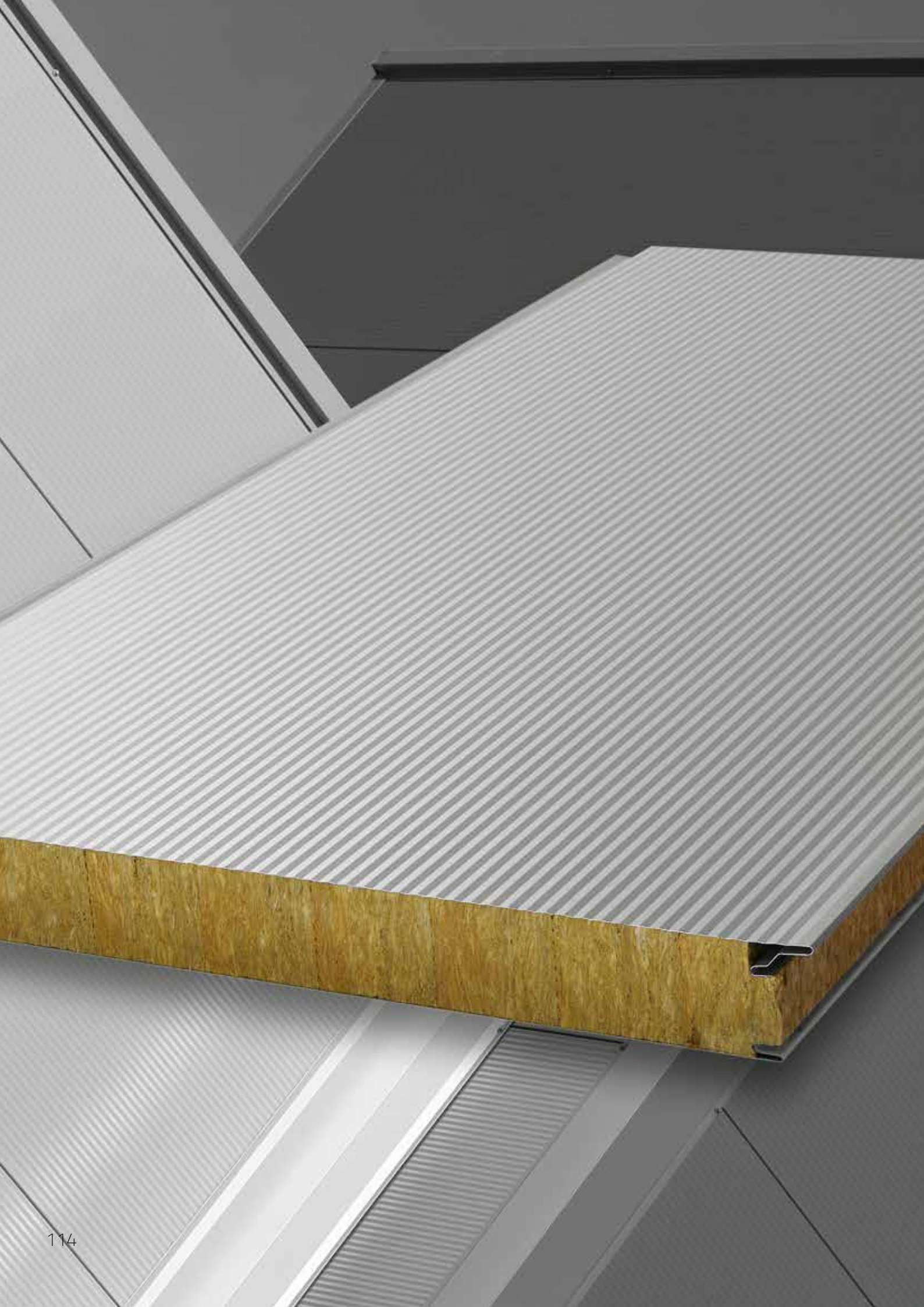
Clearline (2L) – available for a cladding thickness from 0,50 mm

Outer cladding



Exposed fastener







MW PLUS WALL SANDWICH PANEL

2.

SANDWICH
PANELS

Sandwich panels with a mineral wool core are non-flammable. They can be used in projects which require above-standard fire protection ratings. The concealed fasteners (screws) mean just that: the joints between the panels are hidden from sight, which improves the aesthetic value of the project.

Durability

The Balex Metal sandwich panels are preserved with strong anti-corrosive coating systems, to ensure extremely durable partition materials able to withstand a wide range of weather conditions.

Easy installation

The carefully-designed joint lock profile and tapered inner contact edges aid in the rapid laying of the panels.

TECHNICAL PARAMETERS

Specifications

Designation	MW PLUS wall sandwich panel with mineral wool core and concealed fasteners					
Core	Rigid mineral wool (nominal apparent density: 110 kg/m ³)					
Cladding thickness [mm]	0,50 / 0,60 / 0,70					
Steel grade	S250GD, stainless steel (1.4301)					
Coatings	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, CESAR 55 µm, CESAR65					
Effective width [mm]	2500-15000					
Overall width [mm]	1000					
Panel length [mm]	1050					
Core thickness [mm]	80	100	120	150	175	200
Panel weight* [kg/m²]	17,6	19,8	22,0	25,3	28,1	30,8
Insulating efficiency, U_c [W/m²K]	0,48	0,38	0,32	0,26	0,23	0,2
Fire resistance	–	El30/EW60	El60			
Roof external fire performance	NSF (not spreading fire)					
Reaction to fire	A2-s2,d0					

MW-W-PLUS 1000

Panel length		Coating							
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc Stainless steel
2500	10000 (gr. 80) 12000 (gr. 100) 15000 (pozostałe gr.)	outer	0,50 / 0,60 / 0,70	M / L / G / 1L / 2L	x	x	x	x	
		inner	0,50 / 0,60 / 0,70	L / G	x	x	x	x	

MW-W-PLUS 1050

Panel length		Coating							
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc Stainless steel
2500	10000 (thk. 80) 12000 (thk. 100) 15000 (other thk. values)	outer	0,50 / 0,60 / 0,70	M / L / R / G / 1L / 2L	x	x	x	x	
		inner	0,50 / 0,60 / 0,70	L / G	x	x	x	x	x

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Outer cladding
Inner cladding



Micro-profile (M)

Outer cladding



Grooved (R)

Outer cladding



Plain (G)

Outer cladding
Inner cladding



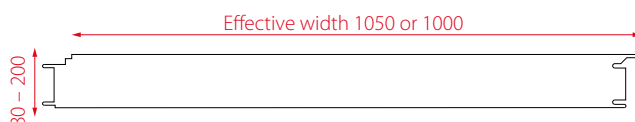
Clearline (1L) – available for a cladding thickness from 0,50 mm

Outer cladding



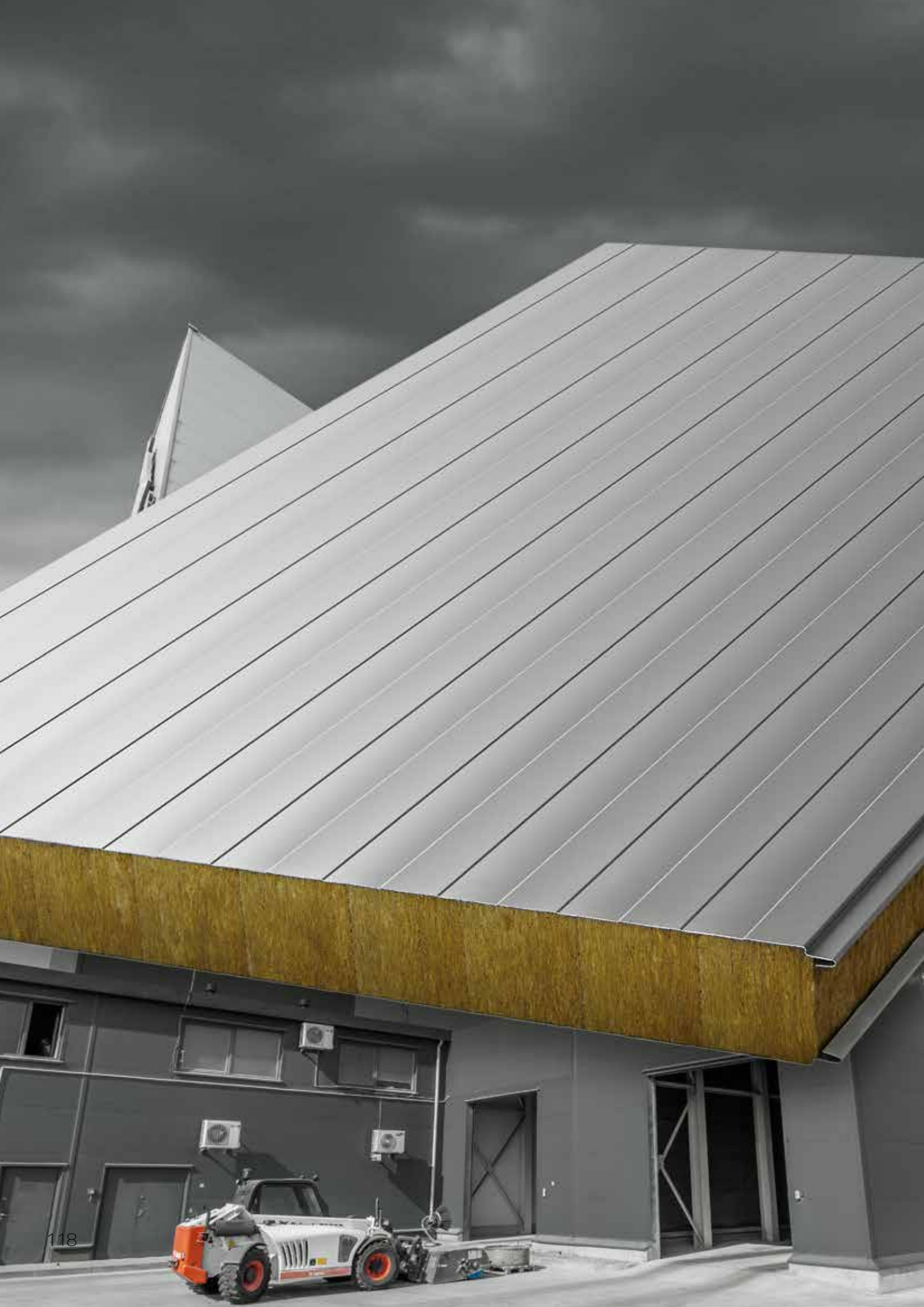
Clearline (2L) – available for a cladding thickness from 0,50 mm

Outer cladding



Concealed fasteners







MW LIGHT WALL SANDWICH PANEL

Sandwich panels with a mineral wool core are non-flammable. They can be used in projects which require above-standard fire protection ratings. The “Light” in the designation means the panel core density is lower, which comes with a better price.

2.

SANDWICH
PANELS

TECHNICAL PARAMETERS

Specifications

Designation	MW Light budget wall sandwich panel with mineral wool core and exposed fasteners						
Core	Mineral wool (nominal apparent density: 90 kg/m³)						
Cladding thickness [mm]	0,50 / 0,60 / 0,70						
Steel grade	S250GD						
Coatings	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, CESAR 55 µm, CESAR65						
Effective width [mm]	2500-15000						
Overall width [mm]	1000, 1100						
Panel length [mm]	1020, 1120						
Core thickness [mm]	80	100	120	150	175	200	240
Panel weight* [kg/m²]	16,0	17,8	19,6	22,3	24,6	26,8	30,4
Insulating efficiency, U _c [W/m²K]	0,47	0,38	0,32	0,26	0,23	0,19	0,17
Fire resistance	–	EI90/EW120		EI180		EI240	
Roof external fire performance	NSF (not spreading fire)						
Reaction to fire	–	A2-s1.d0					

* Mass is specified for an 1100 mm effective width.

Panel length		Coating								
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc	Stainless steel
2500	15000	outer	0,50 / 0,60 / 0,70	M / L / R / G / C / 2L	x	x	x	x	x	x
		inner	0,50 / 0,60 / 0,70	L / G	x	x	x	x	x	x

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Outer cladding
Inner cladding



Micro-profile (M)

Outer cladding



Grooved (R)

Outer cladding



Plain (G)

Outer cladding
Inner cladding



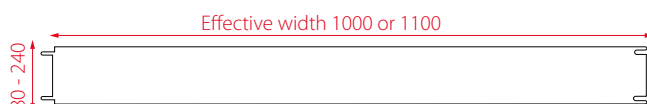
Clearline (1L) – available for a cladding thickness 0,60 mm

Outer cladding



Clearline (2L) – available for a cladding thickness from 0,50 mm

Outer cladding



Exposed fastener



2.

SANDWICH
PANELS





MW DEFENDER WALL SANDWICH PANEL

Sandwich panels with a mineral wool core are non-flammable. They can be used in projects which require above-standard fire protection ratings. The thicker core makes the sandwich panels compliant with the anti-burglary partition classification established in SSF1047 (Security Class 2).

2.

SANDWICH
PANELS

TECHNICAL PARAMETERS

Specifications

Designation	MW DEFENDER anti-burglary wall sandwich panel with mineral wool core and exposed fasteners	
Core	Rigid mineral wool (nominal apparent density: 150 kg/m³)	
Cladding thickness [mm]	0,60 / 0,70	
Steel grade	S250GD	
Coatings	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, stainless steel, CESAR 55 semi-mat, CESAR65 mat	
Effective width [mm]	1000, 1100	
Overall width [mm]	1120	
Panel length [mm]	2500-15000	
Core thickness [mm]	200	240
Panel weight [kg/m²]	41,3	46,1
Insulating efficiency, U_c [W/m²K]	0,19	0,17
Fire resistance	EI240	
Roof external fire performance	NSF (not spreading fire)	
Reaction to fire	A2-s1.d0	

Panel length		Coating								
min. [mm]	max. [mm]	Panel side	Cladding thickness [mm]	Profiling	SP Polyester	SP Polyester Mat Pearl	CESAR PUR	PVC(F)	Aluzinc	Stainless steel
2500	15000	outer	0,60 / 0,70	M / L / R / G / C / 2L	x				x	
		inner	0,60 / 0,70	L / G	x				x	

* See the dedicated colour palette at the back of the catalogue.

** See dedicated flashing, see p. 126

Available cladding profile types:

Lined (L)

Outer cladding

Inner cladding



Micro-profile (M)

Outer cladding



Grooved (R)

Outer cladding



Plain (G)

Outer cladding

Inner cladding



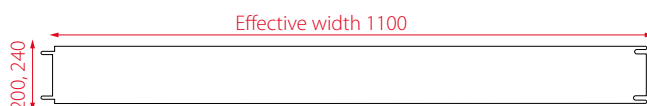
Clearline (1L) – available for a cladding thickness 0,60 mm

Outer cladding

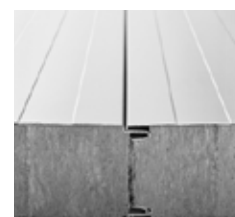


Clearline (2L) – available for a cladding thickness from 0,60 mm

Outer cladding



Exposed fastener



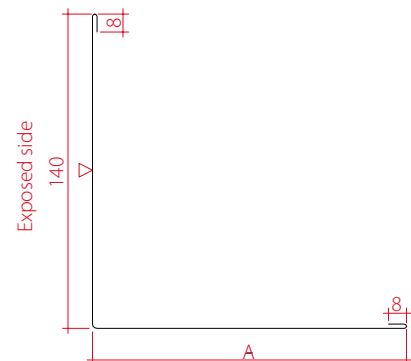
2.

SANDWICH
PANELS

UNIVERSAL FLASHING FOR SANDWICH PANELS

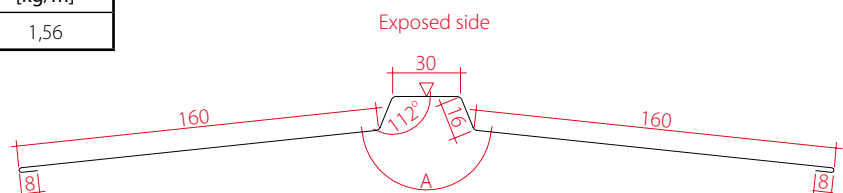
OBR 05 – External straight corner

Designation	A [mm]	Developed length [mm]	Weight/ lin.m. [kg/m]
OBR 05	140	296	1,16
OBR 05/125	165	321	1,26
OBR 05/150	190	346	1,36
OBR 05/175	215	371	1,46
OBR 05/200	240	396	1,56



OBR 52 – Profiled external roof ridge – ridge tile

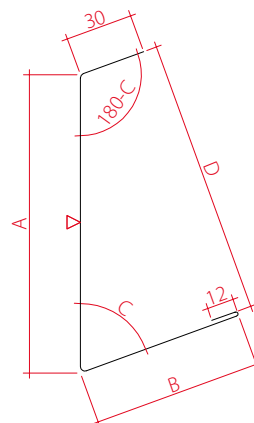
Designation	Developed length [mm]	Weight/ lin.m. [kg/m]
OBR 52	398	1,56



Angle A depends on the roof slope

OBR 57 – Eave masking frame – option I

Designation	D [mm]	Weight/ lin.m. [kg/m]
OBR 57/40	40	0,28
OBR 57/60	60	0,41
OBR 57/75	75	0,52
OBR 57/80	80	0,55
OBR 57/100	100	0,69
OBR 57/120	120	0,83
OBR 57/125	125	0,86
OBR 57/150	150	1,04
OBR 57/160	160	1,10
OBR 57/175	175	1,21
OBR 57/200	200	1,38



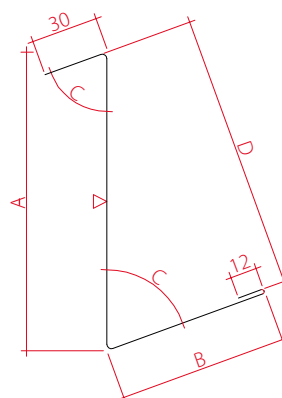
Angle C, dimension B and dimension A depend on the roof slope.
The 0,88 mm thickness is available in RAL 9010.

2.

SANDWICH
PANELS

OBR 62 – Eave masking frame – BALEX option

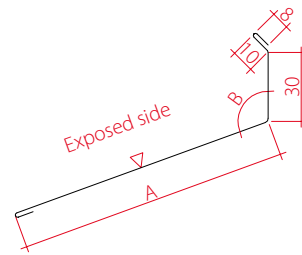
Designation	D [mm]	Weight/ lin.m. [kg/m]
OBR 62/40	40	0,28
OBR 62/60	60	0,41
OBR 62/75	75	0,52
OBR 62/80	80	0,55
OBR 62/100	100	0,69
OBR 62/120	120	0,83
OBR 62/125	125	0,86
OBR 62/150	150	1,04
OBR 62/160	160	1,10
OBR 62/175	175	1,21
OBR 62/200	200	1,38



Angle C, dimension B and dimension A depend on the roof slope.
The 0,88 mm thickness is available in RAL 9010.

OBR 74 – Wall-roof contact area masking frame – bent back

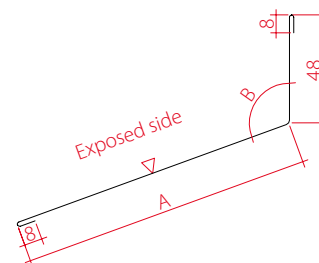
Designation
OBR 74



Angle B and dimension A depend on the roof slope

OBR 76 – Wall-roof contact area masking frame – straight

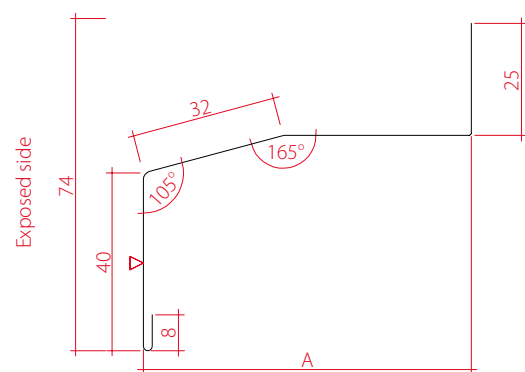
Designation
OBR 76



Angle B and dimension A depend on the roof slope

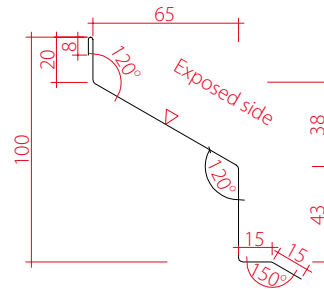
OBR 100 – Standard drip cap

Designation	A [mm]	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 100/40	53	127	0,50
OBR 100/50	63	137	0,54
OBR 100/60	73	147	0,58
OBR 100/75	88	162	0,64
OBR 100/80	93	167	0,65
OBR 100/100	113	187	0,73
OBR 100/120	133	207	0,81
OBR 100/125	138	212	0,83
OBR 100/130	143	217	0,85
OBR 100/140	153	227	0,89
OBR 100/150	163	237	0,93
OBR 100/160	173	247	0,97
OBR 100/175	188	262	1,03
OBR 100/180	193	267	1,05
OBR 100/200	213	287	1,13
OBR 100/230	243	317	1,24



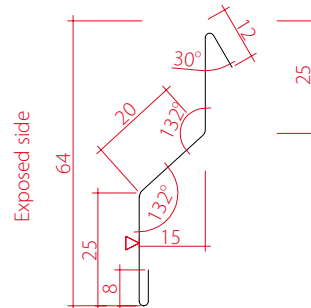
OBR 101 – Internal masking frame

Designation	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 101	176	0,69



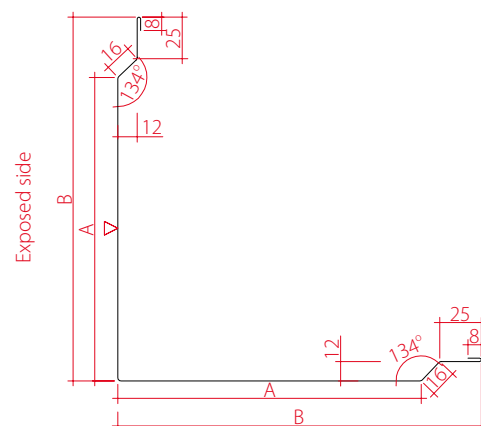
OBR 102 – Tongue and groove drip cap

Designation	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 102	90	0,35



OBR 103 – External corner with a hidden joint

Designation	A [mm]	B [mm]	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 103/40	120	156	338	1,33
OBR 103/50	130	166	358	1,40
OBR 103/60	140	176	378	1,48
OBR 103/75	155	191	408	1,60
OBR 103/80	160	196	418	1,64
OBR 103/100	180	216	458	1,80
OBR 103/120	200	236	498	1,95
OBR 103/125	205	241	508	1,99
OBR 103/130	210	246	518	2,03
OBR 103/140	220	256	538	2,11
OBR 103/150	230	266	558	2,19
OBR 103/160	240	276	578	2,27
OBR 103/175	255	291	608	2,39
OBR 103/180	260	296	618	2,43
OBR 103/200	280	323	658	2,58
OBR 103/230	310	346	718	2,82



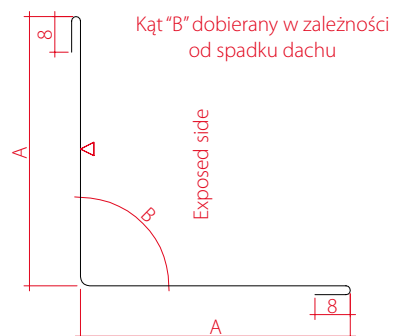
OBR 104 – Internal strip

Designation	A [mm]	Developed length [mm]	Weight/ lin.m. [kg/m]
OBR 104/1	40	96	0,38
OBR 104/2	70	156	0,61

Uwaga:

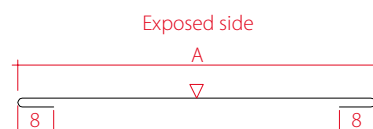
OBR 104/1 dla narożnika rozwartego stosowana do kąta od 0° do 6°

OBR 104/2 dla narożnika rozwartego stosowana do kąta od 0° do 22°



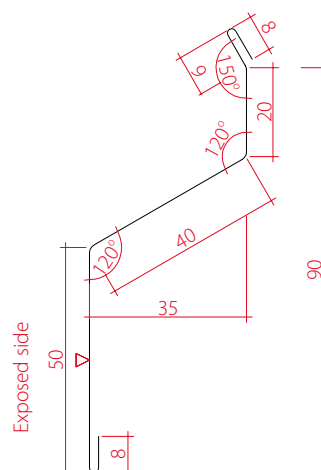
OBR 106 – Masking strip

Designation	A [mm]	Developed length [mm]	Weight/ lin.m. [kg/m]
OBR 106/1	60	76	0,30
OBR 106/2	80	96	0,38



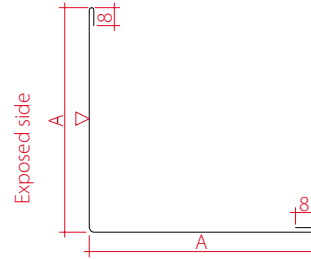
OBR 107 – Over-window drip cap

Designation	Developed length [mm]	Weight/ lin.m. [kg/m]
OBR 107	135	0,53



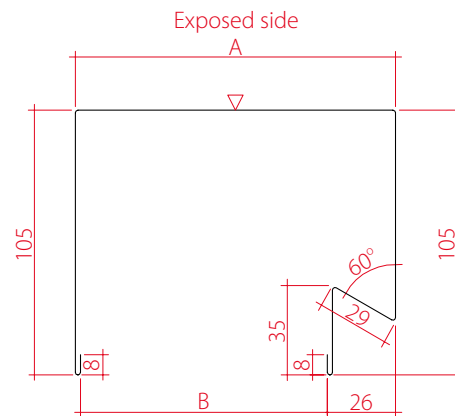
OBR 109 – External even-armed straight corner

Designation	A [mm]	Developed length [mm]	Weight/ lin.m. [kg/m]
OBR 109/1	80	176	0,69
OBR 109/2	100	216	0,85



OBR 112 – Attic eaves

Designation	A [mm]	B [mm]	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 112/40	67	40	336	1,32
OBR 112/50	77	50	346	1,36
OBR 112/60	87	60	356	1,40
OBR 112/75	102	75	371	1,46
OBR 112/80	107	80	376	1,48
OBR 112/100	127	100	396	1,55
OBR 112/120	147	120	416	1,63
OBR 112/125	152	125	421	1,65
OBR 112/130	157	130	426	1,67
OBR 112/140	167	140	436	1,71
OBR 112/150	177	150	446	1,75
OBR 112/160	187	160	456	1,79
OBR 112/175	202	175	471	1,85
OBR 112/180	207	180	476	1,87
OBR 112/200	227	200	496	1,95
OBR 112/230	257	230	526	2,06

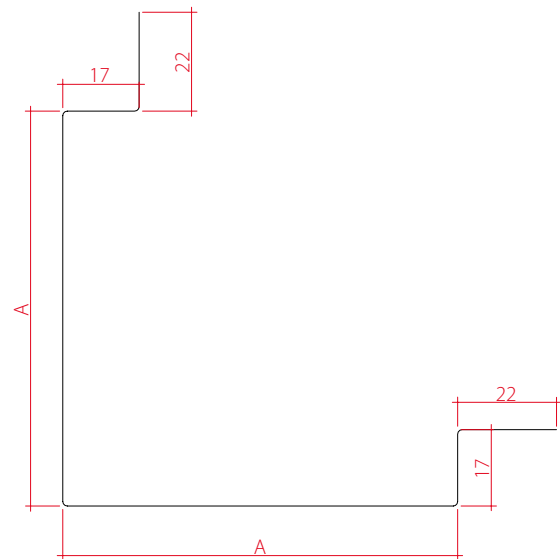


2.

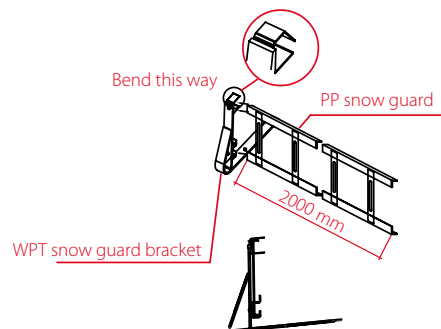
SANDWICH
PANELS

OBR 113 – External compound corner

Designation	A [mm]	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 113/40	88	254	1,00
OBR 113/50	98	274	1,07
OBR 113/60	108	294	1,15
OBR 113/75	123	324	1,27
OBR 113/80	128	334	1,31
OBR 113/100	148	374	1,47
OBR 113/120	168	414	1,62
OBR 113/125	173	424	1,66
OBR 113/130	178	434	1,70
OBR 113/140	188	454	1,78
OBR 113/150	198	474	1,86
OBR 113/160	208	494	1,94
OBR 113/175	223	524	2,06
OBR 113/180	228	534	2,10
OBR 113/200	248	574	2,25
OBR 113/230	278	634	2,49

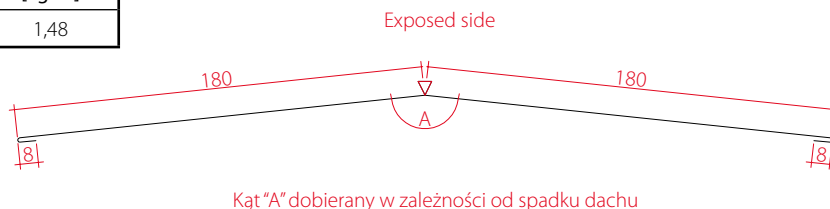


Snow guard kit (PP)



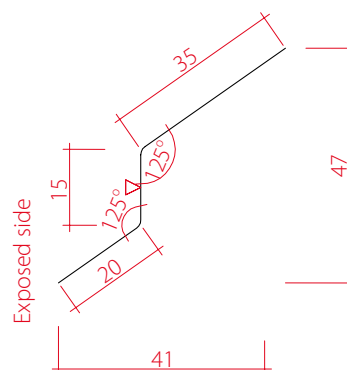
OBR 205 – Flat external roof ridge – ridge tile

Designation	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 205	376	1,48



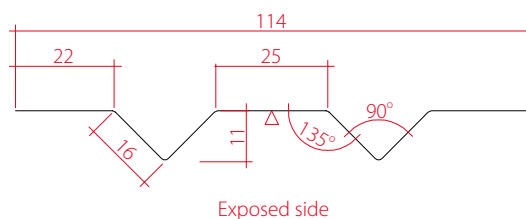
OBR 108 – Over-window drip cap with lock seal

Designation	Długość [mm]	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 108	100	70	0,27



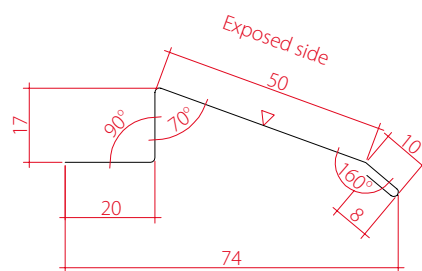
OBR 110 – Contact area masking ground beam

Designation	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 110	133	0,52



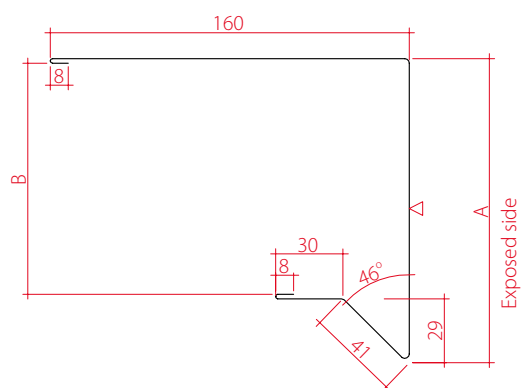
OBR 111 – BALEX THERM contact area masking frame – decorative element

Designation	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 111	105	0,41



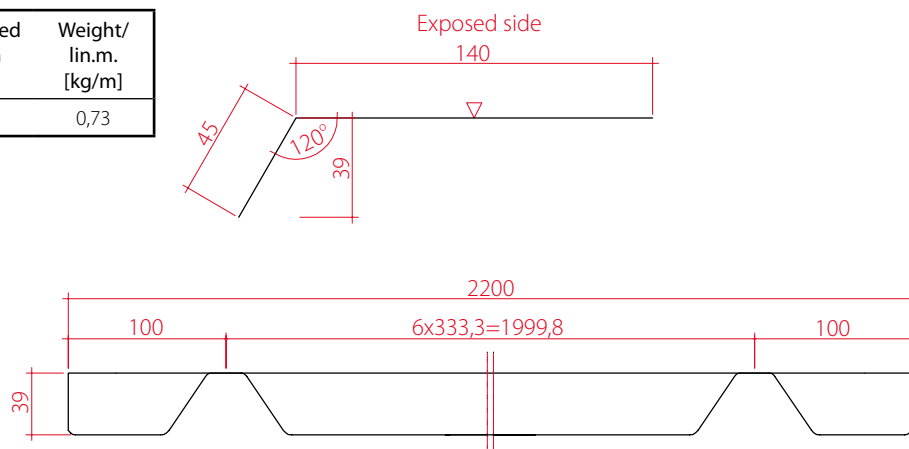
OBR 200 – Roof ridge masking frame

Designation	A [mm]	B [mm]	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 200/40	116	85	363	1,42
OBR 200/60	136	105	383	1,5
OBR 200/80	156	125	403	1,58
OBR 200/100	176	145	423	1,66
OBR 200/120	196	165	443	1,74
OBR 200/150	226	195	493	1,93
OBR 200/160	236	205	553	2,17



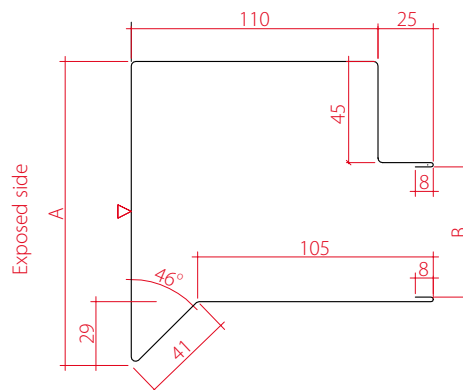
OBR 201 – Roof ridge strip

Designation	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 201	185	0,73



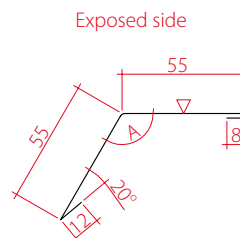
OBR 202 – Wind brace

Designation	A [mm]	B [mm]	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 202/40	116	40	458	1,8
OBR 202/60	136	60	478	1,88
OBR 202/80	156	80	498	1,96
OBR 202/100	176	100	518	2,03
OBR 202/120	196	120	538	2,11
OBR 202/150	226	150	568	2,23
OBR 202/160	236	160	578	2,27



OBR 203 – Over-gutter drip cap

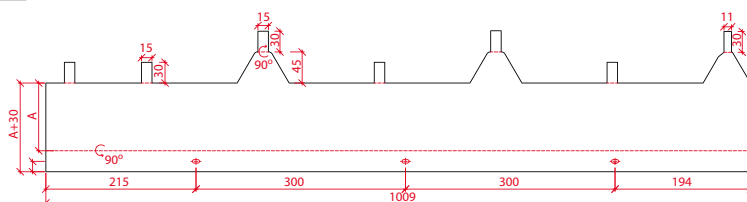
Designation	Developed length [mm]	Weight/lin.m. [kg/m]
OBR 203	130	0,51



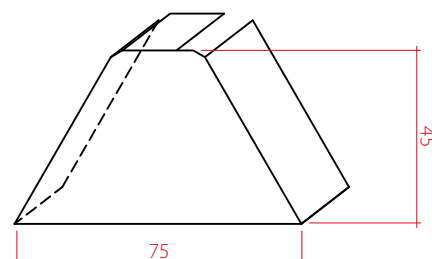
Kąt "A" dobierany w zależności od spadku dachu

OBR 206 – Closure flashing

Designation	A [mm]	Ciężar 1mb [kg/m]
OBR 206/40	38	0,31
OBR 206/60	58	0,39
OBR 206/80	78	0,46
OBR 206/100	98	0,54
OBR 206/120	118	0,62



OBR 207 – Roof sandwich panel cap

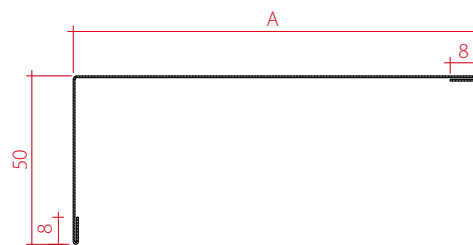


OBR 301 – External corner

$t \geq 0,50$ mm

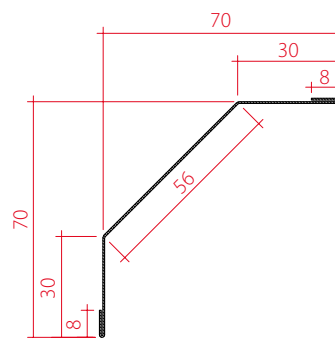
Designation	A [mm]	Developed length [mm]	Ciężar 1mb* [kg/m]
OBR 301/120	120	186	0,73
OBR 301/160	140	206	0,81
OBR 301/180	150	216	0,85
OBR 301/200	160	226	0,89

* Mass is specified for 0,50 mm thick sheet metal



OBR 302 – Slant internal corner

Designation	Developed length [mm]	Ciężar 1mb [kg/m]
OBR 302	132	0,52

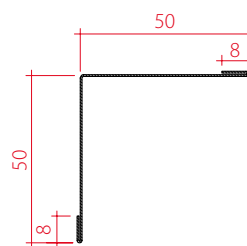


OBR 303 – Straight internal corner for cold storage sandwich panels

$t \geq 0,50$ mm

Designation	Developed length [mm]	Ciężar 1mb* [kg/m]
OBR 303	116	0,45

* Mass is specified for 0,50 mm thick sheet metal



2.

SANDWICH
PANELS

3.

BOX PROFILE SHEETS

141 Structural box profile sheet

145 Curtain box profile sheets for roofs and walls

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STRUCTURAL BOX PROFILE SHEETS

HIGH LOAD

CAPACITY AND RIGIDITY

3.

BOX PROFILE
SHEETS

A universal and light-weight roofing material must feature superior strength. The box profile sheet provides just that, while a wide selection of box profile types helps you choose the right solution for the load bearing capacity of your project.

High load capacity and rigidity of profiles

The optimized profile of the box profile sheets achieves excellent load bearing capacity ratings in single and multi-span applications.

Low weight

Structural box profile sheets are a budget solution for covering small and large surface areas. Given the low weight per unit area of box profile sheets, they do not require costly bracing of the roof structure.

Fast installation

The low weight and the simple laying arrangement system of the box profile sheets minimise the installation time.

Durability

Balex Metal box profile sheets are made of high-quality steel grades, and once installed perform well for decades.

TECHNICAL PARAMETERS

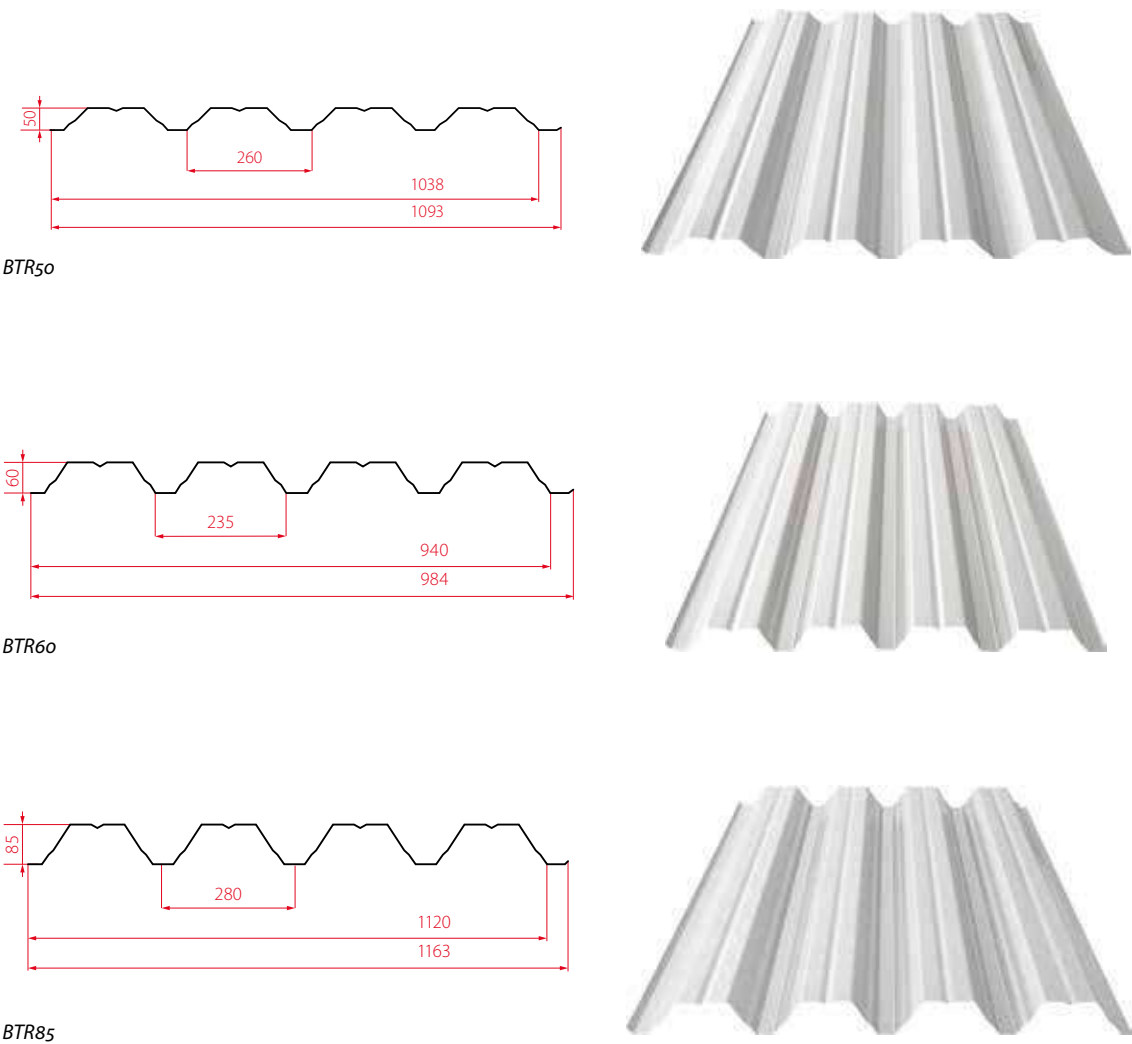
Specifications

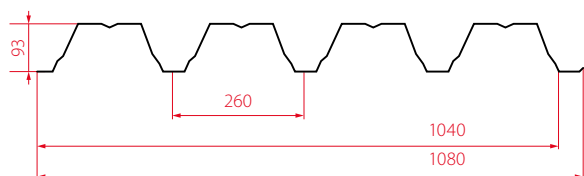
Designation	BTR structural box profile sheet
Steel grade	S320GD
Sheet thickness [mm]	0.75 / 0.88 / 1.00 / 1.25 / 1.50*
Coating	SP Polyester 15 µm (underside)
Max. sheet length [mm]	15000

* Applies to the BTR153 and BTR160 box profile sheet

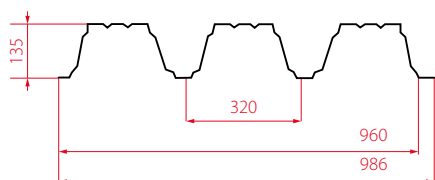
Technical drawing

Structural box profile sheets

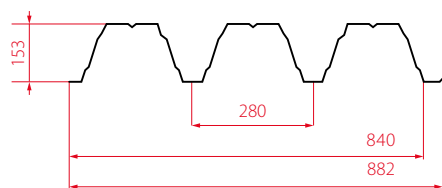




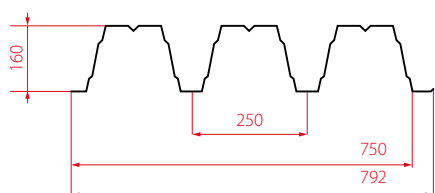
BTR93



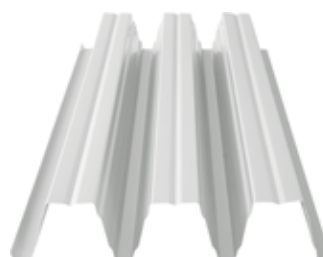
BTR135



BTR153

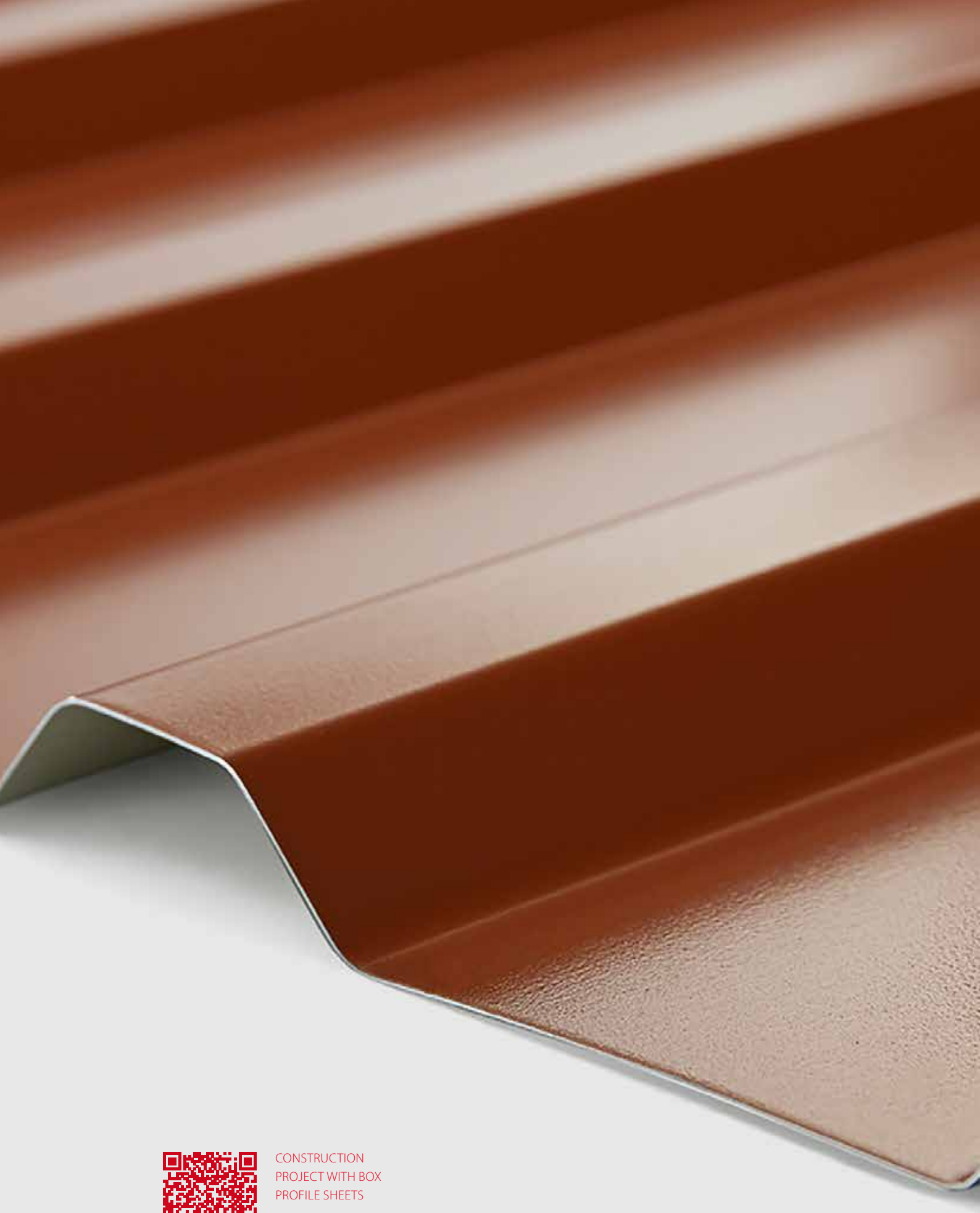


BTR160



3.

BOX PROFILE
SHEETS



CONSTRUCTION
PROJECT WITH BOX
PROFILE SHEETS



CURTAIN BOXPROFILE SHEETS FOR ROOFS AND WALLS

FOR ALL COVERING TYPES

3.

BOX PROFILE
SHEETS

Box profile sheets are excellent cladding materials for roof and wall surfaces. Given their great potential for different finishes, affordable pricing and long life, box profile sheets enjoy steady and high popularity in residential projects.

High strength

Box profile sheets are characterised by highly durability. They are highly resistant to weather, including extreme temperatures. They can easily withstand extreme weather phenomena, including torrential rain, heavy snowfall and hail showers.

Low pricing

The estimated cost of box profile sheet installation starts from a dozen PLN per 1 m², which is a cost-effective alternative to the installation of other roof skin materials. The pricing of box profile sheets matters, too. Assume that each square metre costs a dozen or so PLN.

A material for every building

Box profile sheets are applied as roof skins on residential buildings and auxiliary buildings of all types, including garages, open-sided sheds, storage units, and more. They make for an excellent indoor finish materials for partition walls.

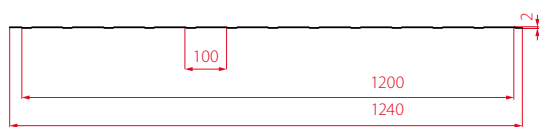
TECHNICAL PARAMETERS

Specifications

Application	Roofs and walls
Designation	BTO, BTU, BTS, and BTD box profile sheets
Steel grade	S250GD
Sheet thickness [mm]	0,50 / 0,60 / 0,70
Coating	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, Food Safe PVC(F), Aluzinc + Easyfilm, galvanised, CESAR 55
Max. sheet length [mm]	6,000-10,000 (length dependent on the selected profile)
Special finish	DRIPSTOP anti-condensation coating for box profile sheet types BTD35, BTD45 and BTD55.
Minimum roof slope	3° (5%) for solid sheets / 5° (7%) for sheets joined along the length

Technical drawing

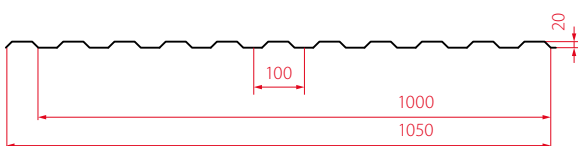
Optical box profile sheet



BPO



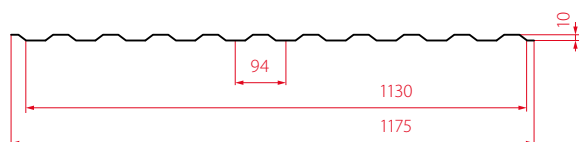
Universal box profile sheet



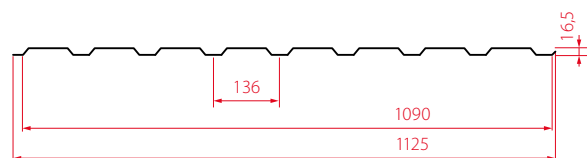
BTU 20



Wall box profile sheets

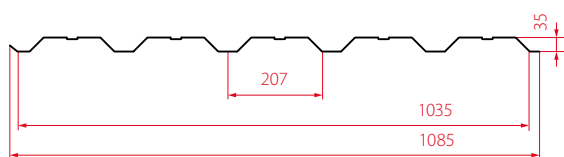


BTS 10



BTS 18

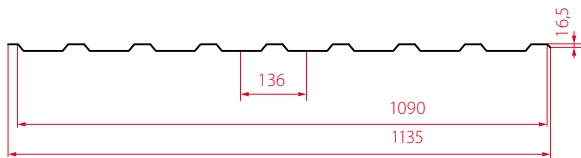
* only in thicknesses of 0.5 and 0.6mm



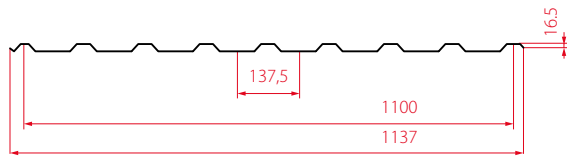
BTS 35



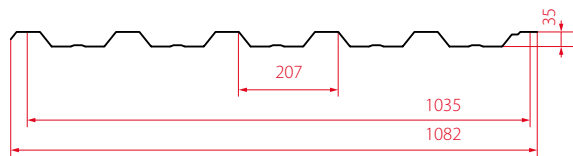
Roof box profile sheets



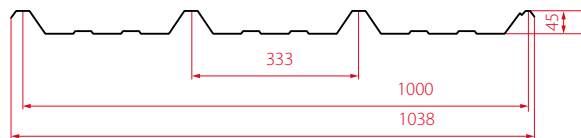
BTD 18



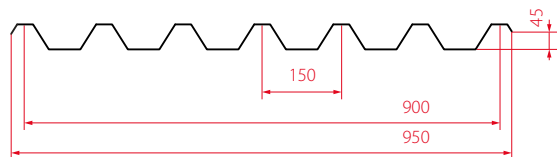
BTD 18.138



BTD 35

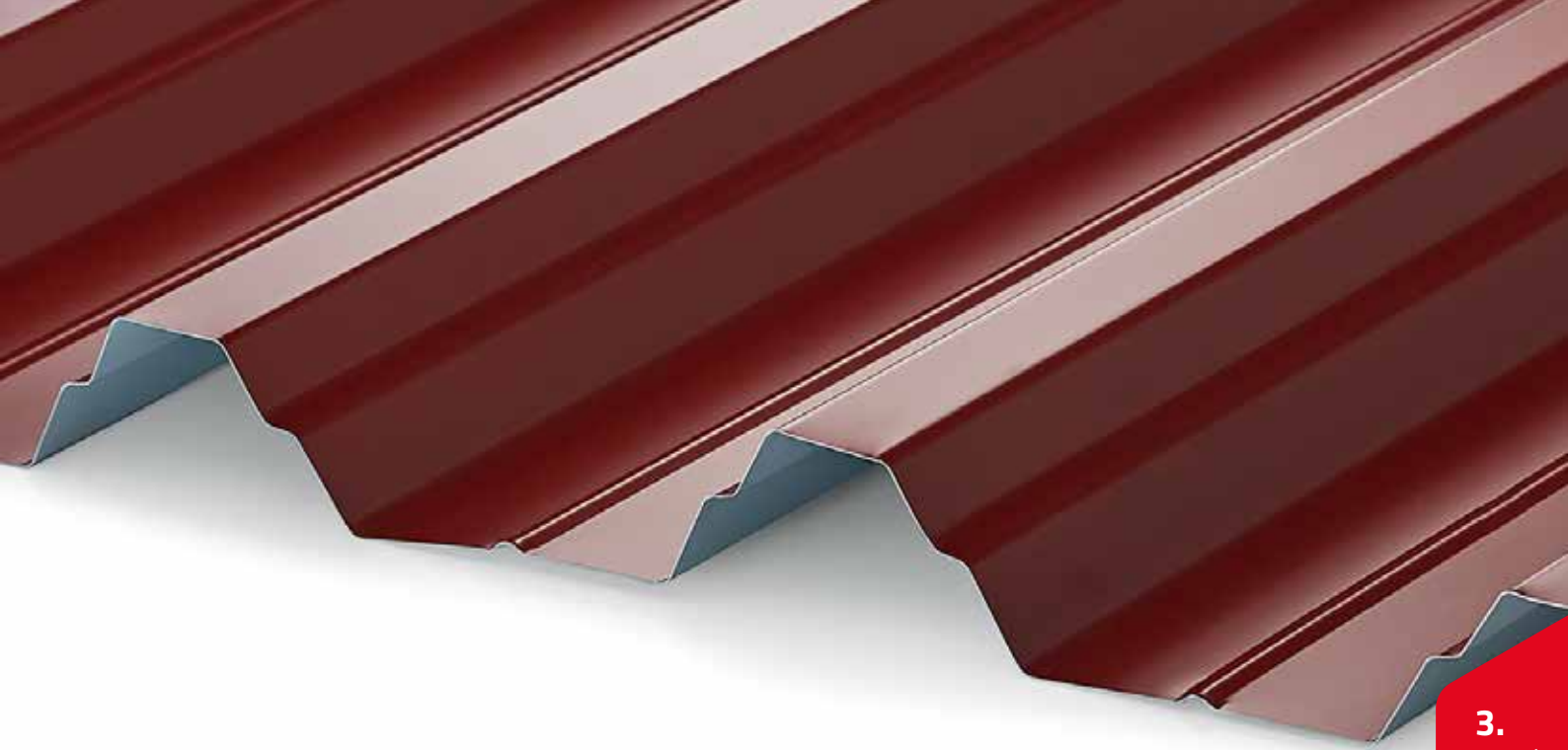


BTD 45.333 (matches the profiling of roof sandwich panels)

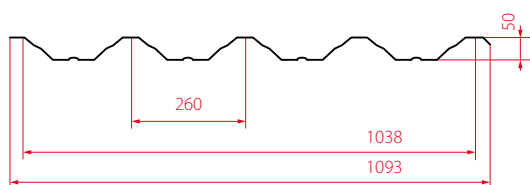


BTD 45.900

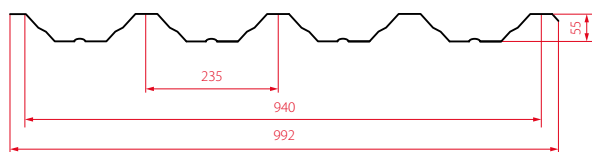




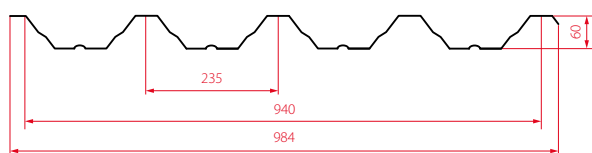
3.
BOX PROFILE
SHEETS



BTD 50



BTD 55

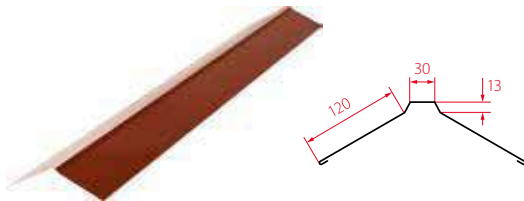


BTD 60

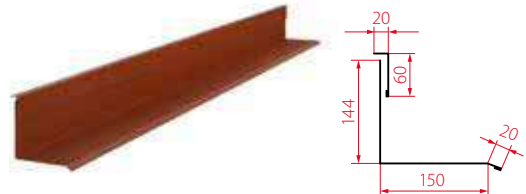


DEDICATED FLASHING

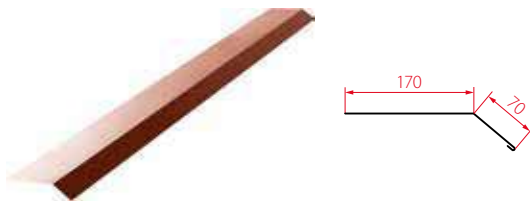
Ridge tile



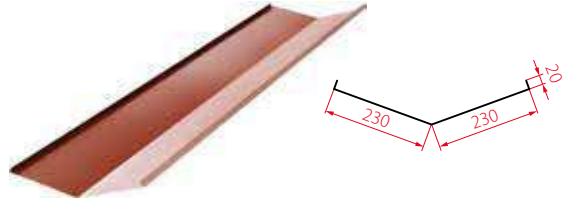
Chimney flashing



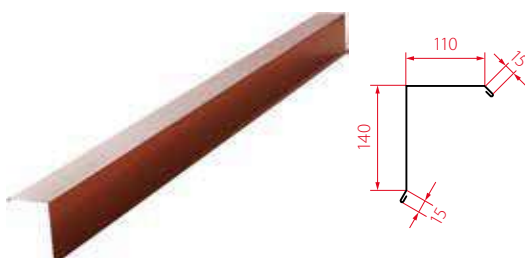
Over-gutter flashing



Valley gutter



Universal wind brace



Vent chimney



The vent chimney for BTD18 is available in two colours: RAL 8017 and RAL 9005.

CUSTOM ROOF FLASHING

Dimensions	The shape and size of flashing is produced per customer specification drawings.	
Sheet thickness [mm]	0,50 - 1,00	1,25 - 2,50
Max. length [mm]	11,50	6,00
Steel grade	S250GD-S280GD, stainless steel (1.4301)	
Coatings	SP Polyester, SP Polyester Mat Pearl, Food Safe PVC(F), galvanized, Aluzinc + Easyfilm, CESAR PUR 55	
Manufacturability	Cutting	
	Bending	
	Automatic die punching and perforation	
	Protection of raw material with plastic film	

3.

BOX PROFILE
SHEETS

RECOMMENDED PRODUCTS

Chimney-sweep bench with cradle and brackets

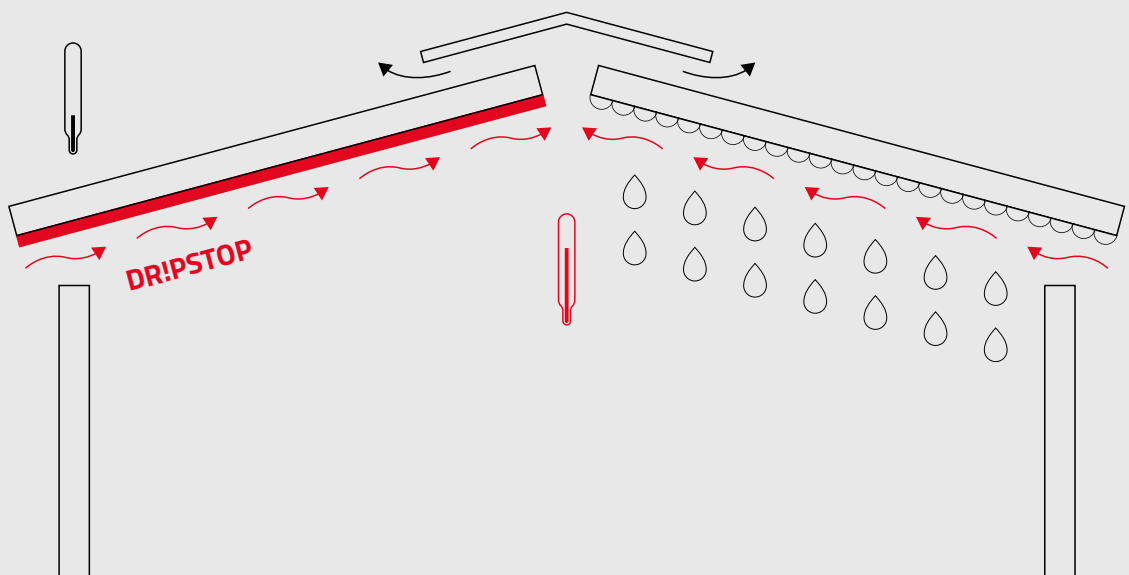
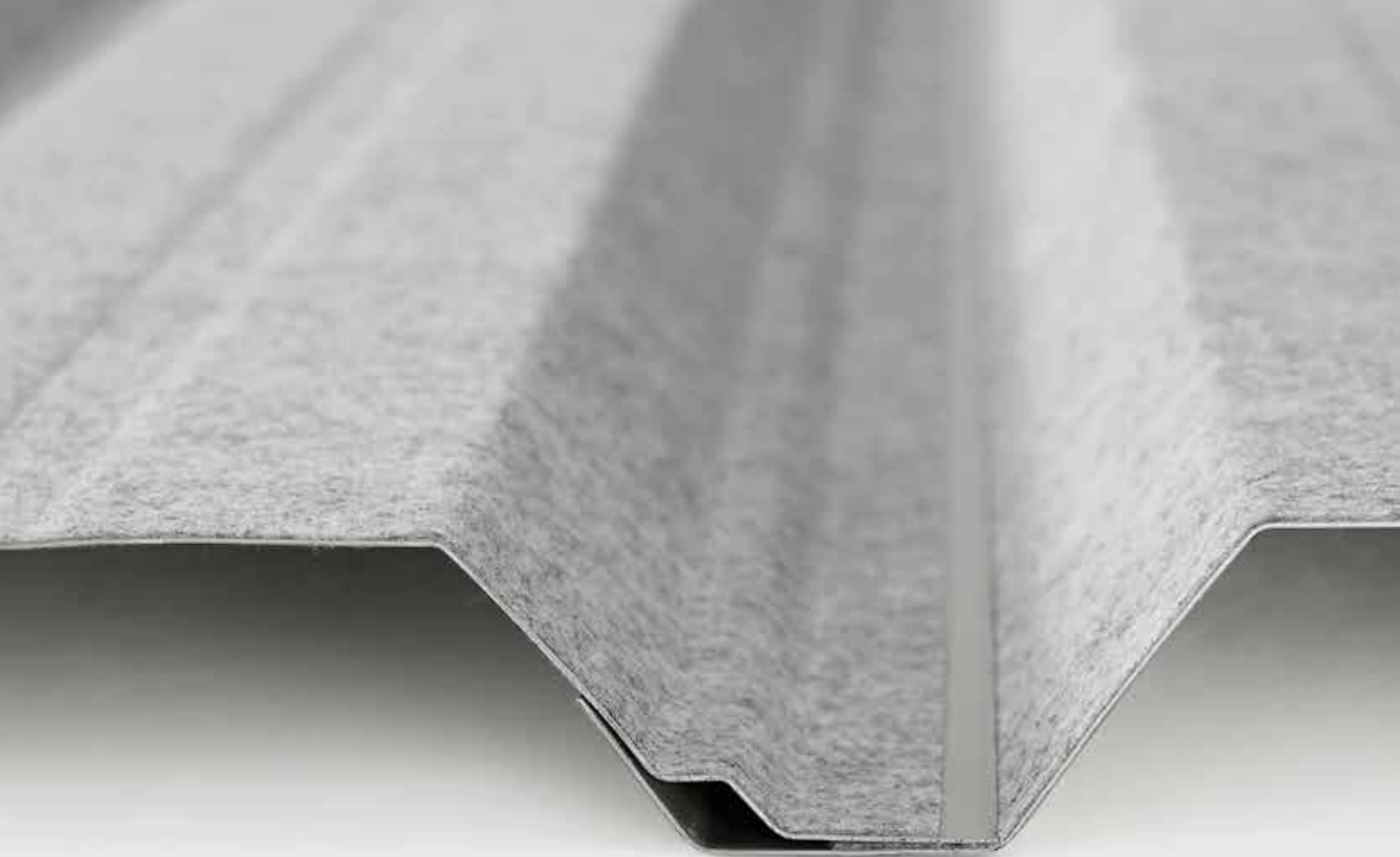


Snow guard



Chimney-sweep step with cradle and brackets





DR!PSTOP ANTI- CONDENSATION COATING

Condensation of water vapour, or steam, occurs on non-thermally insulated steel roofing layers. It may cause corrosion, make the attic interior damp and corrode the materials stored there, like crops.

The special DR!PSTOP anti-condensation coating prevents dripping of condensed water. The sheet metal with the DR!PSTOP system on the inside has an additional layer which holds the condensate for removal by a ventilation system beneath the sheet metal cladding.

The DR!PSTOP anti-condensation coating can absorb over 900 g of water per square metre.

Other advantages include:

- Water-washable
- High anti-bacterial resistance
- Fire reaction class A2-s1, d0 (EN 13501-1)
- Enhanced anti-corrosion protection
- Acoustic comfort (dampens the sound of rainfall, and mechanical noise inside the building)

3.

BOX PROFILE
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4.

ROOFING

- 157** Calculate all the materials needed for a roof in 3 minutes
- 161** Panorama system 1.0
- 171** Elegant 2.0 system
- 179** Spektrum
- 185** Horyzont

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CALCULATE ALL THE MATERIALS NEEDED FOR A ROOF IN 3 MINUTES

4.

ROOFING

Balex Metal offers you a quick and easy tool for calculating how much material you need to build a roof, from the cladding type to the fasteners. Find it on balex.eu.

You do not have to be a professional roofer to use it: simply input the basic building specifications and download the design calculation in 3 minutes.

The configuration wizard can generate:

- a dimensioned drawing of the roof design;
- a list of required roofing materials and specifications, including the cladding, membrane, number of fasteners and essential installation accessories;
- thermal insulation area, for one or two layers.

The configuration wizard app is free and requires no local installation. You can use it online.



balex.eu/en/sloping-roof

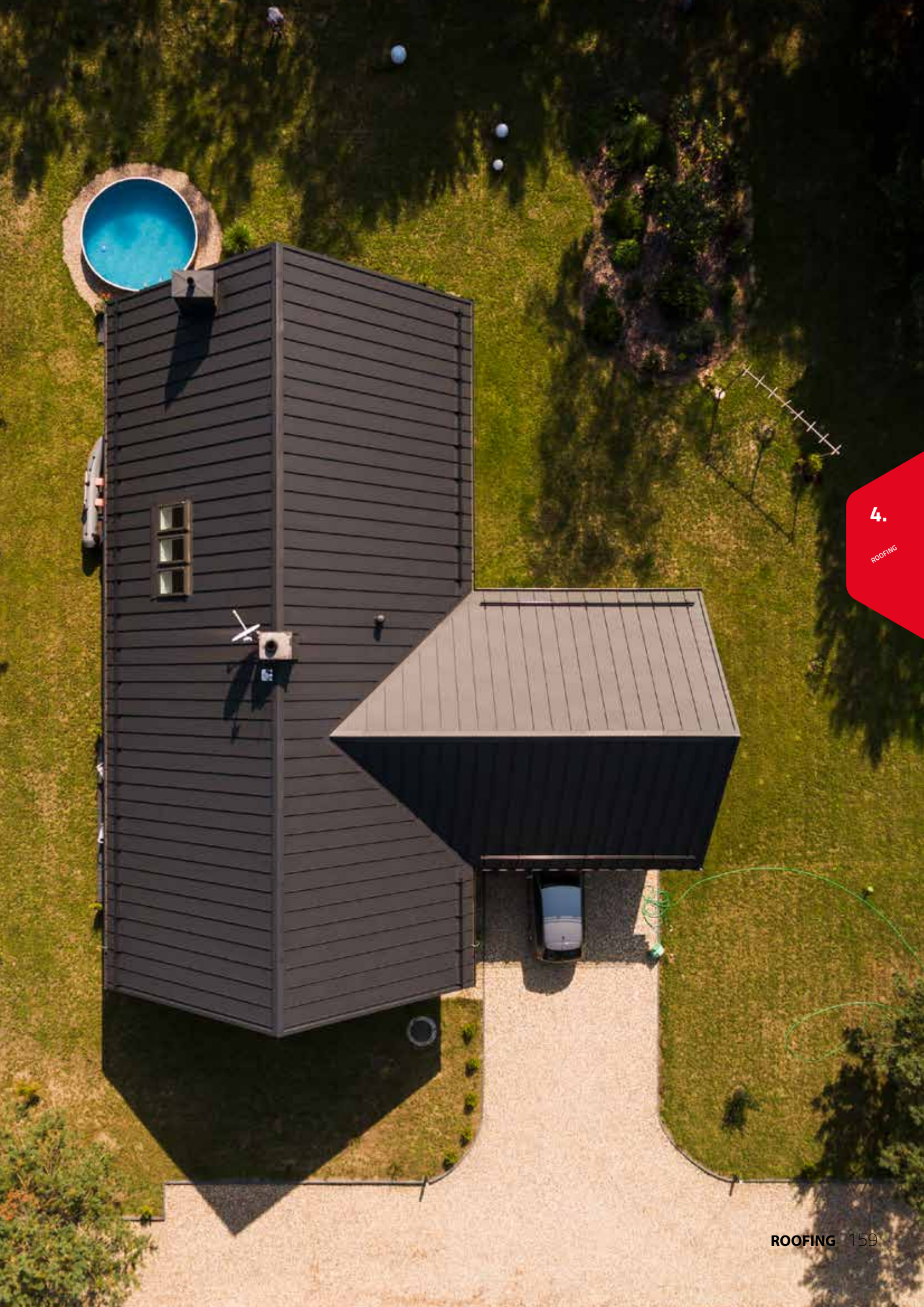
CHECK THE ROOF SLOPE LENGTH FACTOR

Specifications

Slope		Roof slope length factor
°	%	
1	1,7	1,000
2	3,5	1,001
3	5,2	1,001
4	7,0	1,002
5	8,7	1,004
6	10,5	1,006
7	12,3	1,008
8	14,1	1,010
9	15,8	1,012
10	17,6	1,015
11	19,4	1,019
12	21,3	1,022
13	23,1	1,026
14	24,9	1,031
15	26,8	1,035
16	28,7	1,040
17	30,6	1,046
18	32,5	1,051
19	34,4	1,058
20	36,4	1,064
21	38,4	1,071
22	40,4	1,079
23	42,4	1,086
24	44,5	1,095
25	46,6	1,103
26	48,8	1,113
27	51,0	1,122
28	53,2	1,133
29	55,4	1,143
30	57,7	1,155

Slope		Roof slope length factor
°	%	
31	60,1	1,167
32	62,5	1,179
33	64,9	1,192
34	67,5	1,206
35	70,0	1,221
36	72,7	1,236
37	75,4	1,252
38	78,1	1,269
39	81,0	1,287
40	83,9	1,305
41	86,9	1,325
42	90,0	1,346
43	93,3	1,367
44	96,6	1,390
45	100,0	1,414
46	103,6	1,440
47	107,2	1,466
48	111,1	1,494
49	115,0	1,524
50	119,2	1,556
51	123,5	1,589
52	128,0	1,624
53	132,7	1,662
54	137,6	1,701
55	142,8	1,743
56	148,3	1,788
57	154,0	1,836
58	160,0	1,887
59	166,4	1,942
60	173,2	2,000





4.

ROOFING



PANORAMA SYSTEM

CLASSIC AND SOPHISTICATED

The form of the Panorama steel sheet tiles brings out that unique, timeless style of a classic roof. The Panorama system keeps the building body light, while the classic proportions add a touch of style and refinement.

The highlight features include:

Innovative and convenient

The Panorama steel sheet tiles feature a unique groove for easy laying, trimming, and arranging the modules, unlike traditional steel sheet roofing materials.

Long warranty

The Panorama steel sheet tiles come finished with the ultra-durable CESAR 55 coating to guarantee durability of up to 50 years.

A unique design

A roof covered with the Panorama sheet tiles adds an element of lightness and sophistication to the whole design of your home. The system includes a selection of dedicated flashing products, including ridge caps and ridge tiles to give the roofing that unique finishing touch.

Fast installation

The Panorama steel sheet tile system is modular (1 module = 10 tiles); working with sheets helps assemble the whole roofing quickly.



INSTALLATION
OF PANORAMA
ROOFING



KRZYSZTOF WIETESKA
ON BALEX METAL
FLASHING PRODUCTS
AND PANORAMA
MODULAR ROOFS



FLASHING
PRODUCTION



MORE ABOUT
THE PANORAMA
MODULAR TILES

4.

ROOFING

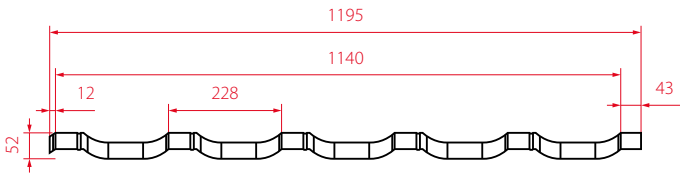
TECHNICAL PARAMETERS

Specifications

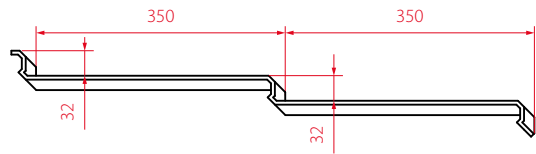
Designation	PANORAMA steel sheet tile
Steel grade	S250GD+Z275 and S250GD + Z225 polyester coating
Coating	SP25 gloss, SP35 mat, CESAR55 semi-mat, CESAR65 mat
Overall module width [mm]	1195
Effective module width [mm]	1140
Embossing height [mm]	32
Overall module length [mm]	740
Effective module length [mm]	700
Tile length [mm]	350
Peak-to-peak width [mm]	228
Module coverage area [m²]	0,798
Module weight [kg]	3,69
Technical requirements	PN-EN 14782:2008; PN-EN 508-1:2010
Minimum roof slope	9° (16%)
Batten spacing [mm]	350

Panorama modular steel sheet tile profile

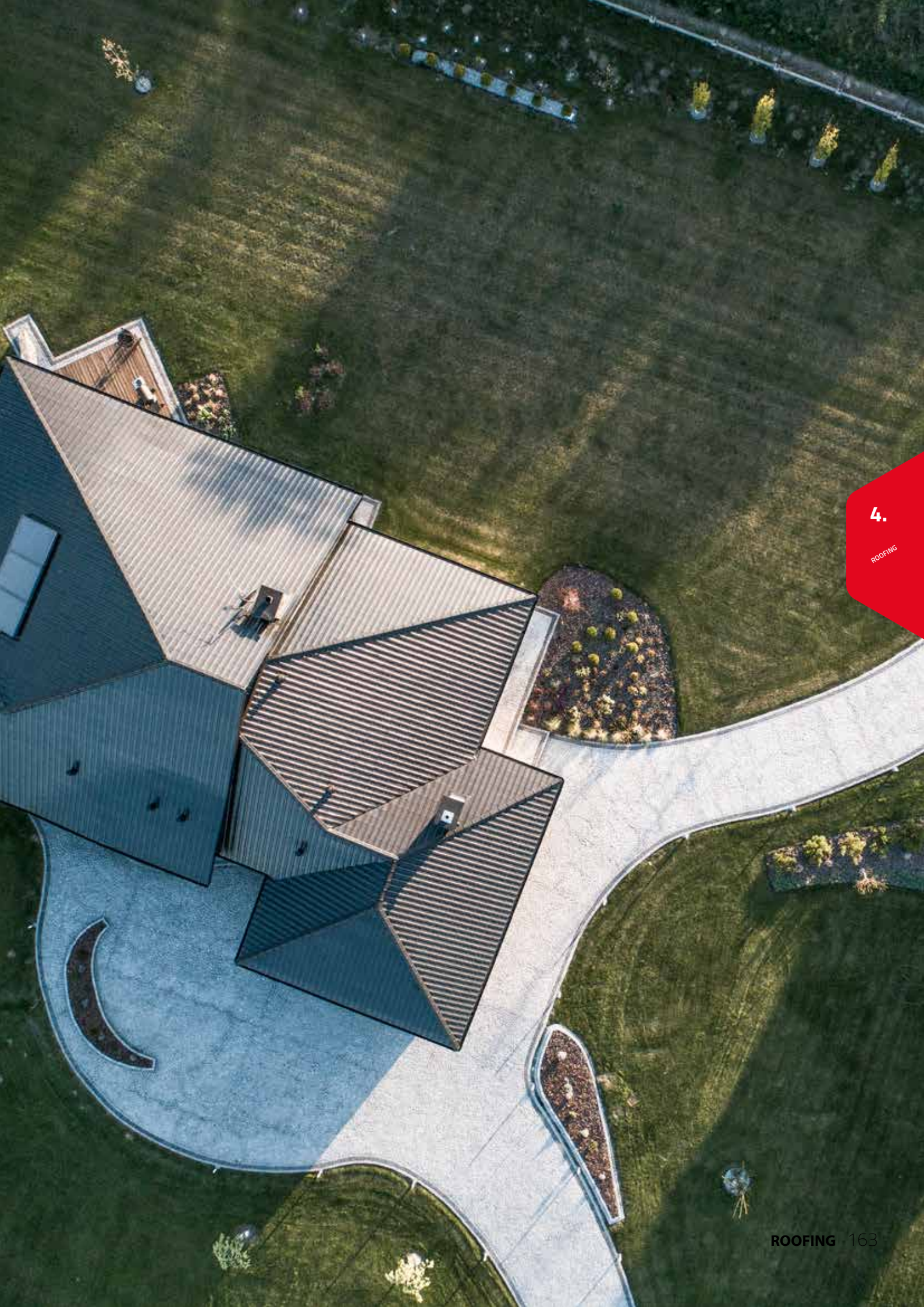
Front view



Side view



DECLARATIONS
& CERTIFICATIONS



4.

ROOFING

PANORAMA SYSTEM



**PANORAMA
RIGHT-HAND RIDGE CAP**

**CESAR 55[®] COATING,
RAL 7016 GRAPHITE**

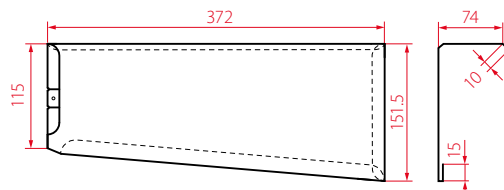
**RIDGE
FLASHING**

4.

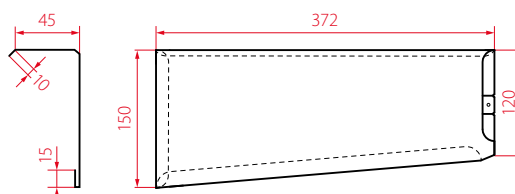
ROOFING

DEDICATED FLASHING

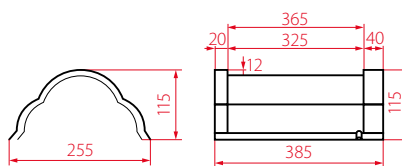
PANORAMA left-hand ridge cap



PANORAMA right-hand ridge cap



Modular ridge tile



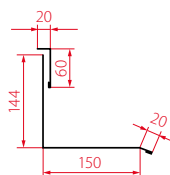
Eave bird guard



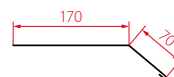
Vent chimney



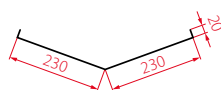
Chimney flashing



Over-gutter flashing



Valley gutter



RECOMMENDED PRODUCTS

Zenit roof gutter system



Thermano thermal insulation



Chimney-sweep step with cradle and brackets



Snow guard with bracket



Chimney-sweep bench with cradle and brackets



Torx screws

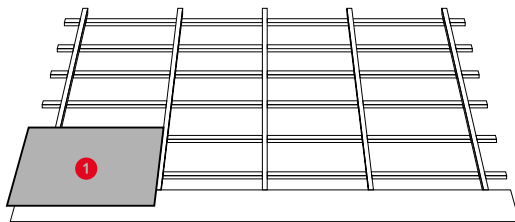


4.

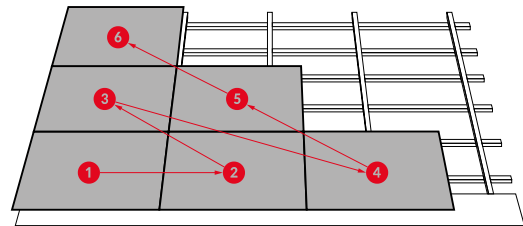
ROOFING

PANORAMA LAYOUT SCHEME

Parallel installation of the Panorama steel sheet tiles

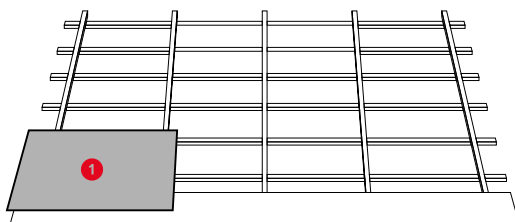


Always start laying from the LEFT HAND lower edge of the roof slope. Place the first sheet aligned with the side edge of the roof slope and an overlap of 50 mm (measured from the wave corrugation peak) beyond the over-gutter flashing location.

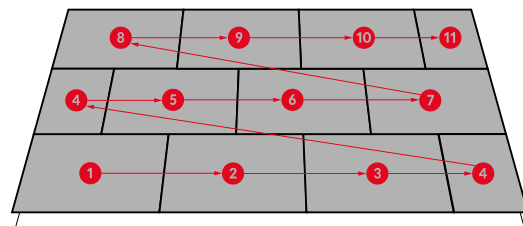


Lay each successive sheet as shown in the diagram, adding each next sheet to the right of the previous one and above the top of the previous row.

Offset installation of the Panorama steel sheet tiles



Always start laying from the LEFT HAND lower edge of the roof slope. Place the first row of sheets aligned with the side edge of the roof slope with an overlap of 50 mm (measured from the peak) beyond the over-gutter flashing location.

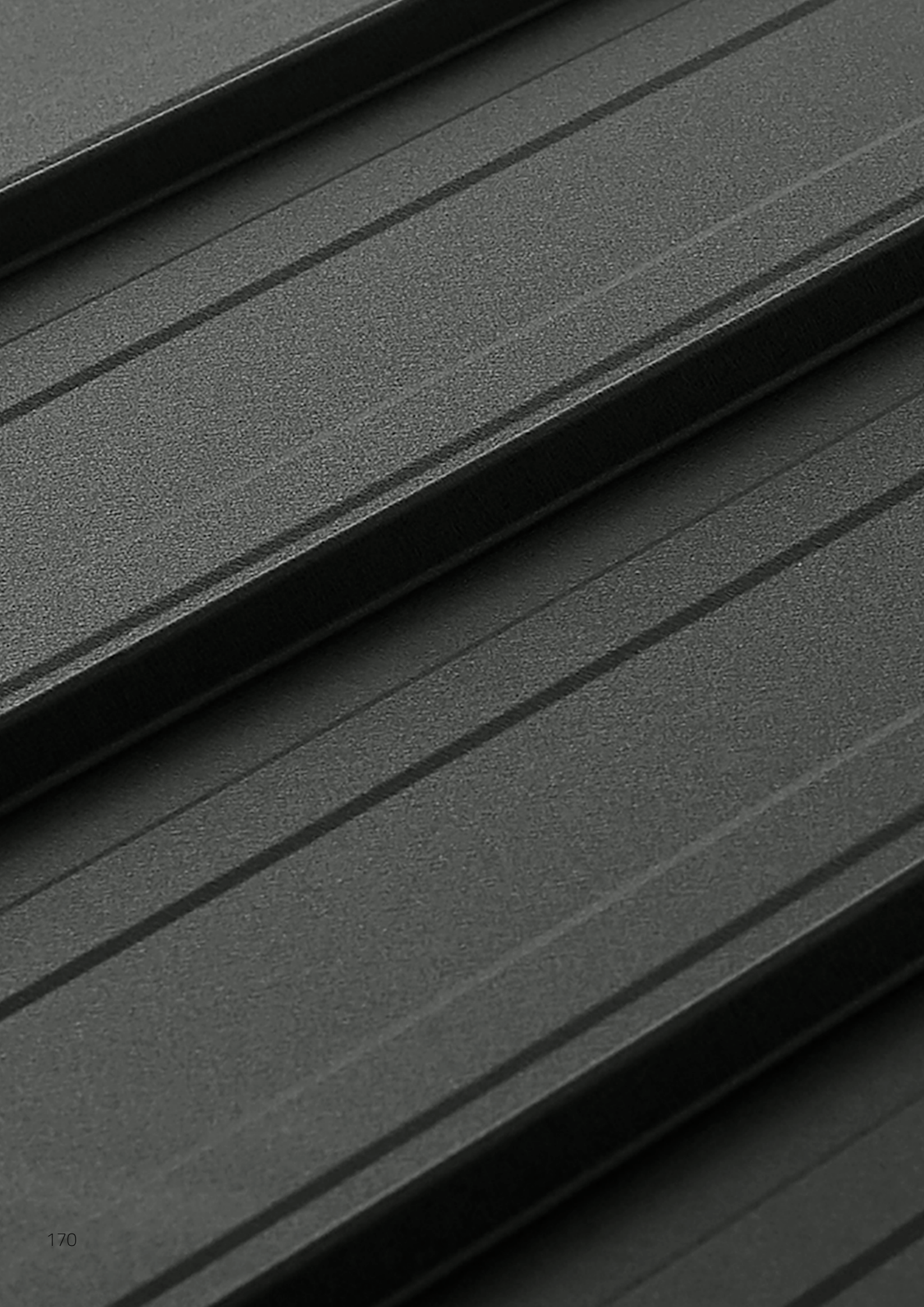


Lay the next row of sheets with an offset of 2 to 3 wave corrugation peaks. The sheets are modular and can be trimmed to reduce waste by 20% in comparison to trimming traditional steel sheet roof skin types.



4.

ROOFING



ELEGANT 2.0 SYSTEM

A MODERN TAKE ON TRADITION

NEW!

An iconic classic is one that never fades away. It continues to inspire the architects of today in the design of fashionable buildings. The upright seam panel is an evergreen solution for a simple, sleek and smart line for the cladding of roofs and walls. The Elegant system harmonises perfectly with all building types, from minimalist houses to modern apartment projects and heritage-class brownstones.

Timeless appeal

ELEGANT is a universal product for modern, traditional and historic buildings.

A sturdy roof

The product is a durable sheet metal tile solution that is designed to resist mechanical deformation and features a great anti-corrosion coating system.

Easy and quick installation

It takes just 3 steps. Place, lock, align and it's done!

High strength

The special profiling of the panels provide high stiffness and resistance to thermal deformation.



CONSTRUCTION
PROJECT WITH
THE ELEGANT
UPRIGHT
SEAM PANELS



LEARN MORE
ABOUT
THE ELEGANT
UPRIGHT
SEAM PANELS

4.

ROOFING

TECHNICAL PARAMETERS

Specifications

Designation	ELEGANT 2.0 upright seam panel with concealed fasteners	
Panel effective width [mm]	300	510
Lock profile height [mm]	24	
Min. length [mm]	400	
Max. length [mm]	10 000	
End undercut and bend [mm]	2mm; 35mm	
Seam closing flap	YES	
Sheet thickness [mm]	0,50 / 0,60 / 0,70	
Steel grade	S250GD-S280GD + Z275 (Polyester + Z225)	
Coatings	SP25 gloss, SP35 mat, CESAR55 semi-mat, CESAR65 mat	
Profiling	Plain, micro-wave, double wide lining, double grooved	
Weight [kg/m²]	approx. 4.5 kg/m²	
Technical requirements	CE per PN-EN 14782:2008	
Minimum roof slope	8° (14%)	
Batten spacing [mm]	250 mm max. or use blind boarding	

Available cladding profile types:

PLAIN (G)



GROOVED (R)



LINED (L)



MICRO-PROFILE (M)



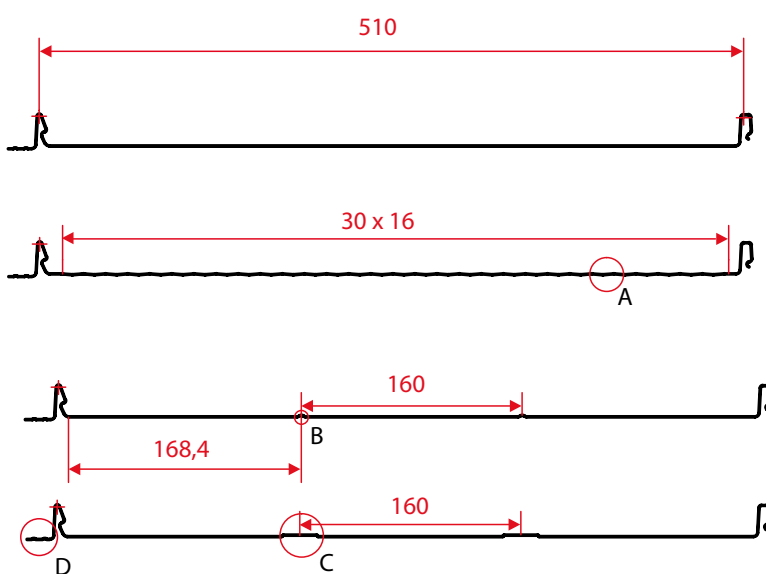
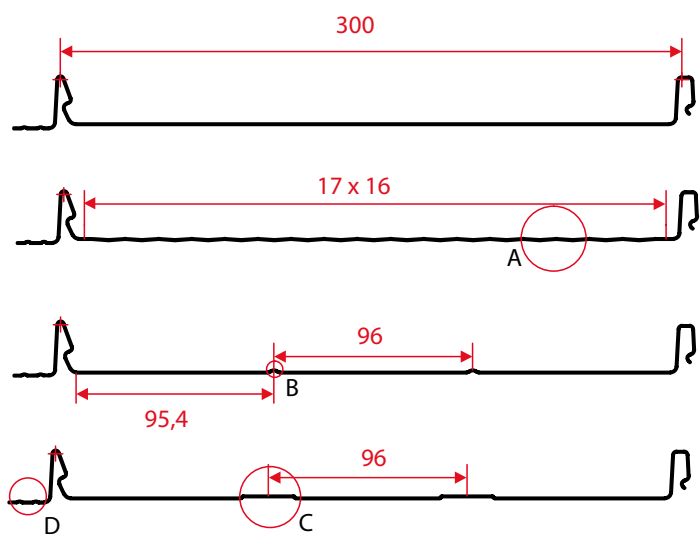
DECLARATIONS
& CERTIFICATIONS



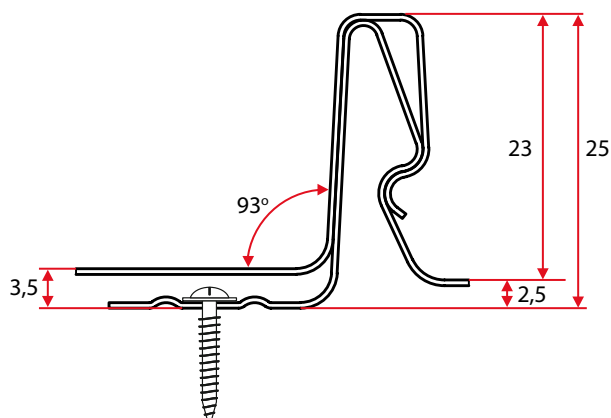
4.

ROOFING

Elegant 2.0 upright seam panel with concealed fasteners



INSTALLATION
OF ELEGANT
UPRIGHT
SEAM PANELS



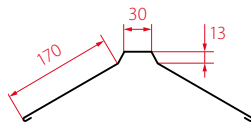


4.

ROOFING

DEDICATED FLASHING

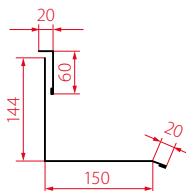
Ridge tile



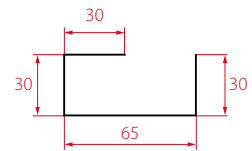
Vent chimney



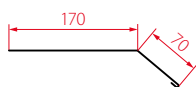
Chimney flashing



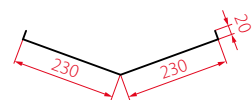
Ridge tile flashing



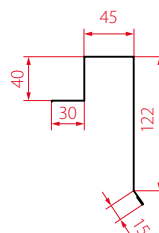
Over-gutter flashing



Valley gutter



Wind brace



RECOMMENDED PRODUCTS

Zenit roof gutter system



Thermano thermal insulation



Chimney-sweep bench with cradle and brackets



Snow guard with bracket



Aqmetal structural membrane
("spaghetti" type)

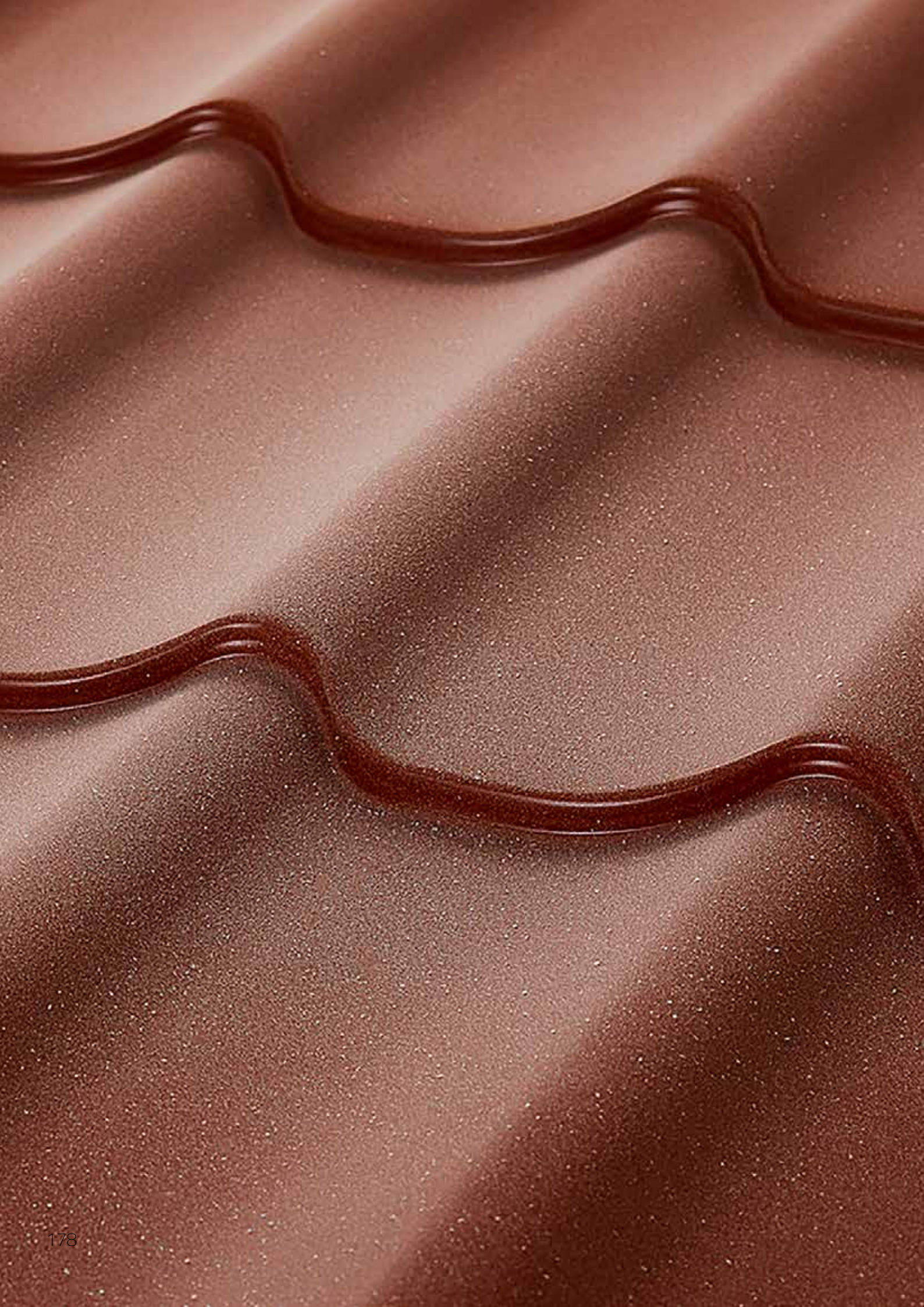


Sheet metal screw



4.

ROOFING



SPEKTRUM

A STRONG ROOF

Building a home means planning ahead for generations. Hence, the aesthetics must go hand in hand with good strength in all the construction components. This is why we have developed Spektrum steel sheet tiles, based on a superior-quality grade of steel.

A tested and proven solution

The Spektrum sheet metal tiles have been around for 25 years, and they are the most popular roofing solution by Balex Metal. The traditional form of Spektrum can be found on so many homes that the combined area of Spektrum roofing totals millions of square metres in Poland alone.

A sturdy roof

Spektrum is a durable sheet metal tile solution that is designed to resist mechanical deformation and boasts a great anti-corrosion coating system.

Universal sizing

The sheet metal tiles are available in a wide range of module widths, from 280 to 430 mm. The maximum sheet length is 6500 mm.

Safe to ship

The Spektrum system is factory-prepped for shipping, on dedicated box pallets to provide a high level of protection during transport and storage.



INSTALLATION OF
SPEKTRUM TILES



CONSTRUCTION
PROJECT WITH
SPEKTRUM TILES

4.

ROOFING

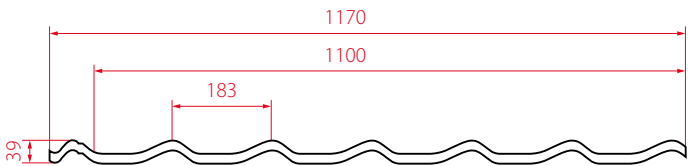
TECHNICAL PARAMETERS

Specifications

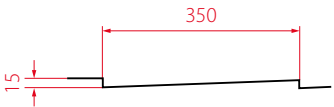
Designation	SPEKTRUM steel sheet tile
Standard module length [mm]	350
Adjustable module length [mm]	Custom order: 280-430
Max. sheet length [mm]	6500
Coverage width [mm]	1100
Overall width [mm]	1170
Profile height [mm]	39
Embossing height [mm]	15
Sheet thickness [mm]	0,5
Mass [kg/m ²]	ok. 5
Steel grade	S250GD-S280GD +Z275 (+Z225 polyester coating)
Technical requirements	CE per PN-EN 14782:2008
Minimum roof slope	8° (14%)
Coating	SP25 gloss, SP35 mat, CESAR55 semi-mat, CESAR65 mat
Batten spacing [mm]	350 (equal to the module length)

Spektrum roofing tile profile

Front view



Side view



DECLARATIONS
& CERTIFICATIONS



4.

ROOFING

DEDICATED FLASHING

Ridge tile



Vent chimney



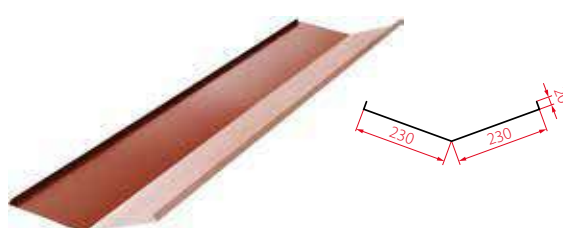
Chimney flashing



Over-gutter flashing



Valley gutter



Wind brace



RECOMMENDED PRODUCTS

Zenit roof gutter system



Thermano thermal insulation



Chimney-sweep step with cradle and brackets



Snow guard with bracket



Chimney-sweep bench with cradle and brackets

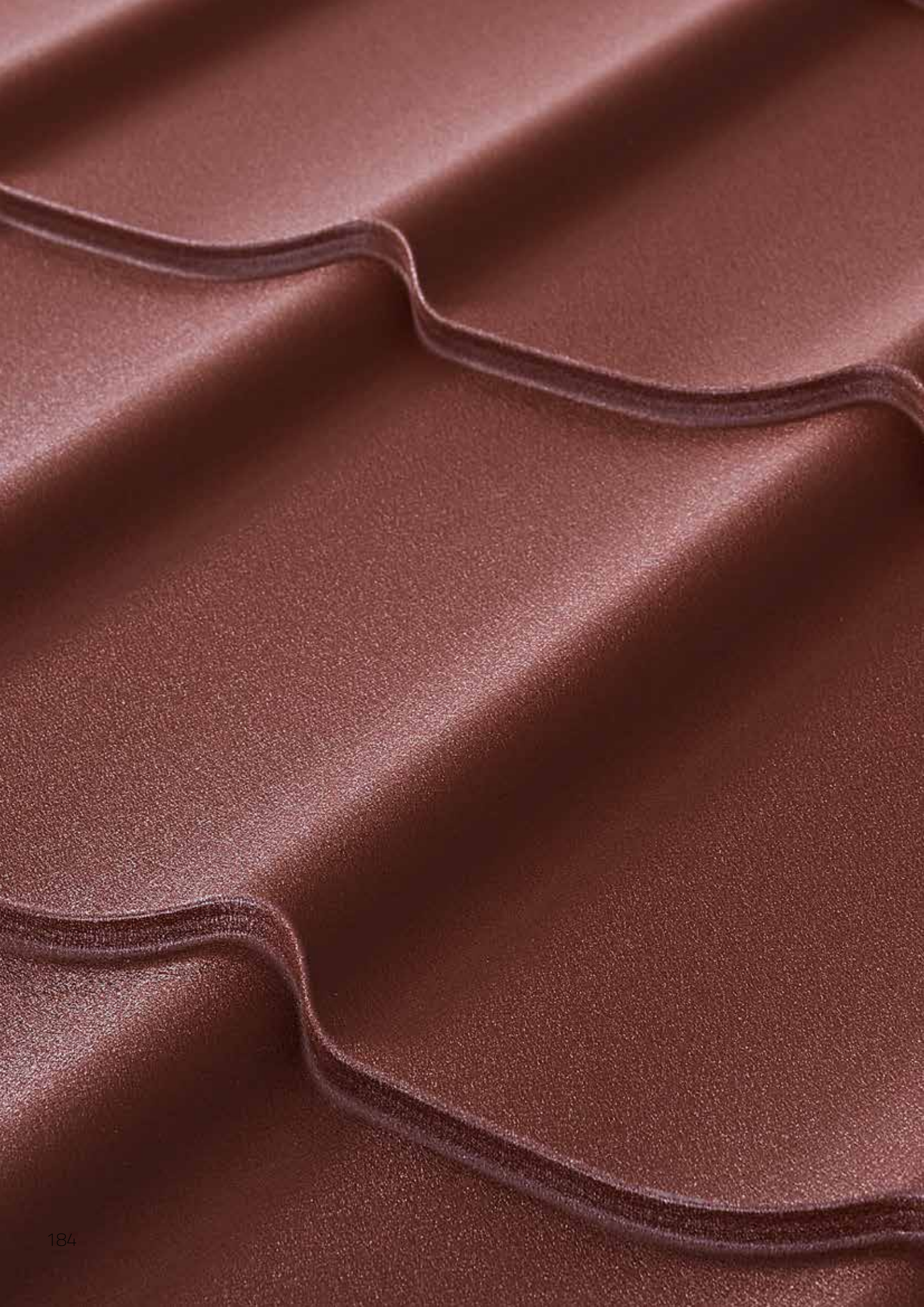


Self-drilling screw with gasket washer



4.

ROOFING



HORYZONT

COST EFFECTIVE...

The Horyzont steel sheet tiles are perfect for covering large roof slopes. The overall covering width per sheet is larger than with traditional steel sheet tiles.

Larger coverage means greater cost savings

The sheet metal tiles provide up to 10% more coverage than the equivalent covering solutions traditionally used. The overall single sheet width is a staggering 1160 mm.

Light roof structure

The Horyzont sheet metal tiles add a load of just 4,05 kg/m² of the roof. This means that the framing requires no additional bracing, which speeds up the installation process.

Excellent anti-corrosion protection

The budget-level Horyzont sheet metal tiles are made of superior-quality, 0,5-mm steel finished with preservative coatings.

Safe to ship

The Horyzont system is factory-prepped for shipping on dedicated box pallets to provide a high level of protection during transport and storage.



CONSTRUCTION
PROJECTS WITH
HORYZONT

4.

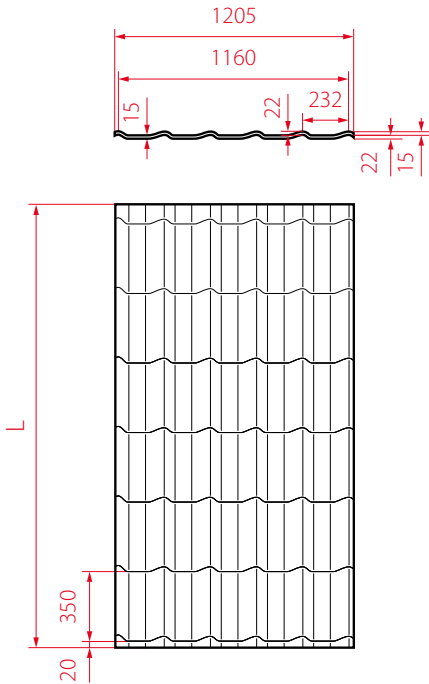
ROOFING

TECHNICAL PARAMETERS

Specifications

Designation	HORYZONT steel sheet tile
Standard module length [mm]	350
Adjustable module length [mm]	Custom order: 280-430
Max. sheet length [mm]	6500
Coverage width [mm]	1160
Overall width [mm]	1205
Embossing height [mm]	15
Overall height [mm]	22
Sheet thickness [mm]	0,5
Mass [kg/m ²]	4,05
Technical requirements	CE per PN-EN 14782:2008
Minimum roof slope	8° (14%)
Coating	SP Polyester; SP Polyester Mat Pearl
Steel grade	S250GD-S280GD +Z225 polyester coating

Horyzont steel sheet tile profile



DECLARATIONS
& CERTIFICATIONS



4.

ROOFING



DEDICATED FLASHING

Ridge tile



Vent chimney



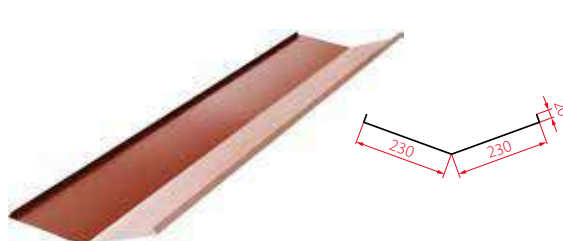
Chimney flashing



Over-gutter flashing



Valley gutter



Wind brace



RECOMMENDED PRODUCTS

Zenit roof gutter system



Thermano thermal insulation



Chimney-sweep step with cradle and brackets



Snow guard with bracket



Chimney-sweep bench with cradle and brackets



Self-drilling screw with gasket washer



4.

ROOFING

5.

ROOF & WALL INSTALLATION ACCESSORIES

- 192** Aspira membrane
- 194** Plain sheet metal
- 196** Flashing
- 200** Ventilation system
- 205** Roof safety system
- 201** Accessories

THERMAL INSULATION

SANDWICH PANELS

BOX PROFILE SHEETS

ROOFING

ROOF & WALL INSTALLATION ACCESSORIES

ROOF GUTTERS

COLD-FORMED SECTIONS

FAÇADE CLADDING

GENERAL TERMS & CONDITIONS OF SALE

1.

THERMAL
INSULATION

2.

SANDWICH
PANELS

3.

BOX PROFILE
SHEETS

4.

ROOFING

5.

ROOF & WALL
INSTALLATION
ACCESSORIES

6.

ROOF GUTTERS

7.

COLD-FORMED
SECTIONS

8.

FAÇADE
CLADDING

9.

GENERAL TERMS
& CONDITIONS
OF SALE

MEMBRANES

Aspira membrane

The all-new three-ply ASPIRA roofing membranes provide enhanced protection of sloped roofs and extend their maximum life. The ASPIRA vapour breathing membranes are waterproof and highly permeable to water vapour. The three plies of polypropylene also ensure high tensile and yield strength.

The membranes are available in three versions:

ASPIRA Max

- For over-the-rafter and blind boarding installation
- Roofing screen class
- High performance in extreme conditions



ASPIRA Plus

- For over-the-rafter and blind boarding installation
- Perfect for steel sheet tile roofs
- Very good vapour permeability & good strength



Specifications

Designation	ASPIRA Max	ASPIRA Plus
Mass [kg/m ²]	210 (+/- 30 g)	165 (+/- 15 g)
Plies	3	3
Breakaway strength [N/5 cm], lengthwise	>355	>350
Breakaway strength [N/5 cm], crosswise	>245	>200
Elongation at break [%], lengthwise	>100	>60
Elongation at break [%], crosswise	>120	>80
SD: diffusion equivalent layer of air [m]	>0,03	≥0,03
Vapour permeability, MVTR Lyssy [g/m ² /24h]	>3 200	>3 200
Application temperature range [°C]	od -40 do +80	od -40 do +80
Resistance to permeation	Class W1	Klasa W1
UV stability	3 months	3 months
Standard size in reel [m]	1,50 x 50	1,50 x 50
Fire reaction class	F	F

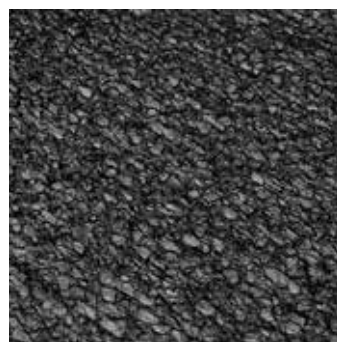
AQ Metal MEMBRANE

The AQ Metal membrane is a special roofing membrane product for installation under a plain sheet metal skin. The AQ Metal protects sheet metal cladding against corrosion; the topside of the membrane is made with a reinforcing mat that provides an embossed drainage layer with a clearance from the sheet metal underside. The membrane is very strong and features a very good vapour breathability. The membrane can be installed on blind boarding.

The membrane is installed on a rigid base of boards or OSBs with the embossed texture on the top and in parallel to the eaves. To ensure proper drainage of water towards the eaves, each higher strip of the membrane must be laid with a 10 cm overlap of the lower strip.

Specifications

Designation	Aqmetal
Mass [kg/m ²]	400 (-10/+20 g)
Plies	4
Breakaway strength [N/5 cm], lengthwise	350 (± 60)
Breakaway strength [N / 5 cm], crosswise	210 (-30/+60)
Elongation at break [%], lengthwise	60 (±30)
Elongation at break [%], crosswise	65 (-30/+40)
SD: diffusion equivalent layer of air [m]	0,02 (-0,005/+0,02)
Vapour permeability, MVTR Lyssy [g/m ² /24h]	3 200 (± 400)
Application temperature range [°C]	od -40 do +80
Resistance to permeation	Class W1
UV stability	3 months
Standard size in reel [m]	1,50 x 25
Fire reaction class	F



PLAIN SHEET METAL

FOR MULTIPLE APPLICATIONS

Sheet metal is a strong material, where the plasticity makes it easy to work. Steel is most often used to fabricate complementary parts for steel roof structures; however, sheet metal has many more applications. The sheet metal from Balex Metal is available in a wide selection of protective coatings and a rich gamut of colour options.

Universal material

Plain sheet metal has many uses, including standard and custom flashing.

A wide colour palette

Balex Metal offers plain sheet metal in several dozen colour versions, and 6 coating types.

Extra protection

The sheet metal is delivered in special protective film.

Corrosion resistance

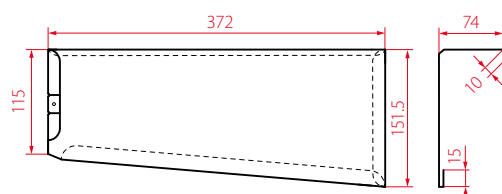
The high-quality anti-corrosion coatings provide excellent protection.

Specifications

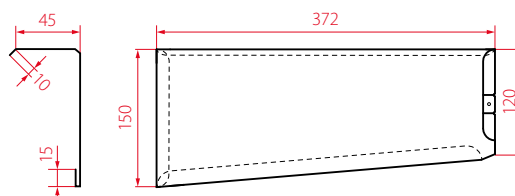
Designation	Plain sheet metal
Standard sheet size [mm]	1240x2000
Sheet width [mm]	max. 1500
Sheet length [mm]	Custom order
Sheet thickness [mm]	0,40-1,50
Coating	SP25 gloss, SP35 mat, CESAR55 semi-mat, CESAR65 mat, Food Safe PVC(F), Aluzinc+Easyfilm, galvanized
Steel grade	S250GD, stainless steel (1.403); S320GD (thk. 1,50)

FLASHING

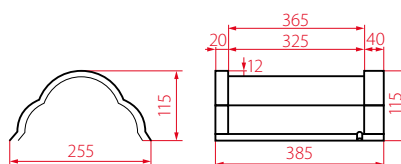
PANORAMA left-hand ridge cap



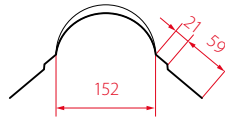
PANORAMA right-hand ridge cap



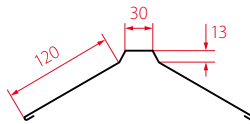
Panorama system modular ridge tile



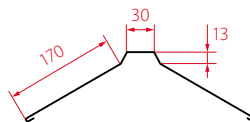
Universal ridge tile



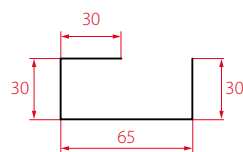
Ridge tile for box profile sheets



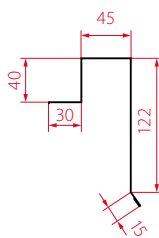
Ridge tile for box profile sheets and ELEGANT upright seam panels



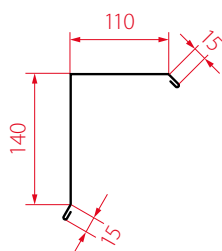
Ridge tile flashing for ELEGANT upright seam panels



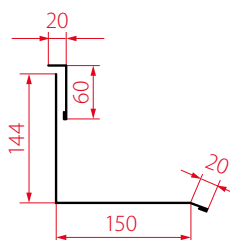
Wind brace for ELEGANT upright seam panels



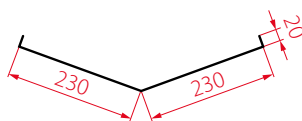
Universal wind brace



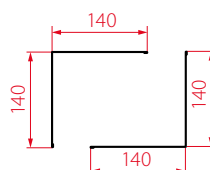
Chimney flashing



Valley gutter



Inner / outer corner



Custom roof flashing

Dimensions	The shape and size of flashing is produced per customer specification drawings.	
Sheet thickness [mm]	0,50-1,00	1,25-2,50
Max. length [mm]	11,50	6,00
Steel grade	S250GD-S280GD, stainless steel (1.4301)	
Coatings	SP Polyester, SP Polyester Mat Pearl, Food Safe PVC(F), galvanized, Aluzinc + Easyfilm, CESAR PUR 55	
Manufacturability	Cutting	
	Bending	
	Automatic die punching and perforation	
	Protection of raw material with plastic film	



KRZYSZTOF WIETESKA
TALKS ABOUT BALEX METAL
FLASHING PRODUCTS
AND PANORAMA
STEEL SHEET TILES

VENTILATION SYSTEM

Vent chimney

Technical specification:

Designation	Vent chimney
System components	Vent chimney, reduction adapter, insulated insert
Compatible roofing	Steel sheet tiles and BTD18 box profile sheets
Material	high quality polyvinyl chloride
Colours	coral red, red, brick-red, brown, green, graphite grey, black

The vent chimney is also available with an insulated insert.

Vent chimney for Spektrum steel sheet tiles



Vent chimney for box profile sheets



Premium insulated vent chimney for attic ventilation

Technical specification:

Designation	Vent chimney for PANORAMA steel sheet tiles and ELEGANT upright seam panels
System components	chimney with base and connection
Compatible roofing	The vent chimney base system is suitable for different roofing systems
Material	full-body coloured polypropylene
Colours	chocolate brown, brick-red, cherry, graphite, black
Size	diameter 125 mm (on order: 160 mm)

Premium vent chimney for PANORAMA steel sheet tiles



Vent chimney for ELEGANT upright seam panels



ACCESSORIES

BR-VENT self-adhesive ridge tape

Product features:

- perfect vapour permeability performance
- good roof ventilation
- prevents insect and small birds from nesting
- complete butyl self-adhesive tape; enables sealing of roof ridges at low roof slopes



Technical specification

Length [m]	5 ± 1%
Width [cm]	30
Product weight [g]	863 ± 6%
Aluminium colour	brick-red, red, brown, black
Fabric colour	black with red stripe

Gaskets

Product features:

- Essential sealing products for excellent roofing insulation
- Designed to match the roofing profiling pattern and the roof finish trim

Gasket types:

- Self-adhesive sealing tapes:
 - Polyethylene, PES 3x20
 - Polyurethane, PUS 5x40 and PUS 5x80
- Water-proofed polyurethane gasket, size 20x30, 20x40, 20x50
- Butyl sealing tape
- Water-proofed expanding polyurethane sealing tapes
- Formed seals for roof sandwich panels, box profile sheets and steel sheet tiles:
 - TUP – metal sheet top sealing gasket
 - TUN – metal sheet bottom sealing gasket

PES gasket (for steel structures)



TUP and TUN gaskets



Ridge batten bracket with fastening pin

Product features:

- Easy installation of ridge battens
- Easy and quick fastening
- Resists weathering

Technical specification:

Material	Galvanized steel
Dimensions [mm]	40 x 210 40 x 230 40 x 260



Ridge batten bracket with fastening braces

Product features:

- Easy installation of ridge battens
- Easy and quick fastening
- Resists weathering

Technical specification:

Material	Galvanized steel
Dimensions [mm]	40



Fasteners

Product features:

- For proper installation of all roofing and façade cladding components
- For joining of sheets;

Self-drilling screw with gasket washer



Sheet metal screw



Torx screws



TOUCH-UP PAINTS

USE

- Reprotection of small scratches and grazing of the organic coating

PRODUCT PARTS

- Touch-up paint, available in all colours, to match the available steel sheet tile colour options. (200 ml)
- Touch-up marker for steel sheet roofing products (15 ml), available colour options:
 - Cherry red 3009
 - Red 3011
 - Dark green 6005
 - Fir green 6020
 - Signal blue 5010
 - Graphite 7016
 - Graphite grey 7024
 - Brick red 8004
 - Chocolate brown 8017
 - Dark brown 8019
 - Black 9005
 - Silver metallic 9006
 - White 9010

The touch-up paint can be applied with a brush or a small air spray gun.

- Touch-up paint brush

Farba zaprawkowa



Marker zaprawkowy



Skylights

The Victory GFR polyester-glazed skylights can be installed on roofs made from mineral wool core or polyurethane core roof sandwich panels or box profile sheets. The skylights provide natural indoor illumination with a light transmittance of approximately 68%.

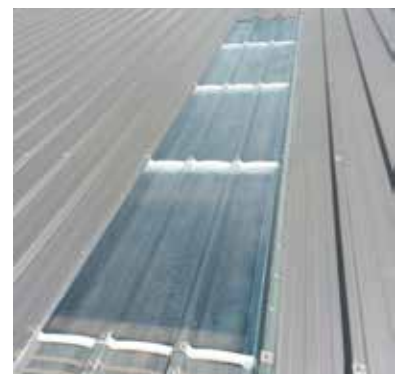
Each skylight is fabricated from one top and one bottom long-life panel. Both panels are made from GFR (glass fibre reinforced) polyester. The top panel features an additional protective film which isolates the polyester material from UV light and prevents discolouration.

The special design of the skylight panel arrangement provides high thermal insulation performance and eliminates cold bridges across the roof thermal insulation layer.

Installation compatibility:

- PU-R roof sandwich panels with polyurethane core
- MW-R roof sandwich panels with mineral wool core
- BTD 18.136, BTD 35, BTD 45.150, BTD 45.333, and BTD 55 box profile sheets

Standard length: 3100 mm



ROOF SAFETY SYSTEM

Properties

- Prevents snow and ice sliding from roof slopes
- Enables easy and safe access to chimney stacks, gutterwork and other roof-top installations
- Matches the roofing made from steel sheet tiles, upright seam panels and box profile sheets

Technical specification

Material	galvanised steel, varnish coating on both sides
Standard length	Snow guard – 2000 mm Snow railing – 2000 mm Chimney-sweep bench – 400 mm, 800 mm, 1980 mm (other sizes available on request)
Colours*	red, brick-red, brown, grey, black

*The snow railing kit colours available for upright seam panels: silver metallic or graphite grey.

Components of the roof safety system

Snow guard for steel sheet tiles and box profile sheets



Chimney-sweep bench with cradle and brackets



Snow railing for upright seam panels



Chimney-sweep step with cradle and brackets



6.

ROOF GUTTERS

213 Zenit

221 Wijo

THERMAL INSULATION

SANDWICH PANELS

BOX PROFILE SHEETS

ROOFING

ROOF & WALL INSTALLATION ACCESSORIES

ROOF GUTTERS

COLD-FORMED SECTIONS

FAÇADE CLADDING

GENERAL TERMS & CONDITIONS OF SALE

1.

THERMAL
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2.

SANDWICH
PANELS

3.

BOX PROFILE
SHEETS

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ROOFING

5.

ROOF & WALL
INSTALLATION
ACCESSORIES

6.

ROOF
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7.

COLD-FORMED
SECTIONS

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FAÇADE
CLADDING

9.

GENERAL TERMS
& CONDITIONS
OF SALE

ZENIT AND WIJO ROOF GUTTER SYSTEMS LEARN THE KEY DIFFERENCE.



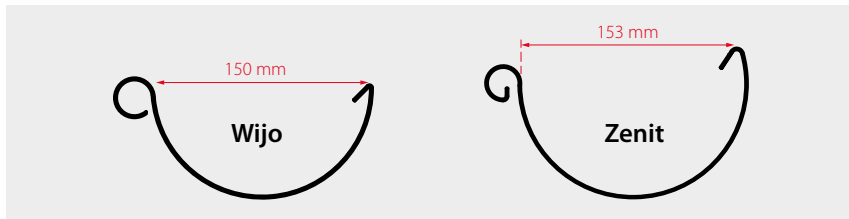
The Zenit roof gutter system is of a type known as a “German” system, while Wijo is a “Scandinavian” system. They are known as German and Scandinavian systems due to their predominant use in these locations. Each geographical reference hints at the many features of these roof gutter systems. The German system can be described as robust and somewhat exaggerated. The Scandinavian system is cost-efficient and tailor-made. Both ZENIT and WIJO systems have their supporters. Depending on the location, either one system or the other dominates in terms of the number of completed installations. Learn the four key features which differentiate these gutter systems, and choose the one which best suits your needs.



6.

ROOF GUTTERS

Depth



The ZENIT German system has a much deeper gutter trough than other systems on the market. This results in up to 30% higher water drainage rates compared to traditional gutterwork, and eliminates the risk of gutter overflowing. There are two reasons for this performance. There is higher rainfall in this region than in Scandinavia and other parts of Europe, while Scandinavia sees more snow and consequently the gutter systems feature more down pipes.

Installation



ZENIT is a tailor-made roof gutter system. All parts feature push-fit assembly. As there are no clearances or loose joints, the Zenit system requires no additional seals or reworking during the on-site installation. These features eliminate the risk of freezing water expanding and bursting the joints. The same kind of assumptions apply to the Scandinavian roof gutter system, although the design philosophy is quite different. WIJO features slight play at the joints, leaving clearance for additional sealing; however, the play provides the advantage of giving the whole gutterwork more flexibility and a more reliable seal across high temperature variations.

Coating and durability

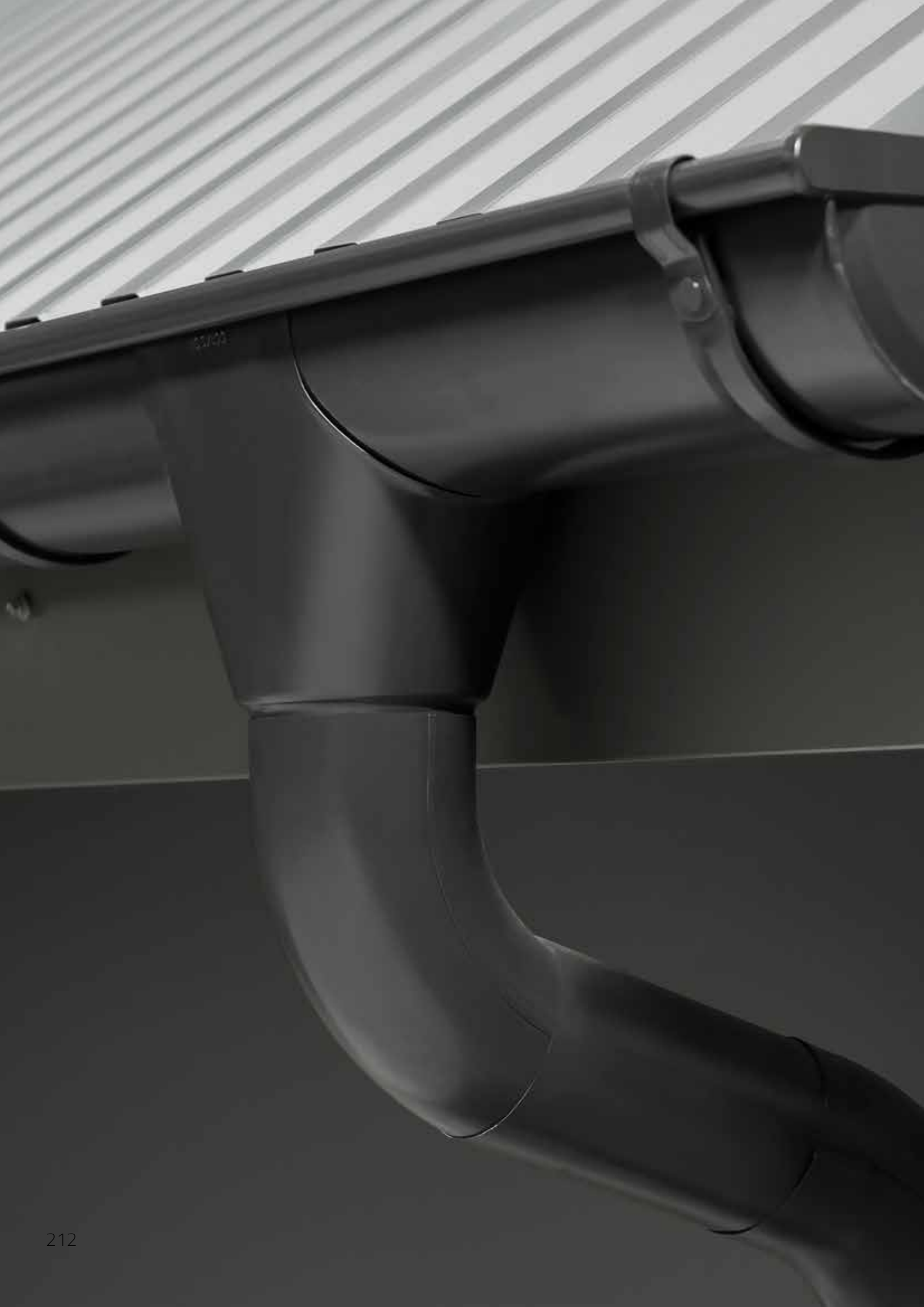
ZENIT	WIJO
CESAR 35	PRELAQ NOVA 35 (SSAB)
Durability	Durability
★★★★★ / 35 µm	★★★★★ / 35 µm

There are two coating options available. The Zenit roof gutter system has the CESAR35 mineral coating, which features better mechanical damage resistance and colour fastness, especially under high exposure to UV light. The WIJO roof gutter system features a reinforced polyester coating called PRELAQ NOVA, 35 microns thick. Both coating options provide the best weather resistance on the market.

Robust construction



Both roof gutter systems are very robust and safe thanks to the great attention to detail. The systems vary in how the same strength parameters are achieved. This is best illustrated by the gutter hooks used in each system. The long over-rafter gutter hooks of the German ZENIT system are made from thick flat strips. The Scandinavian-like WIJO system features gutter hooks rolled and bent from sheet metal. Both roof gutter systems can withstand heavy loads throughout its life, and can even support the weight of a professional roofer, if it is necessary to step on the gutters during installation. The ZENIT hooks feature two alignment markers, and the locating tabs can be bent repeatedly to adjust the alignment of gutters. The butt hooks are an equally good design, and require little or no reworking during installation. The gutter system can be installed without removing the roof covering.



ZENIT

Zenit is German-style roof gutter system with deep gutter troughs, where superior durability is the primary advantage. In this it is aided by the special CESAR35 coating applied to both sides of sheet metal. The Zenit gutter system has been designed by roofers. This is why all the parts fit, match and complement each other perfectly, with no additional sealing of joints required.

Rapid assembly

Just fasten the parts together and... it is done! No additional sealing or minor corrections required.

Higher flow capacity

The deep gutter trough performance helps remove rain and melt water up to 30% faster than standard gutter systems.

Corrosion resistance

Zenit gutter products work well in highly aggressive corrosion environments (up to class C4).



PATRYK LEJNA,
PROFESSIONAL
ROOFER,
TALKS ABOUT
ZENIT GUTTERS



MANUFACTURING
ZENIT GUTTERS



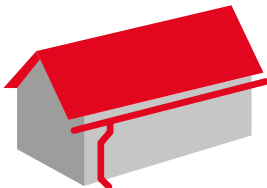
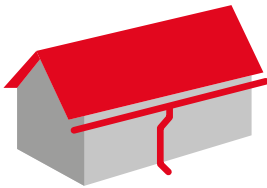
INSTALLING
ZENIT GUTTERS

TECHNICAL PARAMETERS

Specifications

Designation	Zenit gutter system
Coating	CESAR35
Steel grade	DX53 Z275
Sheet thickness [mm]	0,60
Corrosion resistance	RC4 / PN-EN 1462:2006 A
Load rating class	H (750 N)
Screw fixing suitability	S
Gutter sizes (standard) [mm]	127/100; 153/100; 153/120
Gutter length [mm]	3000 and 4000
Down pipe length [mm]	1000; 3000

System capacity

Down pipe location on the building	GUTTER / PIPE system size		
	(28) 127/100	(33) 153/100	(33) 153/120
	107 m ²	150 m ²	173 m ²
	203 m ²	285 m ²	329 m ²

The values in [m²] apply to the effective roof area. Total surface area formula: $P = (\frac{1}{2} B + \frac{1}{2} H) L$
with: P – total roof area; B – base width; H – roof height; L – eave length

Colour	7016	8017	9005	3009	8004	9002	9006	Galvanized	Titanium zinc*	Copper*
127/100	X	X	X	X	X			X	X	X
153/100	X	X	X		X	X	X	X	X	X
153/120	X	X				X	X	X	X	X



DECLARATIONS
& CERTIFICATIONS



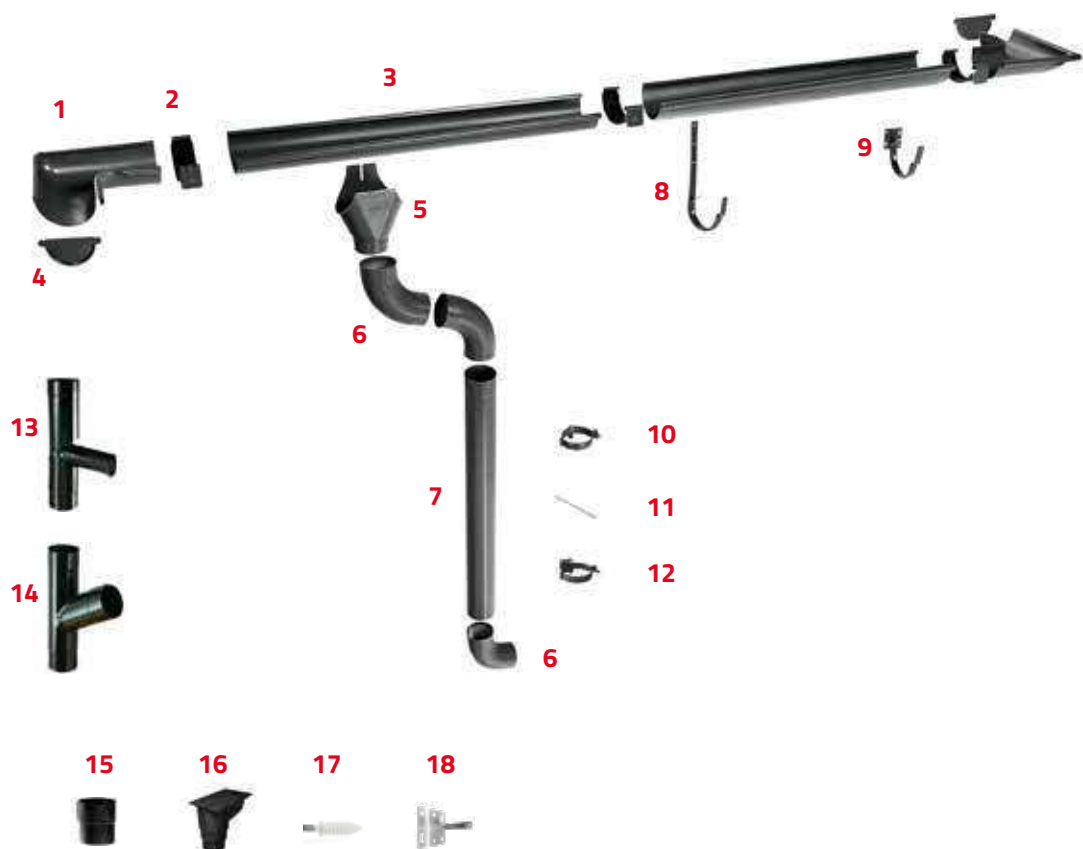
6.

ROOF GUTTERS

ZENIT ROOF GUTTER SYSTEM COMPONENTS

The system consists of the following components:

- | | |
|-------------------------------|--|
| 1. internal / external corner | 10. screw clamp |
| 2. connector with gasket | 11. fixing screw |
| 3. gutter | 12. butt clamp |
| 4. gutter plug | 13. rainwater diverter |
| 5. branch | 14. pipe branch |
| 6. bend / spout | 15. sleeve |
| 7. downpipe | 16. decanter |
| 8. long over-rafter hook | 17. downpipe clamp snail |
| 9. front hook | 18. metal plate for the downpipe clamp |



1. internal / external corner



5. Branch



2. Connector with gasket



6. Bend / spout



3. Gutter



7. Downpipe



4. Gutter plug



8. Long over-rafter hook



6.

ROOF GUTTERS

9. Front hook



13. Rainwater diverter



10. Screw clamp



14. Pipe branch



11. Fixing screw



15. Sleeve



12. Butt clamp



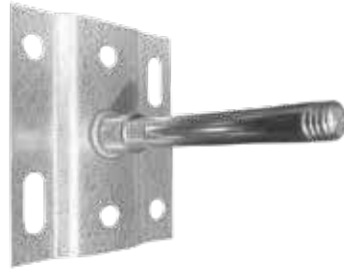
16. Decanter



17. Downpipe clamp snail



18. Metal plate for the downpipe clamp







WIJO

Wijo is a durable, Scandinavian-styled and easy to install roof drainage system. It fits all types of roof and façade systems. The precision-made parts and high-quality coatings guarantee years of reliable operation, while maintaining a fresh and neat finish.

An enduring gutter solution

The high manufacturing quality of the gutters means decades-long durability.

Warranty

The Wijo system is covered by a 15-year warranty.

An all-rounder system

Wijo is ideal for residential, industrial and agricultural buildings.

Efficient installation

The Wijo gutter system is quick and easy to install.

TECHNICAL PARAMETERS

Specifications

Designation	WIJO coated steel gutters
Coating	Prelaq Nova (HBP 35 µm)
Warranty	15 years for C1-C3
Steel grade	DX53 Z275
Sheet thickness [mm]	0,6
Load rating class	H (750 N)
Screw fixing suitability	S
Gutter sizes (standard) [mm]	125/90; 150/100; 100/75*
Gutter length [mm]	4000
Down pipe length [mm]	3000

* Available in chocolate brown only.

Colour	9002	8028	8004	9011	3009	7011	9006
125/90	X	X	X	X	X	X	X
150/100	X	X	X	X	X	X	X
100/75		X					



DECLARATIONS
& CERTIFICATIONS





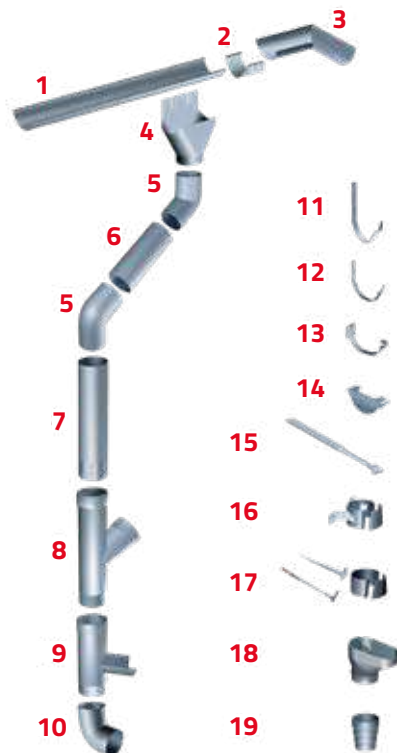
6.

ROOF GUTTERS

WIJO ROOF GUTTER SYSTEM COMPONENTS

The system consists of the following components:

1. gutter
2. gutter connector
3. internal / external corner
4. gutter gully
5. bend
6. down pipe extension
7. down pipe
8. down pipe tee
9. rain water trap
10. down pipe spout
11. HRL 210 gutter hook
12. HRL 70 gutter hook
13. compact gutter hook
14. gutter cap, universal
15. gutter stay
16. down pipe clamp (recommended for installation on sandwich panels)
17. ORSW down pipe clamp (two available ORSW downpipe clamp styles: impact-driven and screw-driven)
18. down pipe inspection screen
19. rain water drainage reducer



1. Gutter



5. Down pipe bend



2. Gutter connector



6. Down pipe extension



3. Internal / external corner



7. Down pipe



4. Łącznik rynny z rurą



8. Down pipe tee



6.

ROOF GUTTERS

9. Rain water trap



13. Compact gutter hook



10. Down pipe spout



14. Gutter cap, universal



11. HRL 210 gutter hook



15. Gutter stay



12. HRL 70 gutter hook



16. Downpipe clamp



17. ORSW downpipe clamp



18. Down pipe inspection screen



19. Rain water drainage reducer



7.

COLD-FORMED SECTIONS

234 Z-bar sections

236 C-sections

238 Profile Σ

THERMAL INSULATION

SANDWICH PANELS

BOX PROFILE SHEETS

ROOFING

ROOF & WALL INSTALLATION ACCESSORIES

ROOF GUTTERS

COLD-FORMED SECTIONS

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MULTIPLE APPLICATIONS FOR A SUPERIOR BEARING STRUCTURE.

Cold-formed sections are an excellent choice for wall girts and roof purlins to form a bearing structure for light curtain walls and light roofing. The cold-formed sections can also be used for construction of steel modular buildings. Balex Metal provides three cold-formed section options: Z, C and Sigma. Each cold-formed section can be fabricated with any hole pattern.

Cold-formed sections customized just for you

- Galvanized S350GD steel alloy
- Available section height: 100 to 400 mm
- Available section thickness: 1.5 to 3 mm
- Maximum length: 15,000 mm

Cold-formed sections in stock:

- Quick delivery from a production plant in central Poland
- Quick order fulfilment with a state-of-the-art processing line
- Order fulfilment backed by the in-house design engineering office and a dedicated order lead
- Easy design engineering with load capacity tables for roofing purlins and wall girts

Available slots diameters:

- | | |
|---------|--|
| Ø 14 | } Slots manufacturable in horizontal and vertical orientations |
| Ø 17 | |
| Ø 18 | |
| Ø 14-26 | |
| Ø 18-26 | |



LEARN MORE ABOUT
COLD-FORMED
SECTIONS



7.

COLD-FORMED
SECTIONS

QUICK AND EASY DESIGN OF COLD-FORMED SECTIONS

What was once complicated has been simplified and implemented in a smart and intuitive online app for designing holes in cold-formed sections.

The configuration wizard is a quick and easy way to design where holes should be drilled in any type of section. It works without installation on your PC or mobile: just go to the address in a web browser and start your project. The app can generate a list of the sections you need for your project with detailed and dimensioned shop drawings. The finished hole design project file can be then appended to a production order.

APP BENEFITS:

- Free
- Saved projects can be edited
- Generates detailed hole drawings, complete with dimensioning lines
- Quick and easy to use
- Web-based (requires no local installation)



COLD-FORMED
HOLE PATTERN
WIZARD



Z-BAR SECTIONS

TECHNICAL PARAMETERS



MORE ABOUT
Z-BAR SECTIONS

Section profile:

H – section height

t – section thickness

S_1, S_2 – flange width

C – lip length

r – bending radius

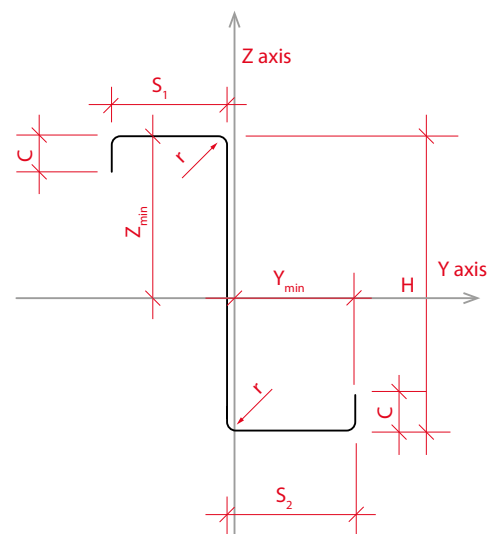
F_a – cross-sectional area

$y_{min}, y_{max}, z_{min}, z_{max}$ – location of centre of gravity

I_y, I_z – moment of inertia

$W_{y,min}, W_{z,min}$ – strength factor

i_y, i_z – radius of inertia



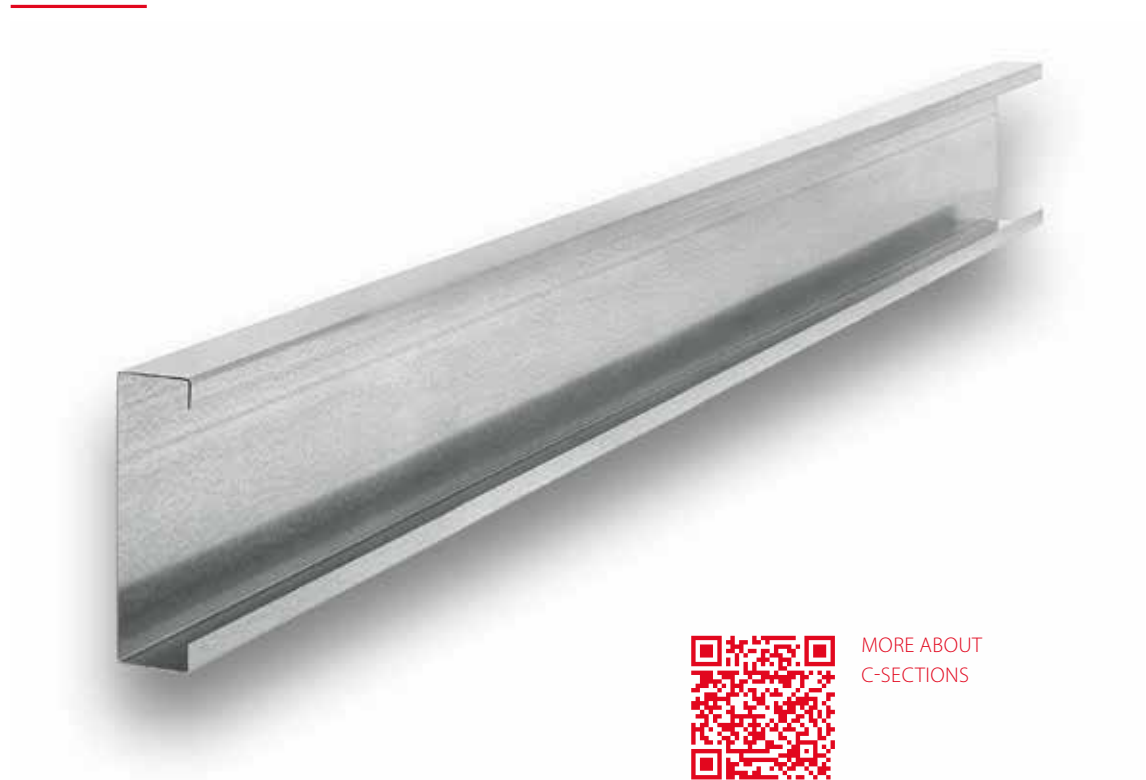
Tabulated geometric characteristics of Z-bar sections:

Shape	H	t	S ₁	S ₂	C	r	Mass	F _a	y _{min}	y _{max}	z _{min}	z _{max}	I _y	I _z	W _{y,min}	W _{z,min}	i _y	i _z
	[mm]						[kg/m]	[cm ²]	[cm]				[cm ⁴]		[cm ³]		[cm]	
Z 100	100	1,5	66	60	17,5	3,5	2,9	3,7	63,4	61,1	51,2	48,8	62,4	40,3	12,2	6,4	4,1	3,3
		2	67	60	18,5	3,5	3,9	5	63,8	61,2	51,4	48,6	82,4	54,6	16	8,6	4,1	3,3
		2,5	70	62	17,5	3,5	4,8	6,2	66,3	63,2	51,6	48,4	103,2	71,5	20	10,8	4,1	3,4
		3	71	62	18,5	3,5	5,8	7,5	66,7	63,3	51,8	48,2	122,5	87,4	23,7	13,1	4	3,4
Z 150	150	1,5	66	60	17,5	3,5	3,5	4,5	63,7	60,8	76,5	73,5	158,3	40,2	20,7	6,3	6	3
		2	67	60	18,5	3,5	4,6	6	64,2	60,8	76,7	73,3	209,9	54,7	27,4	8,5	5,9	3
		2,5	70	62	17,5	3,5	5,8	7,5	66,7	62,8	77	73	263,1	71,5	34,2	10,7	5,9	3,1
		3	71	62	18,5	3,5	7	9	67,1	62,9	77,2	72,8	313,9	87,5	40,7	13	5,9	3,1
Z 175	175	1,5	66	60	17,5	3,5	3,8	4,8	63,8	60,7	89,1	85,9	226,6	40,3	25,4	6,3	6,8	2,9
		2	67	60	18,5	3,5	5	6,5	64,3	60,7	89,4	85,6	300,9	54,7	33,7	8,5	6,8	2,9
		2,5	70	62	17,5	3,5	6,3	8,1	66,8	62,7	89,6	85,4	377,1	71,5	42,1	10,7	6,8	3
		3	71	62	18,5	3,5	7,5	9,7	67,3	62,7	89,9	85,1	450,5	87,5	50,1	13	6,8	3
Z 200	200	1,5	66	60	17,5	3,5	4,1	5,2	63,9	60,6	101,7	98,3	310	40,3	30,5	6,3	7,7	2,8
		2	67	60	18,5	3,5	5,4	7	64,5	60,5	102	98	412	54,7	40,4	8,5	7,7	2,8
		2,5	70	62	17,5	3,5	6,8	8,7	67	62,5	102,3	97,7	516,4	71,6	50,5	10,7	7,7	2,9
		3	71	62	18,5	3,5	8,1	10,5	67,5	62,5	102,5	97,5	617,6	87,5	60,2	13	7,7	2,9
Z 225	225	1,5	66	60	17,5	3,5	4,4	5,6	64	60,5	114,3	110,7	409,7	40,3	35,8	6,3	8,6	2,7
		2	67	60	18,5	3,5	5,8	7,5	64,6	60,4	114,6	110,4	544,9	54,7	47,6	8,5	8,5	2,7
		2,5	70	62	17,5	3,5	7,3	9,4	67,1	62,4	114,9	110,1	682,9	71,6	59,4	10,7	8,5	2,8
		3	71	62	18,5	3,5	8,7	11,2	67,6	62,4	115,2	109,8	817,3	87,6	70,9	13	8,5	2,8
Z 250	250	1,5	70	65	19,5	3,5	4,8	6,2	68,2	65,3	126,5	123,5	554,6	50,9	43,8	7,5	9,5	2,9
		2	71,5	65	21	3,5	6,4	8,3	69,2	65,3	127	123	741,5	70,6	58,4	10,2	9,5	2,9
		2,5	74,5	67,5	19,5	3,5	8,1	10,3	71,8	67,7	127,1	122,9	928,4	91,8	73	12,8	9,5	3
		3	76,5	67,5	21	3,5	9,7	12,5	73,1	67,9	127,7	122,3	1119,2	115,7	87,6	15,8	9,5	3
Z 300	300	2	69	62	21,5	3,5	7,1	9,2	66,7	62,3	152,3	147,7	1128	64,3	74,1	9,6	11,1	2,6
		2,5	70	62	22,5	3,5	8,9	11,5	67,3	62,2	152,6	-147,4	1407,8	81,7	92,3	12,1	11,1	2,7
		3	71	62	24	3,5	10,7	13,8	67,9	62,1	152,9	147,1	1691,4	101	110,6	14,9	11,1	2,7
Z 350	350	2	79	72	21,5	3,5	8,2	10,6	76,8	72,2	177,3	172,7	1764,9	93,3	99,5	12,1	12,9	3
		2,5	80	72	22,5	3,5	10,3	13,2	77,3	72,2	177,6	172,4	2203,7	118,4	124,1	15,3	12,9	3
		3	81	72	24	3,5	12,4	15,9	77,9	72,1	177,9	172,1	2648,3	146	148,9	18,7	12,9	3
Z 400	400	2	79	72	21,5	3,5	9	11,6	76,9	72,1	202,4	197,6	2445,1	93,3	120,8	12,1	14,5	2,8
		2,5	80	72	22,5	3,5	11,3	14,5	77,5	72	202,7	197,3	3054,3	118,5	150,7	15,3	14,5	2,9
		3	81	72	24	3,5	13,5	17,4	78	72	203,1	196,9	3671,8	146	180,8	18,7	14,5	2,9

* Z 175 and Z 200 available with narrower flange width and other available heights, e.g. 180 and 280.

C-SECTIONS

TECHNICAL PARAMETERS



MORE ABOUT
C-SECTIONS

Section profile:

H – section height

t – section thickness

S – flange width

C – lip length

r – bending radius

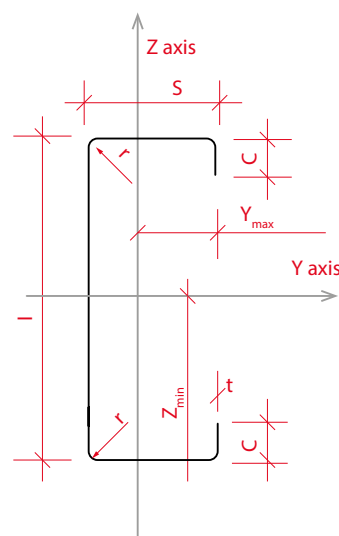
F_a – cross-sectional area

$y_{min}, y_{max}, z_{min}, z_{max}$ – location of centre of gravity

I_y, I_z – moment of inertia

$W_{y,min}, W_{z,min}$ – strength factor

i_y, i_z – radius of inertia



Tabulated geometric characteristics of C-sections:

Shape	H	t	S	C	r	Mass	F _a	y _{min}	y _{max}	z _{min}	z _{max}	I _y	I _z	W _{y,min}	W _{z,min}	i _y	i _z
	[mm]					[kg/m]	[cm ²]	[cm]				[cm ⁴]		[cm ³]		[cm]	
C 100	100	1,5	62	18	3,5	2,9	3,7	-23,2	38,8	50	50	61,9	20,5	12,4	5,3	4,1	2,4
		2	62	20	3,5	3,9	5	-23,7	38,3	50	50	81,6	27,6	16,3	7,2	4,1	2,4
		2,5	62	21,5	3,5	4,8	6,2	-24,2	37,8	50	50	100,5	34,5	20,1	9,1	4	2,4
		3	64	21,5	3,5	5,8	7,5	-25,1	38,9	50	50	120,8	43,4	24,2	11,2	4	2,4
C 150	150	1,5	62	18	3,5	3,5	4,5	-19,4	42,6	75	75	157,3	23,6	21	5,5	5,9	2,3
		2	62	20	3,5	4,6	6	-19,9	42,1	75	75	208,7	31,9	27,8	7,6	5,9	2,3
		2,5	62	21,5	3,5	5,8	7,5	-20,3	41,7	75	75	258,7	40	34,5	9,6	5,9	2,3
		3	64	21,5	3,5	7	9	-21,1	42,9	75	75	311,7	50,4	41,6	11,7	5,9	2,4
Z 175	175	1,5	62	18	3,5	3,8	4,8	-17,9	44,1	87,5	87,5	225,2	24,8	25,7	5,6	6,8	2,3
		2	62	20	3,5	5	6,5	-18,5	43,5	87,5	87,5	299,4	33,6	34,2	7,7	6,8	2,3
		2,5	62	21,5	3,5	6,3	8,1	-18,9	43,1	87,5	87,5	371,8	42,1	42,5	9,8	6,8	2,3
		3	64	21,5	3,5	7,5	9,8	-19,6	44,4	87,5	87,5	448,2	53	51,2	11,9	6,8	2,3
C 200	200	1,5	62	18	3,5	4,1	5,2	-16,7	45,3	100	100	308,2	25,8	30,8	5,7	7,7	2,2
		2	62	20	3,5	5,4	7	-17,2	44,8	100	100	410,3	35	41	7,8	7,7	2,2
		2,5	62	21,5	3,5	6,8	8,7	-17,6	44,4	100	100	510,3	43,9	51	9,9	7,6	2,2
		3	64	21,5	3,5	8,1	10,5	-18,3	45,7	100	100	615,2	55,3	61,5	12,1	7,7	2,3
C 225	225	1,5	62	18	3,5	4,4	5,6	-15,6	46,4	112,5	112,5	407,5	26,7	36,2	5,8	8,5	2,2
		2	62	20	3,5	5,8	7,5	-16,1	45,9	112,5	112,5	543	36,2	48,3	7,9	8,5	2,2
		2,5	62	21,5	3,5	7,3	9,4	-16,5	45,5	112,5	112,5	676	45,5	60,1	10	8,5	2,2
		3	64	21,5	3,5	8,7	11,3	-17,2	46,8	112,5	112,5	815,1	57,3	72,5	12,2	8,5	2,3
C 250	250	1,5	65	23	3,5	4,8	6,2	-16,8	48,2	125	125	554,5	34,3	44,4	7,1	9,5	2,4
		2	66	23	3,5	6,4	8,3	-17,2	48,8	125	125	736,5	46,2	58,9	9,5	9,4	2,4
		2,5	68	23	3,5	8,1	10,4	-17,9	50,1	125	125	924,7	60,5	74	12,1	9,5	2,4
		3	70	23	3,5	9,7	12,5	-18,5	51,5	125	125	1114,5	75,9	89,2	14,7	9,5	2,5
C 300	300	2	65	22	3,5	7,1	9,2	-14,9	50,1	150	150	1127,3	45,8	75,2	9,1	11,1	2,2
		2,5	67	22	3,5	8,9	11,5	-15,5	51,5	150	150	1415,5	60	94,4	11,7	11,1	2,3
		3	68	22	3,5	10,7	13,8	-15,9	52,1	150	150	1693	72,8	112,9	14	11,1	2,3
C 350	350	2	72	24,5	3,5	8,2	10,6	-16	56	175	175	1750,8	64,1	100	11,5	12,9	2,5
		2,5	74	24,5	3,5	10,3	13,2	-16,7	57,3	175	175	2197,4	83,7	125,6	14,6	12,9	2,5
		3	76	24,5	3,5	12,4	15,9	-17,3	58,7	175	175	2647,5	104,7	151,3	17,8	12,9	2,6
C 400	400	2	74	22,5	3,5	9	11,6	-14,9	59,1	200	200	2434,7	68,1	121,7	11,5	14,5	2,4
		2,5	74	25	3,5	11,3	14,5	-15,4	58,6	200	200	3054,7	87,2	152,7	14,9	14,5	2,5
		3	75	25	3,5	13,5	17,4	-15,8	59,2	200	200	3656,4	105,6	182,8	17,8	14,5	2,5

PROFILE ?

TECHNICAL PARAMETERS



MORE ABOUT
SIGMA PROFILES

Section profile:

H – section height

t – section thickness

S, F, D – geometric components

C – lip length

r – bending radius

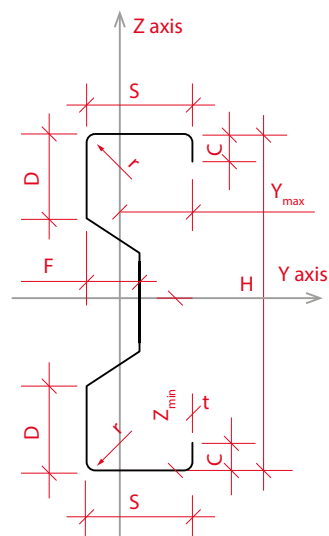
F_a – cross-sectional area

$y_{min}, y_{max}, z_{min}, z_{max}$ – location of centre of gravity

I_y, I_z – moment of inertia

$W_{y,min}, W_{z,min}$ – strength factor

i_y, i_z – radius of inertia



Tabulated geometric characteristics of Sigma profiles:

Shape	H	t	S	F	D	C	r	Mass	F _a	y _{min}	y _{max}	z _{min}	z _{max}	I _y	I _z	W _{y,min}	W _{z,min}	i _y	i _z
	[mm]							[kg/m]	[cm ²]	[cm]				[cm ⁴]		[cm ³]		[cm]	
Σ 160	160	1,5	50	26	40	13	3,5	3,47	4,49	-18,6	31,4	-80	80	157,93	11,07	19,74	3,53	5,93	1,57
		2	50	26	40	15	3,5	4,63	6,02	-19,1	30,9	-80	80	210,29	14,98	26,29	4,85	5,91	1,58
		2,5	53	26	40	14,5	3,5	5,79	7,59	-19,9	33,1	-80	80	266,44	20,33	33,30	6,14	5,92	1,64
		3	53	26	40	16,5	3,5	6,95	9,15	-20,4	32,6	-80	80	319,10	24,75	39,89	7,59	5,91	1,64
Σ 180	180	1,5	52,5	26	42	13	3,5	3,77	4,87	-19,4	33,1	-90	90	215,90	12,65	23,99	3,82	6,66	1,61
		2	52,5	26	42	15	3,5	5,02	6,52	-19,9	32,6	-90	90	287,76	17,12	31,97	5,25	6,64	1,62
		2,5	55,5	26	42	14,5	3,5	6,28	8,21	-20,7	34,8	-90	90	364,25	23,13	40,47	6,65	6,66	1,68
		3	55,5	26	42	16,5	3,5	7,54	9,9	-21,2	34,3	-90	90	436,71	28,17	48,52	8,21	6,64	1,69
Σ 200	200	1,5	55	26	45	13	3,5	4,06	5,24	-20	35	-100	100	285,61	14,42	28,56	4,12	7,38	1,66
		2	55	26	45	15	3,5	5,42	7,02	-20,5	34,5	-100	100	380,95	19,53	38,09	5,66	7,37	1,67
		2,5	58	26	45	14,5	3,5	6,77	8,84	-21,3	36,7	-100	100	481,81	26,30	48,18	7,17	7,38	1,72
		3	58	26	45	16,5	3,5	8,12	10,65	-21,8	36,2	-100	100	578,10	32,05	57,81	8,85	7,37	1,73
Σ 230	230	1,5	52,5	26	45	13	3,5	4,36	5,62	-20	32,5	-115	115	392,99	13,29	34,17	4,09	8,36	1,54
		2	52,5	26	45	15	3,5	5,81	7,53	-20,5	32	-115	115	524,70	17,97	45,63	5,61	8,35	1,54
		2,5	55,5	26	45	14,5	3,5	7,26	9,47	-21,2	34,3	-115	115	663,52	24,14	57,70	7,04	8,37	1,60
		3	55,5	26	45	16,5	3,5	8,71	11,41	-21,7	33,8	-115	115	796,98	29,36	69,30	8,69	8,36	1,60
Σ 250	250	1,5	62,5	26	45	13	3,5	4,83	6,22	-22,6	39,9	-125	125	529,60	19,37	42,37	4,85	9,23	1,76
		2	62,5	26	45	15	3,5	6,44	8,33	-23,1	39,4	-125	125	707,03	26,25	56,56	6,66	9,21	1,78
		2,5	65,5	26	45	14,5	3,5	8,05	10,47	-23,8	41,7	-125	125	892,58	35,12	71,41	8,42	9,23	1,83
		3	65,5	26	45	16,5	3,5	9,66	12,61	-24,3	41,2	-125	125	1072,10	42,83	85,77	10,39	9,22	1,84
Σ 300	300	2	62	26	65	13	3,5	7,14	9,23	-20,8	41,2	-150	150	1069,47	28,09	71,30	6,82	10,76	1,74
		2,5	62	26	65	15,5	3,5	8,93	11,6	-21,4	40,6	-150	150	1344,25	36,10	89,62	8,89	10,76	1,76
		3	62	26	65	17,5	3,5	10,72	13,96	-21,8	40,2	-150	150	1615,85	43,95	107,72	10,93	10,76	1,77
Σ 350	350	2	72	26	65	13	3,5	8,24	10,69	-23,8	48,2	-175	175	1710,27	40,88	97,73	8,48	12,65	1,96
		2,5	72	26	65	15,5	3,5	10,30	13,35	-24	48	-175	175	2129,29	50,87	121,67	10,60	12,63	1,95
		3	72	26	65	17,5	3,5	12,36	16,06	-24,5	47,5	-175	175	2559,81	62,02	146,27	13,06	12,62	1,97
Σ 400	400	2	72	26	80	13	3,5	9,03	11,69	-22,7	49,3	-200	200	2365,33	43,90	118,27	8,91	14,22	1,94
		2,5	72	26	80	15,5	3,5	11,28	14,6	-23	49	-200	200	2946,34	54,66	147,32	11,15	14,21	1,93
		3	72	26	80	17,5	3,5	13,54	17,56	-23,4	48,6	-200	200	3543,24	66,63	177,16	13,71	14,20	1,95

7.

COLD-FORMED
SECTIONS

8.

FAÇADE CLADDING

249 Wall panel

255 Cladding coffer

THERMAL INSULATION

SANDWICH PANELS

BOX PROFILE SHEETS

ROOFING

ROOF & WALL INSTALLATION ACCESSORIES

ROOF GUTTERS

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& CONDITIONS
OF SALE



WALL PANEL

GIVES CHARACTER

Wall panels are a smart and clean decorative solution to flesh out the modern character of any building: office complexes, sports arenas, or production buildings.

Easy installation

The wall panels can be installed quickly and easily — just drive the screws through and into the subframe.

Many possible design arrangements

The wall panels can be accented by glass, wood, concrete or aluminium. They are well suited as indoor finish materials. This unlocks a world of creative options for architects.

A wide colour palette

A selection of more than 25 colours for freedom of façade cladding design.

8.

FAÇADE
CLADDING



CONSTRUCTION
PROJECT WITH
THE WALL PANELS



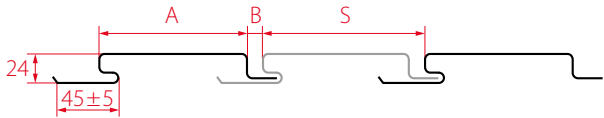
MORE ABOUT
THE WALL PANELS

TECHNICAL PARAMETERS

Specifications

Designation	PS 205 wall panel
Steel grade	S250GD
Length	Custom order
Maximum length [mm]	6000
Effective width, S [mm]	205 / 305 (adjustable from 200 to 300 mm, depending on the sheet thickness)
Face A width [mm]	194 / 294
Gap B width [mm]	1-11 (+/- 1)
Sheet thickness [mm]	0,50 / 0,60 / 0,70
Coating	SP Polyester 25 µm, SP Polyester Mat Pearl 35 µm, CESAR® PUR 55 µm, CESAR 65

Wall panel cross-section



S – standard effective width: 205 mm



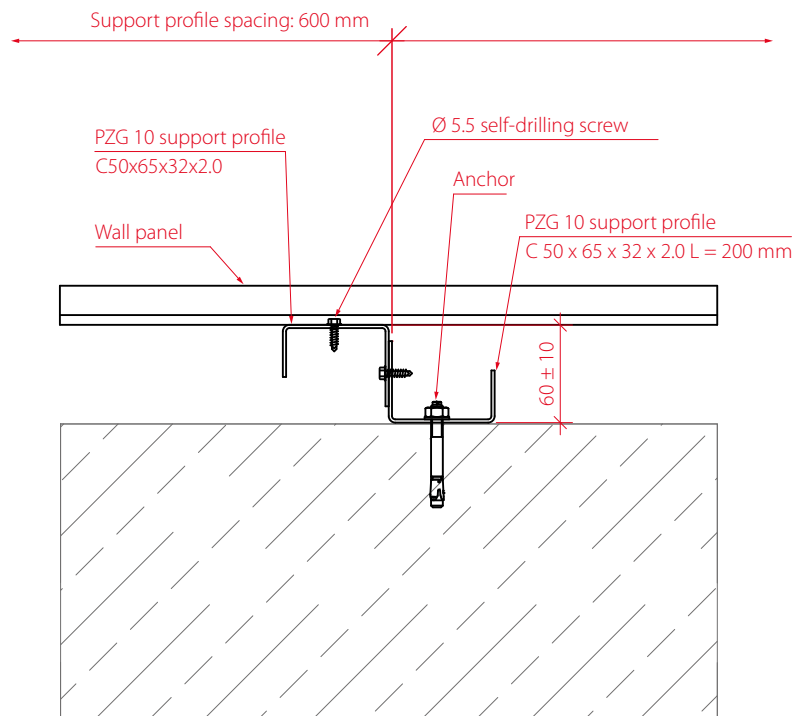


8.

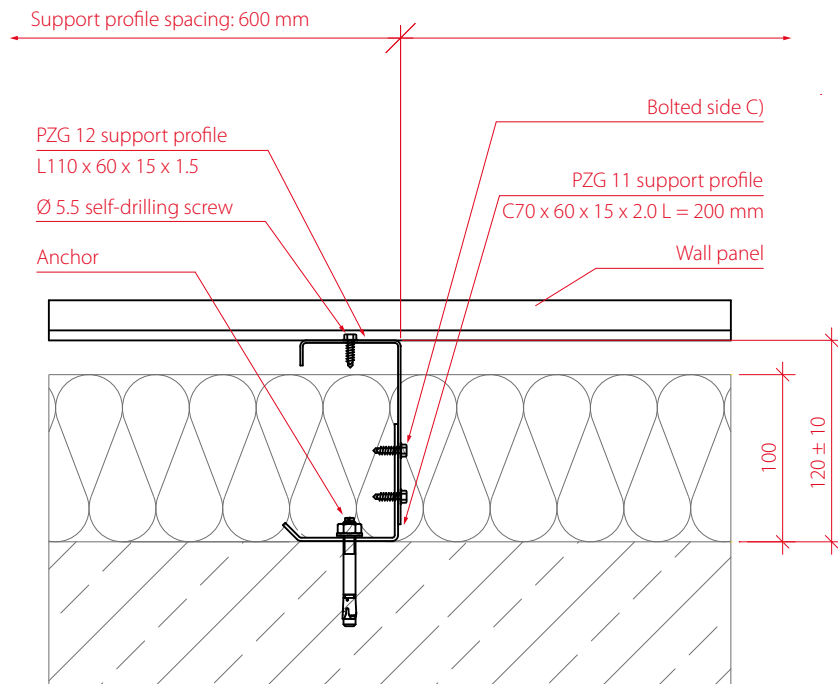
FAÇADE
CLADDING

Wall cross-section

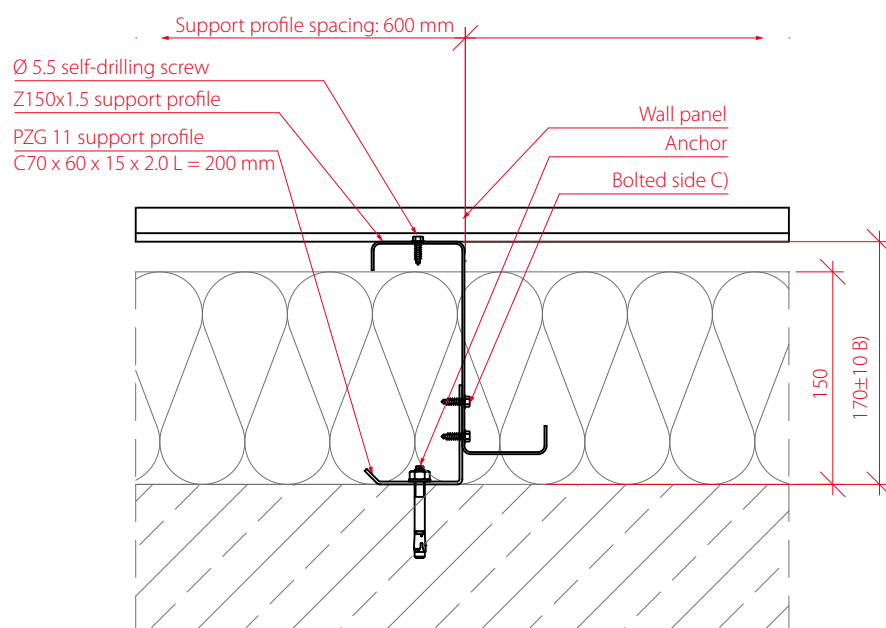
1. No thermal insulation



2. With thermal insulation, e.g. 100 mm thick



3. With thermal insulation, max. 150 mm thick





COFFER CLADDING

STYLISH ELEVATIONS

The façade cladding adds unique character and identity to buildings. The clean and regular lines which separate the individual mosaic segments imbue the entire design with an element of airiness and sophistication.

Modern design

The cladding coffers add a refined finish to any building façade.

Unlimited flexibility

Project owners can choose any RAL colour. The cladding can be seamlessly integrated with wooden, glass, designer concrete and aluminium skins to bring even the most sophisticated of design concepts to life.

A sturdy design

The cladding coffers are mounted on a steel subframe. This provides a stable and reliable attachment method for the façade cladding system.

Durability

Balex Metal cladding coffers are manufactured from premium-quality S320GD steel grade, protected by zinc and powder coating.



CONSTRUCTION
PROJECT
WITH CLADDING
COFFERS



MORE ABOUT
THE CLADDING
COFFERS

8.

FAÇADE
CLADDING

TECHNICAL PARAMETERS

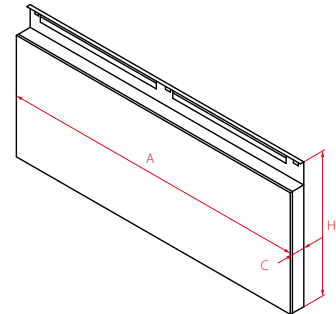
Specifications

Designation	Cladding coffer
Steel grade	S320GD
Steel thickness [mm]	1,20 / 1,50
Coating and colours	powder-coated in any colour of choice
Corrosion resistance	Max. RC5 per PN-EN 10169-2
UV resistance	Max. RUV4 per PN-EN 10169-2

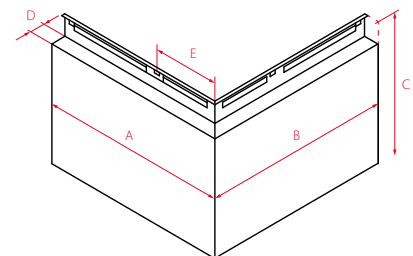
Cladding corner coffer sizes	
Standard coverage width, A [mm]	max. 1500 (2000*)
Recommended coverage height, H [mm]**	max. 600 by module
Adjustable coverage height, H [mm]**	225-600 by module
Recommended joint gap [mm]	20
Recommended front height, C [mm]	30

* Optional length values to be agreed individually.

** The coverage height is the total of the coffer front height values and the joint gap between the coffers.



Cladding corner coffer sizes	
Side coverage width, A [mm]	min. 300
Side coverage width, B [mm]	min. 300
Total side coverage width, A+B [mm]	max. 2300*
Standard coverage height, C [mm]**	max. 600 by module
Adjustable coverage height, C [mm]**	225-600 by module

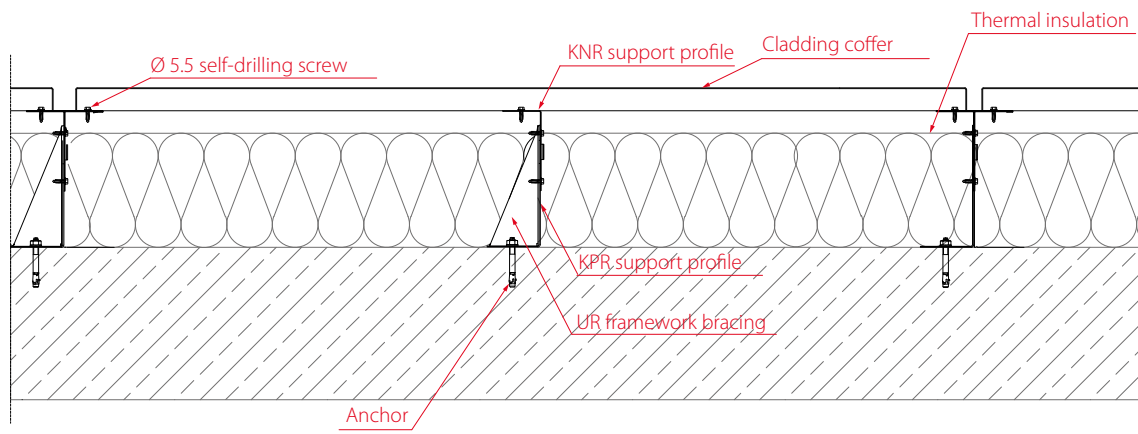


* Sizing restrictions for the cladding corner coffers: one side > 900 mm.

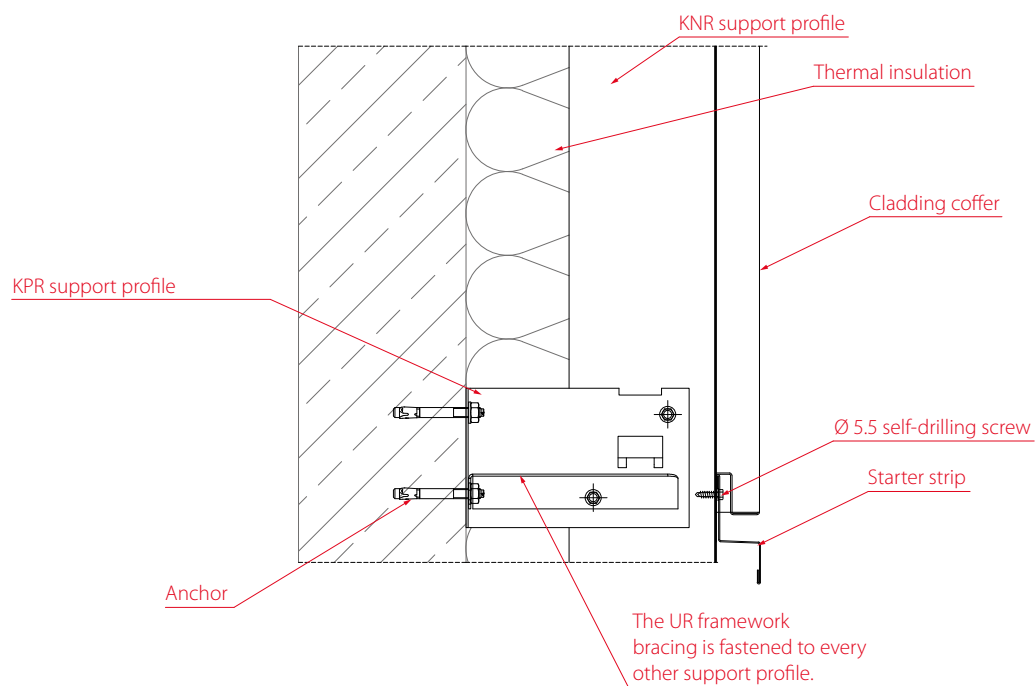
** The coverage height is the total of the coffer front height values and the joint gap between the coffers.

Cross-sections

1.



2.



8.

FAÇADE
CLADDING

9.

GENERAL TERMS & CONDITIONS OF SALE

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SANDWICH PANELS

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GENERAL TERMS
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OF SALE

GENERAL TERMS & CONDITIONS OF SALE

§ 1. General

1. These General Terms & Conditions of Sale (hereinafter referred to as "GTCS") regulate the sales contracts for all merchandise by Balex Metal Sp. z o.o. with its registered office address at ul. Wejherowska 12 C in Bolszewo, Poland, incorporated in the National Court Register (KRS) under KRS 0000176277, with the company records of incorporation stored at the District Court of Gdańsk-Północ in Gdańsk, 8th Commercial Department of the National Court Register (KRS); NIP (TIN): 588-11-30-299, REGON: 191112216, share capital of PLN 2,050,000, and henceforth "Balex Metal".
2. These GTCS are integral to all sales contracts concluded by Balex Metal and business operators, including those sales contracts concluded by submission by the buyer of an approved offer from Balex Metal,
- whereas the parties to a sales contract define their rights and obligations in a separate written agreement, the provisions of that agreement shall have priority over the GTCS, and the GTCS shall apply to all matters not regulated in such a separate agreement.
3. The GTCS are provided to every buyer in writing and are available at the Balex Metal head office, its branches, or in an electronic format at the website address www.balex.eu. If a buyer remains in a recurrent commercial relationship with Balex Metal, the consent granted by the buyer for the GTCS with one sales agreement shall be deemed to be granted to each next sales agreement the buyer concludes with Balex Metal, unless the parties to a sales agreement specify otherwise.

§ 1 a. Obligations of contractual parties

1. The parties ("Parties") shall fulfil each concluded sales contract and cooperate in its fulfilment in accordance with the intent and provisions of the GTCS.
2. By acting in compliance with the GTCS, the buyer is obligated specifically to:
 - a. Pay the contractual price within the applicable terms of payment;
 - b. Collect the purchased merchandise;
 - c. Respect the scheduled dates and proper procedures defined for warranty claims;
 - d. Provide in each warranty claim the buyer might file the circumstances of the claimed defect, which otherwise shall be deemed void and null in processing of the claim;
 - e. Provide access to the location of claimed merchandise for its processing as required to complete the warranty claim process;
 - f. Deliver the defective merchandise to be replaced against the valid warranty claim;
 - g. To conclude the sales agreement in the event of the omission specified in GTCS § 10;
 - h. Properly and completely discharge all other obligations imposed on the buyer by each sales contract and/or the GTCS, as applicable.
3. By acting in compliance with the GTCS, Balex Metal is specifically obligated to:
 - a. Fulfil the subject of contract with due diligence, free from defects, and in compliance with the applicable quotation, sales contract and GTCS;

- b. Deliver the merchandise specified in the relevant sales contract;
- c. Issue all warranty documents if any warranty is granted;
- d. Examine all properly submitted and complete warranty claims;
- e. Repair the defects against the relevant warranty claim, if valid.

§ 1 b. Definitions

- **Quotation:** all line items of a purchase order which are defined and entered by Balex Metal into a generated form and comprising separate files with assigned quantities in natural units of measure (e.g. pieces, linear metres, square metres, and other as applicable), provided that Balex Metal is solely authorized to fill out and modify the contents of each line item (with the exception of the buyer's signature).
- **Relevant line item:** the specification of length, type and arrangement of cladding, profiling type, colour, shop drawings, joint lock type, and type and length of undercut.
- **Preliminary quotation:** a quotation authored by Balex Metal and devoid of all relevant line items (where each relevant line item shall be construed as the specification of length, type and arrangement of cladding, profiling type, colour, shop drawings, joint lock type, and type and length of undercut) and submitted by the buyer; the preliminary quotation is a call to bid made by Balex Metal and incurs no contractual obligations.
- **Final quotation:** a quotation authored by Balex Metal in which all relevant line items are listed and which is submitted by the buyer.
- **Quotation fulfilment complementary terms:** all additional terms stipulated by Balex Metal with the intent of fulfilling a final quotation and concluding the relevant sales contract (and where the additional terms may include: advance payment, terms of delivery, delivery destination, and freight type) and which may result in a change in order fulfilment date and estimated sales contract fulfilment period.
- **Buyer:** any natural or legal person or other non-legal entity who or which procures merchandise from Balex Metal for and on its behalf.
- **End user:** an organisation of the buyer or another entity identified by the buyer to whom or which the procured merchandise shall be delivered or released to. The end user may discharge the buyer's obligations.
- **Balex Metal:** the product seller being incorporated as Balex Metal Sp. z o.o. with its registered office in Bol-szewo, Poland.
- **Sales contract:** a sales contract or a delivery contract concluded by and between Balex Metal and a natural or legal person who purchases the merchandise offered by Balex Metal.
- **Merchandise:** all finished products manufactured by Balex Metal, as well as a quotation line item or an invoice line item which is not manufactured by Balex Metal.
- **Physical defect:** a material quality feature in the merchandise which renders the latter unfit for the conditions established in the relevant Polish construction standard adopted by the Polish Standardisation Committee for the merchandise under a specific sales agreement, or unfit for the conditions established in other standards specified by Balex Metal; each merchandise unit offered by Balex Metal features performance provided in the standards to which Balex Metal refers, whereas non-essential performance features, including scratches, dirt or chipping, shall not substantiate any reasonable claim by the buyers.
- **Term of payment:** a day specified pursuant to the relevant sales contract and these GTCS on which a liability becomes due (if the day is a specific calendar date) or a period between the generation and the maturity of a liability (if the term of payment is specified as a period of time), and in either case the liability shall be credited to the account of Balex Metal.
- **Liability:** every reasonable claim Balex Metal can pursue from the debtor as a monetary or natural benefit under the terms of commercial trading, which means all foreseeable monetary income, irrespective of its title.
- **Handling fee:** a conventional fee specified pursuant to these GTCS and charged by Balex Metal in return for the costs of fulfilling a sales contract for merchandise.

- **Assignment:** the disposal of a liability towards Balex Metal by the buyer.
- **Claim:** the right of a creditor to request the debtor (which could also be the buyer) to proceed in a specific manner.
- **Bail:** a form of contract by which the bail guarantor is liable to Balex Metal for discharging a specific liability the specific debtor of Balex Metal fails to discharge.
- **Fulfilment date:** the date of release of the merchandise or the date confirmed by Balex Metal in writing to be the date for providing the merchandise ready for collection by the buyer at an agreed location, or a date of merchandise collection defined in the contract or a separate understanding; in any of the foregoing cases, the fulfilment date can be extended by Balex Metal if the buyer fails to satisfy the prerequisites on time to open the fulfilment of the purchase order established in the final quotation (and where the prerequisites include payment for the merchandise), or if the merchandise manufacturing and delivery organisation suffers from a reasonably unforeseeable change (and this alternative shall apply when the quotation is submitted on a date other than the date of quotation authoring by Balex Metal).
- **Estimated fulfilment period:** the estimated time entered by Balex Metal in the quotation that is required to define the fulfilment date with consideration of all other quotation conditions and actual events.
- **Incoterms:** a set of international commercial terms of sale; this standard has been widely adopted around the globe. It divides the costs and liability between the buyer and the seller (Buyer and Balex Metal) while reflecting the type of agreed mode of transport. Incoterms 2000 shall apply.
- **Statutory guarantee:** the liability of the seller (Balex Metal) to the buyer for all physical and legal defects of sold merchandise; this liability is regulated in Articles 556-576 of the Polish Civil Code and amended as defined in the GTCS.
- **Warranty:** the generality of additional contractual rights which Balex Metal may grant to the buyer and each such grant shall be documented in a separate warranty certificate served to the buyer during conclusion of the sales contract.
- **Warranty claim:** any report submitted by the buyer to claim its rights to statutory guarantee, warranty or other title, where the buyer is liable to specify the title of its warranty claim at the time it is submitted; otherwise Balex Metal will assume the title is the warranty it granted to the buyer.
- **GRN (Goods Release Note):** a document issued by Balex Metal as proof that the merchandise has been released to the buyer or its authorized representative, also when the release is discharged by loading the merchandise on an outbound transport vehicle; as the case may be, a GRN can be identified with one of the following references: WZ, WZ(O) or O-.
- **Force majeure:** an extraordinary emergency of external origin and which could not be reasonably avoided or prevented despite the maximum reasonable efforts of both parties; the force majeure is defined by Balex Metal in GTCS § 6(3).

§ 2. Contract conclusion and fulfilment

1. The information shared on the Balex Metal website, in its product catalogues, brochures, leaflets, advertisement materials and other publications or printed material from Balex Metal (and, collectively, the "publications") shall not be construed as a commercial offer under the Polish Civil Code even if they specify prices of the merchandise, unless specified explicitly otherwise in any of the publications. The publications referring to the merchandise offered by Balex Metal are informative only, whereas all samples and models issued by Balex Metal shall be indicative and used for exhibition purposes. The detailed technical data specified in the publications can change at any time, especially given the rate at which the engineering industry evolves. The current versions of the publications are shared on the Internet or available at the Balex Metal head office and/or its branches. The Balex Metal Support & Technical Development Department can certify that the data inputs required for a quotation are up to date.
2. A condition for a valid conclusion of a sales contract is that Balex Metal generates the relevant final quotation and the buyer submits the final offer as accepted by the buyer to Balex Metal (where the submission method may include transmission by fax or e-mail), and that the quotation fulfilment complementary terms are

satisfied (including but not limited to advance payment, term of delivery, delivery destination, and freight unloading type). If the quotation is qualified as a final quotation, it shall be construed that Balex Metal has accepted it for fulfilment and once the quotation fulfilment complementary terms are satisfied, Balex Metal becomes liable for production of the merchandise according to the quotation, without prejudice to GTCS § 3.

3. For BALEXTHERM-PU-W wall sandwich panels and BALEXTHERM-PU-R roof sandwich panels with a polyurethane core, the standard merchandise version is a sandwich panel with a 0.40 mm thick outer cladding and a 0.50 mm inner cladding, with the exception of plain (G) sandwich panels. For all other sandwich panel, the standard merchandise version feature 0.50 mm thick cladding on both sides.
4. The buyer has the right to withdraw from fulfilment of the sales contract based on the submitted final quotation. The withdrawal shall be served in writing and within the regular business hours of Balex Metal (between 08:00 and 16:00), and no later than in 24 hours from the submission of the final quotation, un-

less the final quotation has already been fulfilled (and if the date of withdrawal falls on a statutory holiday, the withdrawal is made at the same time on the first next business day).

5. The preliminary quotations by Balex Metal shall be construed as calls to bid for the buyer and unless Balex Metal does not undertake to fulfil the relevant sales contract, the preliminary quotation pricing shall remain binding to Balex Metal until the preliminary quotation period expires as specified in the preliminary quotation, and the maximum date of expiry shall not be later than 14 days from issue of the preliminary quotation. The buyer may submit another quotation only before the previous quotation served to Balex Metal becomes final; an effective submission of another quotation will automatically invalidate the previous one served.
6. Until a quotation becomes final and the quotation fulfilment complementary terms are satisfied, the buyer has no right to claim that the sales contract be concluded or any other claim for damages (which means that Balex Metal's liability is excluded to the extent permitted by prevailing laws).

§ 3. Quotations and pricing

1. The merchandise prices specified in the price lists shared by Balex Metal at its head office and branches can be changed by Balex Metal at any time. The prices specified by Balex Metal are net (without the applicable VAT) to which the applicable VAT will be added according to the prevailing tax rate. Each merchandise price is shown in the quotations generated and transmitted by Balex Metal and fixed as final on the date when the buyer submits the final quotation to Balex Metal and all quotation fulfilment complementary terms are satisfied (unless specified otherwise in the contents of the submitted final quotation, e.g. an expiry date is established for the quotation prices). If the final quotation specifies a price at variance with the current price valid on the date the quotation fulfilment complementary terms are satisfied, Balex Metal shall release a quotation with the new price to the buyer and the sales contract shall be concluded if the buyer does not withdraw according to GTCS § 2(4).
2. The quotation submitted by the buyer and qualified as the final quotation can only be cancelled by Balex

Metal against a written request from the buyer, followed by another final quotation submitted as approved by Balex Metal. The quotation is cancelled at the time Balex Metal confirms the cancellation and renders the quotation terminated by mutual agreement, whereas neither Balex Metal nor the buyer shall have no right to any claim due to the quotation cancellation.

3. Unless made binding to Balex Metal, no quotation submitted by Balex Metal or the buyer shall result in automatic booking of the stock material required to manufacture the merchandise specified in that quotation.
4. No written document, including drawings, cost estimates, quotations and similar shall be disclosed to third parties as they are solely intended to conclude a specific sales contract.
5. If, following its submission of a final quotation, the buyer's financial standing is direly aggravated or significant circumstances become known to Balex Metal only after the submission of that final quotation (and

even if the significant circumstances are disclosed in relevant gazettes) which renders or render a material hazard of failure in fulfilment of the sales contract, and especially until the buyer satisfies the quotation

fulfilment complementary terms, Balex Metal shall have the right to terminate the sales contract in part or full and claim all reasonable costs related to that termination.

§ 4. Terms of payment

1. Balex Metal becomes entitled to claim the payment of the invoiced price for the merchandise on the date the merchandise is collected by the buyer; if the merchandise is not collected pursuant to GTCS § 6(1), Balex Metal shall be entitled to claim the payment when the buyer becomes in default of the merchandise collection date. The Parties may specify in their sales contract another term or method of payment, e.g. by specification on an invoice issued by Balex Metal. The term of payment shall be specified in days in either case and begins on the date of issue of the relevant invoice.
2. The date of effective payment shall be the date the payment is credited to the bank account of Balex Metal specified on the relevant invoice or otherwise specified by Balex Metal.
3. If the payment becomes default, Balex Metal shall be entitled to claim interests at a maximum amount established in Article 359 § 21 of the Polish Civil Code and without any additional chargeable summons (on an annual scale). The payment default interests shall begin to accrue on the next date the payment becomes default. If the buyer becomes in default in payment for the merchandise, Balex Metal shall become entitled to claim any and all costs of legal action, debt collection and representation, all in addition to the due payment for the merchandise and its default interest. Moreover, Balex Metal shall become entitled to claim reimbursement of all costs arising from collection of the default payment up to 10% of the total of collected debt.
4. If the buyer becomes in default with payment to credit Balex Metal, Balex Metal shall have the right to offset the payment made by the buyer from the costs defined in GTCS § 4(3) first, from the default interests second and followed by each most mature payment irrespective of what default payment the buyer specifies it will make and also when the costs, interest and receivables are specified on more than one invoice. This provision waives the rights of the buyer as a debtor contemplated in Article 451 §1 of the Polish Civil Code.
5. Balex Metal also reserves the right to offset other receivables and liabilities to the extent permitted by the Polish Civil Code.
6. The buyer shall have no right to offset any of its debt to Balex Metal.
7. If the buyer becomes in default with the payment for any delivered merchandise even if against a single invoice only, Balex Metal shall have the right to make mature all invoices with unexpired terms of payment and against which the merchandise has already been released.
8. The buyer shall pay for the merchandise within the term agreed between the Parties and also if the buyer has submitted a warranty claim for any of the merchandise or became in default in the collection of the merchandise due to reasons attributable to the buyer.
9. The buyer shall immediately notify Balex Metal in writing about each change of the buyer's registered office address or residence or mailing address. Any failure to render the notification will cause all deliveries made effectively after one ineffective delivery advice note if the deliveries are made to the addresses specified in the relevant quotation or other understanding made between the Parties.
10. The procedure for awarding trade credits and extension of terms of payment are regulated separately in a document shared on www.balex.eu and at the Balex Metal head office.
11. Balex Metal has the right to assign its receivables to any third party.
12. Pursuant to Article 106n of the Polish VAT Act of 11 March 2004 (JoL. 2004.54.535, as amended), the buyer shall accept the exchange of electronic invoice documents and their transmission to its e-mail address in the PDF format. This acceptance shall remain valid indefinitely since the date of the first sales contract is concluded against a submitted final quotation. The buyer's e-mail address for electronic invoicing shall be considered to

be the e-mail address the buyer uses to communicate with Balex Metal, unless the buyer specifies a different invoicing e-mail address in the final quotation or a separate communication to Balex Metal. Failure to specify the invoicing e-mail address will result in the transmission of an electronic invoice from Balex Metal to the e-mail listed in CEIDG (the Central Commercial Business Record and Information Database) or the register of incorporated entrepreneurs managed by the KRS (the National Court Register); if no e-mail address of the buyer is found either in CEIDG or KRS, Balex Metal will issue and transmit invoice by mail. The buyer may revoke its acceptance of electronic invoicing

with a written notice which becomes effective on the last day of the month in which the notice is served to Balex Metal. The buyer shall be responsible for correct operation of information communication technology equipment and their interfaced software tools the buyer operates to facilitate remote communication. Specifically, the buyer shall be responsible for the capabilities of that equipment and those software tools to receive remote communications from Balex Metal, whereas each electronic invoice shall be deemed served effectively when it reaches the server which hosts the e-mail in box of the buyer or is sent to the respective e-mail address of the buyer.

§ 5. Retention of title

1. Balex Metal shall retain the title to the sold merchandise pursuant to Article 589 of the Polish Civil Code with an effect by which the buyer shall become the owner of the merchandise only if it pays its full price due on the terms specified by Balex Metal.
2. If the buyer defaults in the payment on the terms specified by Balex Metal, the latter shall have the right to request that the merchandise unpaid on time is returned. Balex Metal shall also have the right to claim damages if the value of the merchandise is reduced below the merchandise price specified in the relevant invoice, also by wear or damage.
3. For the return of the merchandise manufactured to custom order from the buyer and even if the return is made by mutual agreement between the Parties and the merchandise is undamaged, Balex Metal has the right to charge a return handling fee at 20% of the returned merchandise.
4. At the time bankruptcy or composure is opened against the buyer, the buyer shall mark the merchandise in a manner which identifies the retention of title by Balex Metal. If any merchandise the title to which is retained by Balex Metal is seized by execution against the buyer's property, the buyer shall immediately notify Balex Metal of the fact and provide every reasonable assistance to Balex Metal in pursue of the rights of the latter against the seizing entity. On request from Balex Metal, the buyer shall provide disclose completely the whereabouts of the merchandise the title to which Balex Metal retains. Balex Metal has the right to inspect the merchandise at

its actual location and to collect the merchandise if Balex Metal's title is exposed to a risk of third-party action.

5. The buyer shall bear the risk of accidental loss or damage of the merchandise within the period between the merchandise release and the assignment of the merchandise title from Balex Metal to the buyer. Balex Metal may request the buyer to conclude, for and on behalf of Balex Metal, a contract to insure the merchandise from accidental loss or damage for a period specified in the foregoing sentence and up to an insurance liability limit equivalent to the full price of the merchandise; alternatively Balex Metal may request the buyer to assign to Balex Metal all rights from the insurance contract concluded for and on behalf of the buyer, including the right to claim damages from third parties for damage or destruction of the merchandise. If the foregoing request is made, the buyer shall serve to Balex Metal a copy of the merchandise insurance certificate immediately that certificate is available to the buyer, and the buyer shall notify the relevant insurance company of the disposal of the liability from the insurance contract to Balex Metal and immediately provide Balex Metal with a copy of the notice.
6. Balex Metal may issue a written authorization for the buyer to dispose of the merchandise by the buyer's business if the title to the merchandise is retained by Balex Metal, provided that with that disposal the buyer will effectively assign to Balex Metal all claims for merchandise price payment towards the further buyer of that merchandise. The concluded assignment shall secure the claims from Balex Metal for the payment of the mer-

chandise sales price by the original buyer and shall not relieve the original buyer from the payment of any price which still remains due; and if the merchandise is sold to a further buyer, the original buyer shall immediately identify that further buyer for Balex Metal. If the delivered merchandise is intended to be integrated in a real estate so the merchandise becomes a component of that

real estate, the buyer shall establish another security in prior and in favour of Balex Metal to secure the claim for the merchandise price payment, and specifically, the buyer shall secure a suitable bail from the real estate owner or an assignment of the buyer's liability from the project owner relevant to the integration of the merchandise with the real estate.

§ 6. Terms of collection, delivery and storage

1. The merchandise is manufactured in the production runs (based on planning of all production with due consideration of the merchandise size ordered), Balex Metal will only specify the estimated fulfilment time to assist in defining the fulfilment date. Balex Metal shall only be bound with and liable for the fulfilment date if it is established in the final quotation submitted and complete with all required quotation parameters (and especially the delivered material size) and a timely satisfaction of the quotation fulfilment complementary terms as provided by Balex Metal (whereas the fulfilment date is verified on the date the quotation fulfilment complementary terms are satisfied) or when Balex Metal unconditionally and explicitly confirms the fulfilment date in writing. The buyer shall collect the merchandise of the date of merchandise release for collection and no later than 7 days after the quotation is fulfilled in compliance with the sales contract or the date of notice to collect the merchandise (and where the fulfilment date results from the production runs approved for execution and is established on the date of conclusion of the sales contract, i.e. when the quotation becomes final and the quotation fulfilment complementary terms are satisfied; at the same time, the fulfilment date depends on other provisions of these GTCS). If the buyer becomes in default with the merchandise collection, Balex Metal shall have the right to charge the buyer with the costs of storage of uncollected merchandise at a rate of 0.1% of the merchandise gross price for each day of storage, and this does not require a separate understanding to be concluded with the buyer to regulate storage. The buyer hereby authorizes Balex Metal to invoice the former for storage. If the buyer remains in default with the merchandise collection for more than 30 days, Balex Metal shall have the right to sell the uncollected merchandise to any third party and on the terms and at a price of choosing by Balex Metal, and to offset the payment received from that third party from the buyer's liability for the sales of the merchandise.
2. If Balex Metal fails to confirm the final quotation fulfilment date in writing, Balex Metal shall make every reasonable effort to prepare the merchandise for collection with the best interest of the buyer.
3. If Balex Metal fails in fulfilment of a due obligation by an effect of reasonable force majeure, the buyer shall not be entitled to any claims for damage from the failure in fulfilment or untimely fulfilment of the sales contract. Balex Metal shall immediately notify the buyer of every circumstances which have rendered Balex Metal unable to fulfil the delivery of merchandise. Force majeure shall be any of the foregoing (and this list is not exhaustive): interruption in merchandise production operations not attributable to Balex Metal, insufficient supply of stock materials, restrictions imposed by government authorities, natural disaster, or strike.
4. If the buyer is in default with payment, fails to pay the payment default interests or exceeds its trade credit, the fulfilment of every next merchandise delivery (including the fulfilment of relevant final quotations submitted to Balex Metal and the final quotations with the fulfilment date confirmed in writing) shall be suspended until all default payments are made.
5. All merchandise from Balex Metal shall be stored, shipped and handled in compliance with the product technical data sheets and the "Sandwich Panel Shipping Manual for the EU" and the "Balex Metal Product Handling Manual" available at www.balex.eu.
6. If the buyer fails to comply with those storage, handling or shipping requirements, Balex Metal shall have the right to reject every warranty claim concerning the merchandise affected by that failure.

§ 7. Outbound shipping

1. Balex Metal releases the ordered merchandise to its buyer (or end user) via a transport vehicle and the release becomes effective when the merchandise is released to the buyer (or end user) at a mutually agreed location (DDU, ref. Incoterms 2000); when Balex Metal releases the merchandise to the buyer or its authorized representative (including the end user identified by the buyer), all benefits and burden attached to the merchandise are transferred to the buyer, including the risk of accidental loss or damage of the merchandise.
2. The location at which the foregoing obligation is discharged by Balex Metal and the location of the merchandise release at the same time shall be: the merchandise unloading destination, if shipped by Balex Metal, or the merchandise loading to an outbound transport vehicle provided by the buyer, unless the sales contract or the final offer specify otherwise.
3. The buyer shall unload the merchandise from the transport vehicle within 2 hours from arrival at the delivery destination. If the buyer fails to unload the merchandise on time, it shall be charged with the costs of transport vehicle standstill. The transport vehicle standstill shall be charged for every hour at a rate specified in the price list provided by Balex Metal. The buyer has the right to identify another and alternative delivery destination for the unloading of the merchandise from the transport vehicle. The costs of unloading the merchandise at the alternative delivery destination shall be borne by the buyer. If the delivery for the merchandise to the alternative delivery destination will extend the shipping route or modify it materially, all additional shipping costs shall be charged from the buyer. If the buyer requests the merchandise to be shipped with a HODS-equipped truck, Balex Metal shall have the right to charge the buyer with the costs of shipping with the HDS-equipped truck according to the rates applicable in the price list from Balex Metal or separate regulations enforced by Balex Metal.
4. Balex Metal shall designate the plant or warehouse from which the merchandise will be delivered and the shipping mode. Balex Metal will make every reasonable effort to consider and satisfy all reasonable requests of the buyer related to the shipment. The buyer shall carefully inspect that the shipped merchandise is complete and this shall be done directly at the time of merchandise collection to ascertain any deficiencies or damage in the merchandise caused in transport. For the merchandise shipped by Balex Metal, the buyer shall perform a quantitative acceptance of the merchandise upon its release and sign the GRN to certify that the merchandise is collected and accepted as specified. This certificate proves that the merchandise quantity has been accepted. All objections to the condition of the merchandise and especially the condition of the shipping container and protection of the merchandise shall be reported by the buyer at the time of merchandise release. The report shall be made in writing on the shipping bill and the GRN copy or on a separate acceptance report and complete with a full description of the damage, and signed by the transport vehicle driver and the buyer; otherwise the buyer will forfeit the right to report the objections at the time contemplated here or in the future. The shipping bill and the GRN left unfilled with any objections to the quantity and/or quality of the merchandise shall be the proof of fulfilment of the sales contract which has been concluded pursuant to the final quotation and that the fulfilment raises no objections from the buyer.
5. If any defect is discovered by the buyer in the quality or quantity of the merchandise, the buyer shall secure the merchandise intact and refrain from installing the defective merchandise until the warranty claim for that defect is examined by Balex Metal; otherwise the buyer shall forfeit the right to all claims for the defect.
6. Balex Metal shall not be liable for any damage caused during handling the merchandise off the transport vehicle at the buyer's premises or delivery destination.

§ 8. Merchandise packaging

1. Balex Metal shall make every reasonable effort to properly pack the merchandise.
2. All costs of disposable shipping pallets is included in the merchandise price. The buyer shall not resale the

pallets at the merchandise delivery destination. Trading with reusable shipping pallets is regulated by a separate understanding between the buyer and Balex Metal.

3. The buyer is required to remove all protective film from Balex Metal merchandise and clean the outer and inner surfaces of the latter within 2 months from

the original date of manufacture, otherwise the right to all warranty claims for the merchandise will be lost. The protective film shall be removed at a temperature of the steel cladding above zero. This obligation shall be satisfied by the buyer irrespective of the storage location of the merchandise.

§ 9. Warranty claims

1. The Parties shall cooperate in the discharge of the warranty claim rights, including the right to access the defective merchandise, the submission of all documents and information required to process the warranty repair (i.e. the building plans and engineering documentation) and to enable the claimed defect remedy fulfilment.
2. The buyer shall be liable for the merchandise to the extent of the Polish laws and without prejudice to the sales contract or the GTCS.
3. The buyer shall inspect the quantity and quality of the merchandise at the time of its release.
4. All warranty claims shall be reported to Balex Metal immediately and in writing or be void and null. In its warranty claim, the buyer shall specify the data to identify the merchandise: the original date of sale, the final quotation reference, the reason of claim, the list of claimed merchandise line items with their quantity, and specify the claimed remedy (its value and requested method of fulfilment). If the buyer elects to pursue a right it has under the warranty, it shall serve the relevant Warranty Certificate to Balex Metal.
5. The buyer may serve its warranty claim in compliance with the following procedure:
 - a. The merchandise shall be stored and processed and treated in compliance with all relevant professional requirements, including the engineering documentation (the building permit) and the generally recognised good practices of engineering.
 - b. If a defect is discovered, further processing / treatment of the defective merchandise shall be stopped immediately and the merchandise shall be made available to Balex Metal for inspection; if Balex Metal requests so, the buyer shall provide samples of the claimed merchandise.
6. The warranty claims for merchandise quantity resulting from errors in outbound shipment loading or the warranty claims of visible physical defects caused by transport (i.e. deformation of joint locks, mechanical damage of cladding material, and organic coating abrasion or scratches) shall be made in writing and immediately upon discovery and no later than on the day of merchandise release or unloading at the delivery destination. In the event of either of the foregoing warranty claim, the buyer shall report the claimed defect on the GRN for the purchased and delivered merchandise (by selecting that the merchandise is incomplete or damaged, as applicable). This report made on the GRN shall be signed by the transport vehicle driver who fulfilled the delivery or by the Balex Metal staff who released the merchandise, as applicable.
7. The warranty claims for visible physical defects (e.g. dimensional deviations, surface quality, deformation, crushing, etc.) other than those specified in GTCS § 9(6), shall be reported by the buyer in writing immediately upon discovery and no later than 14 days from the date of merchandise release and only if the merchandise has not been processed yet.
8. The warranty claims for workmanship defects (concealed qualitative defects) which could not be reasonably discovered despite a careful examination of the merchandise shall be reported to Balex Metal in writing, immediately upon discovery and no later than 3 months from the date of merchandise release.

Failure to report the warranty claims by the due dates established in the relevant sales contract or the GTCS and/or failure to submit the documentation / information required with the warranty claim shall result in forfeiture of the buyer's rights to all claims towards Balex Metal.

9. The buyer shall permit Balex Metal to access and inspect the claimed defective merchandise, including sampling and technical testing thereof, or the buyer will forfeit its rights to all claims towards Balex Metal.
10. The costs of commissioning an expert valuator shall be borne by the Party the expert valuator identifies as responsible for the defect or damage being evaluated.
11. If Balex Metal finds the warranty claim made by the buyer valid, Balex Metal shall have the right to choose the method of warranty claim handling, which will depend on the qualification of defect magnitude and the costs its remedy may result in (i.e. repair, replacement with a brand-new and non-defective counterpart or financial reimbursement of damage as defined by Balex Metal, without prejudice to alternative warranty rights, if provided for in the Warranty Certificate). If Balex Metal finds the warranty claim valid and refuses to repair the defect, replace the defective merchandise with brand-new and non-defective counterparts or to reimburse the damage, the buyer may request Balex Metal to reduce the original price of purchase of defective merchandise or withdraw from the sales contract.
12. If the method chosen by Balex Metal to fulfil the warranty claim is ineffective, the buyer may reapply with the warranty claim.
13. If the buyer obstructs or prevents handling of the warranty claim in the way Balex Metal chooses to fulfil it, the buyer shall forfeit the right to all claims toward Balex Metal, specifically relieving Balex Metal from all liability for the damage caused by the defects claimed on warranty.
14. If the claims of the buyer are satisfied as contemplated above, the buyer shall have no right to pursue further compensation for the same claim, including any legal remedies.
15. If Balex Metal recognises the buyer's right to have the defective merchandise replaced with a brand-new and non-defective counterpart, the buyer shall return the defective merchandise for replacement without any specific request to do so. If the buyer fails to return the claimed and defective merchandise on warranty in 14 days from being served the notice of acceptance of the warranty claim, Balex Metal shall become eligible for suspending the fulfilment of the warranty rights

and to judge that the merchandise to be replaced on warranty was sold as second grade merchandise at a price 20% less than listed in the Balex Metal price lists.

16. Balex Metal has the right to suspend the fulfilment of the warranty claim made by the buyer until the buyer is no longer in default with all liabilities receivable by Balex Metal and all obligations due to Balex Metal.
17. Balex Metal shall not be liable for any indirect or consequential damage or loss of business or opportunities of the buyer, and specifically for any damage caused by loss of the project facility or adjacent facilities, loss of the merchandise, or loss of interest, remuneration or profit. In any event the liability of Balex Metal shall be limited to the net price paid by the buyer in exchange for the merchandise.
18. The buyer shall forfeit all rights to claims towards Balex Metal as related to the merchandise the buyer has purchased if the buyer fails to inspect the merchandise upon release / delivery or inspects the merchandise and fails to notify Balex Metal about all discovered defects or abnormalities within the specified time. The loss of those rights becomes effective specifically if the buyer finds defects or abnormalities in the merchandise and proceeded with its installation anyway.
19. All colours available as listed in the colour palette from Balex Metal have been classified into 3 brightness groups. The mapping of the colours to the groups is listed in Table 1.

Table 1

Balex Metal colour palette	
Code	Group
7047	Very light
9010	Very light
9002	Very light
7035	Very light
1015	Very light
7040	Light
6011	Light
9006	Light
9007	Light
5012	Light
1003	Light
1017	Light
7012	dark
9005	dark
5010	dark
6005	dark

Balex Metal colour palette	
Code	Group
6020	dark
7016	dark
7024	dark
8019	dark
8017	dark
8012	dark
8004	dark
3016	dark
3011	dark

20. Balex Metal shall not be liable for any sandwich panels in dark colours should they reveal physical defects reasonably attributable to thermal expansion; hence, the sandwich panels are not eligible for any warranty or statutory warranty irrespective of the panel length.
21. For all sandwich panels in any dark colour the project designer shall consider the effect of thermal stress in the basic design (and also in the definition of the cutting list) and consider the method of sandwich panel fastening, with due definition of the fastener length.
22. For hot-dip galvanized products, the presence of dark and light grey patches on the surface, slight irregularities of the outer surfaces and white corrosion (provided it is present in areas where the zinc coating retains its minimum permitted thickness) are not eligible for valid warranty claims.
23. Balex Metal shall not be liable for any damage which may result in transport (including scratching, grazing and other mechanical damage of organic coating) of the merchandise finished with coarse-grain mat coating

or Rustika or Malage, if the buyer fails to procure the dedicated protective film for the merchandise.

24. Balex Metal shall not be liable for any damage in the merchandise made from coated sheet metal if the damage results from contact with wet concrete, wood, plasterwork or soil.
25. Balex Metal shall not be liable in any way for the merchandise identified as 'second grade' to the extent of all physical defects, and second grade merchandise (irrespective of quantity or type) is not eligible for statutory guarantee, warranty or any liability for failure or default in contractual performance. The buyer buys second grade merchandise at its sole risk and with the quality existing on the date of merchandise release, at a discounted price of purchase, and without any right to claims for quality of that merchandise, and at the moment of merchandise release, the buyer shall waive all those claims now and in the future. Specifically, the buyer shall have no right to return or reduce the purchase order object, seek compensation of damage or reimbursement of any costs. Second grade merchandise may fail the routine quality standards and there is no warranty they will conform to the steel sheet and core foam thickness standards accepted in the end user's country. Second grade merchandise may or may not feature certain irregularities, scratches, dents, defects of core foam or the coating (including deviations of colour), and vary from the standards applicable to specified sizes and thickness, and all other characteristics of sheet steel or core foam. Those deviations and variations from the accepted standards shall not be qualified as defects of the merchandise

§ 10. Warranty and statutory guarantee

1. For all relationships between commercial / business operators, the statutory guarantee is waived pursuant to Article 558 of the Polish Civil Code unless the Parties specify otherwise or damage occurs as a result of wilful action or gross negligence on the part of Balex Metal. The statutory guarantee rights shall expire in 6 months from the date of merchandise release.
2. The warranty shall only apply (if granted) to the merchandise for which a specific and separate Warranty Certificate is issued to the buyer. The buyer shall have no claim for the issue of a Warranty Certificate.
3. Balex Metal reserves the right to alter the technical parameters in relation to those specified in all catalogues, drawings and other marketing materials if reasonable to make the alterations as an effect of continuous improvement and upgrading of the merchandise to improve their performance.
4. Balex Metal shall be bound with the technical parameters only if they are explicitly agreed to with the buyer as the certification of the properties of the merchandise being sold.

5. Balex Metal warrants and represents that all merchandise it delivers conform to the state of the art and the requirements established in relevant permits, as well as the contractual arrangements made with the buyer, if any. Balex Metal further warrants and represents that the merchandise to be sold will perform uninterrupted if applied according to its intended use in standard climate and weather of Central Europe, not exposed to direct action of salt water or extreme UV radiation, and free from exposure to strong chemicals, also those originating from air pollution. Concerning to all parameters and dimensions of the merchandise specified in the relevant permits and the sales contract, the buyer shall consider all permissible deviation tolerance which are made customary or established in applicable standards, unless specified otherwise in writing. The Parties accept that differences in the merchandise colour tone which may result between separate merchandise production batches or merchandise items differing in the production date and/or sheet metal thickness.
6. The warranty rights shall expire in 6 months from the date of merchandise release, unless specified otherwise in the applicable Warranty Certificate. The Warranty period shall not be extended by the time of repair of claimed defects, while for the merchandise released brand-new, non-defective and in replacement of defective merchandise, a new Warranty Certificate can be granted with a warranty period no longer than the original warranty period of the merchandise.

§ 11. Personal data protection

All personal data is processed by Balex Metal in compliance with Regulation no. 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation),

whereas the policy of personal data processing in relation to the commercial relations formed by Balex Metal are defined separately and available at <https://balex.eu/en/personal-data> and made available at locations identified in Appendix 1.

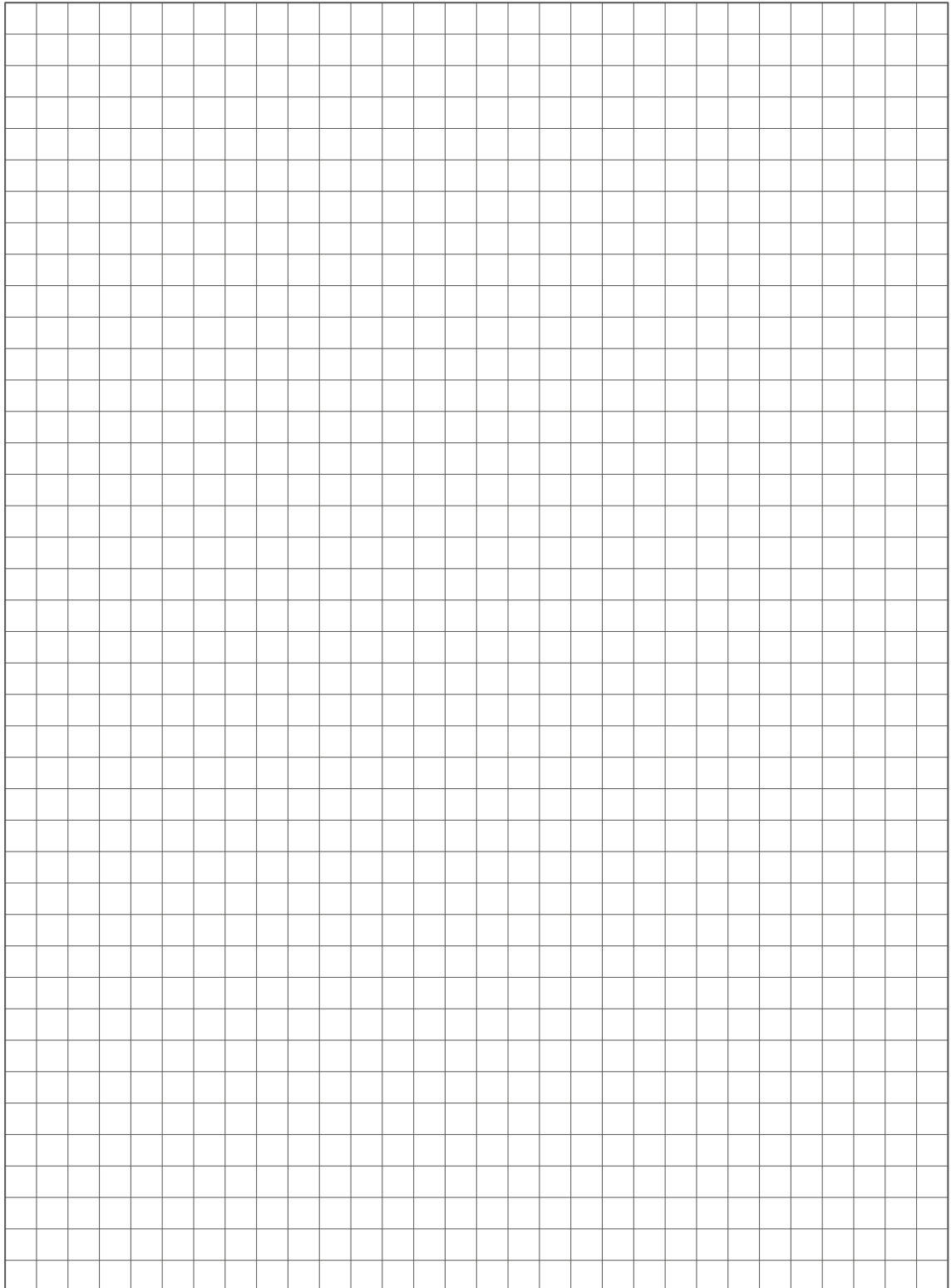
§ 12. Miscellaneous

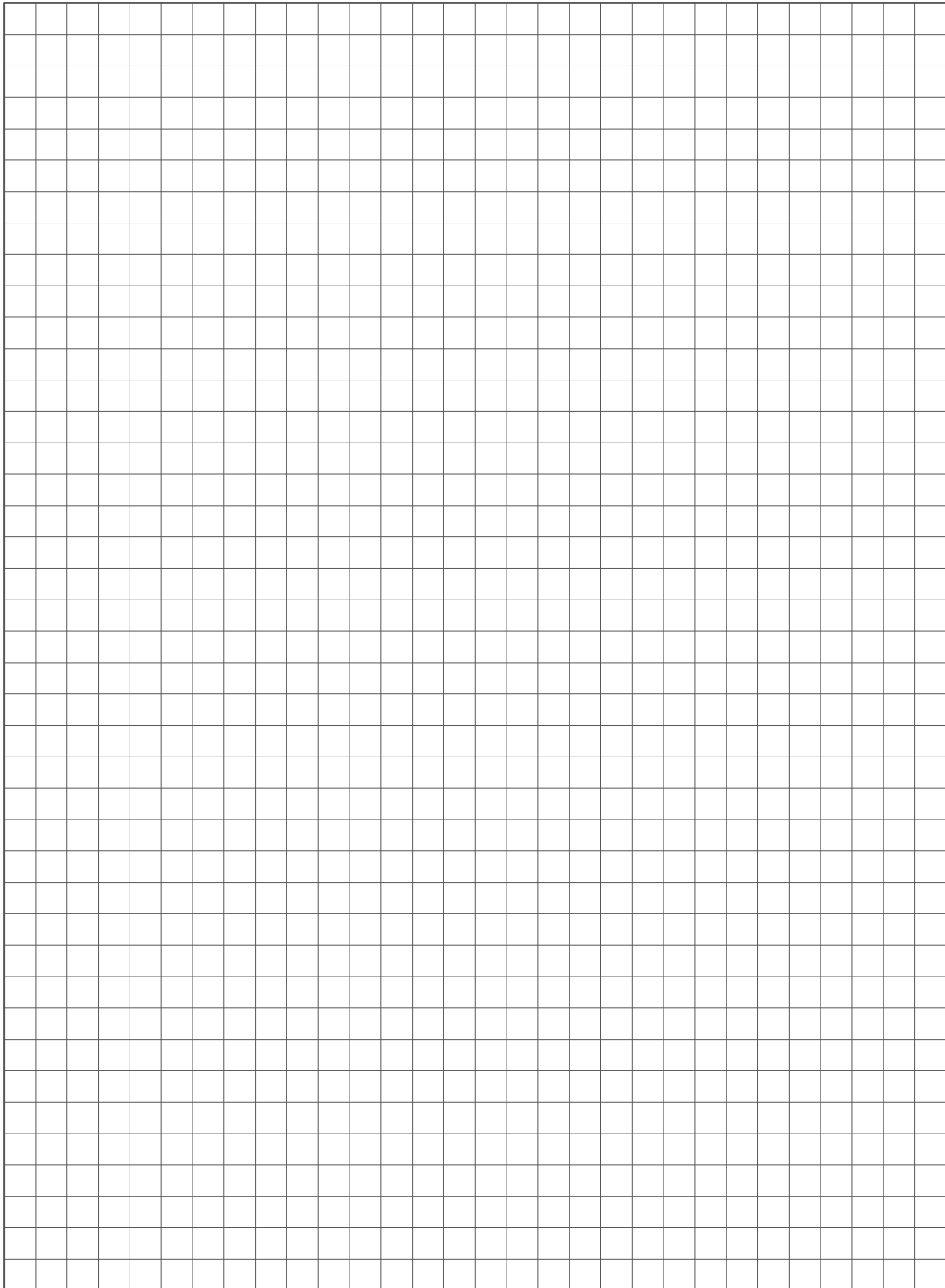
1. All terms specified in the GTCS and the sales contract are provided without any prejudice to Balex Metal.
2. All matters not regulated in these GTCS shall be regulated by the Polish Civil Code.
3. If any of the GTCS provisions becomes invalid by amendment of law, all other GTCS provisions shall survive valid.
4. Balex Metal shall have the right to use all information about projects and/or design engineering and/or construction work carried out with the use of Balex Metal merchandise or technologies. This use applies to marketing operations managed by Balex Metal, and specifically to provide information concerning those projects and/or design engineering and/or construction work, and to record the projects and/or design engineering and/or construction work on photographic materials or with any other visual techniques, and to publish them in all advertising materials from Balex Metal.
5. Balex Metal and the buyer shall make every reasonable effort to amicably settle all disputes arising from the fulfilment of any contract regulated herein. If no amicable settlement is reached, it shall be settled before a court with jurisdiction over the registered office of Balex Metal.

Appendix 1 to GTCS of Balex Metal Sp. z o.o. – List of locations with access to the GTCS

BRANCH – CITY	STREET ADDRESS	TEL.	FAKS
BOLSZEWO HEAD OFFICE	ul. Wejherowska 12C, 84-239 Bolszewo	/058/ 778 44 44	/058/ 778 44 48
WROCŁAW DŁUGOŁĘKA	ul. Wrocławska 42, 55-095 Długołęka	/071/ 315 16 11/10	/ 071/ 315 16 14
TOMASZÓW MAZOWIECKI	ul. Spalska 143/147, 97-200 Tomaszów Mazowiecki	/044/ 715 22 10/17	

NOTES





CONTACT

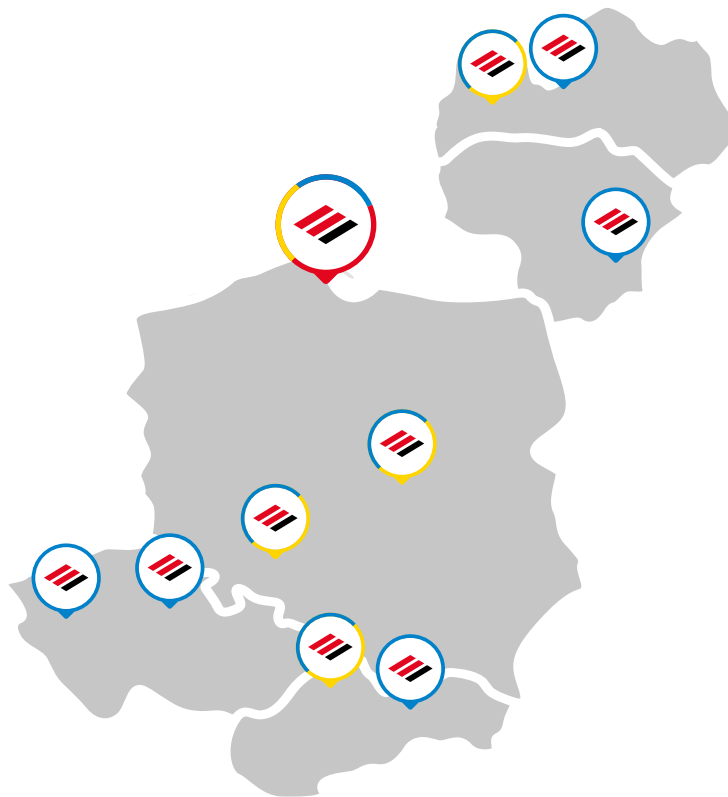
Balex Metal Sp. z o. o.

HEAD OFFICE

ul. Wejherowska 12C
84-239 Bolszewo, Poland
NIP (TIN) 588-11-30-299
Regon 191112216
KRS 0000176277

kontakt@balex.eu
+48 58 778 44 44 / 801 000 807

balex.eu



Head office



Sales office branch



Production plants

SALES OFFICE BRANCHES



BOLSZEWO

ul. Wejherowska 12C
84-239 Bolszewo, Poland
tel. +48 58 778 44 44
fax +48 58 778 44 48
bolszewo@balex.eu



DŁUGOŁĘKA

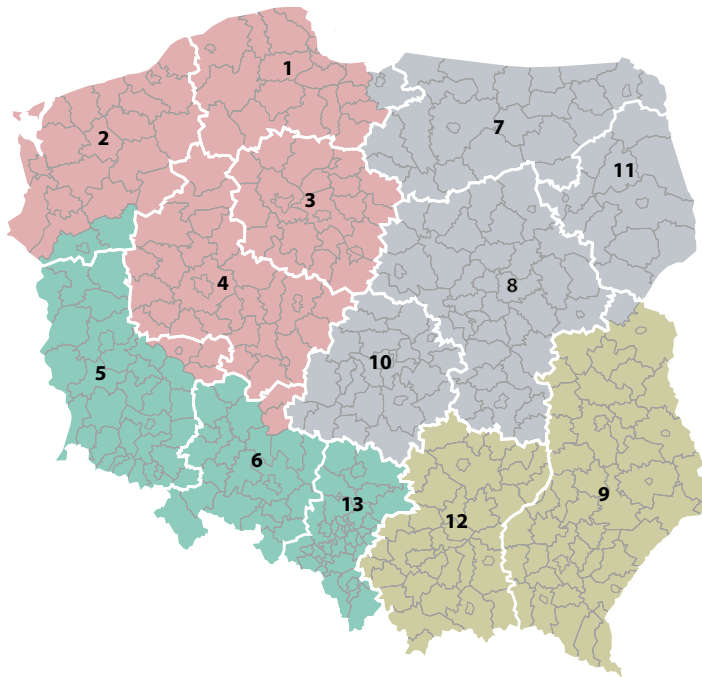
ul. Wrocławska 42
55-095 Długołęka
tel. 71 315 16 11 (12)
tel. 600 263 053
tel. 602 253 963
tel. 602 736 025
wroclaw@balex.eu



TOMASZÓW MAZOWIECKI

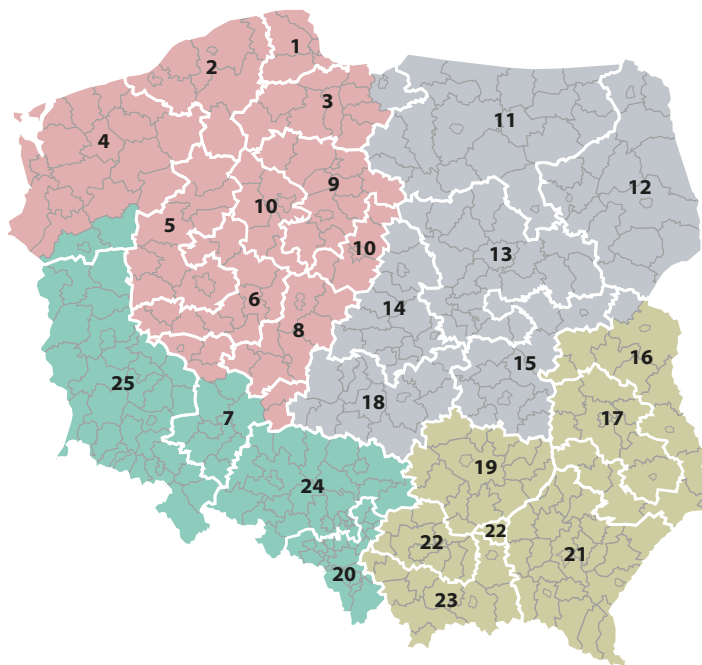
ul. Spalska 143/147
97-200 Tomaszów Mazowiecki
tel. 696 030 424
tel. 605 052 641
tomaszow@balex.eu

REGIONAL REPRESENTATIVES – RESIDENTIAL PROJECTS



1	+48 666 029 905	8	+48 608 377 302
2	+48 600 036 555	9	+48 604 107 460
3	+48 660 740 906	10	+48 605 052 641
4	+48 883 350 918	11	+48 664 741 301
5	+48 605 050 992	12	+48 883 350 904
6	+48 882 787 914	13	+48 605 052 715
7	+48 600 380 737		

REGIONAL REPRESENTATIVES – INDUSTRIAL AND FARMING PROJECTS



1	+48 602 394 105	14	+48 666 882 996
2	+48 735 978 354	15	+48 600 200 343
3	+48 668 124 420	16	+48 600 380 674
4	+48 883 350 919	17	+48 883 350 978
5	+48 665 108 150	18	+48 604 509 014
6	+48 660 740 902	19	+48 605 058 124
7	+48 668 126 122	20	+48 660 740 904
8	+48 784 047 204	21	+48 664 013 968
9	+48 883 350 916	22	+48 608 490 475
10	+48 666 882 995	23	+48 665 107 556
11	+48 660 740 907	24	+48 538 637 934
12	+48 532 623 393	25	+48 883 350 811
13	+48 660 740 908		

COLOUR PALETTE

STANDARD COLOURS

Premium coats

CESAR 65® MAT*

nowość



ZEUS

CESAR 55® – polyurethane & polyamide



8017



9006



9007



7016



9005



9010

Powłoki organiczne

SP Polyester



3000



3016



3011



8004



8017



8019



6011



6020



6005



1015



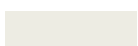
1003



5010



9010²⁾



9002²⁾



7035



9006²⁾



7047



9007



7040



7012



7024¹⁾



7016²⁾



9005



5003



6018

SP Polyester Mat Pearl



8620M



8637M



8019M



6490M



7591M



7016M



9005M

Food Safe PVC(F)



9010¹⁾

Metallic coats

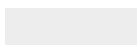


AZ – ALUCYNK
+ EASYFILM®



Z – OCYNK

Other



STAINLESS STEEL



TITANIUM ZINC

Zenit gutter colours

CESAR 35



WHITE GREY
9002



BRICK RED
8004



BLACK
9005



CHOCOLATE
BROWN 8017



GRAPHITE
7016



SILVER METALLIC
9006

Metallic coatings



GALVANIZED



COPPER



TITANIUM ZINC

Wijo gutter colours

Prelaq Nova (HBP 35µm)



WHITE GREY
9002¹⁾



BROWN
8028



BRICK RED
8004



BLACK
9011



CHERRY RED
3009



GRAPHITE GREY
7011



SILVER METALLIC
9006

The colours shown in this material are indicative only. Balex Metal reserves the right to render colours in this specimen which may vary from the actual counterparts.
The colours shown are available to 0,50 mm thick sheet metal. 1) Also available with 0,60 mm thick sheet metal; 2) Also available with 0,60 mm and 0,70 mm thick sheet metal

Balex Metal Sp. z o. o.

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balex.eu