



PRODUCT  
CATALOGUE  
**2024**

## *Ladies and Gentlemen*

*We believe that businesses are built by people. Therefore, in our daily work we are guided by the idea of „BUILDING TOGETHER“, i.e. a partnership based on close cooperation in which the client, contractor, installer or distributor contractor, roofer, installer or distributor are both the creators and the recipients of our products.*

*Marek Dzikiewicz  
Chairman of the Board of Balex Metal*





## THERMAL INSULATION THERMANO

- 16 **THERMANO ROOF** thermal insulation for roofs
- 18 **THERMANO DECK** thermal insulation for flat & green roofs
- 22 **THERMANO COMPACT** universal thermal insulation
- 24 **THERMANO ETICS** thermal insulation for facades
- 26 **THERMANO GK-A and GK-H2** for insulation from the inside
- 28 **THERMANO FLOOR** thermal insulation for floors
- 30 **THERMANO ALU** thermal insulation for agricultural facilities
- 32 **THERMANO FIBER** thermal insulation for wet rooms
- 35 **ACCESSORIES** for **THERMANO**



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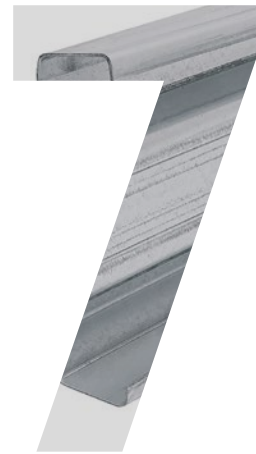
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# SECURITY AND RELIABILITY

A reliable manufacturer of building materials is a supplier of solutions proven and confirmed by independent institutions. Our production plants in Europe operate in accordance with the requirements of ISO 9001, ISO 14001 and ISO 45001.

At Balex Metal, through appropriate procedures and their control (Compliance Team), we ensure the level of declared properties in accordance with their application and applicable regulations. To minimize the risk of misleading the customer and to ensure transparency and easy access to information, all parameter changes are monitored and approved in multiple stages. Outgoing documents are verified from both

sides technical, certification, logistics, warehousing and marketing. As a member of the international Kingspan Group, we have guaranteed access to proven raw materials, regardless of unpredictable circumstances. We are a safe haven for our Business Partners, especially in uncertain times. We guarantee availability, proven quality and appropriate standard of our products.



WHAT IS  
CREDIBILITY?



MATERIALS  
CONSTRUCTION  
NO. 5/2023



DOES  
IT PAY?



“

*In everything we do,  
we focus on credibility and safety.*

Marzena Marchocka,  
Operations Director of the Balex Group





“

*Knowledge is the key to success,  
but only when it is skillfully shared  
with others is its power revealed.*

**Jacek Łazuka,**  
Balex Metal Product Manager



# KNOWLEDGE, EXPERIENCE AND PRACTICE

At Balex Metal, we believe that education and sharing of experience helps to raise standards in the industry. Over seventy technical and commercial advisors, product managers and Balex Metal product trainers not just in the shops or on site. We are always close at hand to support you at every stage of the investment - online and on site.

The culture of sharing knowledge begins at Balex Metal with internal training on Mondays. Through various channels - from training at our Balex Metal Construction Academy in Tomaszów, where we have trained several thousand people, hundreds of training courses at partners and on construction sites, an expert channel on YouTube, which already has over

11 million views, podcasts, webinars, website, dedicated brochures, substantive participation in many associations, participation in thematic forums and wherever possible - we share knowledge, practice and experience. We perfectly understand that this is crucial for the development of the industry, innovation and building lasting relationships.



ASK  
EXPERT



30 YEARS ON  
TOP - BUILDER POLAND



WEBINARS  
AND NOT ONLY

# RESPONSIBILITY FOR THE PLANET

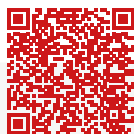
There is a link between the activities of any business and changes in the natural environment. The construction sector is one of the largest producers of carbon dioxide emissions in the world. We are aware of this, which is why we implement the Planet Passionate sustainable development program which focuses on four areas: ENERGY, CARBON DIOXIDE EMISSION REDUCTION, WATER RESOURCE MANAGEMENT and CIRCULAR WASTE MANAGEMENT.

We fight to reduce the carbon footprint of our products. We offer our clients solutions that help reduce energy demand. We invest in low emission and increase the share of renewable energy sources by installing energy-generating installations on the roofs of

our factories solar. We introduce electric cars into the company fleet, and we install rainwater recovery installations on the roofs of our factories. We also do not forget about internal education and inspiring each other to change our habits to more ecological ones.



REPORT  
SUSTAINABLE  
DEVELOPMENT 2022



WE ARE MAGAZINE  
PLANET PASSIONATE



PROGRAM  
PLANET PASSIONATE

A portrait of Iwona Bolt, a woman with long, wavy blonde hair and blue eyes, wearing a patterned jacket over a red top. The background is dark. A semi-transparent dark box is overlaid on the bottom left, containing a quote and her name.

“

*We live and act in this world only for a moment. Let us try personally, but also as a conscious organization, to leave less garbage, a cleaner sea and a less degraded landscape to the next generations.*

**Iwona Bolt,**  
Communication Manager Balex Metal



A portrait of Paweł Kocemba, a middle-aged man with short, graying hair, wearing a dark blue button-down shirt. He is standing with his hands in his pockets against a dark background. A large red quotation mark is positioned to the left of the text.

“

*We don't change the rules while they're in force. That's why you can count on us.*

**Paweł Kocemba,**  
MD Balex Poland/Member of the Management Board



# PARTNERSHIP AND TRUST

We started with metal roof tiles and profiled sheets. Today we offer a unique range of complementary products for industrial, residential and agricultural construction, one of the widest in the market. We have built the organisation on trust because we believe that companies are built by people. The idea „WE BUILD TOGETHER“ has been with us for more than three decades.

We not only offer proven construction materials, but we ensure safety and support at every stage of cooperation. We are close to our Partners, which means over 70 technical and commercial advisors in the field, production and sales branches in the Czech Republic, Estonia, Finland, Lithuania, Latvia, Poland and Slovakia. We provide deliveries with-

in 48 hours within each 150 km from the branch. Having access to proven raw materials in a secured quantity, which, as it turns out, is a very important value in difficult times, we offer stability in the execution of orders. Having raw materials allows us to respond appropriately to market fluctuations and be a safe haven for our Business Partners.




INSULATION NO. 5/2022  
(PAGES 18-19)



MAP  
REPRESENTATIVES



WE BUILD  
TOGETHER

The background of the advertisement features a grid of red squares. Overlaid on this grid is the word 'THERMANO' in a large, bold, black, sans-serif font, oriented diagonally from the bottom-left towards the top-right. The word is repeated in a smaller, semi-transparent red font across the grid. To the right of the main 'THERMANO' text, the words 'KEEPED WARM' are written in a smaller, black, sans-serif font, also following the diagonal orientation. On the far right edge of the image, there is a vertical strip of dark, textured material, possibly representing the insulation product being advertised. The overall color palette is dominated by red and black.

THERMANO THERMAL INSULATION  
IS A HIGH QUALITY,  
REVOLUTIONARY AND MODERN  
SOLUTION FOR USE IN  
VARIOUS APPLICATIONS

# 1 THERMAL INSULATION THERMANO

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- 35 **ACCESSORIES** for **THERMANO**



# THERMANO ROOF

MORE THAN AN ALTERNATIVE  
FOR WOOL AND STYROFOAM



MORE ABOUT  
THERMANO ROOF



MORE ABOUT  
THERMAL  
INSULATION  
THERMANO



**ROOF**  
U=0,15

**THERMANO**

**150 mm**  
( $\lambda=0,023$  W/mK)

**EPS**

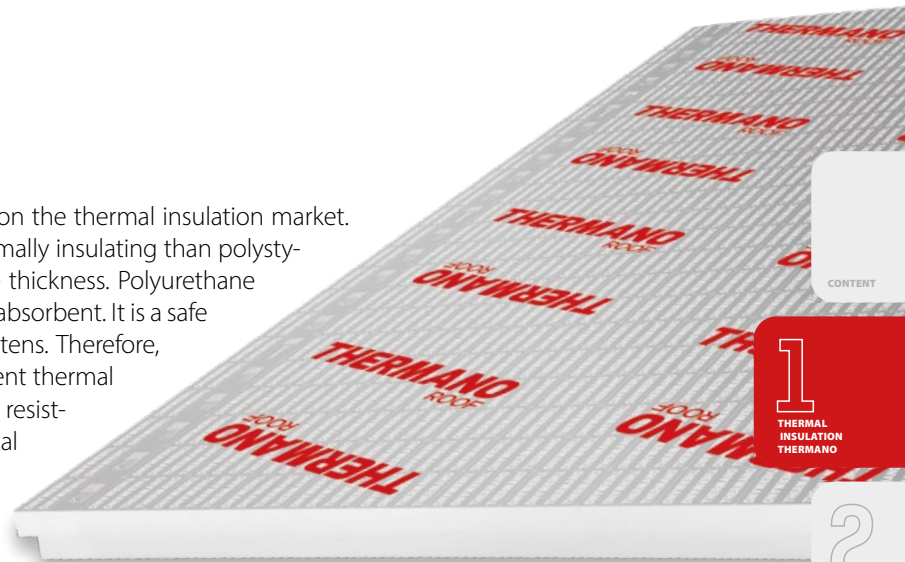
**240 mm**  
( $\lambda=0,036$ )

**MW**

**260 mm**  
( $\lambda=0,038$ )



THERMANO ROOF is a revolution on the thermal insulation market. One board is almost twice as thermally insulating than polystyrene or mineral wool of the same thickness. Polyurethane thermal insulation is safe and non-absorbent. It is a safe barrier against pests such as: martens. Therefore, the THERMANO board is an excellent thermal insulation material for many years, resistant to installation errors, biological factors and ordinary events.



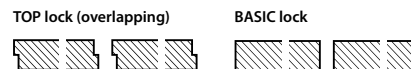
### Technical parameters

Name	THERMANO ROOF
Declared thermal conductivity coefficient $\lambda_D$ [W/mK]	0,023
Thickness [mm]	30, 40, 50, 60, 70, 75, 80, 100, 120, 125, 130, 140, 150, 160
Total width [mm]	1200
Module coverage width [mm]	1185 (TOP), 1200 (BASIC)
Standard length [mm]	2400
Length max [mm]	5100
Modular length (coverage) [mm]	2385 (TOP), 2400 (BASIC)
Lock types	TOP, BASIC
Cladding	Gas-tight multilayer cladding. Outer layer coated with aluminum.
PIR core density [kg/m <sup>3</sup> ]	$\geq 30$
Water absorbability	$\leq 2\%$
Compressive strength CS(10Y) [kPa]	$\geq 200$ kPa (20 000 kg/m <sup>2</sup> )
Tensile strength TR [kPa]	$\geq 100$ kPa
Fire reaction class	Euroclass E, according to EN ISO 13501-1
Certificates	CE according to EN 13165:2012+A2:2016

### THERMANO ROOF thickness and thermal insulation coefficient

THERMANO ROOF thickness D [mm]	Insulation coefficient U [W/m <sup>2</sup> K]	Thermal resistance R [m <sup>2</sup> K/W]	Typical application	Sale unit	Panels/pack	m <sup>2</sup> Total/pack	m <sup>3</sup> Total/pack
40	0,57	1,70	Interstorey ceiling	1200x 2400x 1200 pack	30	86,40	3,46
50	0,45	2,15			24	69,12	3,46
60	0,38	2,60			20	57,60	3,46
80	0,29	3,45	Floor on the ground		15	43,20	3,46
100	0,23	4,35			12	34,56	3,46
120	0,19	5,20			10	28,80	3,46
125	0,18	5,40			9	25,92	3,24
140	0,16	6,05			8	23,04	3,23
150	0,15	6,50	Roofs and terraces		8	23,04	3,46
160	0,14	6,95			7	20,16	3,23

Board joint types



# THERMANO DECK

FLAT ROOFS, SLOPING ROOFS, GREEN ROOFS

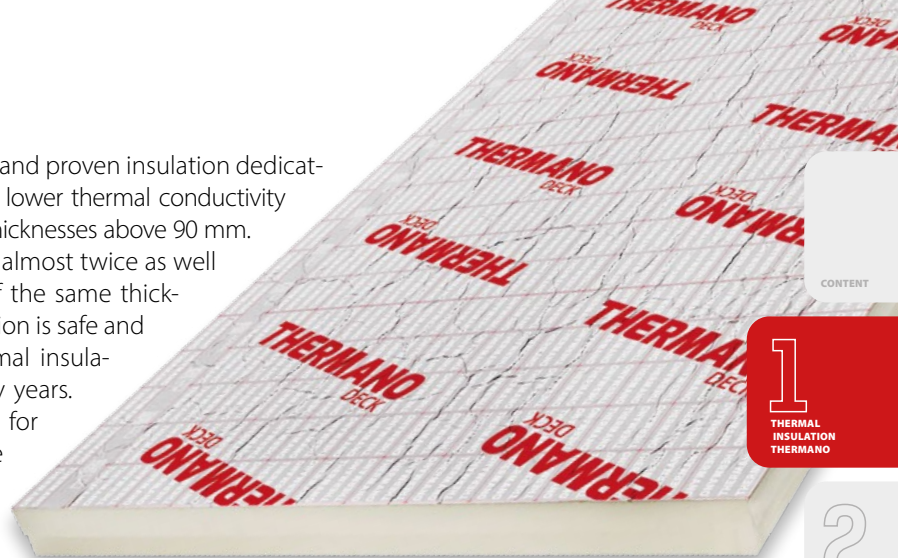


MORE ABOUT  
THERMANO





THERMANO DECK is a well-known and proven insulation dedicated to flat roofs. Now with an even lower thermal conductivity coefficient of 0,022 [W/(mK)] - for thicknesses above 90 mm. A single board insulates thermally almost twice as well as polystyrene or mineral wool of the same thickness. Polyurethane thermal insulation is safe and non-absorbent, making it a thermal insulation material that serves for many years. The panels are recommended for flat, green roofs, but can also be installed both on floors and in three-layer walls.



### Technical parameters

Name	THERMANO DECK
Declared thermal conductivity coefficient $\lambda_b$ [W/mK]	0,023 for th.: 30÷90 mm 0,022 for th.: 100÷200 mm
Thickness [mm]	30, 40, 50, 60, 70, 75, 80, 90, 100, 110, 120, 125, 130, 140, 145, 150, 160, 170, 180, 190, 200
Total width [mm]	1200
Modular coverage width [mm]	1185 (TOP), 1200 (BASIC)
Standard length [mm]	2400
Modular length (coverage) [mm]	2385 (TOP), 2400 (BASIC)
Length max [mm]	5100
Lock types	TOP, BASIC
Cladding	Gas-tight multilayer cladding. Outer layer coated with aluminum.
PIR core density [kg/m <sup>3</sup> ]	≥ 30
Water absorbability	≤ 2%
Compressive strength CS(10\Y) [kPa]	≥ 150 kPa (15 000 kg/m <sup>2</sup> ) – for th. 30÷160 mm ≥ 120 kPa (12 000 kg/m <sup>2</sup> ) – for th. 170÷200 mm
Tensile strength TR [kPa]	≥ 70 kPa – for th. 30÷160 mm ≥ 40 kPa – for th. 170÷200 mm
Fire reaction class	Euroclass E, according to EN ISO 13501-1
Certificates	CE according to EN 13165:2012+A2:2016

### THERMANO DECK thickness and thermal insulation coefficient

	THERMANO DECK thickness, d [mm]	Insulation coefficient, U [W/m <sup>2</sup> K]	Thermal resistance R [m <sup>2</sup> K/W]
$\lambda_b=0,023$ [W/mK]	30	0,69	1,30
	40	0,53	1,75
	50	0,43	2,20
	60	0,36	2,60
	70	0,31	3,05
	75	0,29	3,25
	80	0,27	3,50
	90	0,25	3,90
$\lambda_b=0,022$ [W/mK]	100	0,21	4,55
	110	0,19	5,00
	120	0,18	5,45
	125	0,17	5,65
	130	0,17	5,90
	135	0,16	6,15
	140	0,15	6,35
	145	0,15	6,60
	150	0,14	6,80
	160	0,14	7,25
	170	0,13	7,70
	180	0,12	8,20
190	0,11	8,65	
200	0,11	9,10	



# ACCESSORIES



## Gauge

Measure for an angle of 67 degrees

## Fixing screws

### Selection for under-rafter installation. How to calculate the screw length?

THERMANO thickness + 20 mm.

Quantity: 1 to 2 pieces per Thermano board (0,5 pieces per m<sup>2</sup> THERMANO).



### Selection for over-rafter installation

Dimensions, length:

Min. 185 mm for THERMANO boards with a thickness of 100 mm

- for installation at an angle of 90 degrees + 30 mm for installation at an angle of 67 degrees

Min. 210 mm for THERMANO boards with a thickness of up to 100-120 mm

- for installation at an angle of 90 degrees + 30 mm for installation at an angle of 67 degrees

250 mm for THERMANO boards with a thickness of 120-160 mm

- for installation at an angle of 90 degrees + 30 mm for installation at an angle of 67 degrees

### How to calculate the screw length?

THERMANO board thickness + counter batten thickness (40 mm)

+ rafter entry (30 mm) + 67° diagonal allowance (30 mm).

Dimensions, diameter:  $\varnothing$  6 for light roof coverings (trapezoidal sheet metal, metal roof tiles, seam panel)  $\varnothing$  8 for heavy roof coverings (ceramic or concrete roof tiles).

### Quantity:

Depending on the rafter spacing, you should prepare 3 to 4 screws for each 1 m<sup>2</sup> THERMANO.





## Aluminum tape

### Dimensions:

width 75 mm or 120 mm (50 m/roll).

### Average yield:

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



## ASPIRA Std, ASPIRA Plus or ASPIRA Max membrane

Quantity: 1m<sup>2</sup> per 1m<sup>2</sup> THERMANO



## Telescopic connectors - flat roof

Screw sizes may vary depending on the thickness of THERMANO and the type of substrate. The sum of the sleeve and screw lengths should be greater than the THERMANO thickness by 40 mm in the case of a steel substrate (trapezoidal sheet), or at least 60 mm in the case of a reinforced concrete substrate.

**Estimated consumption:** for a single-layer system, 2 pieces per 1 m<sup>2</sup> of THERMANO

### Selection of fasteners for THERMANO insulation on a flat roof

Thermano insulation 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

SMALL SIZE  
UNIVERSAL USE



MORE ABOUT  
THERMANO  
COMPACT



PRESENTATION  
OF FEATURES





THERMANO in a small packages, i.e. COMPACT, boards to be used especially where proven insulation parameters with minimum thickness are important.

COMPACT has the features of other THERMANO products, including known insulation and diffusion parameters. Dimensions of 600x1200 mm and thicknesses starting from 20 mm enable work to be carried out such as insulating window sills, windows, doors, and even leveling floor levels and sealing the so-called thermal bridges.

### Technical parameters

Name	THERMANO COMPACT
Declared thermal conductivity coefficient $\lambda_b$ [W/mK]	0,023
Thickness [mm]	20, 30, 40, 50, 80, 100, 125
Total width [mm]	1200
Modular width (covering) [mm]	1185 (TOP), 1200 (BASIC)
Standard length [mm]	600
Lock types	TOP, BASIC
Core	Rigid polyurethane PIR foam
Cladding	Multi-layer cladding with aluminum
PIR core density [kg/m <sup>3</sup> ]	$\geq 30$
Relative diffusion resistance coefficient, $\mu$	50-100
Water absorbability	$\leq 2\%$
Compressive strength	$\geq 150$ kPa (15 000 kg/m <sup>2</sup> )
Reaction to fire	Euroclass E, according to EN ISO 13501-1
Certyfikaty	CE certificates according to EN 13165:2012+A2:2016

### THERMANO COMPACT thickness and thermal insulation coefficient

	THERMANO COMPACT thickness, D [mm]	Insulation coefficient, U [W/m <sup>2</sup> K]	Thermal resistance, R [m <sup>2</sup> K/W]
$\lambda_b = 0,023$ [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

Board joint types

TOP lock (overlapping)



BASIC lock







# THERMANO ETICS

THINNER WALLS  
AND UP TO 5% MORE  
INTERIOR SPACE

AVAILABLE FROM **Q2 2024**



MORE ABOUT  
THERMAL  
INSULATION



WALL  
U=0,20

**THERMANO**

**120 mm**  
( $\lambda=0,023$  W/mK)

**EPS**

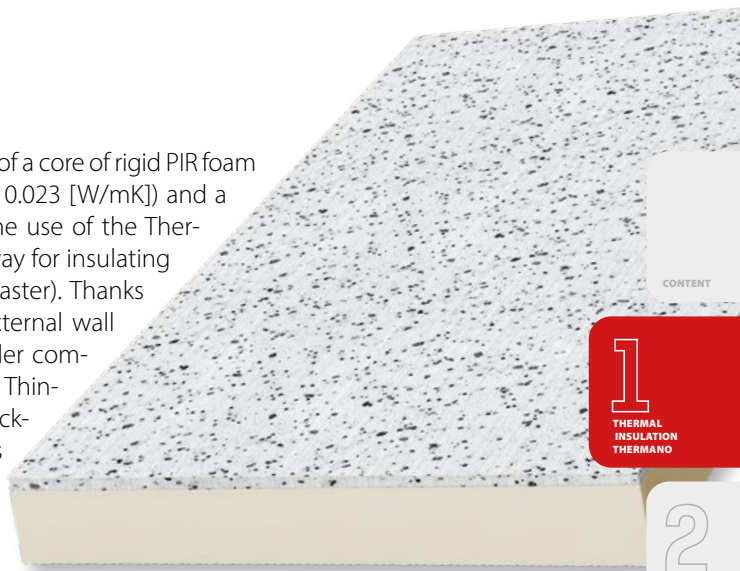
**180 mm**  
( $\lambda=0,036$ )

**MW**

**210 mm**  
( $\lambda=0,042$ )



THERMANO ETICS is a composite board consisting of a core of rigid PIR foam with excellent thermal insulation properties ( $\lambda = 0.023$  [W/mK]) and a 20 mm EPS polystyrene overlay, which allows the use of the Thermano ETICS composite board in the traditional way for insulating external walls. In the ETICS system (thin-layer plaster). Thanks to the use of a PIR core, the thickness of the external wall thermal insulation can be up to two times smaller compared to traditional thermal insulation materials. Thinner thermal insulation means a smaller total thickness of the external wall, narrower window frames and more sunlight in the rooms. Moreover, the aging value of the  $\lambda$  parameter for the PIR core ensures the stability of the insulation parameters throughout the building's life cycle.



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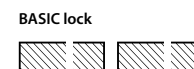
### Technical parameters

Name	THERMANO ETICS
Declared thermal conductivity coefficient $\lambda_D$ [W/mK]	0,024÷0,025
Thickness (PIR+EPS) [mm]	80, 100, 110, 120, 140, 160
Total width [mm]	1200
Total length [mm]	600
Lock types	BASIC
Core	Rigid polyurethane PIR foam
External cladding	20 mm EPS Styrofoam
Invisible linings (working, responsible for thermal parameters)	Multi-layer, gas-tight, with aluminum
Tensile strength TR [kPa]	80
Core bulk density [kg/m <sup>3</sup> ]	≥ 30
Reaction to fire	Euroclass E, according to EN ISO 13501-2

### Thermano ETICS thickness and thermal insulation coefficient

	THERMANO ETICS thickness, D [mm]	Insulation coefficient, U [W/m <sup>2</sup> K]	Thermal resistance, R [m <sup>2</sup> K/W]
$\lambda_D = 0,025 \leq 110$ mm $\lambda_D = 0,024 \geq 120$ mm	80	0,32	3,15
	100	0,25	4,00
	110	0,22	4,45
	120	0,21	4,85
	140	0,17	5,75
	160	0,15	6,60

Board joint types





# THERMANO GK-A & GK-H2

INSULATION OF WALLS  
AND CEILINGS  
FROM THE INSIDE



PRESENTATION  
BOARD FEATURES

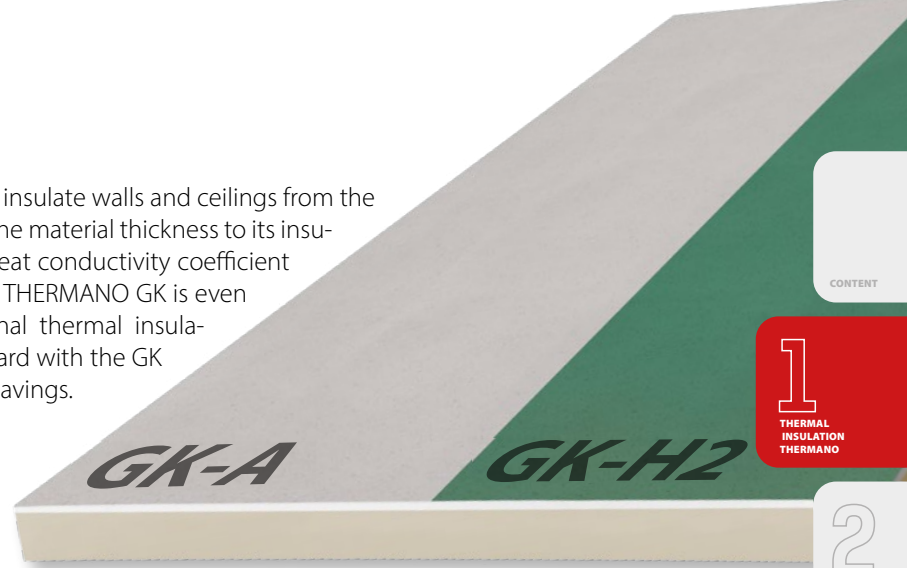


INSTALLATION  
METHODS





THERMANO GK is the best way to insulate walls and ceilings from the inside due to the unique ratio of the material thickness to its insulating properties. Thanks to the heat conductivity coefficient (lambda of 0,022 - 0,023 W/(m·K), THERMANO GK is even two times thinner than traditional thermal insulators. The integrated insulation board with the GK board provides additional space savings.



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OTHER

### Technical parameters

Name	THERMANO GK-A, THERMANO GK-H2
Declared thermal conductivity coefficient $\lambda_b$ [W/mK]	0,023
Thickness (PIR+GK) [mm]	30, 50, 60, 120
Total width [mm]	1200
Total length [mm]	2600 / 600
Lock types	BASIC
Core	Rigid polyurethane PIR foam
Cladding on the visible side (visual)	12,5 mm GK board
Invisible linings (working, responsible for thermal parameters)	Multi-layer, gas-tight, with aluminum
Core bulk density [kg/m <sup>3</sup> ] [kg/m <sup>3</sup> ]	≥ 30
Compressive strength CS(10Y) [kPa]	≥ 200 kPa (20 000 kg/m <sup>2</sup> )
Tensile strength TR [kPa]	≥ 70 kPa
Reaction to fire class on the GK side	B-s1,d0
Reaction to fire class of the PIR core	Euroclass E, according to EN ISO 13501-1

### Thermano GK thickness and thermal insulation coefficient

	THERMANO GK thickness, D [mm]	Insulation coefficient, U [W/m <sup>2</sup> K]	Thermal resistance, R [m <sup>2</sup> K/W]
$\lambda_b = 0,023$ [W/mK]	30	1,25	0,80
	50	0,59	1,70
	60	0,48	2,10
	120*	0,21	4,75

\* Product made to order



MORE ABOUT  
THERMANO GK

Board joint types

BASIC lock





# THERMANO FLOOR

HIGH STRENGTH  
AND INSULATION OF FLOORS



INSTALLATION



MORE ABOUT  
THERMANO  
FLOOR



FLOOR  
U=0,30

THERMANO

EPS

MW

80 mm  
( $\lambda=0,023$  W/mK)

125 mm  
( $\lambda=0,038$ )

140 mm  
( $\lambda=0,042$ )





THERMANO FLOOR boards are intended for insulation of floors, walls and ceiling formwork structures. Proven parameters such as  $\lambda_0$  0,022-0,023 W/mK and compressive strength of approx. 15 t/m<sup>2</sup> mean that THERMANO FLOOR can be used twice thinner than traditional insulating materials, thus providing more space inside or allowing for leveling of floor levels between rooms.



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### Technical parameters

Name	THERMANO FLOOR
Declared thermal conductivity coefficient $\lambda_0$ [W/mK]	0,023 (up to 80 mm); 0,022 (from 90 mm)
Thickness [mm]	20, 30, 40, 50, 60, 75, 80, 100, 120, 130, 150
Board dimensions [mm]	600x1200 (small packages), 1200x2400 (large packages)
Total width [mm]	1200
Modular width [mm]	1200 (BASIC)/1185 (TOP)
Lock types	TOP, BASIC
Core	Rigid polyurethane PIR foam
Cladding	Walki Gypsum cladding – multi-layer, gas-tight
Core bulk density [kg/m <sup>3</sup> ]	≥ 30
Compressive strength CS(10Y) [kPa]	≥ 150 kPa (15 000 kg/m <sup>2</sup> )
Tensile strength TR [kPa]	≥ 60 kPa
Reaction to fire	Euroclass F, according to EN ISO 13501-1

### THERMANO FLOOR thickness and thermal insulation coefficient

	THERMANO FLOOR thickness, D [mm]	Insulation coefficient, U [W/m <sup>2</sup> K]	Thermal resistance, R [m <sup>2</sup> K/W]
$\lambda_0 = 0,023$ [W/mK]	20	1,18	0,85
	30	0,77	1,30
	50	0,47	2,15
	80	0,29	3,45
$\lambda_0 = 0,022$ [W/mK]	100	0,22	4,55
	120	0,18	5,45
	130	0,17	5,90
	150	0,15	6,80





A photograph showing several construction workers in grey jackets and red caps working on the interior of a building. They are installing large sheets of white insulation on a wooden frame. One worker in the foreground is holding a yellow tape measure against the insulation. The background shows more workers and the wooden structure of the building.

# THERMANO ALU

STABLE THERMAL CONDITIONS  
IN LIVESTOCK BUILDINGS

Insulation using THERMANO ALU material is a way to ensure stable thermal conditions ( $\lambda_D=0,023$  [W/mK]) inside agricultural buildings, regardless of the weather conditions outside. In addition to specific thermal insulation parameters, the boards are highly resistant to ammonia, fungi and mold.

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### Technical parameters

Name	THERMANO ALU
Declared thermal conductivity coefficient $\lambda_D$ [W/mK]	0,023
Thickness [mm]	40, 50, 60, 80, 100
Total width [mm]	1200
Modular width (covering) [mm]	1200
Standard total length [mm]	2400
Maximum length [mm]	5000
Lock types	BASIC, TOP, TOP25
Cladding	Thick, corrugated aluminum foil with increased mechanical resistance
Bulk density [kg/m <sup>3</sup> ]	≥ 30
Relative diffusion resistance coefficient, $\mu$	50-100
Water absorption	≤ 2%
Compressive strength CS(10\Y) [kPa]	≥ 200 kPa (20 000 kg/m <sup>2</sup> )
Reaction to fire	Euroclass E, according to EN ISO 13501-1
Certificates	CE according to EN 13165:2012+A2:2016

### Thermano ALU thickness and thermal insulation coefficient

	THERMANO ALU thickness, D [mm]	Insulation coefficient, U [W/m <sup>2</sup> K]	Thermal resistance, R [m <sup>2</sup> K/W]
$\lambda_D = 0,023$ [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	4,35

\* Product made to order



MORE ABOUT  
THERMANO ALU

### Board joint types

TOP lock (overlapping)



TOP 25 lock (for chair profile)



BASIC lock





# THERMANO FIBER

A person wearing a black protective suit and gloves is using a pressure washer to clean a tiled wall. The pressure washer has a red hose and a black wand with a red trigger. The wall is made of light-colored square tiles. The person is standing on a blue surface, possibly a platform or a large container. The background shows a ceiling with pipes and a light fixture.

THERMAL INSULATION THAT YOU CAN  
WASH WITH A PRESSURE WASHER



THERMANO FIBER is a thermal insulation material for livestock buildings, such as pigsties, henhouses or barns, or other rooms with increased humidity or aggressive environments. The boards have a core of hard PIR foam, which guarantees proven thermal insulation properties and is completely safe for people and animals. The hob can be cleaned with a pressure washer.



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### Technical parameters

Name	THERMANO FIBER
Declared thermal conductivity coefficient $\lambda_b$ [W/mK]	0,027-0,028
Thickness [mm]	40, 50, 60, 80, 100
Total width [mm]	1200
Modular width (covering) [mm]	1200
Standard total length [mm]	2400
Maximum length [mm]	5100
Lock types	BASIC
Cladding	On one side - unsaturated polyester resin reinforced with glass fiber with increased mechanical resistance; On the other side - multilayer with aluminum participation
Bulk density [kg/m <sup>3</sup> ]	≥ 30
Relative diffusion resistance coefficient, $\mu$	50-100
Water absorption	≤ 2%
Compressive strength CS(10Y) [kPa]	≥ 200 kPa (20 000 kg/m <sup>2</sup> )
Reaction to fire	Euroclass F, according to EN 13501-1
Certificates	CE certificates according to EN 13165:2012+A2:2016

### THERMANO FIBER thickness and thermal insulation coefficient

	THERMANO FIBER thickness, D [mm]	Insulation coefficient, U [W/m <sup>2</sup> K]	Thermal resistance, R [m <sup>2</sup> K/W]
$\lambda_b = 0,028$ (W/mK)	50	0,57	1,75
	60	0,48	2,10
$\lambda_b = 0,027$ (W/mK)	80	0,34	2,95



MORE ABOUT  
THERMANO FIBER

Board joint types

BASIC lock





# ACCESSORIES FOR INSTALLATION AS A HEADLINING

## Examples of indicative methods (not the only ones) for selecting accessories for THERMANO ALU and THERMANO FIBER boards:

### C-Profile:

Ceiling circumference = number of C profiles in [m]

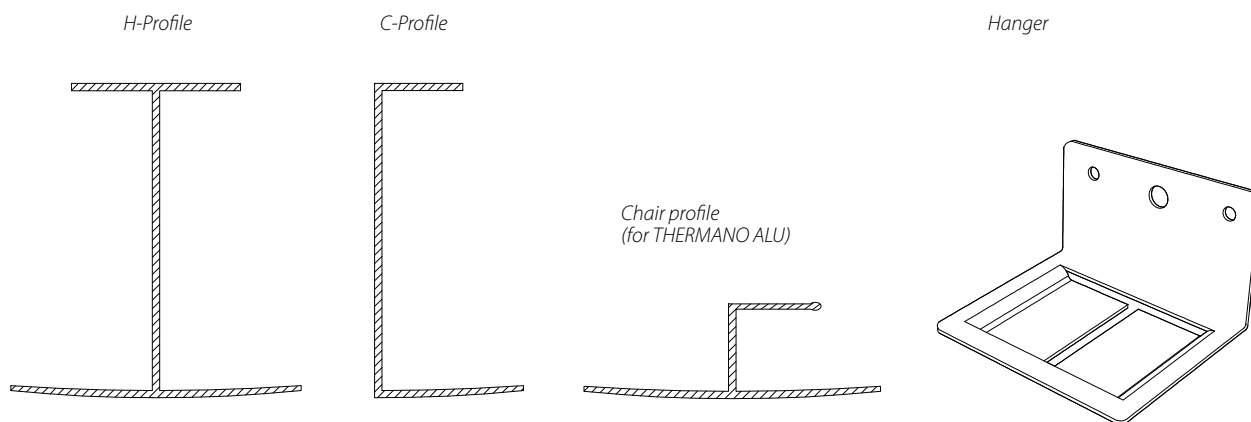
### H-Profile:

Number of boards [pcs] x (length of boards [m] + width of boards [m]) = number of H profiles in [m]

### Fixing hanger:

Number of meters H-profiles/spacing of girders, substructure = number of suspensions [pcs.]

Calculated quantities should be rounded to full profile lengths. Profiles C and H are available in a length of 4 m.



Available heights: 50, 60, 80 mm.

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## THERMANO PACKAGING

Type	Joint type	Thickness [mm]	U [W/m <sup>2</sup> ·K]	R [m <sup>2</sup> ·K/W]	Lambda [W/K]	Board size	Sales unit	Packing	Boards/ pack	m <sup>2</sup> total/pack	m <sup>3</sup> total/pack
THERMANO ROOF	BASIC	30*	0,77	1,30	0,023	BASIC Total/covering width: 1200 mm Total/covering length: 2400 mm	1200x2400x1200 package	stretch or UV foil	40	115,20	3,46
		40*	0,57	1,75					30	86,40	3,46
		50*	0,45	2,20					24	69,12	3,46
		60*	0,38	2,60					20	57,60	3,46
		80	0,29	3,50					15	43,20	3,46
		100	0,23	4,35					12	34,56	3,46
		120*	0,19	5,25					10	28,80	3,46
		125	0,18	5,45					9	25,92	3,24
		140*	0,16	6,15					8	23,04	3,23
		150	0,15	6,55					8	23,04	3,46
160	0,14	7,00	7	20,16	3,23						
THERMANO DECK	BASIC /TOP	30	0,77	1,3	0,023	BASIC Total/covering width: 1200 mm Total/covering length: 2400 mm	1200x2400x1200 package	stretch or UV foil	40	115,2	3,46
		40	0,57	1,75					30	86,4	3,46
		50	0,45	2,2					24	69,12	3,46
		60	0,38	2,6					20	57,6	3,46
		80	0,29	3,5					15	43,2	3,46
		100	0,22	4,55	0,022	TOP Total/covering width: 1185 mm Total/covering length: 2385 mm	1200x2400x1200 package	stretch or UV foil	12	34,56	3,46
		120	0,18	5,45					10	28,8	3,46
		125	0,18	5,65					9	25,92	3,24
		140	0,16	6,35					8	23,04	3,23
		150	0,15	6,8					8	23,04	3,46
160	0,14	7,25	7	20,16	3,23						
THERMANO COMPACT	BASIC	20	1,18	0,85	0,023	Total/covering width: 1200/1190mm Total/covering length: 600/590mm	1200x600x600 package	branded foil	30	0,77	1,30
		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	Total/covering width: 1200/1185mm Total/covering length: 2400/2385mm	1200x2400x1200 package	stretch foil	60	172,80	3,46
		30	0,77	1,30					40	115,20	3,46
	TOP	50	0,47	2,15					24	69,12	3,46
		80	0,29	3,45					16	46,08	3,46
		100	0,22	4,55					12	34,56	3,46
	120	0,18	5,45	10	28,80	3,46					
	BASIC	20	1,18	0,85	0,023	Total/covering width: 1200/1185mm Total/covering length: 600/585mm	1200x600x600 package	stretch foil	30	21,60	0,43
		30	0,77	1,30					20	14,40	0,43
		50	0,47	2,15					12	8,64	0,43
		TOP	80	0,29	3,45				8	5,76	0,43
100			0,22	4,55	6				4,32	0,43	
120			0,18	5,45	5				3,60	0,43	
THERMANO GK	BASIC	30	1,25	0,80	0,023	Total width: 1200 mm Total length: 2600 mm	1200x2600x1200 package	stretch foil	34	106,08	3,18
		50	0,59	1,70					21	65,52	3,28
		60	0,47	2,1					17	53,04	3,18
		120*	0,21	4,75					8	24,96	3,00
THERMANO ALU	BASIC	40*	0,59	1,70	0,023	Total width: 1200mm Total length standard: 4000mm, maximum: 5000mm	1200x4000x1200 standard package	stretch foil	30	144,00	5,76
		50*	0,45	2,20					24	115,20	5,76
		60*	0,38	2,60					20	96,00	5,76
		80*	0,29	3,50					15	72,00	5,76
		100*	0,23	4,35					12	57,60	5,76
THERMANO FIBER	BASIC	50*	0,57	1,75	0,028	Total width: 1200mm Total length standard: 4000mm, maximum: 5000mm	1200x4000x1200 standard package	stretch foil	24	115,20	5,76
		60*	0,48	2,10	20				96,00	5,76	
		80*	0,34	2,95	15				72,00	5,76	

\* Product made to order

## THERMANO ROOF application options



### Pitched roof with thermal insulation over the rafters

- High thermal insulation without thermal bridges
- Superior protection against 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 IN 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 resistant to assembly errors installation
- Lower installation costs



INSTALLATION OF THERMANO UNDER THE RAFTERS IN A PITCHED ROOF



### Flat roof

- High compressive strength: 200 kPa (20 t/m<sup>2</sup>)
- Good resistance to walking damage
- 4 x lighter than mineral wool
- No risk of vapour condensation



INSTALLATION OF THERMANO ON A FLAT ROOF



### Green flat roof

- High compression strength: 200 kPa (20 t/m<sup>2</sup>)
- Applicable to extensive and intensive green roof systems
- 4 x lighter than mineral wool



INSTALLATION OF THERMANO IN A GREEN ROOF



### Adhesive bonded flat roof

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



INSTALLATION OF THERMANO ON A FLAT ROOF WITH ADHESIVE BONDING

### Alternative:

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
  - Floors leveling
  - Elimination the linear thermal bridges



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## THERMANO GK application options



### Staircase thermal insulation

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



INSTALLATION OF THERMANO GK WITH POLYURETHANE OR ACRYLIC GLUE



### Internal insulation

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



INSTALLATION OF THERMANO GK WITH GYPSUM-BASED ADHESIVE



### 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



MECHANICAL INSTALLATION OF THERMANO GK ON THE SUBSTRUCTURE

## THERMANO FLOOR application options



### Floors

- No moisture wicking; resists flooding
- Great compressive strength: 150 kPa (15 t/m<sup>2</sup>)
- Longer flooring life



INSTALLATION OF THERMANO IN HEATED FLOORS



### Lost formworking

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



INSTALLATION OF THERMANO IN 3-LAYERS WALL



### 3-layers wall

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

## THERMANO ALU application options



### Livestock buildings / false 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 ALU  
IN LIVESTOCK  
BUILDINGS

## THERMANO FIBER 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 ceilings

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



THERMANO ALU /  
THERMANO FIBER  
CATALOGUE



### Livestock buildings / false ceiling

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



INSTALLATION  
OF THERMANO  
IN LIVESTOCK  
BUILDINGS



MANY  
APPLICATIONS  
ONE  
SOLUTION

SIMPLICITY,  
LOW COST,  
AND HIGH SPEED  
OF INSTALLATION

# 2 SANDWICH PANELS

- 42 **PIR STANDARD** roof sandwich panel
- 44 **MW ROOF** sandwich panel
- 46 **PIR STANDARD** sandwich panel
- 48 **PIR SLATE** sandwich panel
- 50 **PIR PLUS** sandwich panel
- 52 **PIR LIGHT** sandwich panel
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- 56 **MW FIRE** sandwich panel
- 58 **MW STANDARD** sandwich panel
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# PIR STANDARD ROOF SANDWICH PANEL

A core made of hard polyurethane foam perfectly protects buildings thermally. This guarantees a specific thermal conductivity coefficient of  $\lambda = 0,022 \text{ W/mK}$ , which is unattainable for panels with a polystyrene or mineral wool core. This solution is 40-60% cheaper compared to wool-filled panels.



### Technical parameters

Name	PIR STANDARD roof sandwich panel (PU-PIR-R)					
Core	Rigid polyurethane foam, PIR / Nominal PIR core density 40 kg/m <sup>3</sup>					
Cladding thickness [mm]	0,40 / 0,50 / 0,60 / 0,70					
Steel grade	S250GD					
Coating	SP Polyester Gloss 15 µm, SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Cesar 55					
Panel length [mm]	2500-18000					
Effective width [mm]	1000					
Total width [mm]	1062,50					
Core thickness [mm]	40	60	80	100	120	160
Mass [kg/m <sup>2</sup> ]	10,8	11,7	12,5	13,3	14,1	15,7
Thermal transmittance, U <sub>c</sub> [W/m <sup>2</sup> K]	0,54	0,35	0,27	0,21	0,18	0,14
Fire resistance	- up to REI 30 / up to RE 60					
Roof external fire performance	Broof (t1), Broof (t2), Broof (t3)					
Reaction to fire	40-80 mm - B-s2,d0 100-160 mm - 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		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Aluzinc	Stainless steel
2500	16000 (th. 40)	outer	0,50 / 0,60 / 0,70	T	x	x	x			
	17000 (th. 60) 18000 (th. 80-160)	inner	0,40 / 0,50 / 0,60 / 0,70	L / G	x	x	x	x		



MORE ABOUT  
PIR STANDARD ROOF  
SANDWICH PANEL

Available cladding profiles:

ext. **T** int. **L**  
**G**



REFERENCE  
OBJECTS





# MW ROOF SANDWICH PANEL





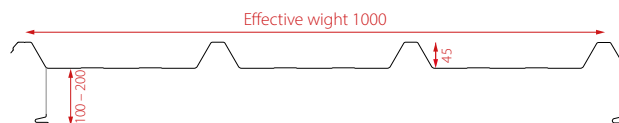
MW ROOF sandwich panels are characterized by a fire resistance parameter of REI 90. Balex Metal sandwich panels are protected with durable anti-corrosion coatings and constitute a durable partition.



## Technical parameters

Name	MW ROOF sandwich panel (MW-R)				
Core	Rigid mineral wool (nominal MW core density: 110 kg/m <sup>3</sup> )				
Cladding thickness [mm]	0,50 / 0,60 / 0,70				
Steel grade	S250GD, stainless steel (1.4301)				
Coatings	SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, Cesar 55				
Effective width [mm]	1000				
Total width [mm]	1063,5				
Panel length [mm]	2500-15000				
Core thickness [mm]	100	120	150	175	200
Panel weight [kg/m <sup>2</sup> ]	20,3	22,4	25,6	28,3	30,9
Thermal transmittance, U <sub>c</sub> [W/m <sup>2</sup> K]	0,38	0,32	0,26	0,23	0,19
Fire resistance	- up to REI 90				
Roof external fire performance	Broof (t1), Broof (t2), Broof (t3)				
Minimum roof slope	> 7% with sandwich panels joined and locked lengthwise or with skylights > 5% for continuous sandwich panels and without skylights				

Panel length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	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	x



MORE ABOUT  
MW ROOF

Available cladding profiles:

ext. **T** int. **L**  
**G**



REFERENCE  
OBJECTS

# PIR STANDARD SANDWICH PANEL





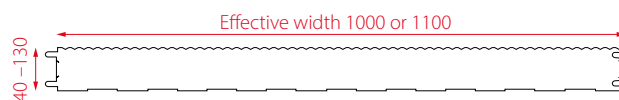
Standard panel with a core of hard polyurethane foam, recommended for the construction of industrial halls, warehouses, public buildings and industrial plants. It thermally protects buildings ( $\lambda = 0,022 \text{ W/mK}$ ). The panel is available in many profilings, with a wide range of colors and high durability of anti-corrosion coatings.



### Technical parameters

Name	PIR STANDARD sandwich panel with polyurethane (PIR) core and exposed fasteners (PU-PIR-WST)							
Core	Rigid polyurethane foam, PIR/Nominal PIR core density 40 kg/m <sup>3</sup>							
Cladding thickness [mm]	0,40 / 0,50 / 0,60 / 0,70							
Steel grade	S250GD, stainless steel (1.4301)							
Coatings	SP Polyester Gloss 15 µm, SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Cesar 55							
Effective width [mm]	1000, 1100							
Total width [mm]	1020, 1120							
Panel length [mm]	2000-18000							
Core thickness [mm]	40	50	60	80	100	110	120	130
Weight [kg/m <sup>2</sup> ]	10,3	10,6	11,1	11,8	12,6	12,9	13,2	13,5
Thermal transmittance, U <sub>c</sub> [W/m <sup>2</sup> K]	0,59	0,45	0,36	0,27	0,22	0,20	0,19	0,17
Fire resistance	-			up to EI 15			up to EI 20 / up to EW 30	
External fire performance	NRO (not spreading fire)							
Reaction to fire	B-s2,d0				B-s1,d0			

Panel length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Aluzinc	Stainless steel
2000	18000	outer	0,50 / 0,60 / 0,70	L / M / G / 1L / 2L	x	x	x	x		x
		inner	0,40 / 0,50 / 0,60 / 0,70	L / G	x	x	x	x		x



MORE ABOUT  
PIR STANDARD

Available cladding profiles:

	ext.		int.
<b>L</b>	<b>M</b>	<b>G</b>	<b>L</b>
	<b>1L</b>	<b>2L</b>	<b>G</b>



REFERENCE  
OBJECTS



# PIR SLATE SANDWICH PANEL







PIR SLATE combines all the features of a panel with a core of hard polyurethane foam with a material of the highest decorative standard. Recommended for the construction of buildings for various purposes - from single-family houses to multifamily multi-storey buildings, as well as industrial and service facilities. Slate, like other sandwich panels, can be attached to a steel, wooden or aluminum grid and indirectly to a traditional brick wall.

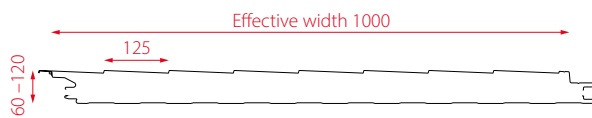


Technical parameters

Name	PIR SLATE sandwich panel with concealed joint lock (JI SLATE)	
Core	Rigid polyurethane foam, PIR/Nominal PIR core density 38 kg/m <sup>3</sup>	
Steel grade	S280GD (zew.) / S250GD (wew.)	
Coatings	7024 (outer), 9002 (inner)	
Profile	Slate panel (outer), Lined (inner)	
Effective width [mm]	1000	
Total width [mm]	1072	
Panel length [mm]	3000-10000	
Core thickness [mm]	60	120
Wall thermal transmittance, U <sub>c</sub> [W/m <sup>2</sup> K]	0,39	0,19
Roof thermal transmittance, U <sub>c</sub> [W/m <sup>2</sup> K]	0,39	0,19
Cladding thickness [mm]	0,50 (outer) / 0,40 (inner)	0,50 (outer) / 0,40 (inner)
Reaction to fire	B-s2, d0	
External fire resistance	NRO (not spreading fire), Broof(t1)	
Durability (DUR X)	Fulfills	
Maximum spacing of supports (wall and roof) [mm]	1500	
Minimal roof slope	25° (47%)	

Panel length*		Panel side	Cladding thickness [mm]	Profiling	Color
minimal [mm]	maximal [mm]				
3000	10000	outer	0,50	slate panel	7024
		inner	0,40	L	9002

\* Panel lengths are fixed every 250 mm, from 3000, 3250, (...), 9750, 10000 [mm]



Available cladding profiles: ext. **SP** int. **L**



MORE ABOUT PIR SLATE



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- 5** ROOF & WALL CLADDING ACCESSORIES
- 6** ROOF GUTTERS
- 7** COLD-FORMED PROFILES
- 8** FACADE CLADDING
- 9** OTHER

# PIR PLUS SANDWICH PANEL







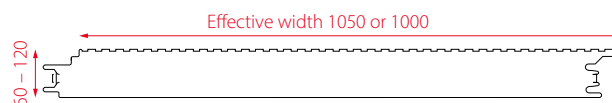
PIR PLUS is aesthetics and thermal protection of the facility in one. The core is made of hard polyurethane foam and thermally protects buildings ( $\lambda = 0,022 \text{ W/mK}$ ). Hidden fastening makes the panel connectors invisible, which improves the aesthetic value of the facility. A wide range of external cladding profiles will allow you to give your façade an individual look.



### Technical parameters

Name	PIR PLUS wall sandwich panel with polyurethane (PIR) core and concealed fasteners (PU-PIR-W-PLUS)		
Core	Rigid polyurethane foam, PIR / Nominal PIR core density 40 kg/m <sup>3</sup>		
Cladding thickness [mm]	0,40 / 0,50 / 0,60 / 0,70		
Steel grade	S250GD, stainless steel (1.4301)		
Coatings	SP Polyester Gloss 15 µm, SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Cesar 55		
Panel length [mm]	2000-18000		
Effective width [mm]	1000, 1050		
Total width [mm]	1050, 1100		
Core thickness [mm]	60	80	100
Weight [kg/m <sup>2</sup> ]	11,4	12,1	12,9
Thermal transmittance, Uc [W/m <sup>2</sup> K]	0,39	0,28	0,22
Fire resistance	–	up to EI 15 / up to EW 30	up to EI 20 / up to EW 30
External fire performance	NRO (not spreading fire)		
Reaction to fire	B-s2, d0		

Panel length		Panel side	Cladding thickness [mm]	Profiling		Coating					
minimal [mm]	maximal [mm]			1000	1050	SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Alucynk	Stainless steel
2000	18000	outer	0,50 / 0,60 / 0,70	S / L / M / G / 1L / 2L	R / M / G / 1L / 2L / S	x	x	x	x		
		inner	0,40 / 0,50 / 0,60 / 0,70	L / G	L / G	x	x	x	x		x



Available cladding profiles:

1000		1050	
ext.	int.	ext.	int.
<b>S</b>	<b>L</b>	<b>R</b>	<b>M</b>
<b>M</b>	<b>L</b>	<b>G</b>	<b>L</b>
<b>G</b>	<b>1L</b>	<b>1L</b>	<b>2L</b>
<b>2L</b>	<b>G</b>	<b>S</b>	<b>G</b>



MORE ABOUT  
PIR PLUS

# PIR LIGHT SANDWICH PANEL







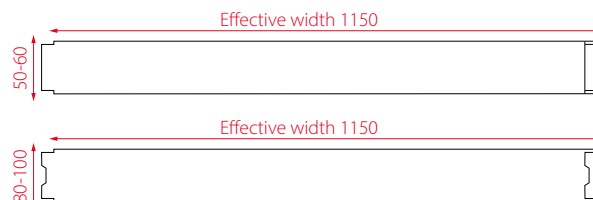
A sandwich panel with a core of hard polyurethane foam and coated steel cladding is an interesting alternative to polystyrene boards. PIR LIGHT offers optimal thermal protection of buildings (aging lambda of 0,022 W/mK) with thinner panel dimensions (60 instead of 100 mm). It is capillary inactive and practically non-absorbent. The labyrinth-type lock used in the panel makes the product highly airtight while maintaining continuous thermal insulation.



### Technical parameters

Name	PIR LIGHT sandwich panel			
Core	Rigid polyurethane foam, PIR / Nominal PIR core density 37 kg/m <sup>3</sup>			
Cladding thickness [mm]	0,40			
Steel grade	S250GD			
Coatings	SP Polyester Gloss 15 µm, SP Polyester Gloss 25 µm			
Panel length [mm]	2500-18000			
Effective width [mm]	1150			
Total width [mm]	1170			
Core thickness [mm]	50	60	80	100
Weight [kg/m <sup>2</sup> ]	8,3	8,7	9,5	10,2
Thermal transmittance, U <sub>c</sub> [W/m <sup>2</sup> K]	0,48	0,37	0,28	0,22
External fire performance	NRO (not spreading fire)			
Reaction to fire	B-s2,d0			

Panel length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Alucynk	Stainless steel
2500	18000	outer	0,40	L	x					
		inner	0,40	L	x					



Available cladding profiles:  ext.  int.



MORE ABOUT  
PIR LIGHT

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# PIR FROST SANDWICH PANEL





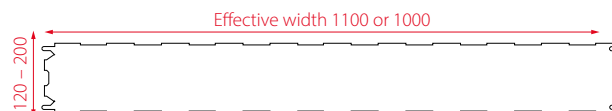
PIR FROST is the best solution for refrigeration and freezing facilities. The core of hard polyurethane foam thermally protects buildings (aging lambda at the level of 0,022 W/mK). The panel is characterized by high fire tightness and exceptional thermal insulation parameters of the wall partition and ceiling (the milled core joint eliminates the thermal bridge). The panels are installed quickly.



## Technical parameters

Name	PIR FROST sandwich panel with visible fastening (PU-PIR-F)			
Core	Rigid polyurethane foam, PIR / Nominal PIR core density 40 kg/m <sup>3</sup>			
Cladding thickness [mm]	0,40 / 0,50 / 0,60 / 0,70			
Steel grade	S250GD, stainless steel (1.4301)			
Coatings	SP Polyester Gloss 15 µm, SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Cesar 55			
Panel length [mm]	2000-18000			
Effective width [mm]	1000, 1100			
Total width [mm]	1020, 1120			
Core thickness [mm]	120	160	180	200
Masa [kg/m <sup>2</sup> ]	13,4	15,0	15,8	16,8
Thermal transmittance, U <sub>c</sub> [W/m <sup>2</sup> K]	0,18	0,14	0,12	0,11
Fire resistance	up to EI30 / up to EW 60		up to EI 45 / up to EW 60	
External fire performance	NRO (not spreading fire)			
Reaction to fire	B-s1,d0 (panel with gasket EPDM: B-s2,d0)			

Panel length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Alucynk	Stainless steel
2000	18000	outer	0,50 / 0,60 / 0,70	L / M / G / 1L / 2L	x	x	x	x		x
		inner	0,40 / 0,50 / 0,60 / 0,70	L / G	x	x	x	x		x



Available cladding profiles:

	ext.		int.
<b>L</b>	<b>M</b>	<b>G</b>	<b>L</b>
<b>1L</b>	<b>2L</b>	<b>G</b>	



MORE ABOUT  
PIR FROST



# MW FIRE SANDWICH PANEL





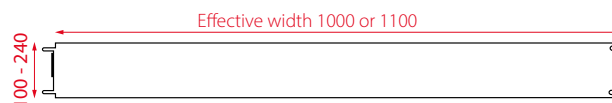
The sandwich panel with a mineral wool core is a non-flammable material. It can be used wherever there are increased fire protection requirements. The MW FIRE sandwich panel is available in thicknesses from 100 to 240 mm and, thanks to a special gasket, has achieved fire resistance classes that other panels from the MW family have not been able to achieve.



## Technical parameters

Name	MW FIRE sandwich panel					
Core	Rigid mineral wool (nominal aparent density 110 kg/m³)					
Cladding thickness [mm]	0,50 / 0,60 / 0,70					
Steel grade	S250GD					
Coatings	SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, Cesar 55					
Effective width [mm]	1000, 1100					
Total width [mm]	1020, 1120					
Panel length [mm]	2500-15000					
Core thickness [mm]	100	120	150	175	200	240
Weight [kg/m²]	19,8	22,0	25,3	28,1	30,8	35,2
Thermal transmittance, U <sub>c</sub> [W/m²K]	0,40	0,34	0,28	0,24	0,20	0,17
Fire resistance	up to EI 90 (6,0 m) up to EI 60 (7,5 m)	up to EI 120 (6,0 m) up to EI 90 (7,5 m)	up to EI 180 (6,0 m) up to EI 120 (7,5 m)		up to EI 240 (4,0 m) up to EI 180 (7,5 m)	
External fire performance	NRO (not spreading fire)					
Reaction to fire	A2-s1, d0					

Panel length		Panel side	Cladding thickness [mm]	Profiling	Coating				
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Allucynk
2500	12000 (th. 100) 15000 (other th. values)	outer	0,50 / 0,60 / 0,70	M / L / R / G / 1L / 2L	x	x	x	x	x
		inner	0,50 / 0,60 / 0,70	L / G	x	x	x	x	x



Available cladding profiles:

	ext.	int.
<b>M</b>	<b>L</b>	<b>R</b>
<b>G</b>	<b>1L</b>	<b>2L</b>
		<b>G</b>



MORE ABOUT  
MW FIRE

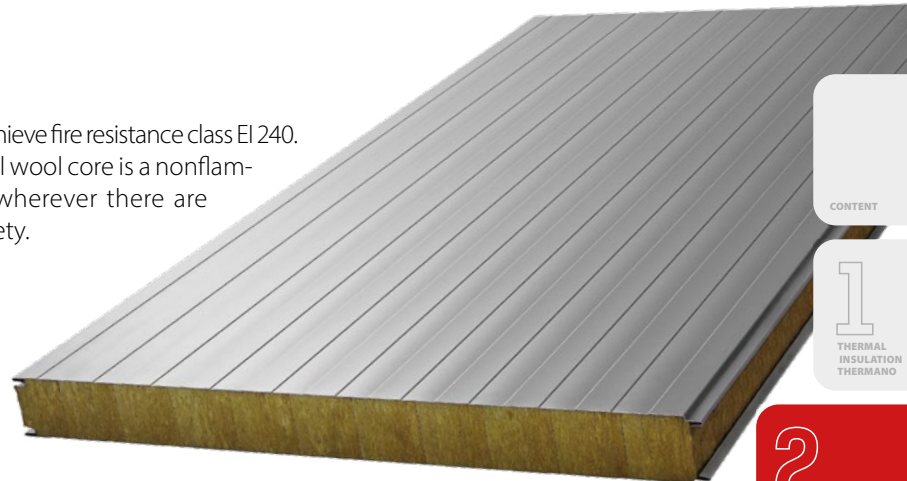
# MW STANDARD SANDWICH PANEL







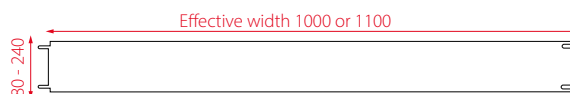
MW STANDARD sandwich panels achieve fire resistance class EI 240. The sandwich panel with a mineral wool core is a nonflammable material. It can be used wherever there are increased requirements of fire safety.



### Technical parameters

Name	MW STANDARD sandwich panel with visible fastening (MW-W-ST)						
Core	Rigid mineral wool (nominal aparent density 110 kg/m³)						
Cladding thickness [mm]	0,50 / 0,60 / 0,70						
Steel grade	S250GD, stainless steel (1.4301)						
Coatings	SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, Cesar 55						
Effective width [mm]	1000, 1100						
Total width [mm]	1020, 1120						
Panel length [mm]	2500-15000						
Core thickness [mm]	80	100	120	150	175	200	240
Weight [kg/m²]	17,6	19,8	22,0	25,3	28,1	30,8	35,2
Thermal transmittance, U <sub>c</sub> [W/m²K]	0,49	0,40	0,34	0,28	0,24	0,20	0,17
Fire resistance	-	up to EI 90			up to EI 120		up to EI 240
External fire performance	NRO (not spreading fire)						
Reaction to fire	A2-s1, d0						

Panel length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Alucynk	Stainless steel
2500	10000 (th. 80)	outer	0,50 / 0,60 / 0,70	M / L / R / G / 1L / 2L	x	x	x	x	x	x
	12000 (th. 100) 15000 (other th. values)	inner	0,50 / 0,60 / 0,70	L / G	x	x	x	x	x	x



MORE ABOUT  
MW STANDARD

Available cladding profiles:

	ext.		int.
<b>M</b>	<b>L</b>	<b>R</b>	<b>L</b>
<b>G</b>	<b>1L</b>	<b>2L</b>	<b>G</b>



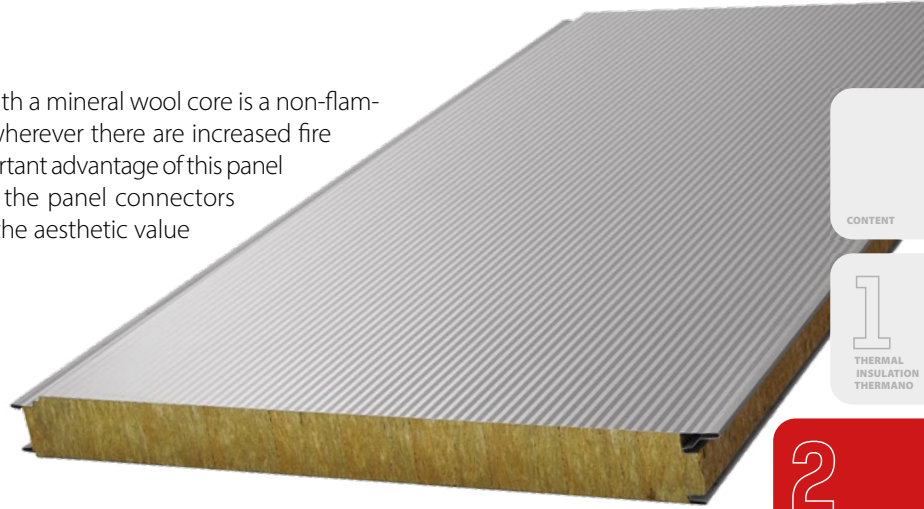
REFERENCE  
OBJECTS

# MW PLUS SANDWICH PANEL





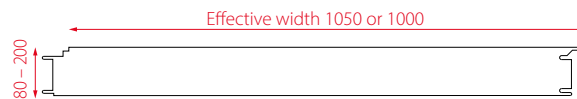
The MW PLUS sandwich panel with a mineral wool core is a non-flammable material. It can be used wherever there are increased fire protection requirements. An important advantage of this panel are hidden fasteners that make the panel connectors (screws) invisible. This improves the aesthetic value of the building.



### Technical parameters

Name	MW PLUS sandwich panel with hidden fastening (MW-W-PLUS)					
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 Gloss 15 µm, SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, Cesar 55					
Panel length [mm]	2500-15000					
Effective width [mm]	1000, 1050					
Total width [mm]	1050, 1100					
Core thickness [mm]	80	100	120	150	175	200
Weight [kg/m²]	17,6	19,8	22,0	25,3	28,1	30,8
Thermal transmittance, U <sub>c</sub> [W/m²K]	0,48	0,38	0,32	0,26	0,23	0,20
Fire resistance	-	up to EI 30	up to EI 45	up to EI 60	up to EI 90	up to EI 120
External fire performance	NRO (not spreading fire)					
Reaction to fire	A2-s2, d0					

Panel length		Panel side	Cladding thickness [mm]	Profiling		Coating					
minimal [mm]	maximal [mm]			1000	1050	SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Aluzinc	Stainless steel
2500	10000 (th. 80)	outer	0,50 / 0,60 / 0,70	M/L/G 1L/2L	M/L/R/ G/1L/2L	x	x	x	x	x	
	12000 (th. 100) 15000 (other th. values)	inner	0,50 / 0,60 / 0,70	L/G	L/G	x	x	x	x	x	x



	1000				1050			
	ext.	int.	ext.	int.	ext.	int.	ext.	int.
Available cladding profiles:	<b>M</b>	<b>L</b>	<b>G</b>	<b>L</b>	<b>M</b>	<b>L</b>	<b>R</b>	<b>L</b>
	<b>1L</b>	<b>2L</b>	<b>G</b>		<b>G</b>	<b>1L</b>	<b>2L</b>	<b>G</b>



MORE ABOUT  
MW PLUS

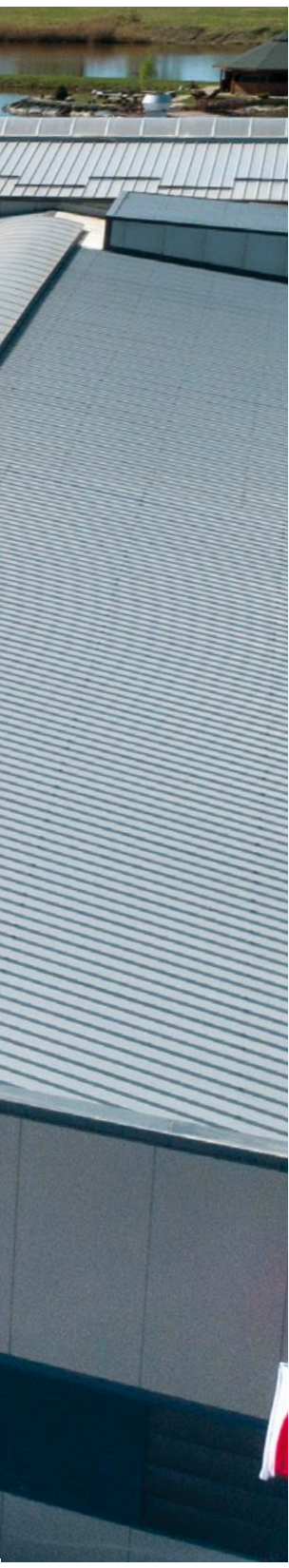




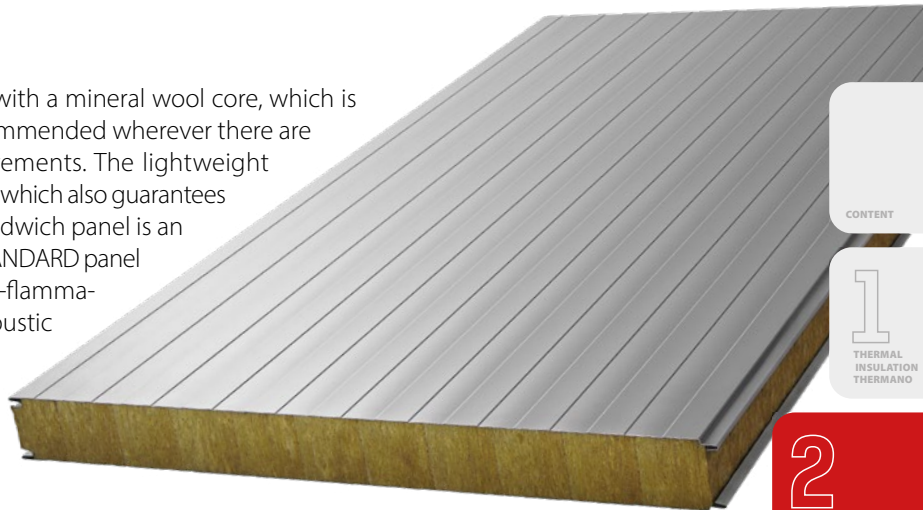
# MW LIGHT SANDWICH PANEL







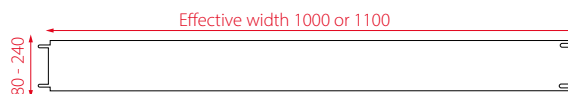
MW LIGHT is a sandwich panel with a mineral wool core, which is a non-flammable material. Recommended wherever there are increased fire protection requirements. The lightweight version means lower core density, which also guarantees a lower price. The MW LIGHT sandwich panel is an economical version of the MW STANDARD panel with its advantages such as non-flammability, thermal insulation and acoustic insulation.



### Technical parameters

Name	MW LIGHT sandwich panel – economical, sandwich panel with visible fastening (MW-LT-W-ST)						
Core	Mineral wool (nominal apparent density: 90 kg/m <sup>3</sup> )						
Cladding thickness [mm]	0,50 / 0,60 / 0,70						
Steel grade	S250GD, stainless steel (1.4301)						
Coatings	SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, Cesar 55						
Panel length [mm]	2500-15000						
Effective width [mm]	1000, 1100						
Total width [mm]	1020, 1120						
Core thickness [mm]	80	100	120	150	175	200	240
Weight [kg/m <sup>2</sup> ]	16,0	17,8	19,6	22,3	24,6	26,8	30,4
Thermal transmittance, Uc [W/m <sup>2</sup> K]	0,47	0,38	0,32	0,26	0,23	0,19	0,17
Fire resistance	-	up to EI 45	up to EI 60	up to EI 90	up to EI 120		
External fire performance	NRO (not spreading fire)						
Reaction to fire	-	A2-s1, d0					

Panel length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Alucynk	Stainless steel
2500	15000	outer	0,50 / 0,60 / 0,70	M / L / R / G / 1L / 2L	x	x	x	x	x	x
		inner	0,50 / 0,60 / 0,70	L / G	x	x	x	x	x	x



Available cladding profiles:

	ext.		int.
<b>M</b>	<b>L</b>	<b>R</b>	<b>L</b>
<b>G</b>	<b>1L</b>	<b>2L</b>	<b>G</b>



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MW LIGHT

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# MW DEFENDER SANDWICH PANEL

**2ND CLASS OF PROTECTION  
AGAINST BURGLARY IN ACCORDANCE  
WITH SSF1047 STANDARD**





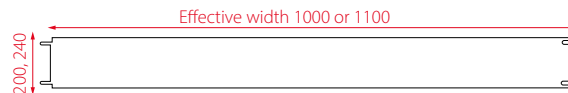
MW DEFENDER sandwich panel with a mineral wool core is a non-flammable material. It can be used wherever there are increased fire protection requirements. The denser core of the panel makes it meet the requirements of an anti-burglary barrier in accordance with the SSF1047 standard (class 2 of burglary protection).



### Technical parameters

Name	MW DEFENDER sandwich panel – anti-burglary, layered, with visible fastening (MW-DW-ST)	
Core	Rigid mineral wool (nominal apparent density 150 kg/m <sup>3</sup> )	
Cladding thickness [mm]	0,60 / 0,70	
Steel grade	S250GD	
Coatings	SP Polyester Gloss 25 µm	
Effective width [mm]	1000, 1100	
Total width [mm]	1020, 1120	
Panel length [mm]	2500-15000	
Core thickness [mm]	200	240
Weight [kg/m <sup>2</sup> ]	41,3	46,1
Thermal transmittance, U <sub>c</sub> [W/m <sup>2</sup> K]	0,19	0,17
Fire resistance	up to EI 120	
External fire performance	NRO (not spreading fire)	
Reaction to fire	-	

Panel length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Alucynk	Stainless steel
2500	15000	outer	0,60 / 0,70	M / L / R / G / 1L / 2L	x					
		inner	0,60 / 0,70	L / G	x					



Available cladding profiles:

	ext.	int.
<b>M</b>	<b>L</b>	<b>R</b>
<b>G</b>	<b>1L</b>	<b>2L</b>
		<b>G</b>



MORE ABOUT  
MW DEFENDER



# NATURAL LIGHT SYSTEMS

## LB Basic skylight

**Large glazing area, installation in the ridge or on the roof slope**

- Modular design
- For roofs with a slope of up to 20°
- Available in two widths: 2.0 and 2.5 m
- Possible installation on sandwich panel roofs and sandwich roofs
- Light supporting structure made of galvanized profiles



LB Basic skylight in cross-section





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FACADE CLADDING

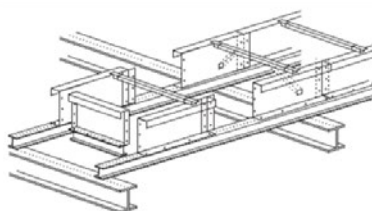
9

OTHER

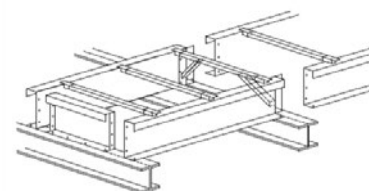
## Technical parameters

Name	LB Basic skylight	
Material	Polycarbonate with reinforced fiberglass laminate	
Base	50 cm	
Standard lengths [m]	5, 7, 8, 9, 10, 15, 30	
Glazing thickness [mm] / Number of chambers	16/7 + 10/4	16/7 + 16/4
Thermal transmittance $U_c$ [W/m <sup>2</sup> K]	1,4	1,1
Classification of resistance to external fire	$B_{ROOF}(t_1)$	
The maximum angle of inclination of the roof slope when installed parallel to the slope	20° (36,4%)	
The maximum angle of inclination of the roof slope when installed perpendicular to the slope	5° (8,7%)	

BASE ON SUBSTRUCTURE



SELF-SUPPORTING BASE





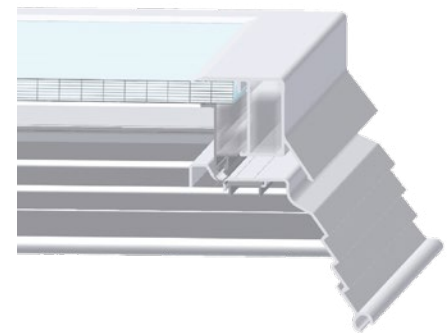
## LK PC-s skylight

### Spot lighting in a wide range of sizes

- Available sizes from 100/100 to 200/300 cm
- The height of the base is adjusted to the thickness of the thermal insulation
  - 50 cm base for thermal insulation less than 20 cm thick (e.g. PIR thermal insulation – Thermano Roof)
  - 70 cm base for thermal insulation over 20 cm thick
- Glazing depending on the required thermal insulation
  - 16/7 glazing with a thermal insulation coefficient of 1.4 W/m<sup>2</sup>K
  - 25/7 glazing with a thermal insulation coefficient of 1.1 W/m<sup>2</sup>K
- For roofs with a maximum slope of 25°
- The convex shape prevents the accumulation of water and snow



*LK PC-s skylight*



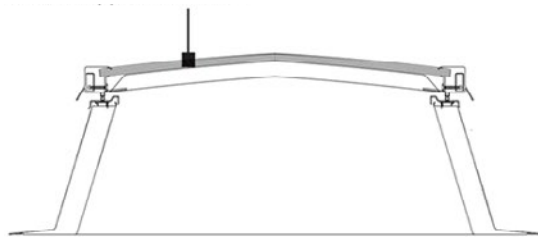
*Cross-section of the LK PC-s skylight*



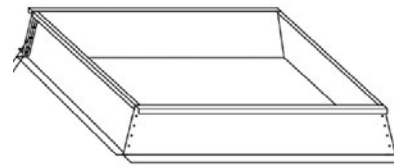
## Technical parameters

Name	LK PC-s skylight	
Material	Polycarbonate with reinforced fiberglass laminate	
Base height	50 cm or 70 cm	
Glazing thickness	16 mm	25 mm
Number of chambers	7	7
Thermal transmittance U <sub>c</sub> [W/m <sup>2</sup> K]	1,4	1,1
Classification of resistance to external fire	B <sub>ROOF</sub> (t <sub>1</sub> )	
Maximum roof slope angle	25° (46,6%)	

Dimensions	100 cm	120 cm	150 cm	180 cm	200 cm	250 cm	300 cm
100 cm	•		•				
120 cm		•	•	•			
150 cm	•	•	•	•		•	
180 cm		•	•				
200 cm							•
250 cm			•				
300 cm					•		



Cross-section through the LK PC-s skylight



Isometric projection of the base of the LK PC-s point skylight

### GLAZING:

#### 16/7 glazing:

7-chamber polycarbonate, 16 mm thick

#### 25/7 glazing:

7-chamber polycarbonate, 25 mm thick

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# DEDICATED LIGHTS SANDWICH PANELS



## Flowlight Victory

**It illuminates the roof surface which forms one coherent roof surface with the sandwich panels**

Flowlight Victory polyester skylight reinforced with glass fiber are suitable for installation on roofs made of roof sandwich panels with a polyurethane or mineral wool core. They ensure access of daylight to the interior of buildings - light transmittance is approximately 68%.

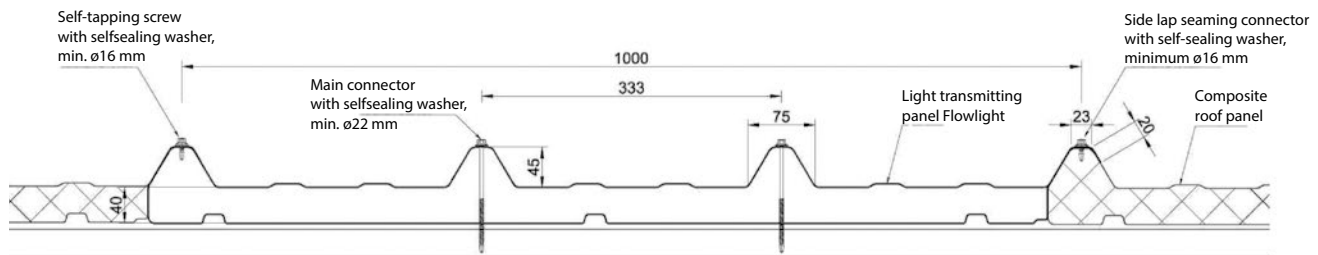
The skylights are made of two long-lasting boards with stiffeners. The whole is created by a rigid chamber profile capable of operating in the temperature range from -40 degrees C to +120 degrees C. The upper plate is additionally covered with a protective foil that protects against UV radiation and thus protects against color loss.



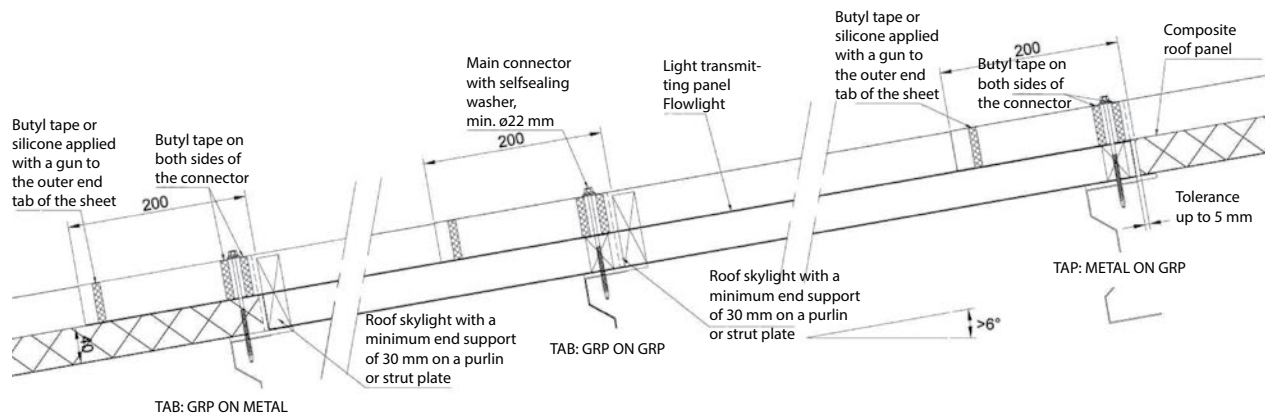
## Technical parameters

Name	Flowlight Victory roof skylight
Material	GRP (Glass-reinforced polyester)
The height of illumination	40/85 mm
The modular width illuminates	1000 mm
Minimum length (without undercut)	2000 mm
Maximum length (without undercut)	8500 mm
Scoring length	200 mm
Light transmittance	Approximately 68%
Thermal transmittance U	2,7 W/m <sup>2</sup> K
Reaction to fire	E
External Fire Resistance	Broof(t1)

### FLOWLIGHT - TYPICAL CROSS SECTION



### FLOWLIGHT - TYPICAL END TAPS

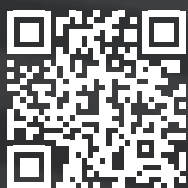


# UNIVERSAL FLASHINGS

FOR SANDWICH PANELS

WE INVITE YOU TO FAMILIARIZE YOURSELF WITH THE FREE FLASHING CONFIGURATOR, WHERE YOU CAN QUICKLY AND EASILY CONFIGURE AND CREATE THE NECESSARY SET FOR YOUR INVESTMENT. DON'T WAIT AND GO TO:

**[HTTPS://BALEX.EU/KONFIGURATOR-OBROBEK/](https://balex.eu/konfigurator-obrobek/)**

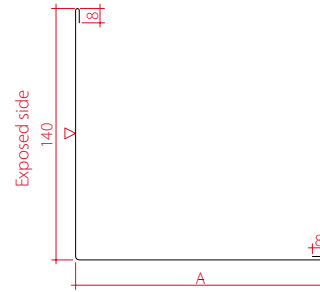


FLASHINGS CONFIGURATOR



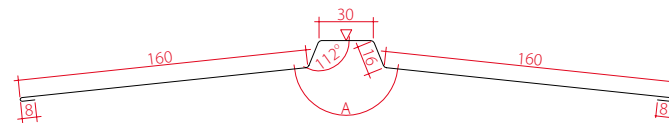
## OBR 05 – External straight corner

Designation	A [mm]	Developed length [mm]	Weight [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

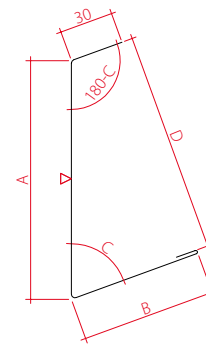
Designation	Developed length [mm]	Weight [kg/m]
OBR 52	398	1,56



Angle "A" selected depending on the slope of the roof

## OBR 57 – Eave masking frame – option I

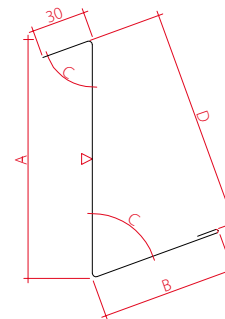
Designation	D [mm]	Weight [kg/m]
OBR 57/40	40	0,28
OBR 57/60	60	0,41
OBR 57/75	75	0,52
OBR 57/80	80	0,55
OBR 57/100	100	0,69
OBR 57/120	120	0,83
OBR 57/125	125	0,86
OBR 57/150	150	1,04
OBR 57/160	160	1,10
OBR 57/175	175	1,21
OBR 57/200	200	1,38



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

## OBR 62 – Eave masking frame – option II

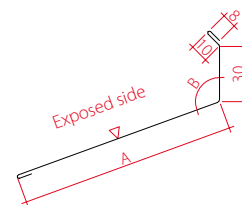
Designation	D [mm]	Weight [kg/m]
OBR 62/40	40	0,28
OBR 62/60	60	0,41
OBR 62/75	75	0,52
OBR 62/80	80	0,55
OBR 62/100	100	0,69
OBR 62/120	120	0,83
OBR 62/125	125	0,86
OBR 62/150	150	1,04
OBR 62/160	160	1,10
OBR 62/175	175	1,21
OBR 62/200	200	1,38



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

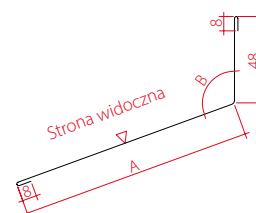
Designation
OBR 74



Angle B and dimension A depend on the roof slope

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

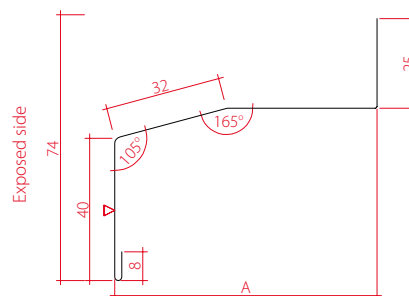
Designation
OBR 76



Angle B and dimension A depend on the roof slope

## OBR 100 – Standard drip cap

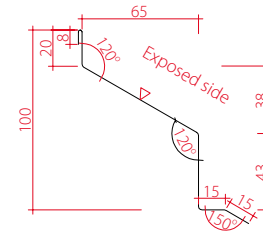
Designation	A [mm]	Developed length [mm]	Weight [kg/m]
OBR 100/40	53	127	0,50
OBR 100/50	63	137	0,54
OBR 100/60	73	147	0,58
OBR 100/75	88	162	0,64
OBR 100/80	93	167	0,65
OBR 100/100	113	187	0,73
OBR 100/120	133	207	0,81
OBR 100/125	138	212	0,83
OBR 100/130	143	217	0,85
OBR 100/140	153	227	0,89
OBR 100/150	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





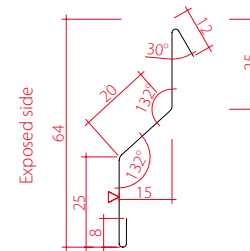
## OBR 101 – Internal masking frame

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



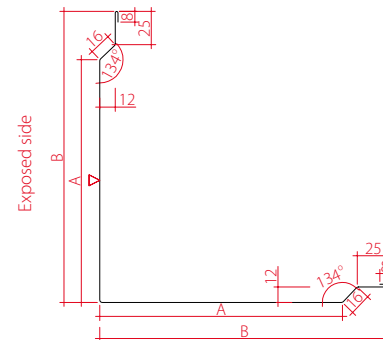
## OBR 102 – Tongue and groove drip cap

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



## OBR 103 – External corner with a hidden joint

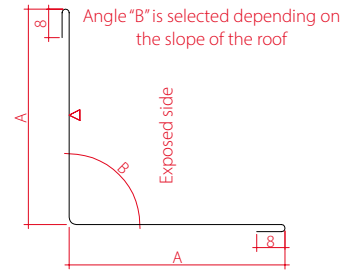
Designation	A [mm]	B [mm]	Developed length [mm]	Weight [kg/m]
OBR 103/40	120	156	338	1,33
OBR 103/50	130	166	358	1,40
OBR 103/60	140	176	378	1,48
OBR 103/75	155	191	408	1,60
OBR 103/80	160	196	418	1,64
OBR 103/100	180	216	458	1,80
OBR 103/120	200	236	498	1,95
OBR 103/125	205	241	508	1,99
OBR 103/130	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 corner

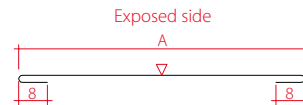
Designation	A [mm]	Developed length [mm]	Weight [kg/m]
OBR 104/1	40	96	0,38
OBR 104/2	70	156	0,61

Attention:  
OBR 104/1 for angle between 0 and 6°  
OBR 104/2 for angle between 0 and 22°



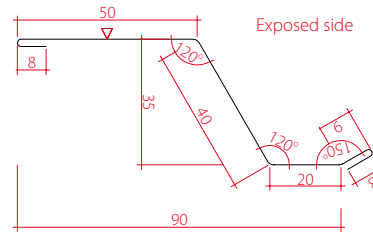
## OBR 106 – Masking strip

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



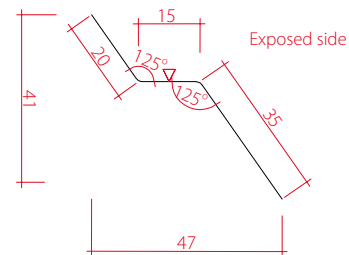
## OBR 107 – Window drip cap

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



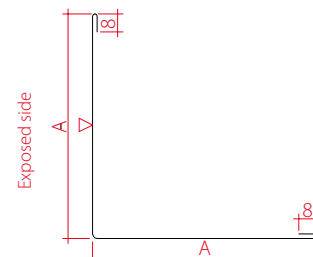
## OBR 108 – window drip cap – PLUS lock seal

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



## OBR 109 – External even-armed straight corner

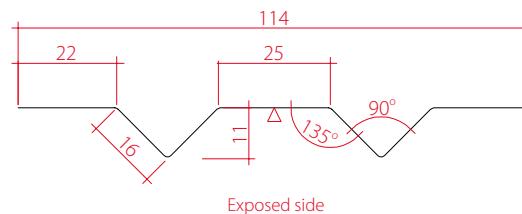
Designation	A [mm]	Developed length [mm]	Weight [kg/m]
OBR 109/1	80	176	0,69
OBR 109/2	100	216	0,85





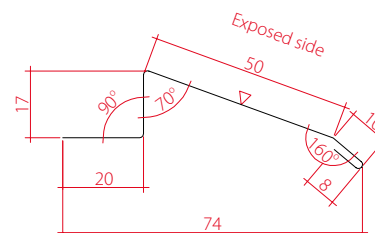
## OBR 110 – Contact area masking ground beam

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



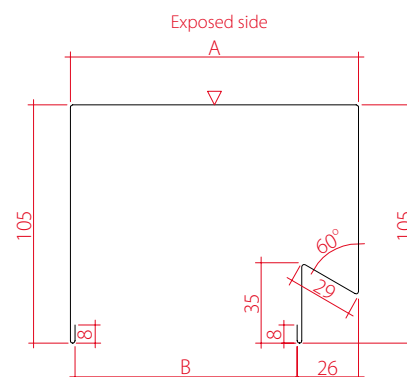
## OBR 111 – Sandwich panels contact area masking frame – decorative element for OBR113

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



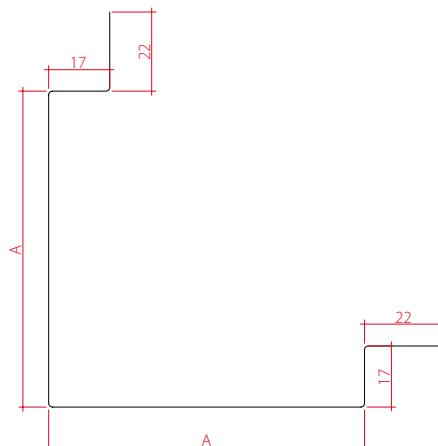
## OBR 112 – Attic eaves

Designation	A [mm]	B [mm]	Developed length [mm]	Weight [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

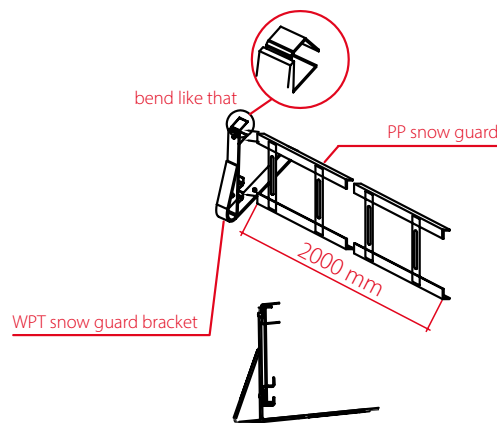


## OBR 113 – External compound corner

Designation	A [mm]	Developed length [mm]	Weight [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

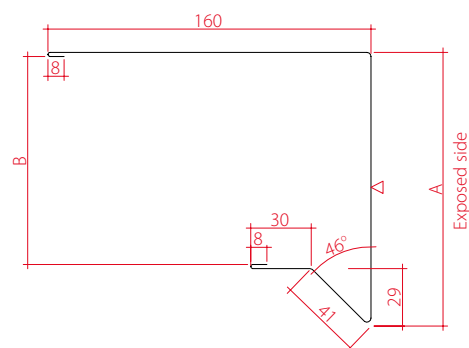


## Snow guard kit (PP)



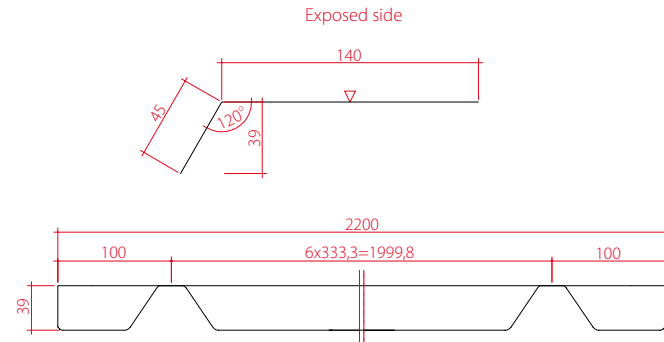
## OBR 200 – Roof ridge masking frame

Designation	A [mm]	B [mm]	Developed length [mm]	Weight [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



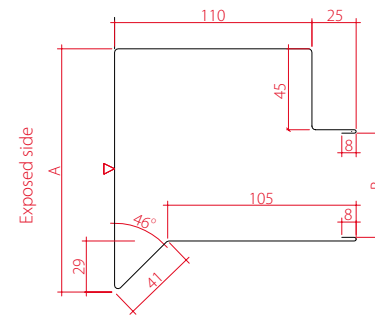
## OBR 201 – Roof ridge strip

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



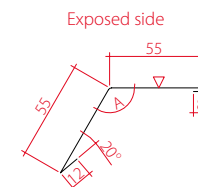
## OBR 202 – Wind brace

Designation	A [mm]	B [mm]	Developed length [mm]	Weight [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 – Gutter drip cap

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



Angle "A" selected depending on the slope of the roof

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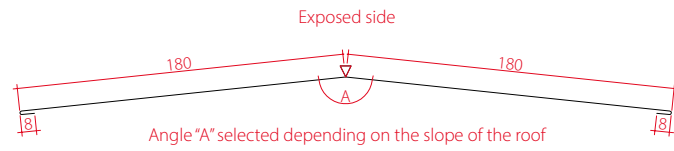
9

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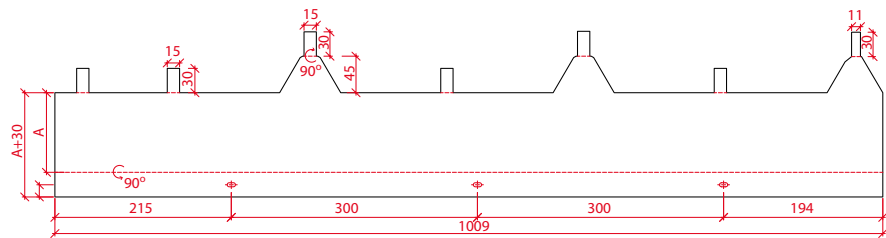
### OBR 205 – Flat external roof ridge – ridge tile

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

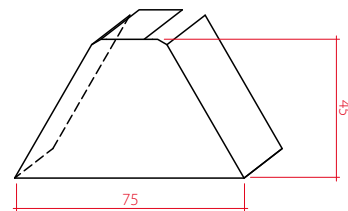


### OBR 206 – Closure flashing

Designation	A [mm]	Weight [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



### OBR207 – Roof sandwich panel cap

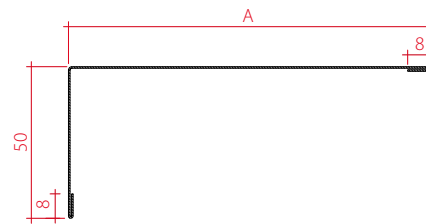


## OBR 301 – External corner

t ≥ 0,50 mm

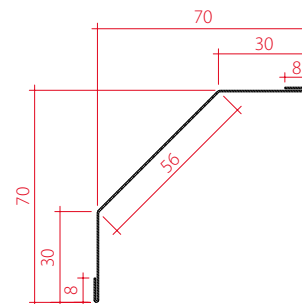
Designation	A [mm]	Developed length [mm]	Weight* [kg/m]
OBR 301/120	120	186	0,73
OBR 301/160	140	206	0,81
OBR 301/180	150	216	0,85
OBR 301/200	160	226	0,89

\* weight for sheet thickness 0,50 mm



## OBR 302 – Slant internal corner

Designation	Developed length [mm]	Weight [kg/m]
OBR 302	132	0,52

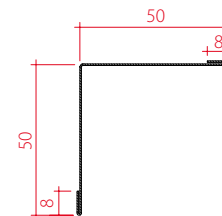


## OBR 303 – Straight internal corner for cold storage sandwich panels

t ≥ 0,50 mm

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

\* weight for sheet thickness 0,50 mm



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**STRUCTURAL  
BOX PROFILE  
SHEET**

HIGH LOAD  
CAPACITY  
AND RIGIDITY

**CURTAIN  
BOX PROFILE  
SHEETS**

WALL AND ROOF  
PROTECTIONS TYPE OF  
FOR EACH COVERING TYPE





# 3 BOX PROFILE SHEETS

- 84 STRUCTURAL BOX PROFILE SHEETS
- 92 PIR FIBER
- 94 PIR ALU
- 96 CURTAIN BOX PROFILE SHEETS for wall and roof

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# STRUCTURAL BOX PROFILE SHEETS

## HIGH LOAD CAPACITY AND STIFFNESS

The best strength parameters are required from a universal and light roof construction material. Trapezoidal sheet metal fulfills this task, and a wide selection of profiles allows you to choose the right variant to meet the loadbearing requirements of individual objects.



MORE ABOUT  
CONSTRUCTION  
SHEETS

### HIGH LOADING CAPACITY AND RIGIDITY OF PROFILES

Appropriate profiling of structural box profile sheets affects the proven load-bearing parameters in single- and multi-span systems.

### LOW WEIGHT

Structural box profile sheets are an economical solution for covering small and large surfaces. Due to the low weight of the material, the installation does not require significant expenditure on appropriate adaptation of the building's supporting structure.



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### QUICK MONTAGE

The low weight of the structural box profile sheet and the simple installation method mean that installation takes little time.

### DURABILITY

Balex Metal structural box profile sheet is made of high-quality steel - once installed, it will serve for many years.



# NOVELTY

## BTR 139

### High load capacity and rigidity of profiles

- High strength parameters in single- and multi-span systems
- Low weight
- Fast installation
- Durability

#### Technical parameters

<b>Name</b>	Trapezoidal structural sheet – BTR 139
<b>Steel grade</b>	S320GD
<b>Thickness [mm]</b>	0,70 / 0,75 / 0,80 / 0,88 / 1,00 / 1,15 / 1,25 / 1,50
<b>Coating</b>	SP Polyester 15 µm (underside)
<b>Maximal length [mm]</b>	24000

#### Color



SP POLYESTER  
White 9010

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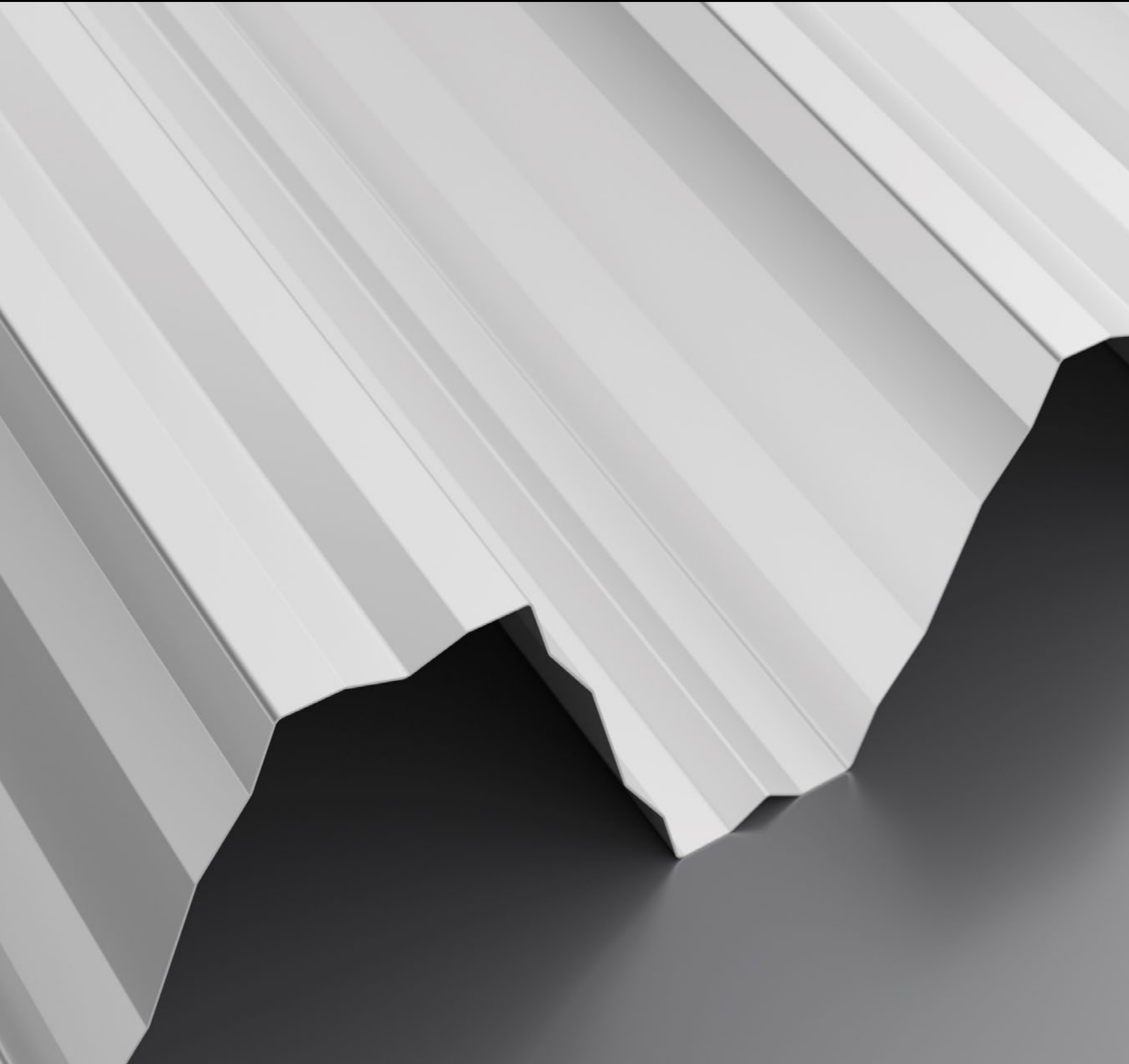
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# NOVELTY

## BTR 150

### High load-bearing capacity and proven stiffness

- High strength parameters in single- and multi-span systems
- Low weight
- Fast installation
- Durability

#### Technical parameters

Name	Trapezoidal structural sheet – BTR 150
Steel grade	S320GD
Thickness [mm]	0,70 / 0,75 / 0,80 / 0,88 / 1,00 / 1,15 / 1,25 / 1,50
Coating	SP Polyester 15 µm (underside)
Maximal length [mm]	24000

#### Color



SP POLYESTER  
White 9010

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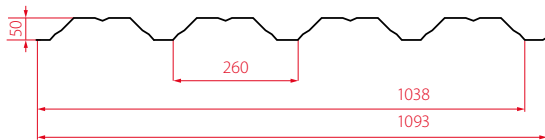
# STRUCTURAL BOX PROFILE SHEETS

## Technical parameters

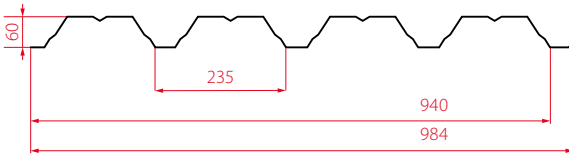
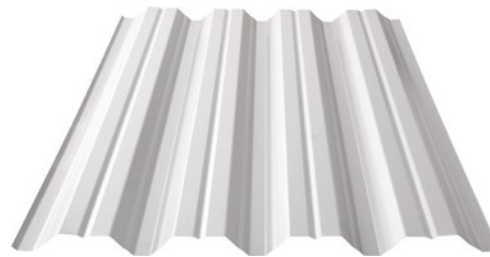
<b>Name</b>	Trapezoidal structural sheet - BTR
<b>Steel grade</b>	S320GD
<b>Thickness [mm]</b>	0,70** / 0,75 / 0,80** / 0,88 / 1,00 / 1,15** / 1,25 / 1,50*
<b>Coating</b>	SP Polyester 15 µm (bottom)
<b>Max. sheet length [mm]</b>	15000 (24000 - BTR139, BTR150)

\*applies to trapezoidal sheets BTR139, BTR150, BTR153 and BTR160

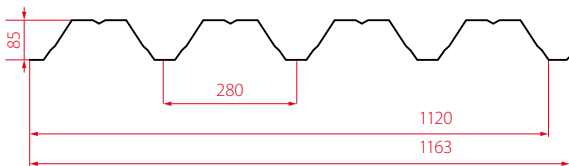
\*\*applies to trapezoidal sheets BTR139 and BTR150



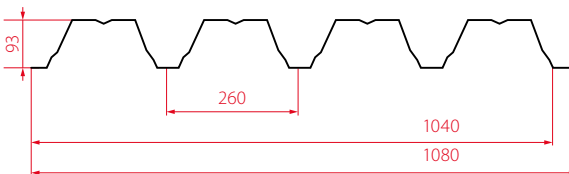
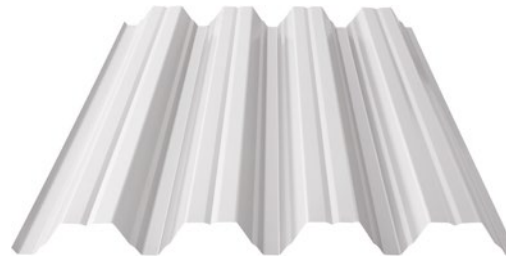
*BTR50*



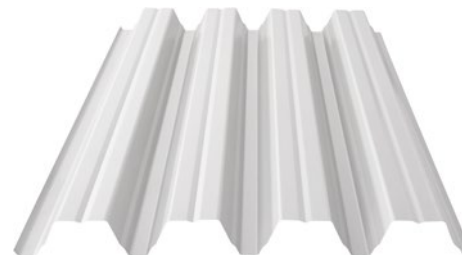
*BTR60*

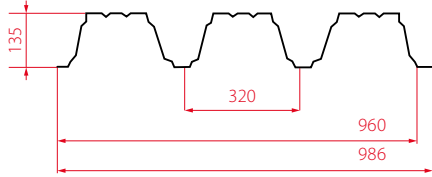


*BTR85*

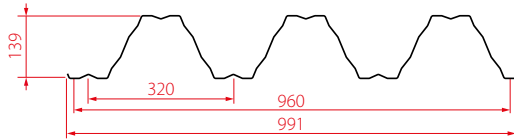


*BTR93*

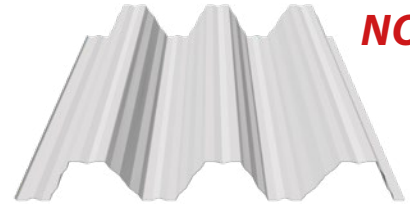




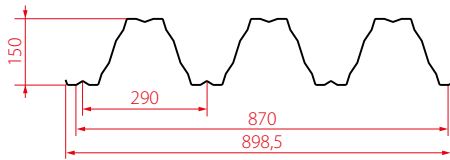
BTR135



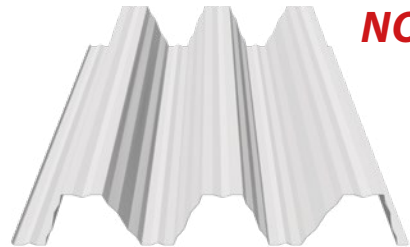
BTR139



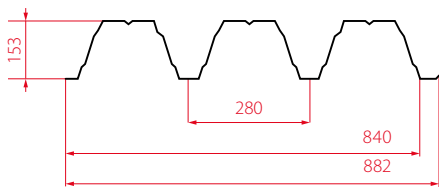
**NOVELTY**



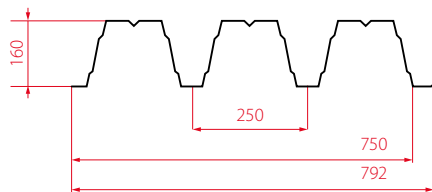
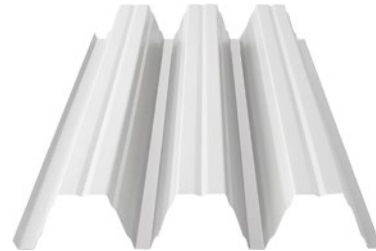
BTR150



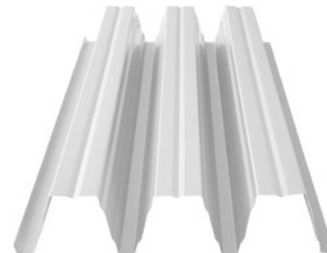
**NOVELTY**



BTR153



BTR160



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# PIR FIBER



## PIR FIBER

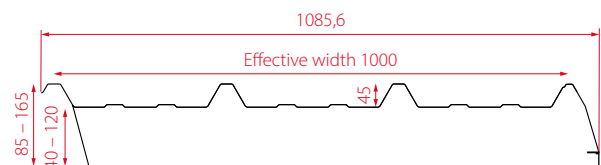
A practical product for roofing buildings, especially agricultural ones. The polyurethane foam core thermally protects the building. A special cladding protects against volatile organic compounds and allows the facility to be cleaned with high-pressure washers. Resistance to corrosion, rodents, birds and insects.



### Technical parameters

Name	PIR FIBER				
Core	Rigid polyurethane PIR foam / Nominal apparent density 40 kg/m <sup>3</sup>				
Cladding	<b>Internal:</b> unsaturated polyester resin reinforced with glass fiber with increased mechanical resistance. <b>External:</b> coated steel sheet				
Steel grade	S250GD				
Coating	SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Cesar 55				
Module [mm]	1000				
Length [mm]	2500 - 10 000				
Core thickness [mm]	40	60	80	100	120
Reaction to fire	-				
External Fire Resistance	Broof (t1)				
Minimal roof slope	> 7% – for panels connected lengthwise or with roof skylights > 5% – for continuous slabs and without roof skylights				

Length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	Food Safe <sup>®</sup>	Aluzinc	Stainless steel
2500	10 000	outer	0,50 / 0,60 / 0,70	T	x	x	x			
		inner	Fiberglass							



Available cladding profiles:

ext. int.

**T** **G (Fiberglass)**



MORE ABOUT  
PIR FIBER



REFERENCE  
OBJECTS



# PIR ALU







## PIRALU

Perfect for insulating existing buildings (roofs and walls). PIR ALU is recommended for the agricultural industry, but not only.

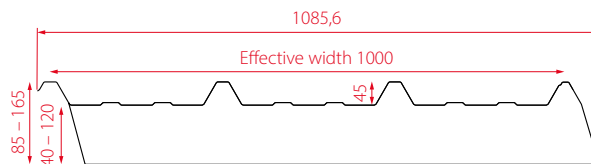
The polyurethane foam core provides adequate thermal insulation. The inner layer of aluminum foil protects against volatile organic compounds (animal breeding) and rust.



### Technical parameters

Name	PIR ALU				
Core	Rigid polyurethane PIR foam / Nominal apparent density 40 kg/m <sup>3</sup>				
Cladding	Inner: thick, corrugated aluminum foil External: coated steel sheet				
Steel grade	S250GD				
Coating	SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Cesar 55				
Module [mm]	1000				
Length [mm]	2500 - 10 000				
Core thickness [mm]	40	60	80	100	120
Reaction to fire	-				
External Fire Resistance	Broof (t1)				
Minimal roof slope	> 7% – for panels connected lengthwise or with roof skylights > 5% – for continuous slabs and without roof skylights				

Length		Panel side	Cladding thickness [mm]	Profiling	Coating					
minimal [mm]	maximal [mm]				SP Polyester	SP Polyester Mat	CESAR	„Food Safe“	Aluzinc	Stainless steel
2500	10 000	outer	0,50 / 0,60 / 0,70	T	x	x	x			
		inner	Thick, corrugated aluminum foil							



Available cladding profiles:

ext. **T** int. **G (Aluminum foil)**



MORE ABOUT PIR ALU



REFERENCE OBJECTS



# CURTAIN

## BOX PROFILE SHEETS FOR WALL AND ROOF

FOR EVERY TYPE OF COVERING

Curtain box profile sheet is an excellent material for walls and roofs. Due to its great arrangement potential, affordable price and high durability, it is widely used in residential construction.



### HIGH DURABILITY

Curtain box profile sheet is characterized primarily by very high durability. This is due to its resistance to the impact of weather conditions, in particular low and high temperatures, and the effects of extreme weather phenomena, such as intense rainfall, hail or snow.

### LOW PRICE

The estimated cost of installing sheet metal starts from several zlotys per 1 m<sup>2</sup>, which, compared to the installation of other roof coverings, turns out to be a beneficial alternative. The price of the sheet itself is also important, as it is lower compared to other roofing materials.



### MATERIAL FOR EVERY BUILDING

Curtain box profile sheet is used as a roof covering for residential buildings and all types of home facilities, such as garages, sheds, warehouses, storage rooms, etc. It is also an excellent decorative material for interiors, e.g. as a partition wall cladding.



ABOUT  
CURTAIN BOX  
PROFILE SHEET

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# NOVELTY

## BTP7

# BOX PROFILE SHEET

- BTP7 box profile sheet, designed for roof eaves soffit, has a much wider range of applications.
- Wide selection of colors and coatings.
- Application: roof soffits, home sheds, fences, warehouses, storage rooms.

Name	BTP7 box profile sheet
Steel grade	S250GD
Thickness [mm]	0,40 / 0,50
Coating	SP Polyester Gloss 25 µm, SP Poliester Mat 35 µm, Cesar 55
Sheet lengths (mm)	200 - 12000 mm



MORE ABOUT  
BTP7



# BOX PROFILE SHEET

## Technical parameters

<b>Application</b>	Wall, roof
<b>Name</b>	Trapezoidal sheet BPO, BTU, BTS, BTD, BTP
<b>Steel grade</b>	S220GD, S250GD
<b>Thickness [mm]</b>	0,50 / 0,60 / 0,70
<b>Coating</b>	SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Food Safe PVC(F), Aluzinc+Easyfilm, Cesar 55, HPS 200
<b>Max. sheet length [mm]</b>	6000-15000 (length depends on the selected profile)
<b>Special finishes</b>	DRIPSTOP anti-condensation coating for trapezoidal sheets: BTD 18.157, BTD35, BTD45.900 and BTD55
<b>Minimum roof slope</b>	3° (5%) for full sheets / 5° (7%) for sheets joined along the length

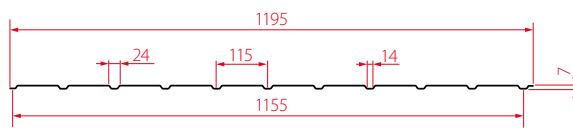
### OPTICAL BOX PROFILE SHEET



BPO



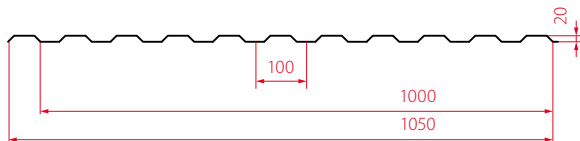
### SOFFIT BOX PROFILE SHEET



BTP7



### UNIVERSAL BOX PROFILE SHEET



BTU 20



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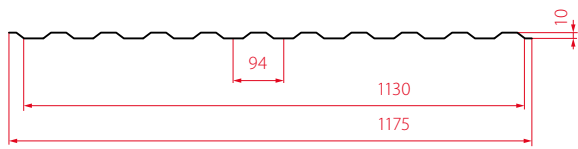
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FACADE CLADDING

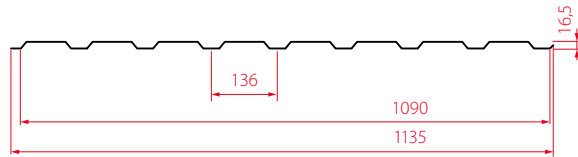
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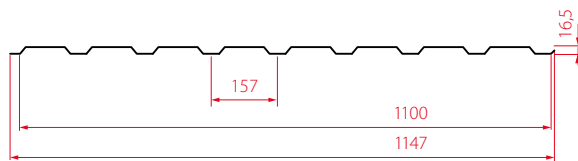
## WALL BOX PROFILE SHEETS



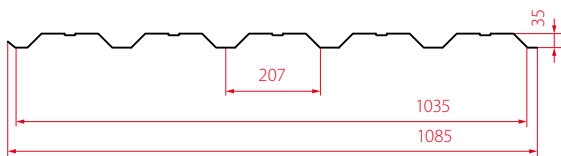
BTS 10



BTS 18



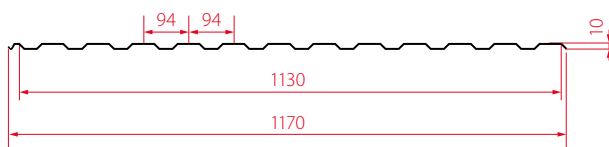
BTS18.157



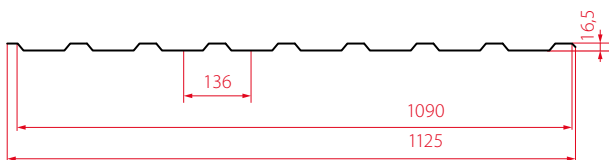
BTS 35



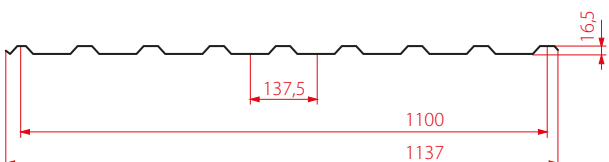
## ROOF BOX PROFILE SHEETS



BTD 10



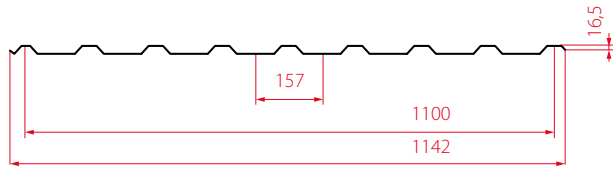
BTD 18



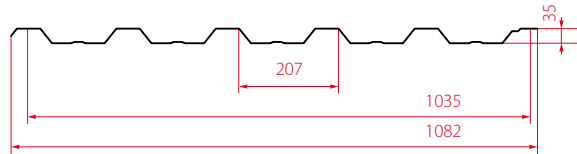
BTD 18.138







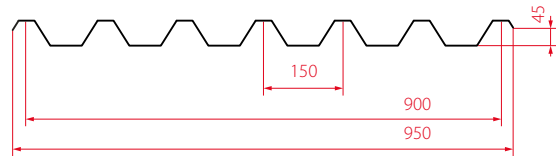
**BTD 18.157**



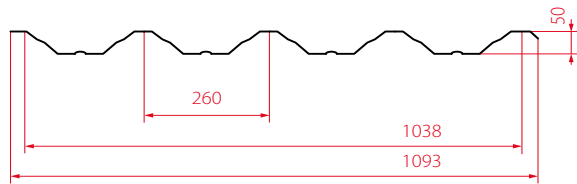
**BTD 35**



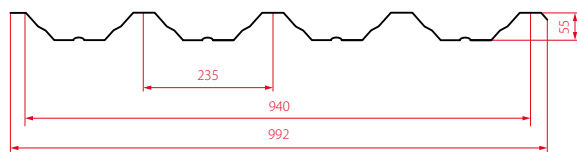
**BTD 45.333 (suitable for roof sandwich panels)**



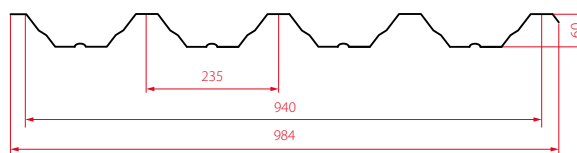
**BTD 45.900**



**BTD 50**



**BTD 55**



**BTD 60**



**DRIPSTOP** 



**DRIPSTOP** 



**DRIPSTOP** 



**DRIPSTOP** 



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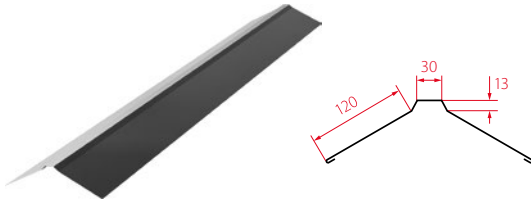
FACADE CLADDING

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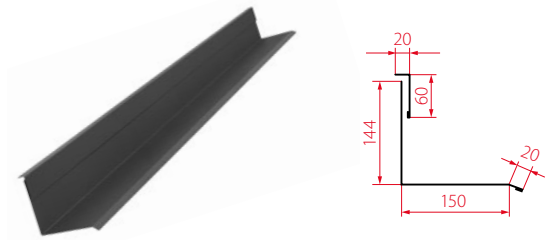
OTHER

# DEDICATED FLASHINGS

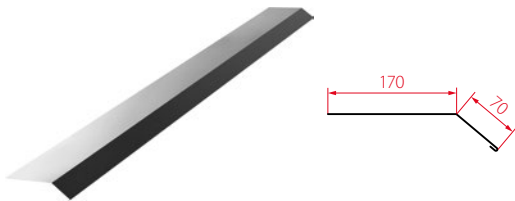
## Ridge tile



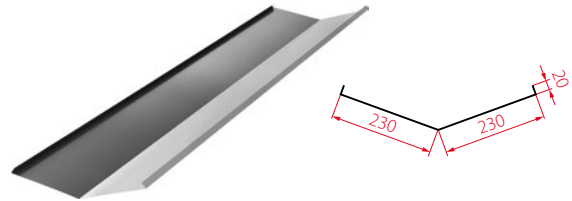
## Chimney flashing



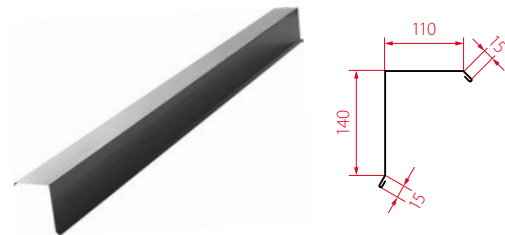
## Over-gutter flashing



## Valley gutter



## Universal wind brace



## Vent chimney



The chimney available for BTD18 and BTD35

# NON-STANDARD FLASHINGS

Dimensions	The shapes and dimensions of the flashings according to the drawings provided by the customer	
Sheet thickness [mm]	0,50 - 1,00	1,25 - 2,50
Maximum length [m]	11,50	6,00
Steel grade	S250GD, S220GD stainless steel (1.4301)	
Coatings	SP Polyester Gloss 15 µm, SP Polyester Gloss 25 µm, SP Polyester Matt 35 µm, PVC(F) "Food Safe", aluzinc + easyfilm, galvanized, Cesar 55	
Production possibilities	cutting bending cutting and perforating steel sheets in an automatically controlled process securing the input material with foil	

## RECOMMENDED

### Chimney-sweep bench with cradle and support



### Chimney-sweep step with cradle and bracket



### Snow guard



TRY THE  
FLASHING  
CONFIGURATOR

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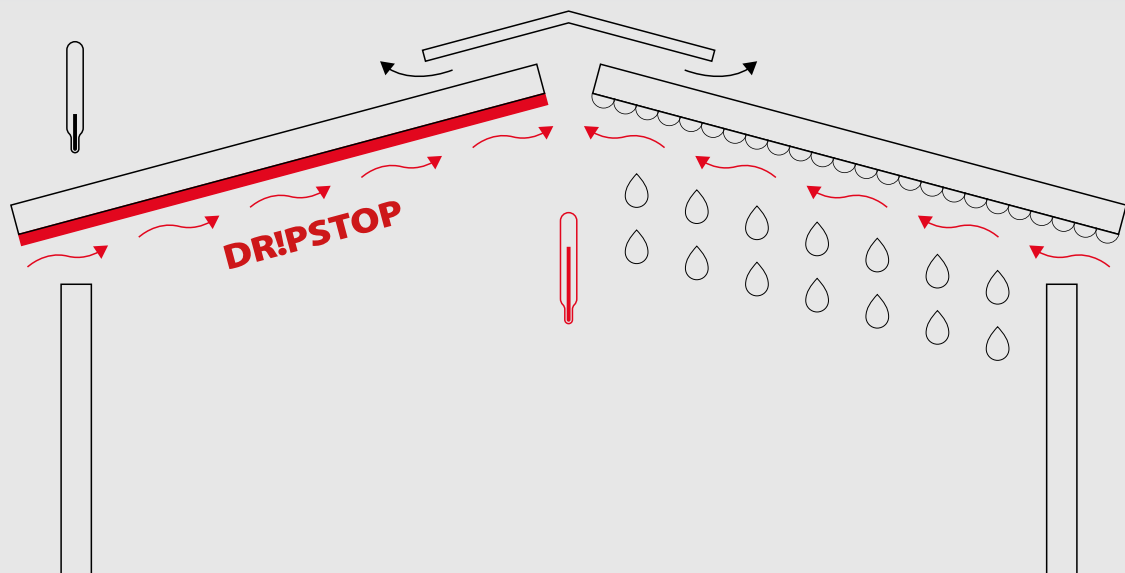
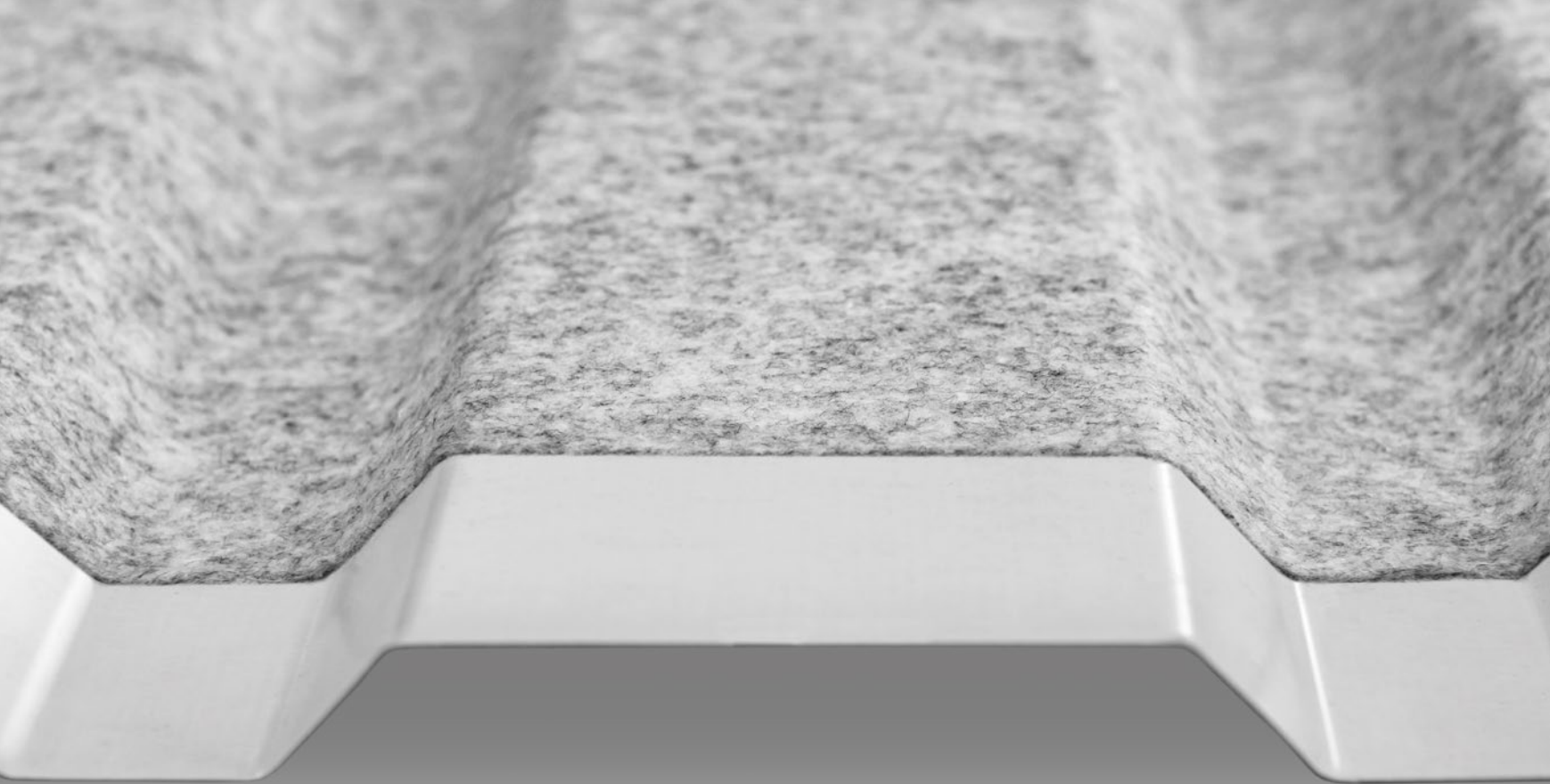
8

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# DR!PSTOP

## ANTICONDENSATION MESH

Water vapor condensation is a phenomenon that occurs on non-thermally insulated steel roofing. This phenomenon may lead to corrosion, moisture in the attic and damage to the materials inside.

The special DR!PSTOP anti-condensation coating prevents condensation from dripping. On the inside, the sheet with the DR!PSTOP system has an additional layer of material that retains condensate and allows its removal through appropriate ventilation.

**The anti-condensation coating absorbs up to 830 g of water per m<sup>2</sup>.**

Additional advantages of the coating are:

- can be cleaned with water,
- resistance to bacteria,
- reaction to fire class A2-s2,d0 (EN 13501-1),
- additional anti-corrosion protection,
- acoustic comfort (reduces noise generated by rain or work carried out inside the facility).
- available for **BTD 18.157, BTD 35, BTD 45.900, BTD 55**

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An aerial photograph of a house with a bright red metal roof. The house has a complex shape with a large main section and a smaller gabled section on the right. The roof is made of horizontal metal panels. There are several windows visible, including a small square window on the main section and a larger rectangular window on the gabled section. A white car is parked in a driveway on the right side of the house. The surrounding area is a mix of gravel, concrete, and some vegetation. The text 'BALEX METAL ROOFING SOLUTIONS GUARANTEE DURABLE AND AESTHETICAL ROOF' is overlaid on the right side of the image in white, sans-serif font.

BALEX METAL  
ROOFING  
SOLUTIONS  
GUARANTEE  
DURABLE AND  
AESTHETICAL  
ROOF





# 4 ROOFING SOLUTIONS

- 108 **ASTRA** modular steel roofing tile
- 112 **PANORAMA** modular steel roofing tile
- 116 **ELIPSA** modular steel roofing tile
- 120 **ELEGANT 2.0** click panel
- 128 **SPEKTRUM** steel roofing tile
- 132 **HORIZONT** steel roofing tile

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# MODULAR STEEL ROOFING TILES

# ASTRA

FLAT, MODERN, MINIMALIST  
AVAILABILITY: **Q3 2024**





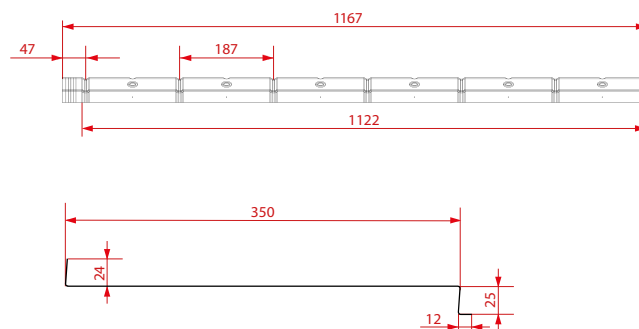


The decidedly modern design of the flat, modular Astra steel tile will satisfy all fans of minimalism. Astra ensures high aesthetics of the roof covering, which fits modern architecture and perfectly composes with photovoltaic panels. The tile can be installed in a parallel or passing pattern.. The roof tiles can be installed in a parallel or staggered arrangement.



### Technical parameters

Name	ASTRA - modern steel roof tile
Steel grade	S220GD, S250GD
Coatings	Polyester SP25 Gloss, Polyester SP35 Mat, Cesar 55
Total width of the module [mm]	1167
Effective width of the module [mm]	1122
Embossing height [mm]	25
Total length of the module [mm]	362
Effective length of the module [mm]	350
Single tile length [mm]	350
Single tile width [mm]	187
Module covering area [m <sup>2</sup> ]	0,393
Module weight [kg]	1,84
Technical requirements	PN-EN 14782:2008; PN-EN 508-1:2010
Minimal roof slope	9° (16%)
Batten spacing [mm]	350



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FACADE CLADDING

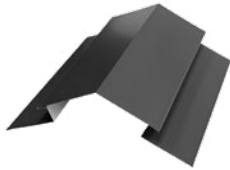
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OTHER



# DEDICATED FLASHINGS AND ACCESSORIES

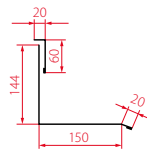
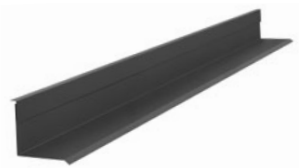
Roof ridge



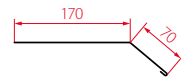
Ventilation chimney



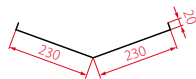
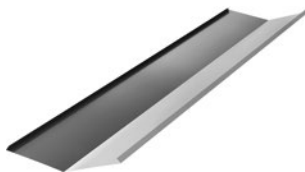
Chimney flashing



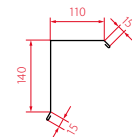
Eaves strip



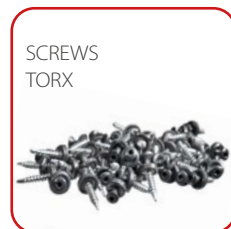
Valley gutter



Wind brace



# RECOMMENDED



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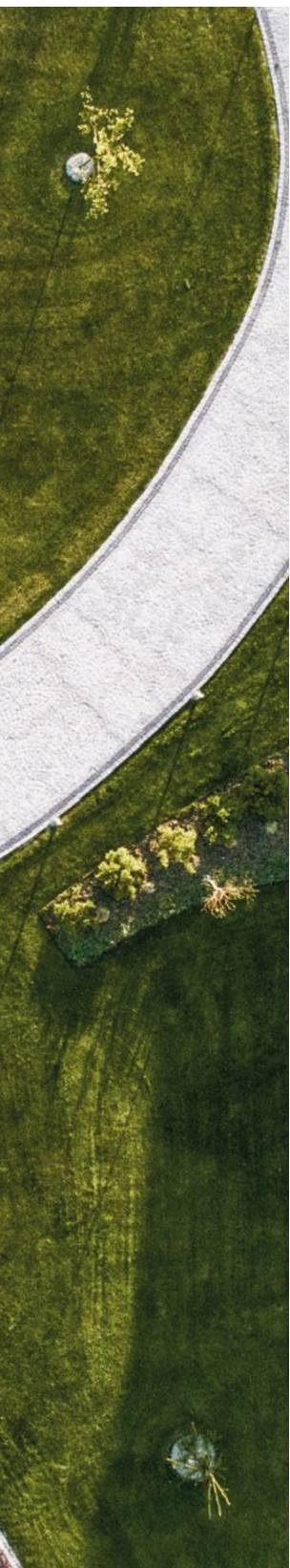
MODULAR STEEL ROOFING TILES

# PANORAMA

CLASSIC AND ELEGANCE





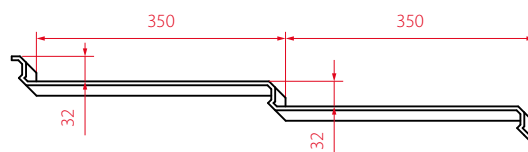
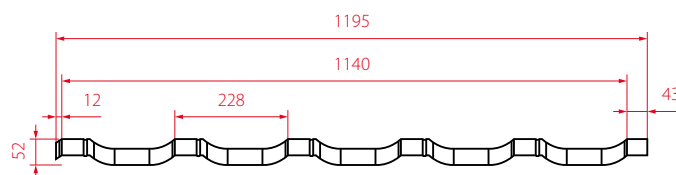


The form of the Panorama steel sheet tiles brings out that unique, timeless style of a classic roof. The Panorama system keeps the building body light, while the classic proportions add a touch of style and refinement. The tile has a patented embossing that improves the stiffness of the covering and increases its resistance to deformation. Panorama modular steel roofing tiles a complete system of dedicated flashings.



### Technical parameters

Name	PANORAMA – steel sheet tile
Steel grade	S220GD, S250GD
Coating	SP Polyester Gloss 25 µm, SP Polyester Matt 35 µm, CESAR 55
Overall module width [mm]	1195
Effective module width [mm]	1140
Embossing height [mm]	32
Total module length [mm]	740
Effective module length [mm]	700
Tile length [mm]	350
Peak-to-peak width [mm]	228
Module coverage area [m <sup>2</sup> ]	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



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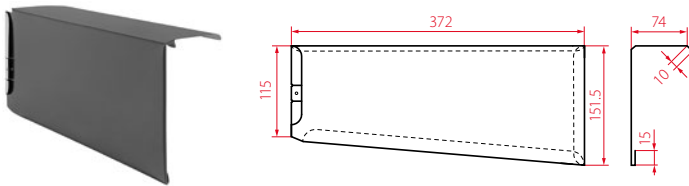
FACADE  
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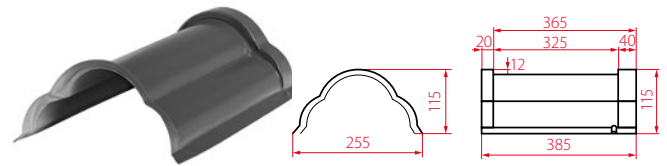
OTHER

# FLASHINGS AND DEDICATED ACCESORIES

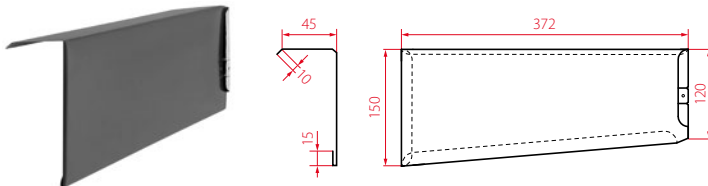
**PANORAMA edge tile, left**



**Modular ridge tile**



**PANORAMA edge tile, right**



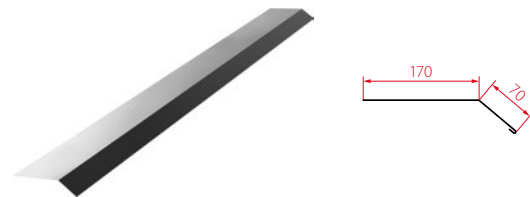
**Ventilation chimney**



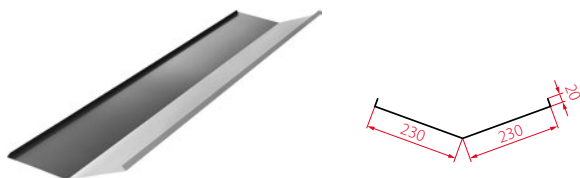
**Chimney flashing**



**Over-gutter flashing**



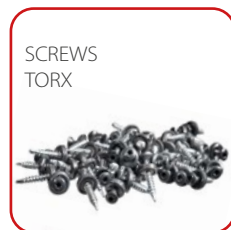
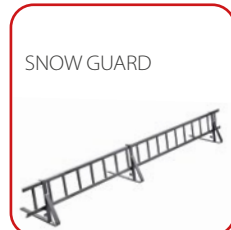
**Valley gutter**



**Eave bird guard**

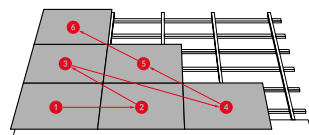
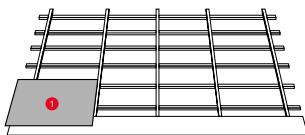


# RECOMMENDED

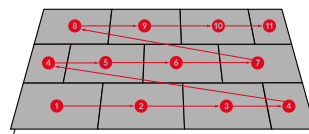
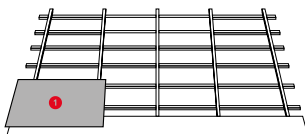


## PANORAMA LAYOUT SCHEME

In a parallel system

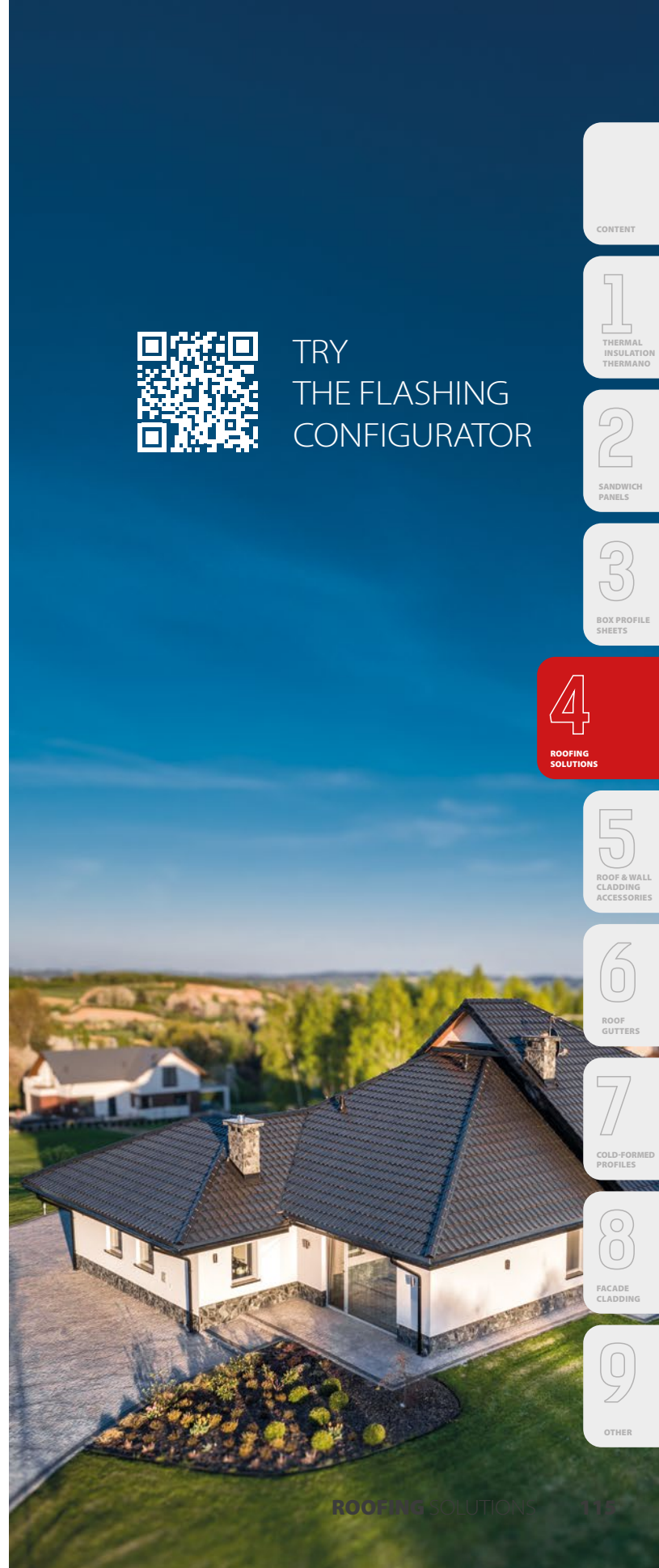


In an offset system



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MODULAR STEEL ROOFING TILES

# ELIPSA

CLASSIC, EXPRESSIVE, WITH CHARACTER  
AVAILABILITY: Q2 2024





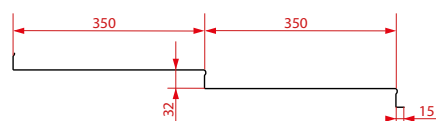
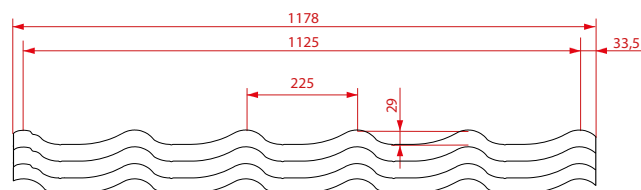


The shape of the Elipsa steel tile resembles a heavy ceramic tile and fits perfectly into traditional architecture. The expressive depth of the tile in connection with its unique groove adds elegance to the objects. Elipsa steel roofing tiles are a modular solution (1 module is 10 roof tiles), easy to install and immediately available.



### Technical parameters

Name	ELIPSA - classic steel roof tile
Steel grade	S220GD, S250GD
Coatings	SP Polyester Gloss 25 µm, SP Polyester Mat 35 µm, Cesar 55
Overall module width [mm]	1178
Effective module width [mm]	1125
Embossing height [mm]	32
Total module length [mm]	744
Effective module length [mm]	700
Tile length [mm]	350
Peak-to-peak width [mm]	225
Module coverage area [m <sup>2</sup> ]	0,788
Module weight [kg]	3,64
Technical requirements	PN-EN 14782:2008; PN-EN 508-1:2010
Minimum roof slope	9° (16%)
Batten spacing [mm]	350



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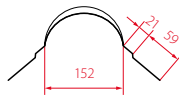
FACADE CLADDING

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# FLASHINGS AND DEDICATED ACCESSORIES

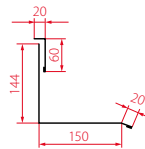
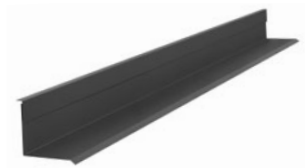
**Roof ridge**



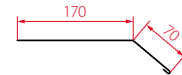
**Ventilation chimney**



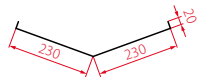
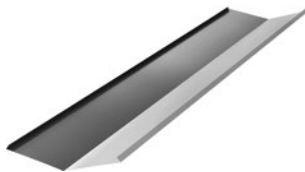
**Chimney flashing**



**Over-gutter flashing**



**Valley gutter**

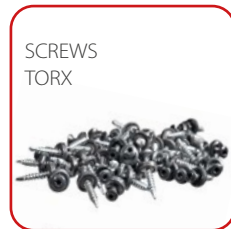
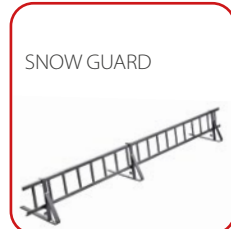


**Wind brace**





# RECOMMENDED



TRY  
THE FLASHING  
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CLICK PANEL

# ELEGANT 2.0

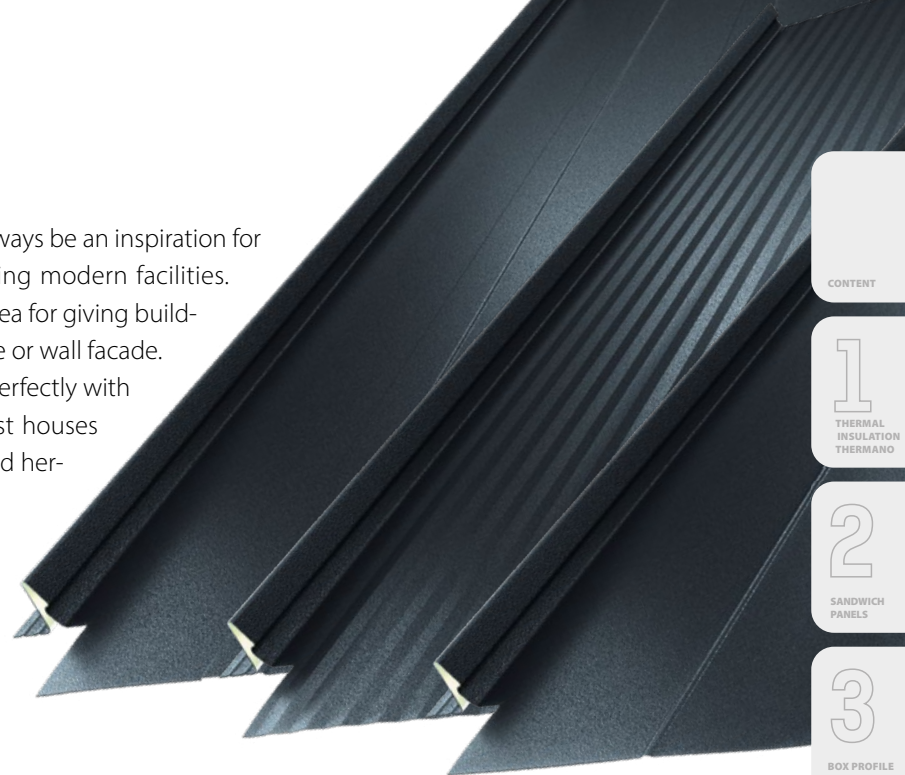
A MODERN TAKE ON TRADITION





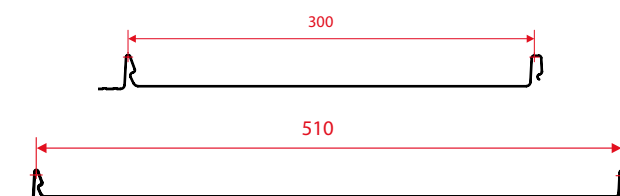
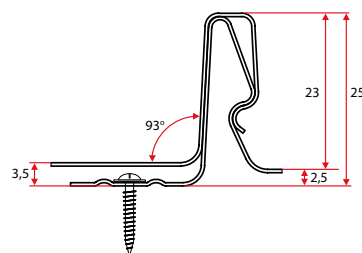


Classics do not get old and will always be an inspiration for contemporary architects designing modern facilities. A seam/click panel is a timeless idea for giving buildings a simple and elegant roof line or wall facade. The Elegant system harmonises perfectly with all building types, from minimalist houses to modern apartment projects and heritage-class brownstones.



### Technical parameters

Name	ELEGANT 2.0 seam roof panel with hidden fastening
Effective panel width [mm]	300 / 510
Lock profile height [mm]	24
Min. length [mm]	400
Max. length [mm]	10 000
End undercut and bend	2mm; 35mm
Seam closing flap	Yes
Sheet thickness [mm]	0,50 / 0,60 / 0,70
Steel grade	S220GD, S250GD
Coatings	SP Polyester Gloss 25 µm, SP Polyester Matt 35 µm, CESAR 55
Profiling	Plain, micro-wave, double wide lining, double grooved
Weight [kg/m <sup>2</sup> ]	Approx. 4,5
Technical requirements	CE according to PN-EN 14782:2008
Minimum roof slope	8° (14%)
Batten spacing [mm]	250 mm max. or use blind boarding



Available cladding profiles:



MORE ABOUT  
ELEGANT 2.0



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CLICK PANEL

# ELEGANT 2.0

available with felt in two versions

DRIPSTOP

SOUNDCONTROL

# ANTI-CONDENSATION MESH

## DR!PSTOP

The DR!PSTOP anti-condensation mesh with a water absorption capacity of **up to 830 g/m<sup>2</sup>** allows you to retain moisture and condensation that appears under roof coverings. Typically, such moisture accumulates at night and in the morning, and is removed during the day due to ventilation. DR!PSTOP felt does not lose its water retention properties, so the process of daily soaking, maintaining and releasing moisture can be repeated cyclically without loss of any technical parameters. The use of the DR!PSTOP mesh and the retention of this amount of water **increases the durability of the roof**. The DR!PSTOP mesh reduces sound intensity by approximately 3 dB, provides resistance to bacteria, has a fire reaction class of A2-s2,d0 (EN 13501-1) and provides additional anti-corrosion protection.

**NOVELTY**

AVAILABILITY: Q2/2024

# ACOUSTIC MESH

## SOUNDCONTROL

**The SOUNDCONTROL acoustic mesh is a solution that reduces the noise caused by storms, rain and wind by approximately 7dB.**

Click panel roofing, especially when installed on roofs with a smaller slope, may generate noise during wind, storms and heavy rainfall. In the case of an attic that is properly insulated and lined with heavy materials, this noise should not be particularly noticeable, although individual sensitivity to sounds or the specific location of the roof in relation to the surrounding area may prompt many of us to look for additional protection. One of the solutions is the **SOUNDCONTROL acoustic mesh, which attenuates sound by up to approx. 7 dB\***. To our knowledge, this is currently the only confirmed solution with a guarantee of sound-proofing at the declared level.

*\*(based on research at: Fraunhofer-Institut für Bauphysik IBP Abteilung Akustik, Nobelstr. 12 | 70569 Stuttgart | Germany)*

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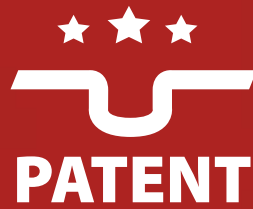
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MALE LOCK

MALE LOCK

NOVELTY  
FOR A GOOD START!

# ELEGANT 2.0 STARTUP PANEL

MULTIPLE ROOFS  
NON-STANDARD ROOFS



The ELEGANT 2.0 startup panel is an innovative, patented solution on the market that makes work easier and faster. Equipped with two „male“ locks, the starter panel allows you to start installing the panels from any place, e.g. from the middle of the slope. It avoids the need to start installation from a small, triangular edge panel and the difficulty of maintaining the angle of the panels in relation to the eaves line of a triangular or trapezoidal roof.

Available in two widths: 300 mm and 500 mm, the startup panel is compatible with the ELEGANT 2.0 panel system. It shortens the roofing installation time and guarantees a more aesthetic finishing of the roof.

### Aesthetics

Maintaining a perfect right angle of the panels to the eaves line is no longer a problem. The startup panel allows for greater control over assembly, which clearly improves the aesthetics of a given project.

### Various variants available

The startup panel dedicated to the ELEGANT 2.0 system is available in a full range of colors and coatings, as well as various profiles offered by Balex Metal.

### Possible soundproofing

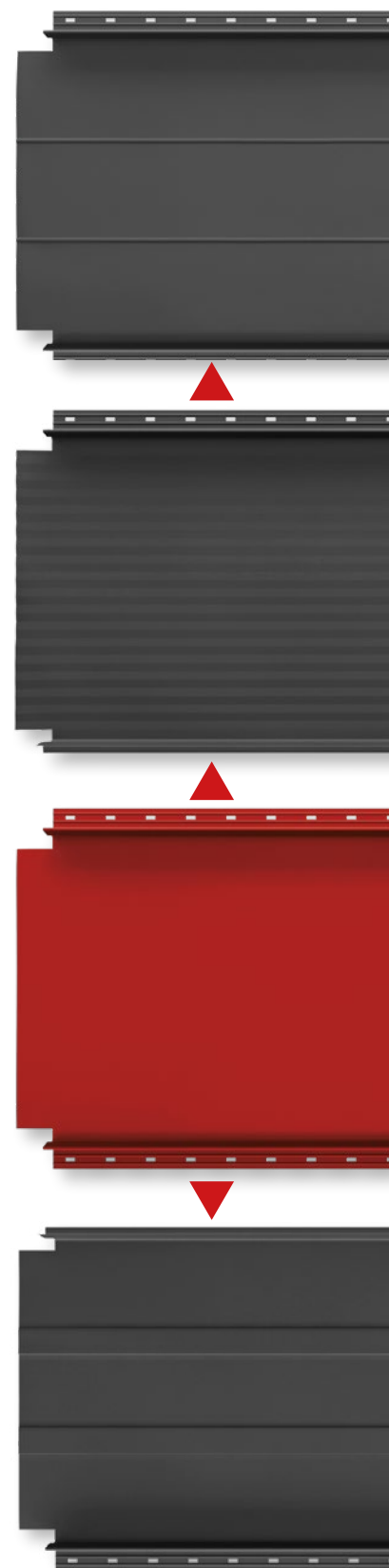
The startup panel also allows you to apply soundproofing felt.

### Technical parameters

Name	ELEGANT 2.0 Startup Panel
Effective panel width [mm]	300 / 510
Length min [mm]	400
Max length [mm]	10 000
End undercut and bend [mm]	2mm; 35mm
Bending of the eaves cut	Optional - 35mm, 10°
Sheet thickness [mm]	0,50 / 0,60 / 0,70
Steel grade	S220GD, S250GD
Coatings	SP Polyester Gloss 25 µm, SP Polyester Matt 35 µm, CESAR 55
Profiling	Plain, micro-wave, double wide lining, double grooved
Weight [kg/m <sup>2</sup> ]	Approx. 4,5
Minimum roof pitch	8° (14%)
Batten spacing [mm]	250 mm max. or use blind boarding

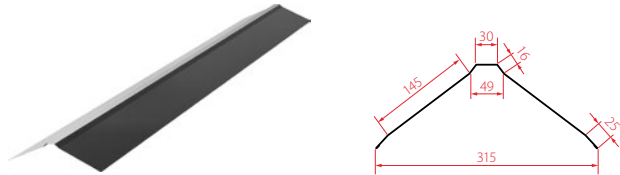


Available cladding profiles:



# FLASHINGS AND DEDICATED ACCESSORIES

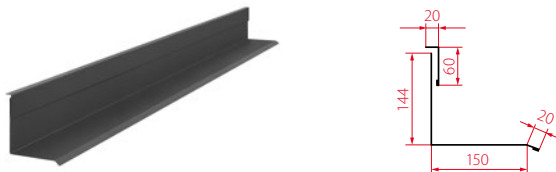
**Ridge tile**



**Ventilation chimney**



**Chimney flashing**



**Ridge tile flashing**



**Wind brace**



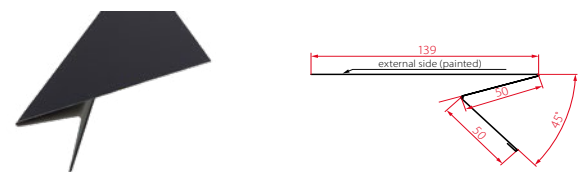
**Valley gutter**



**Wind brace**



**Dedicated gutter strip L = 2000 mm**



# RECOMMENDED



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STEEL SHEET TILES

# SPEKTRUM

SOLID ROOF



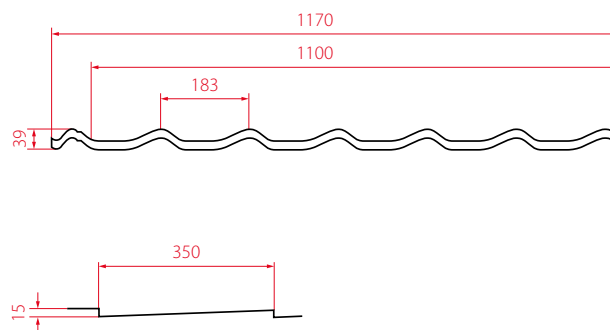


SPEKTRUM is a solidly made steel roofing tile, resistant to deformation and protected with an anti-corrosion coating. Produced for 30 years, it enjoys unflagging popularity, which is why it can be admired on millions of square meters of roofs in Poland. It is available in a wide range of adjustments (module length from 280 mm to 430 mm, standard 350 mm). The maximum sheet length is up to 6500 mm.



### Technical parameters

Name	SPEKTRUM – steel roofing tiles
Standard module length [mm]	350
Adjustable module length [mm]	According to individual customer order: 280-430
Max sheet length [mm]	6500
Covering width [mm]	1100
Total width [mm]	1170
Profile height [mm]	39
Embossing height [mm]	15
Sheet thickness [mm]	0,5
Weight [kg/m <sup>2</sup> ]	Approx. 5
Steel grade	S220GD, S250GD
Technical requirements	CE according to PN-EN 14782:2008
Minimum roof pitch	8° (14%)
Coating	SP Polyester Gloss 25 µm, SP Poliester Matt 35 µm, Cesar 55
Batten spacing [mm]	350 (equal to the module length)



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SPEKTRUM

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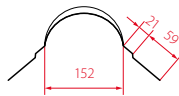
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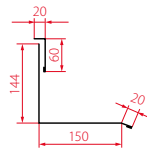
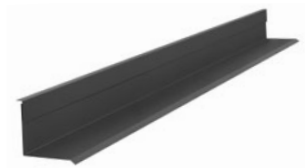
Ridge tile



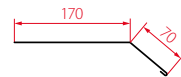
Vent chimney



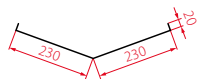
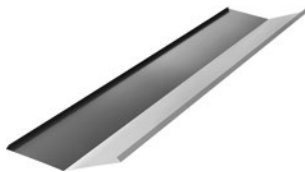
Chimney flashing



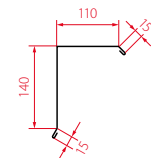
Over-gutter flashing



Valley gutter



Wind brace





# RECOMMENDED



**ZENIT**  
GUTTER  
SYSTEM



THERMAL  
INSULATION  
**THERMANO**



CHIMNEY-SWEEP  
BENCH WITH CRADLE  
AND BRACKETS



SNOW GUARD  
WITH BRACKET



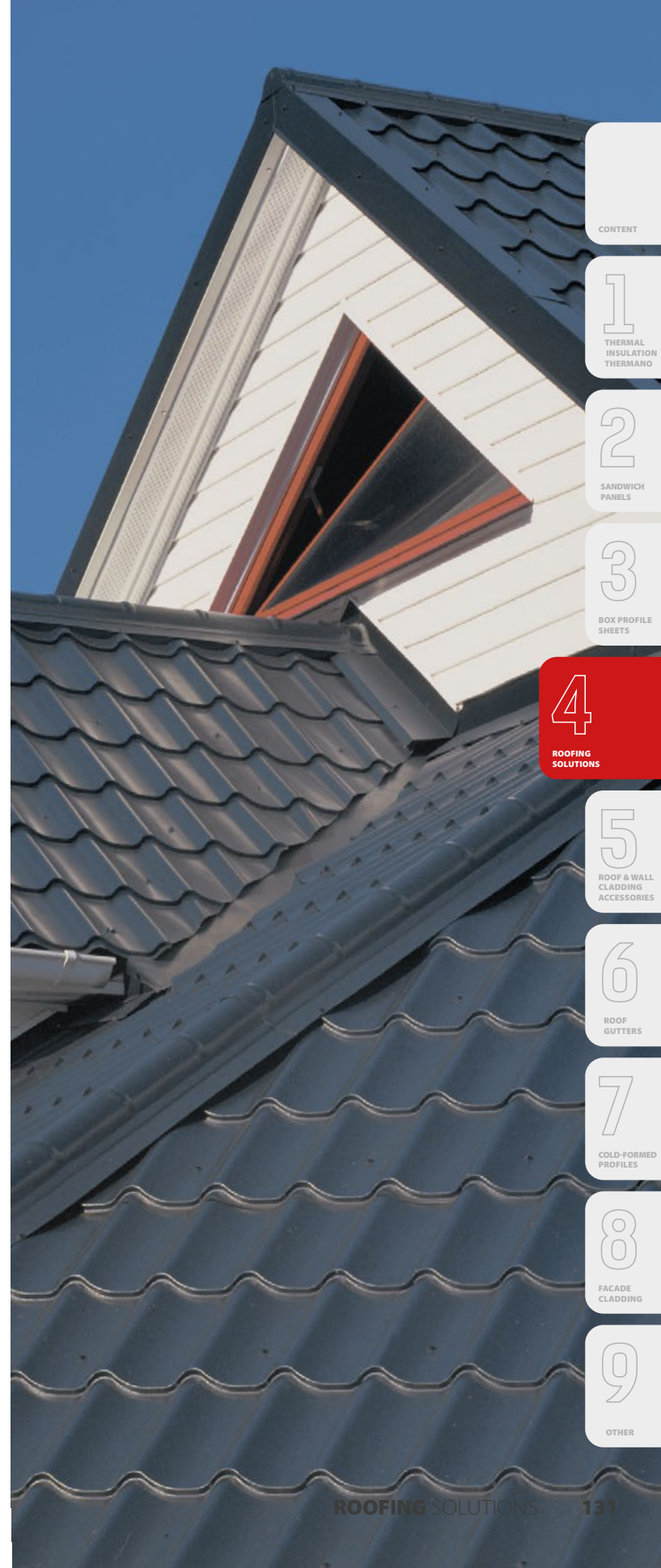
CHIMNEY-SWEEP  
BENCH WITH CRADLE  
AND BRACKETS



SELF-DRILLING SCREW  
WITH GASKET  
WASHER



TRY  
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STEEL SHEET TILES

# HORYZONT

THIS PAYS OFF...

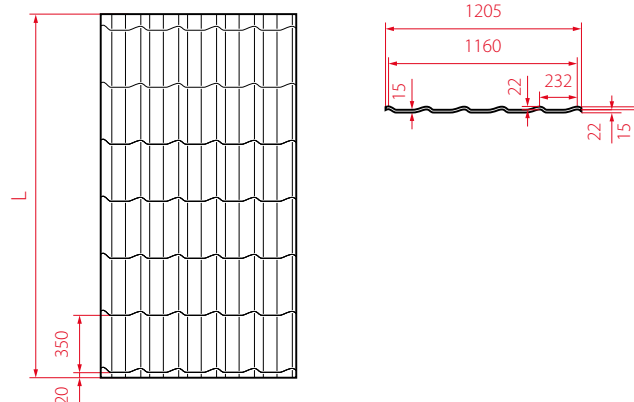


HORYZONT steel roofing tiles are an economical solution recommended for large roof surfaces. It offers up to 10% more coverage than traditional coverings. It ensures a roof load of only 4,05 kg/m<sup>2</sup> (the roof does not require additional truss reinforcements), which also translates into faster installation.



### Technical parameters

Name	HORYZONT steel sheet tile
Standard module length [mm]	350
Adjustable module length [mm]	According to individual customer order: 280-430
Max sheet length [mm]	6500
Covering width [mm]	1160
Total width [mm]	1205
Embossing height [mm]	15
Total height [mm]	22
Sheet thickness [mm]	0,5
Weight [kg/m <sup>2</sup> ]	4,05
Technical requirements	CE according to PN-EN 14782:2008
Minimum roof slope	8° (14%)
Coating	SP Polyester Gloss 25 µm, SP Polyester Matt 35 µm
Steel grade	S220GD, S250GD



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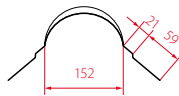
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# FLASHINGS AND DEDICATED ACCESSORIES

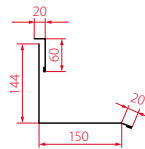
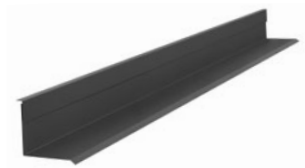
Ridge tile



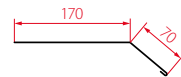
Vent chimney



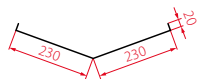
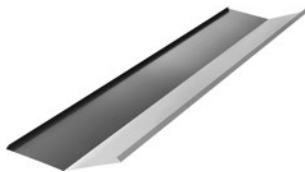
Chimney flashing



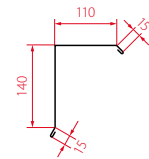
Over-gutter flashing



Valley gutter



Wind brace



# RECOMMENDED



ZENIT  
GUTTER  
SYSTEM



THERMAL  
INSULATION  
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CHIMNEY-SWEEP  
BENCH WITH CRADLE  
AND BRACKETS



SNOW GUARD  
WITH BRACKET



CHIMNEY-SWEEP  
BENCH WITH CRADLE  
AND BRACKETS



SELF-DRILLING SCREW  
WITH GASKET  
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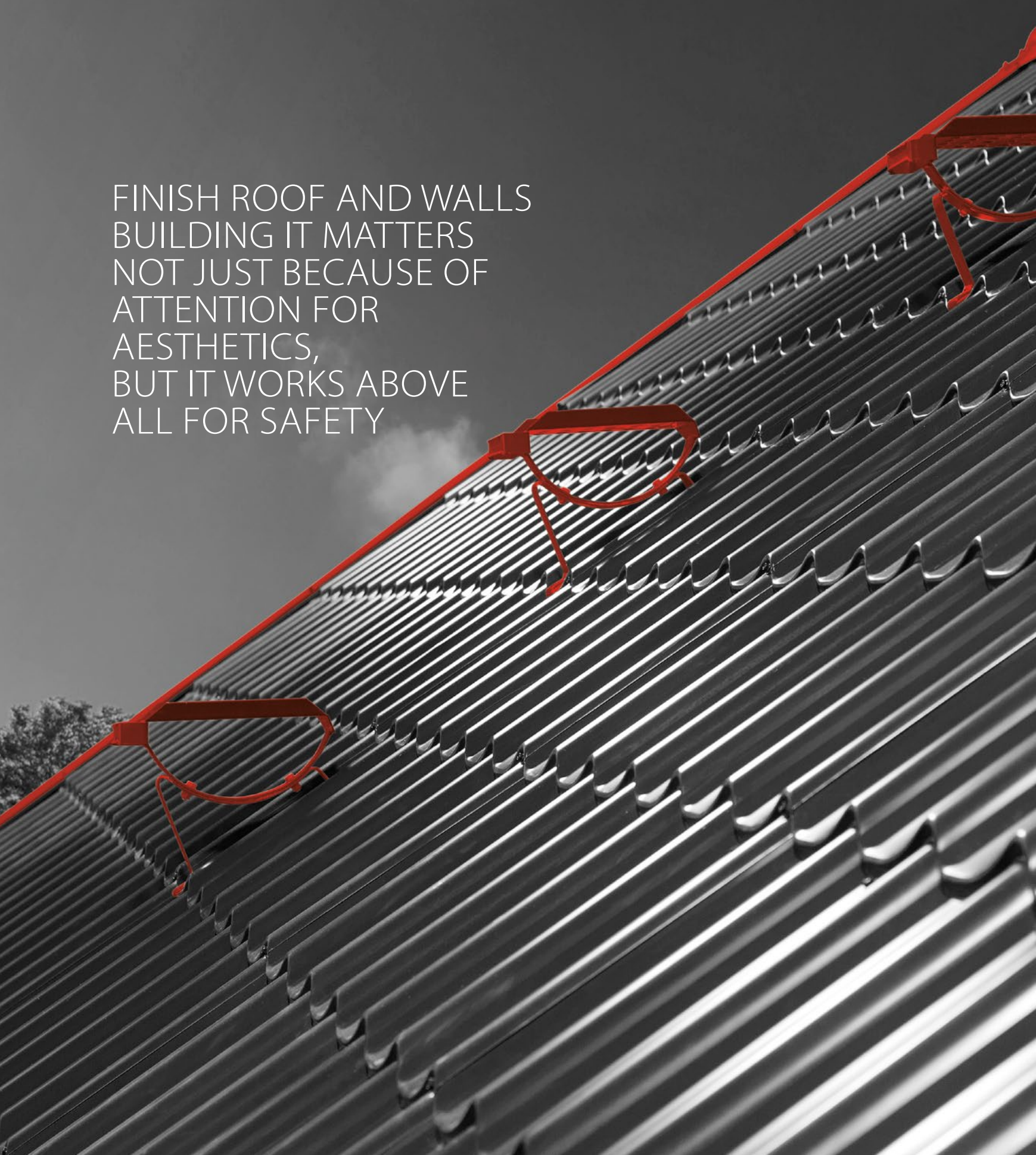
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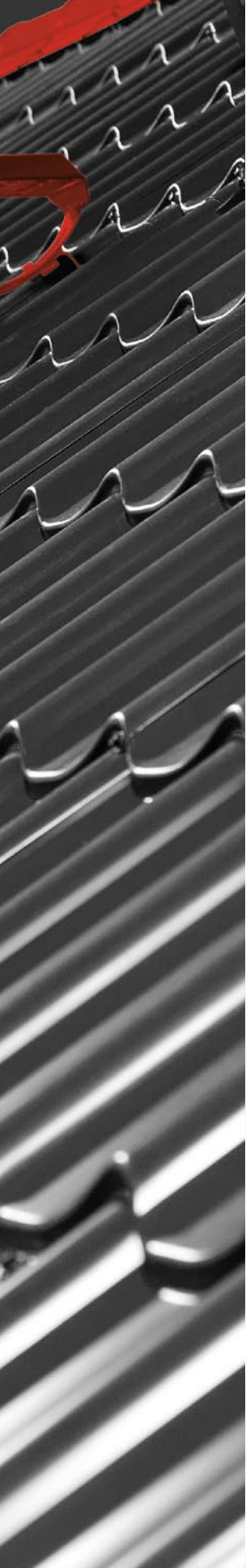
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FINISH ROOF AND WALLS  
BUILDING IT MATTERS  
NOT JUST BECAUSE OF  
ATTENTION FOR  
AESTHETICS,  
BUT IT WORKS ABOVE  
ALL FOR SAFETY







# 5 ROOF & WALL CLADDING ACCESSORIES

- 138 **ASPIRA and AQ METAL** membranes
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# MEMBRANE

## ASPIRA membranes

New 3-layer ASPIRA roof membranes provide even greater protection and durability of a pitched roof. Aspira membranes are waterproof and highly vapor permeable, and three polypropylene layers ensure high tensile and tear strength.



### ASPIRA Std

- to be used as a pre-covering membrane
- for use on rafters and full formwork
- is an economical, full-value windproofing solution



### ASPIRA Plus

- for use on rafters and full formwork
- ideal for roofs covered with metal tiles
- very good vapor permeability parameters
- high mechanical strength
- 2 adhesive strips facilitate installation and increase the durability and tightness of the roof



### ASPIRA Max

- for use on rafters and full formwork
- classified as a roof screen
- works well in the most difficult weather conditions
- 2 adhesive strips facilitate installation and increase the durability and tightness of the roof

Name	ASPIRA Std	ASPIRA Plus	ASPIRA Max
Weight (g/m <sup>2</sup> )	135	150	170
Color	light gray	red	green
Glue strips	-	2	2
Number of layers	3	3	3
Breaking strength (N/5 cm) lengthwise	280	300	320
Breaking strength (N/5 cm) across	170	180	200
Elongation at break (%) longitudinally	70	60	70
Elongation at break (%) transverse	90	80	90
SD - diffusion equivalent air layer (m)	0,02	0,02	0,02
Application temperature range (°C)	from -40°C to +80°C	from -40°C to +80°C	from -40°C to +80°C
Permeation resistance	Class W1	Class W1	Class W1
Stabilization against UV rays	3 months*	3 months*	3 months*
Standard roll dimensions (m)	1,50x50	1,50x50	1,50x50
Reaction to fire	E	E	E

# AQ METAL membrane

The AQ Metal roof membrane is a specialized roof membrane intended for use under flat sheet metal roofing (e.g. Elegant 2.0 panel) on a solid formwork base. Its use protects the sheet metal against corrosion - the outer side of the membrane is covered with a distancing drainage layer (reinforcing mat). It is characterized by high durability and very good vapor permeability. Dedicated to use on full formwork. The membrane is placed on a rigid sheathing made of OSB boards or boards, with the extruded structure facing upwards, parallel to the eaves. To ensure proper drainage towards the eaves, each subsequent strip should be laid with a 10-centimeter overlap.



Name	<b>AQ METAL</b>
Material	polypropylene
Weight [g/m <sup>2</sup> ]	440
Color	black and white
Number of layers	4
Breaking strength [N/5 cm] lengthwise	320
Breaking strength [N/5 cm] across	200
Elongation at break [%] lengthwise	70
Elongation at break [%] transversely	100
SD – diffusion equivalent air layer [m]	0,02
Application temperature range [°C]	from -40 to +80
Permeation resistance	Class W1
Standard dimensions on a roll [m]	1,50 x 25
Reaction to fire	E



# FLAT METAL SHEET

## FOR MULTIPLE APPLICATIONS

Flat metal sheet is a durable material that is easy to process. Sheet metal is most often used to fabricate elements that complement steel roof structures, but it also has a number of other applications. The product offered by Balex Metal is characterized by a wide selection of protective coatings and a variety of available colors.

### Universal material

Flat sheet metal has a wide variety of applications, including standard and custom flashing.

### A wide colour palette

Balex Metal offers flat sheet metal in over several dozen color variants and 6 different coatings.

### Extra protection

The delivered sheets are protected with a special protective foil.

### Corrosion resistance

High-quality anti-corrosion coatings perfectly protect the sheet metal against corrosion.

Name	Flat metal sheet
Standard sheet dimensions [mm]	1240x2000
Sheet width [mm] max.	max. 1500
Sheet length [mm]	At the customer's request
Sheet thickness [mm]	0,40 - 1,50
Coating	SP Polyester Gloss 15 µm, SP Polyester Gloss 25 µm, SP Polyester Matt 35 µm, CESAR 55, PVC(F) "Food Safe", aluzinc+easyfilm, galvanized
Steel grade	S220GD, S250GD, stainless steel (1.403), S320GD

# VENTILATION SYSTEM

## Vent chimney

Name	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

*Vent chimney for Spektrum steel sheet tiles*



*Vent chimney for box profile sheets*



## Premium insulated vent chimney for attic ventilation

Name	Vent chimney for PANORAMA steel sheet tiles and ELEGANT seam panels
System components	Chimney with base and connection
Compatible roofing	A system of bases adapted to various roof coverings
Material	Mass-dyed polypropylene
Colors	Chocolate brown, brick red, cherry red, graphite, black
Size	Diameter 125 mm (on order: 160 mm)

*Premium vent chimney for PANORAMA steel sheet tiles*



*Vent chimney for ELEGANT seam panels*



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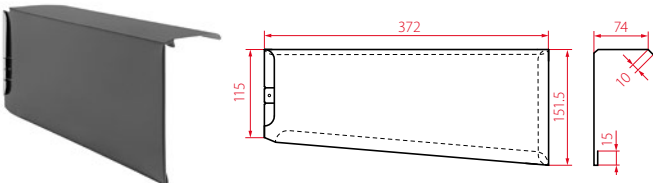
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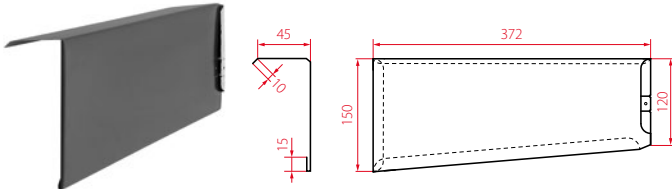
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# FLASHINGS

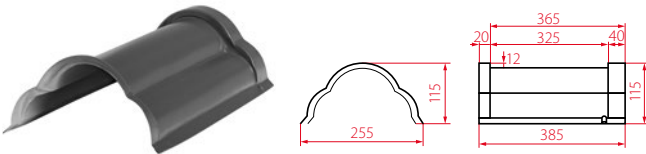
PANORAMA system left-hand ridge cap



PANORAMA system right-hand ridge cap



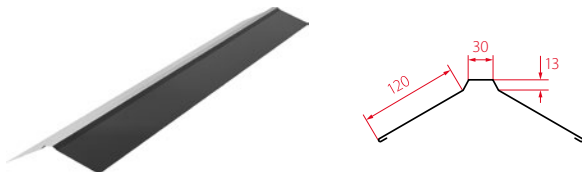
PANORAMA system modular ridge tile



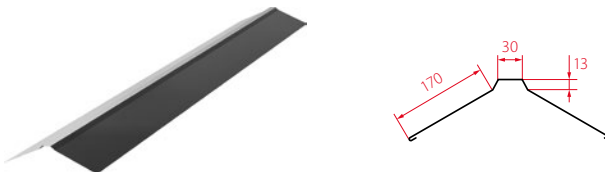
Universal ridge tile



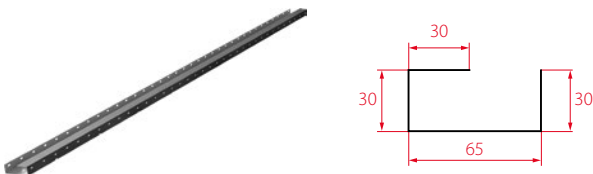
Ridge tile for box profile sheets



Ridge tile for box profile sheets and ELEGANT 2.0 upright seam panels



Ridge tile flashing for ELEGANT 2.0 upright seam panels

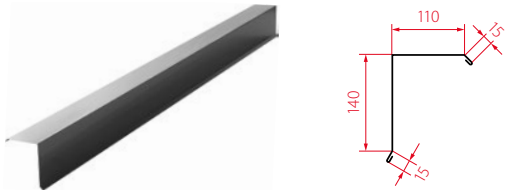


Universal wind brace narrow





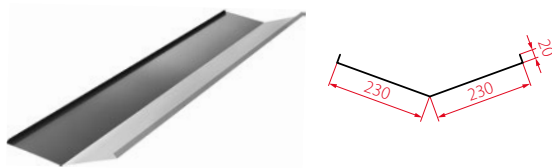
### Universal wind brace wide



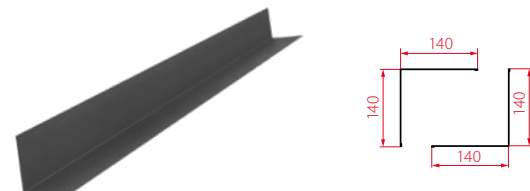
### Chimney flashing



### 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
Maximum length [m]	11,50	6,00
Steel grade	S250GD, stainless steel (1.4301)	
Coatings	SP Polyester Gloss 15 µm, SP Polyester Gloss 25 µm, SP Polyester Matt 35 µm, CESAR 55, PVC(F) "Food Safe", aluzinc+easyfilm, galvanized	
Production possibilities	<ul style="list-style-type: none"> <li>- cutting</li> <li>- bending</li> <li>- cutting and perforating sheet metal in an automatically controlled process</li> <li>- protection of raw material with plastic film</li> </ul>	



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# ACCESSORIES

## BR-VENT RIDGE TAPE

### Product features:

- excellent vapor permeability properties
- roof ventilation
- prevents insect and small birds from nesting
- complete butyl self-adhesive tape; enables sealing of roof ridges at low roof slopes

Length [mb]	5 ± 1%
Width [cm]	30
Weight [g]	863 ± 6%
Aluminium colour	brick red, red, brown, black
Fabric color	black with a red stripe



## GASKETS

### Product features:

- necessary to maintain proper roof insulation
- matching the roofing profiles and elements roof finishing elements

### Gasket types:

- self-adhesive sealing tapes:
  - polyethylene PES 3x20
  - polyurethane PUS 5x40, PUS 5x80
- impregnated polyurethane seal 20x30, 20x40, 20x50
- butyl sealing tape
- expanding impregnated polyurethane tapes
- shaped seals for roof panels, trapezoidal sheets and metal roofing tiles:
  - **TUP** – sealing tape under the BTD cover sheet or roofing sheet, and on the „positive“ side of the BTR structural sheet.
  - **TUN** – sealing tape for the cover sheet or metal roof tiles, and on the „negative“ side of the BTR construction sheet.

*PES gaskets (for steel structures)*



*TUP and TUN seal*



## RIDGE BATTEN BRACKET WITH FASTENING PIN

### Product features:

- efficient installation of the ridge batten
- quick and easy installation
- resistant to aging processes

Material	galvanized steel
Dimensions [mm]	40 x 210 / 40 x 230 / 40 x 260



## RIDGE BATTEN BRACKET WITH FASTENING BRACES

### Product features:

- efficient installation of the ridge batten
- quick and easy installation
- resistant to aging processes

Material	galvanized steel
Dimensions [mm]	40



## FASTENERS

### Product features:

- for proper installation of all roofing and facade elements
- for joining sheets

*Self-drilling screw  
with gasket washer*



*Sheet metal screws*



*Torx screws*



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# ACCESSORIES

## TOUCH-UP PAINTS

### Application:

- protection of minor scratches and abrasions of the organic coating

### Set elements:

- touch-up paint – available in all colors matching the color scheme offered metal roofing tiles (200 ml)
- touch-up marker for steel roofing (15 ml) available in the following colors:
  - 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

*Touch-up paint*



*Touch-up marker*



# ROOF SAFETY SYSTEM

## Characteristics:

- prevents snow and ice from sliding off roof surfaces
- allows easy access to the chimney, gutters and other devices on the roof
- adapted to roof coverings made of: metal tiles, seam roof panels and trapezoidal sheets

<b>Material</b>	galvanized steel, coated with varnish on both sides
<b>Standard length</b>	Snow guard – 2000 mm Snow railing – 2000 mm Chimney-sweep bench – 400 mm, 800 mm, 1980 mm (other sizes available on request)
<b>Colors*</b>	red, brick-red, brown, grey, black

\* Colors of the snow rail set for the seam roof panel: silver-metallic, graphite-gray.

## The roof safety system includes:

*Snow guard  
for metal roofing tiles and  
trapezoidal sheets*



*Chimney-sweep bench with cradle and brackets*



*Snow railing  
for seam roof panels*



*Chimney sweep step with cradle and bracket*





GUTTER SYSTEMS  
**ZENIT** AND **WIJO**  
KNOW THE MAIN  
DIFFERENCES





# 6 ROOF GUTTERS

150 ZENIT gutter system

156 WIJO gutter system

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# ZENIT

Zenit is a deep premium gutter system whose most important feature is greater efficiency and extraordinary durability. It is provided by a special double-sided CESAR35 coating. The Zenit gutter was designed by roofers. Therefore, the system elements fit together perfectly and their installation does not require additional sealing.

### Instant installation

Just connect the elements and... done! No additional sealing or correction of details.

### Greater bandwidth

The parameters of the deep system allow for the removal of up to 30% more rainwater than standard gutter systems.

### Corrosion resistance

Zenit gutters will perform perfectly even in highly corrosive environments (up to C4).

### Technical parameters

Name	Zenit gutter system
Coating	CESAR35
Steel grade	DX52+Z275 (gutters and pipes), DX53+Z275 (accessories)
Thickness [mm]	0,55
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]	2000, 3000 i 4000
Down pipe length [mm]	1000, 2000 i 3000



MORE ABOUT  
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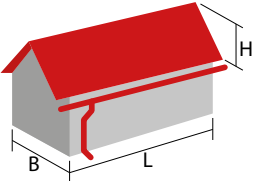
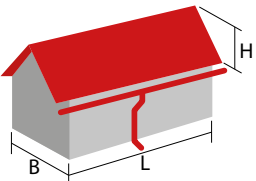
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## System performance

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

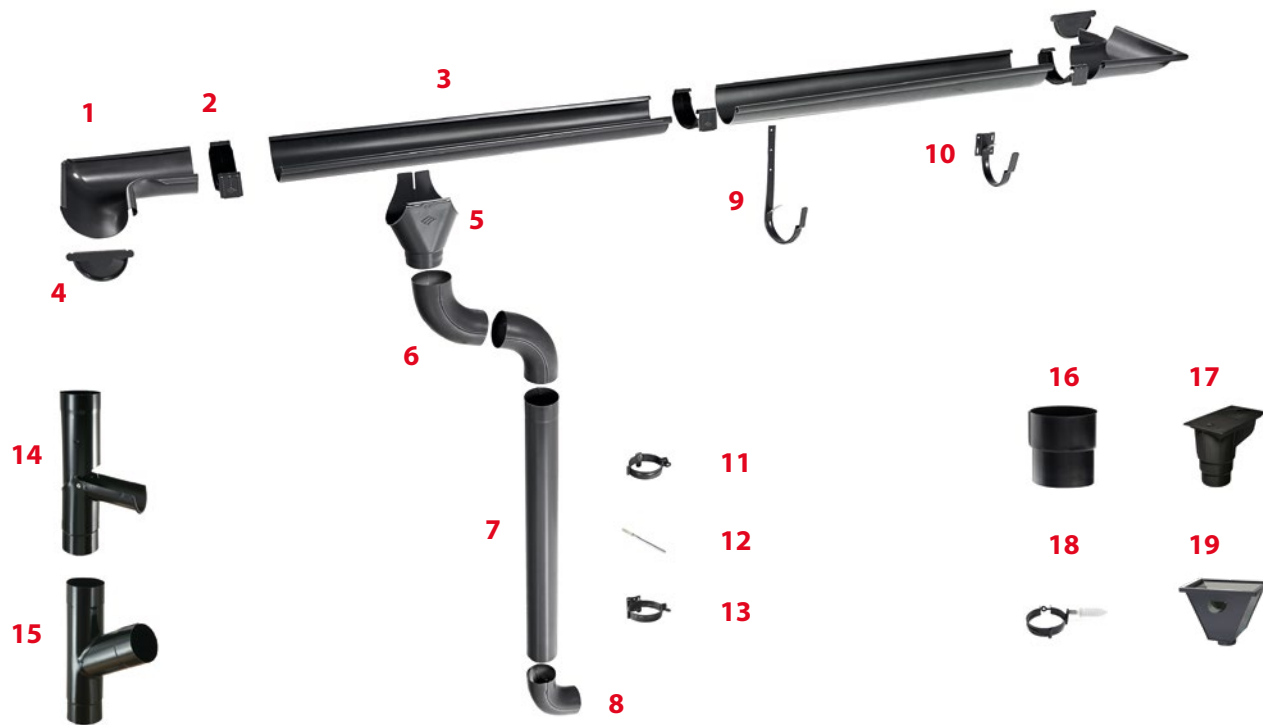
The values in [m<sup>2</sup>] apply to the effective roof area. Total surface area formula:  $P = (\frac{1}{2} B + \frac{1}{2} H) L$   
with: P – total roof area; B – base width; H – roof height; L – eave length

## Available colours

System dimensions GUTTER/PIPE	Color										
	7016	8017	9005	3009	8004	8019	9002	9006	galva- nized	titanium zinc*	copper*
127/100	●	●	●	●	●	●		●	●	●	●
153/100	●	●	●		●	●	●	●	●	●	●
153/120	●	●					●	●	●	●	●

\* Variant available on request. Delivery time approximately 6 weeks.

## ZENIT gutter system components



The system includes the following components:

- |                               |   |
|-------------------------------|---|
| 1. internal / external corner | 11. screw clamp                         |
| 2. connector with gasket      | 12. fixing screw                        |
| 3. gutter                     | 13. screw-on, butt clamp (wall-mounted) |
| 4. gutter plug                | 14. rainwater diverter                  |
| 5. branch                     | 15. pipe branch                         |
| 6. bend                       | 16. sleeve                              |
| 7. downpipe                   | 17. decanter                            |
| 8. spout                      | 18. downpipe clamp snail                |
| 9. long over-rafter hook      | 19. rainwater head                      |
| 10. front hook                |   |

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1. internal / external corner



6. Bend



2. Connector with gasket



7. Downpipe



3. Gutter



8. Spout



4. Gutter plug



9. Long over-rafter hook



5. Branch



10. Front hook





11. Screw clamp



12. Fixing screw



13. Butt clamp



14. Rainwater diverter



15. Pipe branch



16. Sleeve



18. Downpipe clamp snail



17. Decanter



19. Rainwater head



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# WIJO

Wijo is a durable and easy-to-install Scandinavian rainwater drainage system. It can be used for all types of roof and facade coverings. The precision-made parts and high-quality coatings guarantee reliable use and high aesthetics for many years.

## Solid gutter

The high quality of the gutter ensures durability for years.

## Guarantee

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

## Universal system

Wijo is perfect for both residential, industrial and agricultural buildings.

## Efficient assembly

The Wijo gutter system is quick and easy to install.

## Technical parameters

Name	WIJO coated steel gutters
Coating	Prelaq Nova (HBP 35 µm)
Warranty	15 years for C1-C3
Steel grade	DX51+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.



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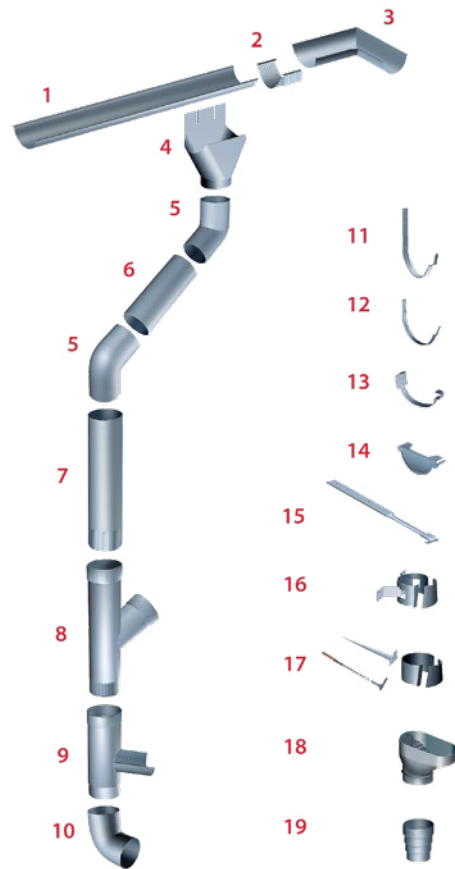




## Available colours

System dimensions GUTTER/PIPE	Color						
	9002	8028	8004	9011	3009	7011	9006
125/90	●	●	●	●	●	●	●
150/100	●	●	●	●	●	●	●
100/75		●					

# WIJO gutter system components



The system includes the following components:

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

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1. Gutter



2. Gutter connector



3. Internal / external corner



4. Łącznik rynny z rurą



5. Down pipe bend



6. Down pipe extension



7. Down pipe



8. Pipe branch



9. Rainwater diverter



10. Down pipe spout





11. HRL 210 gutter hook



12. HRL 70 gutter hook



13. Compact gutter hook



14. Universal gutter plug



15. Odciąg rynny



16. Downpipe clamp



17. Downpipe clamp orsw



18. Down pipe inspection screen



19. Rainwater reducer



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VARIOUS APPLICATIONS,  
EXCELLENT SUBSTRUCTURE





# 7 COLD-FORMED PROFILES

- 166 Z profiles
- 168 C profiles
- 170  $\Sigma$  profiles

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

**Cold-formed profiles customized 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 profiles 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 transoms

**Available hole diameters:**

- $\varnothing 14$
- $\varnothing 17$
- $\varnothing 18$
- $\varnothing 14 \times 26$  } bean holes, possible vertically and horizontally
- $\varnothing 18 \times 26$  }

# SIMPLICITY AND SPEED OF PROFILE DESIGNING

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

The configuration wizard is a quick and easy way to design where holes should be drilled in any type of profile. 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 PROFILES



ABOUT  
Z-PROFILES

## Profile cross-section:

$H$  – profile height

$t$  – profile thickness

$S_1, S_2$  – flange width

$C$  – lip length

$r$  – bending radius

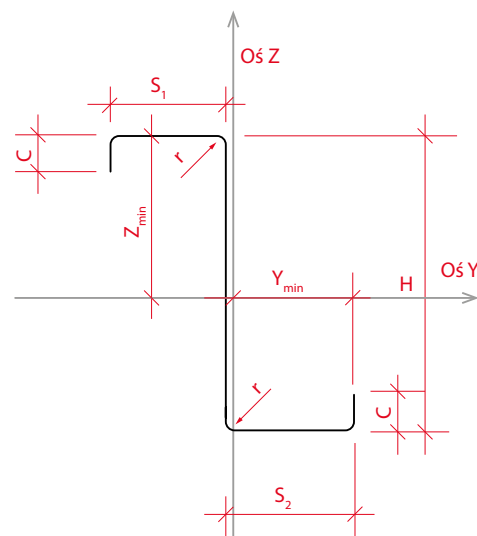
$F_a$  – cross-sectional area

$y_{\min}, y_{\max}, z_{\min}, z_{\max}$  – 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



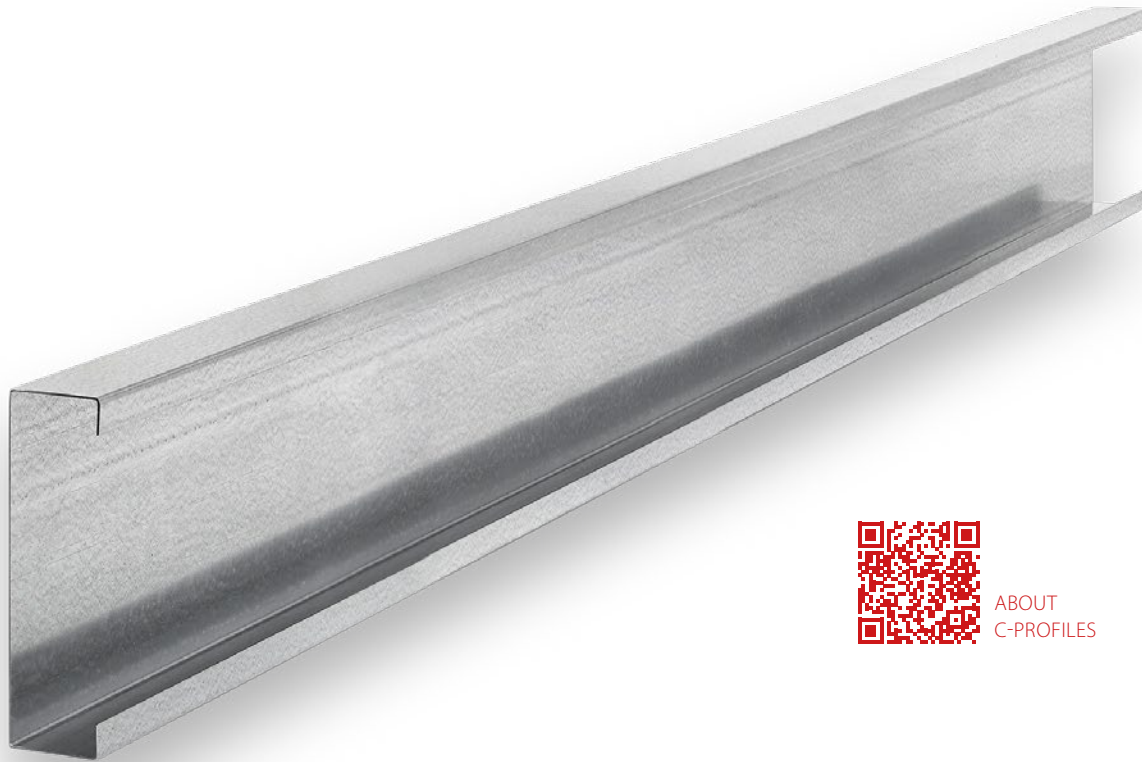


## Tabulated geometric characteristics of Z profiles:

Shape	H	t	S <sub>1</sub>	S <sub>2</sub>	C	r	mass	F <sub>a</sub>	y <sub>min</sub>	y <sub>max</sub>	z <sub>min</sub>	z <sub>max</sub>	I <sub>y</sub>	I <sub>z</sub>	W <sub>ymin</sub>	W <sub>zmin</sub>	i <sub>y</sub>	i <sub>z</sub>
	[mm]						[kg/m]	[cm <sup>2</sup> ]	[cm]				[cm <sup>4</sup> ]		[cm <sup>3</sup> ]		[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 PROFILES



ABOUT  
C-PROFILES

## Profile cross-section:

$H$  – profile height

$t$  – steel thickness

$S$  – flange width

$C$  – lip length

$r$  – bending radius

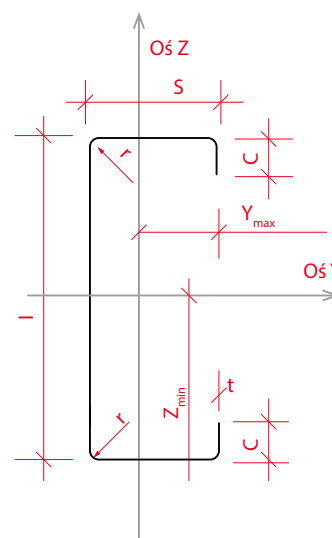
$F_a$  – cross-sectional area

$y_{\min}, y_{\max}, z_{\min}, z_{\max}$  – 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 profiles:

Shape	H	t	S	C	r	mass	F <sub>a</sub>	y <sub>min</sub>	y <sub>max</sub>	z <sub>min</sub>	z <sub>max</sub>	I <sub>y</sub>	I <sub>z</sub>	W <sub>ymin</sub>	W <sub>zmin</sub>	i <sub>y</sub>	i <sub>z</sub>
	[mm]					[kg/m]	[cm <sup>2</sup> ]	[cm]				[cm <sup>4</sup> ]		[cm <sup>3</sup> ]		[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

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# $\Sigma$ SIGMA PROFILES



ABOUT  
SIGMA PROFILES

## Profile cross-section:

$H$  – profile height

$t$  – steel thickness

$S, F, D$  – geometric components

$C$  – lip length

$r$  – bending radius

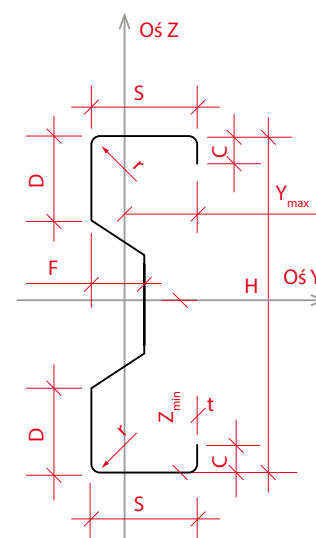
$F_a$  – cross-sectional area

$y_{min}, y_{max}, z_{min}, z_{max}$  – 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 $\Sigma$ Sigma profiles:

Shape	H	t	S	F	D	C	r	mass	F <sub>a</sub>	y <sub>min</sub>	y <sub>max</sub>	z <sub>min</sub>	z <sub>max</sub>	I <sub>y</sub>	I <sub>z</sub>	W <sub>y,min</sub>	W <sub>z,min</sub>	i <sub>y</sub>	i <sub>z</sub>
	[mm]							[kg/m]	[cm <sup>2</sup> ]	[cm]				[cm <sup>4</sup> ]		[cm <sup>3</sup> ]		[cm]	
$\Sigma$ 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
$\Sigma$ 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
$\Sigma$ 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
$\Sigma$ 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
$\Sigma$ 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
$\Sigma$ 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
$\Sigma$ 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
$\Sigma$ 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

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# AKCESORIA



thickness 4 mm

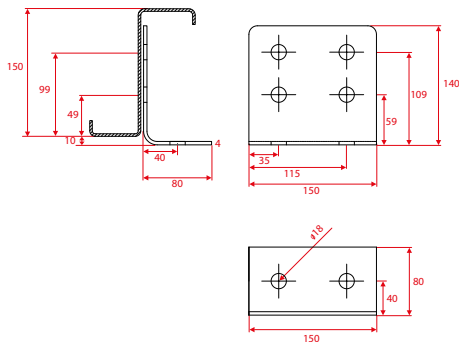
## PROFILES FOR MOUNTING

The profile for mounting Z profiles is an element used to attach properly the section to the structure.

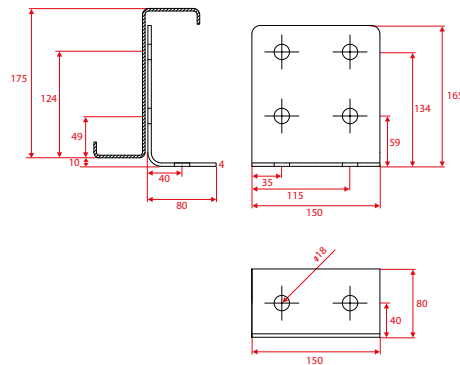
Attaching the Z profile to the assembly table through the web in such a way that the lower flange of the Z profile is not supported on the girders.

Balex Metal offers Profiles for mounting Z profiles on roof for the most popular heights of 150 - 300 mm

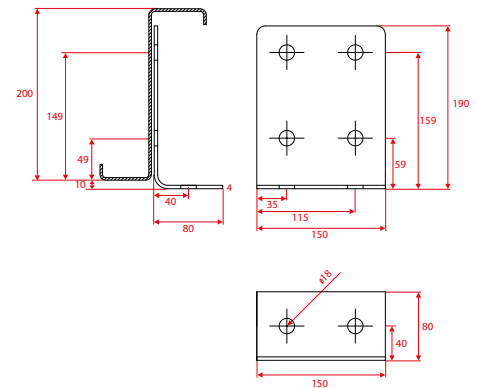
### Assembly table for the Z150 profile



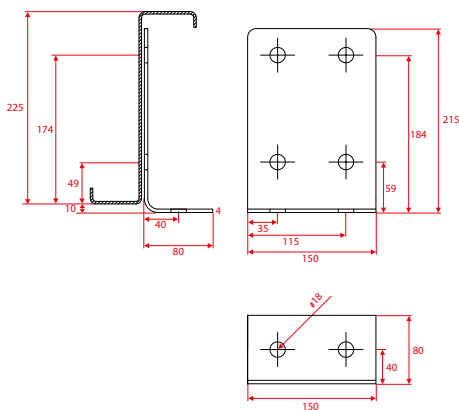
### Assembly table for the Z175 profile



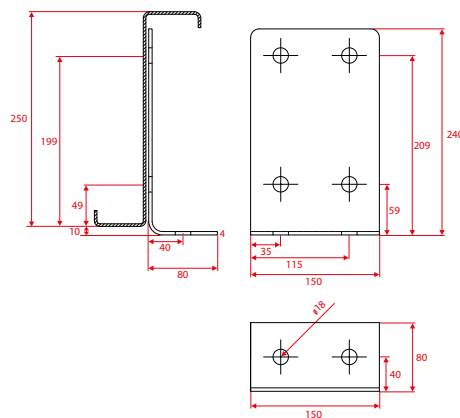
### Assembly table for the Z200 profile



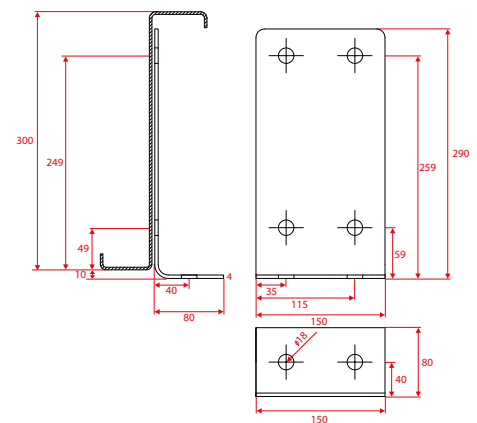
### Assembly table for the Z225 profile



### Assembly table for the Z250 profile



### Assembly table for the Z300 profile







GEOMETRIC SIMPLICITY  
MODERN APPEARANCE OF FACADES





# 8 FACADE CLADDING

176 WALL PANEL

180 CLADDING COFFER

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# WALL PANEL

## WITH 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 facade cladding design.

### Technical parameters

Name	PS wall panel
Steel grade	S220GD, 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 Gloss 25 µm, SP Polyester Mat 35 µm, Cesar 55



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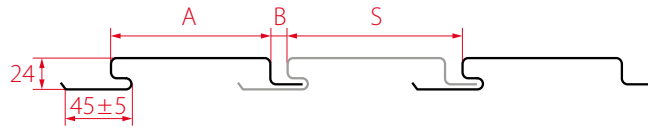
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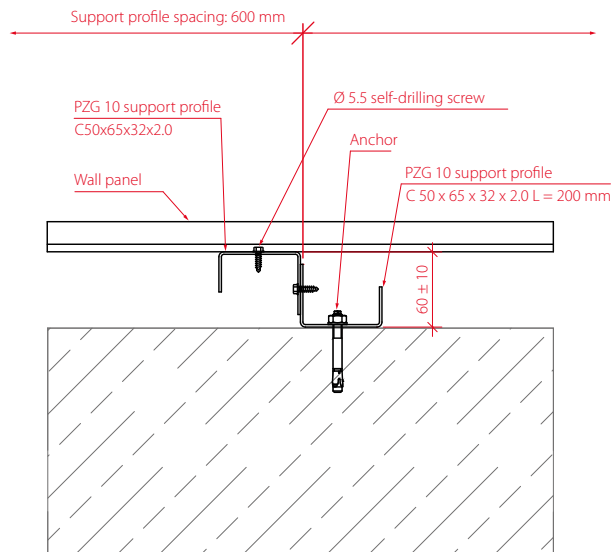
## Wall panel cross-section



*S – standard effective width 205 mm*

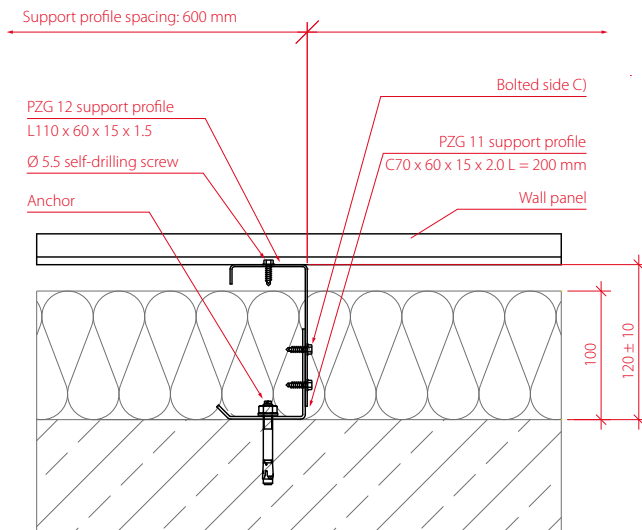
## Wall cross-section

### 1. Without thermal insulation

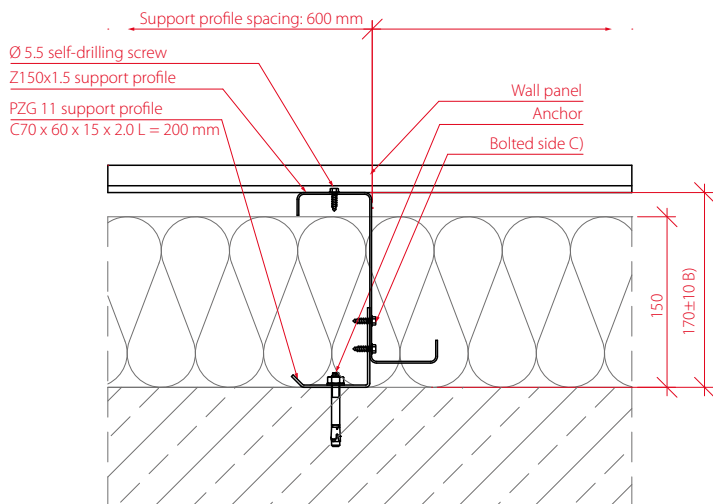




## 2. With thermal insulation, e.g. 100 mm thick



## 3. With thermal insulation, max. 150 mm thick



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# CLADDING **COFFER** STYLISH ELEVATIONS







The facade 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 facade.

### 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 facade cladding system.

### Durability

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

### Technical parameters

Name	Cladding coffer
Steel grade	S320GD
Steel thickness [mm]	1,20
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



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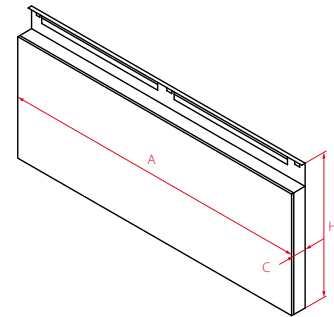


## Cladding coffer sizes

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 after agreement

\*\*covering height is the sum of the height of the coffer face and the gap (joint) between subsequent elements

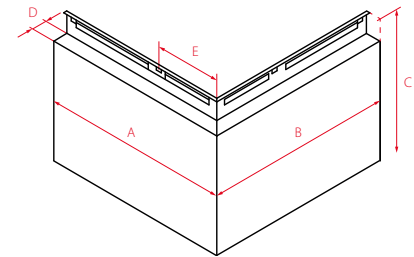


## Cladding coffer corner sizes

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

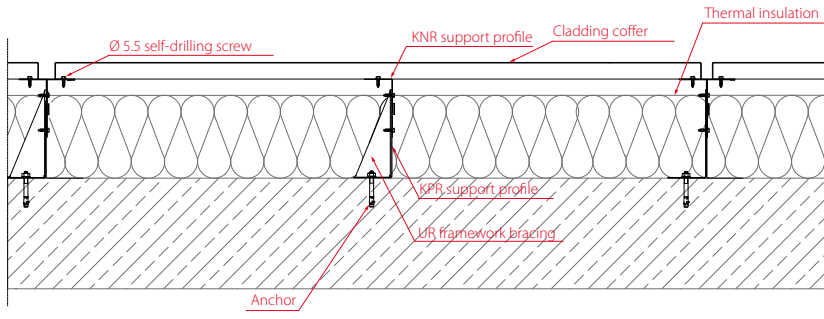
\*technical conditions of the corner coffer - one of the sides > 900 mm

\*\*covering height is the sum of the height of the coffer face and the gap (joint) between subsequent elements

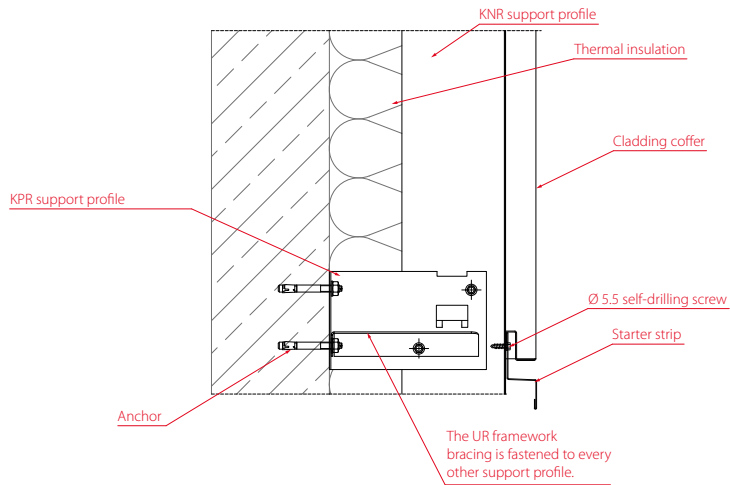


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# GENERAL SALES CONDITIONS

## § 1. General provisions

1. The General Sales Conditions GSC [OWS in Polish] determine the rules for concluding the contracts of sale for goods, in which the Balex Metal is Balex Metal Sp.z o.o with registered office in Bolszewo, ul. Wejherowska 12 C, registered in the National Court Register at KRS number 0000176277, the Company-related documentation is kept at the District Court Gdańsk – Północ in Gdańsk VIII Economic Department of the National Court Register, NIP 588-11-30-299, REGON 191112216, share capital of PLN 2,050,000 (hereinafter referred to as “Balex Metal”).
2. The General Sales Conditions [OWS] are an integral part of any contract of sale concluded by Balex Metal with entrepreneurs, including also the contracts concluded in the form of quotation placed by the Purchaser at Balex Metal, where in the case when the parties have agreed their rights and obligations in the form of a separate written agreement, the provisions of such written agreement shall have priority, and the provisions of the General Sales Conditions [OWS] only within the scope not regulated in the agreement.
3. The General Sales Conditions [OWS] are made available to Purchasers in a written form at the registered office of Balex Metal and the company’s branch offices, and also in electronic form on the [www.balex.eu](http://www.balex.eu) website. If the Purchaser has regular commercial transactions with Balex Metal, the Purchaser’s acceptance of the General Sales Conditions [OWS] for one contract of sale shall be regarded as the acceptance of these Conditions for subsequent contracts of sale concluded by the Purchaser with Balex Metal, unless the parties have stipulated otherwise.

## § 1 a. Obligations of the Parties

1. The Parties are obliged to perform the sale contracts and to cooperate with its performance in accordance with its aim and regulations of General Sales Conditions.
2. On the basis of General Sales Conditions The Purchaser pledges oneself in particular to:
  - a) pay the agreed price within specified time limits
  - b) collect the goods
  - c) meet the required deadlines and forms proper to complaints handling
  - d) describe, all circumstances of complaints or otherwise they will be deemed as non-existent in the compensation proceedings.
  - e) enable access to the site where the defective goods are kept in order to carry out necessary actions in the complaint proceedings.
  - f) deliver defective goods to be exchanged as a result of the complaint
  - g) conclude a sales agreement in the case of renunciation specified in § 10 of the GSC.
  - h) fulfil all other obligations provided for in the sale agreement or GSC in a complete and correct way.
3. Upon general terms and conditions specified in GCS, Balex Metal obliges in particular to:
  - a) manufacture the product with due accuracy without defects in line with the principles stipulated in the quotation
  - b) deliver the goods covered by the sales agreement
  - c) issue a guarantee document in case the guarantee is provided
  - d) deal with correct and complete lodged complaints
  - e) repair damage in case the complaint is adjusted

## § 1 b. Glossary

**quotation** – the total for quotation items defined and made complete by Balex Metal on a generated form as separate files together with the quantity allocated to them, expressed in natural measure units (number of units, linear meters, sq.m. etc.) with reservation that only Balex Metal is entitled to fill in and change the content of quotation items (excluding Purchaser’s signature).

**vital entries** – length dimensional specification, type of claddings, type of cladding profiles, colouring, workshop drawings, type of fastening, type and length of undercut

**final quotation** – a quotation prepared by Balex Metal with specified all vital entries and placed by Purchaser

**additional conditions of quotation implementation** – additional conditions reserved by Balex Metal for final quotation implementation and concluding contract (such as: advance payment, mode of delivery, destination, and unloading type) which affect implementation date deferral or estimated contract implementation date.

**Purchaser** – natural person or legal person or any other no legal entity who purchases the goods offered by Balex Metal on behalf of oneself.

**customer** – organizational unit of the Purchaser or other specified by Purchaser unit entitled to receive the goods, which can fulfil the Purchaser's obligations

**Balex Metal** – seller, Balex Metal Sp. z o.o located in Bolszewo

**sales agreement** – sales contract or delivery contract concluded between Balex Metal and a natural person or a legal entity purchasing goods offered by Balex Metal

**goods** – finished product which is submitted to the production process at Balex Metal, and also the quotation line or invoice item which is not submitted to the production process at Balex Metal

**physical defect** – an essential quality feature of the good causing its nonconformity with conditions of Polish technical standards approved by Polish Committee for Standardization for the appropriate good being the subject of the contract or other technical standard specified by Balex Metal. The goods offered by Balex Metal meet performance characteristics of the technical standards, to which Balex Metal refer to and the irrelevant utilitarian features such as: scratchings, stains or chips of the goods are not the foundation for lodging any claims by the Purchaser

**payment due date (time limit for payment)** – specified by the contract and these General Sales Conditions date, when money is (to be) paid in (in case it is determined in the form of specific date) or the period between the date of receivables occurrence and the date when the receivables become due for the benefit of Balex Metal (in case it is determined as time period)

**receivables** – Balex Metal's right to demand that the debtor provide a pecuniary or physical performance, in business trading – any expected monetary (cash) revenue based on different titles

**handling fee** – specified by these General Sales Conditions contractual charge collected by Balex Metal on account of the costs connected with sales agreement implementation

**cession** – disposal of receivables/debt by the Purchaser for the benefit of Balex Metal

**indemnity** – this means remuneration, pay for damage done, for loss suffered by Balex Metal

**claim** – the right to demand by the creditor from the debtor (including the Purchaser) to behave in a certain manner

**surety** – a kind of agreement, in which the guarantor undertakes (with regard to Balex Metal) to fulfil a particular obligation in the event of the debtor's default

**implementation date** – the date of giving the goods or confirmed by Balex Metal in writing as date for making the goods available at the fixed place or the date of receipt set on the basis of a concluded contract or separate agreement, which can be unilaterally altered by Balex Metal in case the Purchaser does not meet the requirements indispensable for initiating the order on time resulting from final quotation (including lack of payment for the Goods), as well as in case of unforeseen change in organizing the production and organizing the delivery (in case of giving the prepared quotation in other time than date of its implementation by Balex Metal).

**estimated lead time** – time specified by Balex Metal on its quotations estimated period of time enabling implementation date specification considering remaining quotation conditions and actual occurrences.

**Incoterms** – a collection of international sales conditions widely used all over the world. The rules divide costs and responsibility between the Purchaser and the Balex Metal, as well as reflect the type of agreed means of transport. The version of Incoterms 2000 is applied

**warranty** – the Balex Metal's liability against the Purchaser concerning physical and legal defects of the goods sold, defined in Articles 556-557 of the Polish Civil Code, taking into account the changes arising from these GSC

**guarantee** – a collection of additional contractual entitlements which may be granted by Balex Metal to the Purchaser. This fact is each time confirmed by documentary evidence in a separate document submitted while concluding sales agreement

**complaint** – making claims by the Purchaser on the grounds of warranty or guarantee or any other entitlement. At the moment of making a complaint The Purchaser is obliged to specify the basis of the complaint or it shall otherwise not be settled

**expenditure (give outside)** – a document issued by Balex Metal confirming giving the goods to the Purchaser or a person authorized, in particular loading the goods on the means of transport, which depending on the circumstances may be labelled with a symbol: WZ, WZ(O) or O-

**force majeure** – an unexpected, external and impossible to prevent event, which could not have been avoided even despite all due diligence of the Parties, considered as Force Majeure by Balex Metal in compliance with article 6 point 3 of the GSC

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## § 2. Completion of contract

1. The information available on Balex Metal website, in its catalogues, brochures, leaflets, advertisements and other publications or printed materials of Balex Metal – (hereinafter called the “Publications”) – is not an quotation as defined by the Polish Civil Code provisions, even if it is accompanied by a price, unless a Publication like that has an clearly different meaning. The Publications concerning the Goods offered by Balex Metal are of exclusively informative character, and the patterns and samples exhibited by Balex Metal are of demonstrative and exhibitory character. Detailed technical data included in the Publications may be changed any time, also due to the rapid changes undergoing in the technical sector. Current version of the Publications will be published on the Internet or will be available in the registered office or branch offices of Balex Metal. Current data necessary to make a quotation can be confirmed by the Purchaser in Balex Metal Research and Development Department.
2. A condition of an effective conclusion of the agreement is generating final quotation by Balex Metal and then placing that quotation by the Purchaser (via fax or e-mail message) and fulfilling additional conditions (such as: advance payment, mode of delivery, destination, unloading type). When the quotations obtains the status “final”, it means that Balex Metal has accepted it for implementation and after meeting additional conditions for quotation implementation is obliged to deliver the goods on the basis of it, excluding § .
3. For wall and roof sandwich panels BALEX THERM-PU-W and BALEX THERM-PU-R with polyurethane core, the standard type is the panel with internal cladding of 0,40mm thickness and external of 0,50 mm, excluding flat surface panels. For other types of sandwich panels, the standard claddings thickness equals 0,50 mm.
4. The Purchaser has the right to withdraw from the final quotation; to do that one must submit a written notification about the withdrawal to Balex Metal during the working time i.e. between 8 a.m. and 4 p.m. however, not later than 24 hours from the moment of placing the final quotation, unless it had already been implemented (if the resignation date is a bank holiday, its is put off until the same moment on the nearest working day).
5. Quotations without status ‘final’ serve as invitation to place final quotations by the Purchaser unless Balex Metal undertakes their implementation are binding to Balex Metal in scope of price and are valid until time specified by them (offer valid till) but no longer than 14 days from sending. Placing another quotation by Purchaser is acceptable only if the quotation did not have ‘final’ status and automatically results in former initial quotation cancelation.
6. Until the quotation is marked as ‘final’ and meets additional conditions the Purchaser does not have rights to claim contract conclusion or any other indemnity claim (Balex Metal responsibility in the fullest acceptable by law scope is excluded)

## § 3. Quotations and prices

1. The prices of the goods specified in the price lists available at Balex Metal headquarters or branch offices can be altered at any time. The prices quoted by Balex Metal are net prices (excluding VAT), to which VAT will be added, accordingly to the applicable tax rates. The price of the Goods is presented in quotations generated and sent by Balex Metal and is finally agreed on the date of placing the final quotation at Balex Metal by Purchaser and fulfilling conditions indispensable to making delivery (unless differently specified in the final quotation, e.g. if the time of quotation’s validity has been defined in the scope of price). If the final quotation placed by Purchaser includes a price which is different from the one effective on the day of fulfilling additional conditions of quotation implementation, Balex Metal will provide the Purchaser with the quotation with a new price, and the contract will be concluded if the does not submit a resignation on the terms and conditions specified in article 2 point 4 of GSC.
2. The quotation submitted by the Purchaser after obtaining status ‘final’ may be cancelled exclusively by Balex Metal on the Purchaser’s written request after submitting by the Purchaser another final quotation agreed by Balex Metal. Cancelation of quotation is effective from the moment of confirming the fact of cancelation by Balex Metal and results in contract’s dissolving on mutual agreement of the parties, and Balex Metal and the Purchaser have no claims on the grounds of quotation cancelation.
3. The quotation submitted by Balex Metal or does not result in automatic booking of the raw material required for production of the goods which are the subject of the quotation.
4. Any written documentation, including drawings, cost calculation; quotations, etc. must not be available to any third parties and is intended only for conclusion of the specific agreement.
5. In case that after placing the final quotation by the Purchaser, his/her financial situation considerably changes for the worse or other substantial circumstances come to light about which Balex Metal did not know on the day of placing the quotation (including those published in appropriate places), which cause, that concluding the contract is significantly endangered, in particular until meeting by Purchaser additional conditions, Balex Metal is entitled to cancel the contract in full or in part and to claim incurred costs with reference to this.

## § 4. Payment conditions

1. Balex Metal is entitled to demand payment of the price specified in the invoice at the moment of collecting the order goods by the Purchaser. If the goods were not collected in compliance with article 6 point 1 of GSC, then at the moment when the time limit for collecting the goods expires. The parties may specify in the agreement other date of paying the price or the way of making the payment, e.g. by indicating it in the invoice from Balex Metal. The date of payment in each case is specified in days and is counted from the date of issuing the invoice.
2. The day of payment is the day of registering the receivables on Balex Metal's bank account specified in the invoice or on the account indicated by Balex Metal.
3. In case of a delayed payment Balex Metal is entitled to demand interests in the amount of statutory interest for delay in commercial transactions, without additional calls for payment. Interests are counted for the period of delay, it is from the date following the day on which the payment was due. In case of delayed payment for the goods Balex Metal is entitled to claim, apart from the capital amount and interests, reimbursement of the court charges, enforcement and legal representation costs. Moreover, Balex Metal is entitled to claim reimbursement of the cost connected with the debt recovery in the value not exceeding 10% of the recovered liabilities.
4. At the same time Balex Metal reserves the right to make a deduction for other receivables and liabilities, in compliance with the Polish Civil Code provisions.
5. The Purchaser is not entitled to deduct receivables from Balex Metal.
6. If the Purchaser does not pay for the delayed goods, even if the lack of payment is connected with only one invoice, Balex Metal is entitled to consider as immediately payable all the invoices which payment dates have not expired yet, and on the basis of which the goods have already been delivered.
7. The Purchaser is obliged to pay for the goods within the specified time even if the Purchaser has lodged a complaint about the goods and if the receipt of the goods was delayed due to the reasons for which the Purchaser is responsible.
8. The Purchaser is obliged to inform Balex Metal immediately in writing about each change of the Purchaser's registered office or place of residence and the address for service. Lack of such information causes that the correspondence sent to the addresses specified in the quotation or in other commercial agreements concluded between Balex Metal and the Purchaser are deemed to have been served effectively after a single ineffective notified missed delivery.
9. The rules of granting a loan limit and deferring the payment deadline are specified in separate by-laws available on [www.balex.eu](http://www.balex.eu) website and in the registered office of Balex Metal.
10. Balex Metal is entitled to assign its receivables for the benefit of third parties.
11. According to The Goods and Services Tax Act Act 106n of March 11th, 2004 (Journal of Laws from 2004, No. 54, item 535, as amended) the Purchaser accepts the use of e-invoice and agrees to receive e-invoices to his/her e-mail address in PDF format. This consent is in force for an unlimited time from the date of concluding the first contract of sales on the basis of an final quotation. As an e-mail address for delivering e-invoices to the Purchaser will be considered the address from which the Purchaser communicates with Balex Metal unless other e-mail address has been stated in an final quotation or e-mail message as the proper to delivering e-invoices. If there is no e-mail address stated by the Purchaser it results in delivering e-invoices to the address published by Central Registration and Information on Business (CEIDG) or by Legal Register of Companies. In case there is no e-mail address published by the above mentioned Registers the invoice will be printed and delivered in the common form. The Purchaser can withhold his/her consent in writing effective from the last day of the month, in which the withdrawal has been received by Balex Metal. ICT equipment efficiency and cooperating program tools used by the Purchaser enabling him/her individual distance communication are provided by the Purchaser. In particular, the Purchaser is responsible for their ability to receive correspondence from Balex Metal. An e-invoice will be considered as delivered when send to the server on which the Purchaser's mailbox is placed or when the e-invoice is sent to that e-mail address.

## § 5 Reservation of the Ownership

1. Balex Metal reserves the right to the sold goods in accordance with the provisions in article 589 of the Polish Civil Code, with the consequence that the Purchaser becomes the owner of the goods when full payment is received by Balex Metal within the time limits specified by Balex Metal.
2. Should the Purchaser fail to make the payment within the specified time limit, then Balex Metal has the right to demand that the Purchaser returns the Goods, for which one has not paid within the specified time limit. Balex Metal may also demand compensation, if the value of the Goods has decreased in comparison with the value indicated as the Goods' price in the sales invoice, also including the case when the Goods have been used or damaged.
3. In case the Goods produced to an individual order are returned by the Purchaser, even if the return is based on mutual consent of both

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parties and concerns undamaged Goods, Balex Metal may charge the Purchaser with the handling fee on account of the return in the amount of 20% of the value of the Goods which are returned.

4. When bankruptcy proceedings or proceedings for an arrangement with creditors have been instituted with respect to the Purchaser, he shall be obligated to mark the Goods in appropriate manner which indicates retention of title for the benefit of Balex Metal. In the case of seizure of the Goods which are the property of Balex Metal during enforcement proceedings targeting the Purchaser's property, the latter shall be obligated to inform Balex Metal immediately about this fact and to cooperate with Balex Metal in enforcement of Balex Metal's rights with respect to the entity which performs the seizure, within all available measures. On demand of Balex Metal the Purchaser is obligated to provide all particulars concerning storage locations for the Goods covered by the retention of title. Balex Metal is entitled to inspect the goods at their current location and also to their withdrawal, should the goods be under a threat of action by a third party.
5. The Purchaser shall bear the risk of accidental loss or damage to the goods in the period between the issue (hand-over) of the goods and the transfer of the ownership right for the goods to the Purchaser. Balex Metal may demand that the Purchaser conclude an insurance contract covering the Goods against accidental loss or damage for the aforementioned period up to the amount equivalent to the full value of the Goods or transfer to Balex Metal any rights arising from the insurance contract concluded for the benefit of the Purchaser, and also the claims against third parties liable for destruction (loss) or damage to the goods. In such a case the Purchaser shall be obligated to send to Balex Metal a copy of the insurance policy covering the goods immediately after receiving it, and also shall be obligated to notify the Insurer about disposing of the policy-based receivables for the benefit of Balex Metal and to send a copy of such notification to Balex Metal immediately.
6. Balex Metal may authorize the Purchaser in writing to further dispose of, within the run business, the Goods with retention of title, provided that the Purchaser will at the same time effect effectively the assignment of the claim for payment of the price against the further Purchaser for the benefit of the Company. The assignment effected is a security for the Balex Metal's claim for payment of the sale price by the Purchaser, and does not release the Purchaser from the obligation to pay the remaining part of the price; in the case of further disposal of the goods the Purchaser is obligated to inform Balex Metal immediately about who is the further Purchaser. In the event of an intention to combine the delivered goods with real estate in such a way that the goods are to become the components of the real estate, the Purchaser is obligated to prior establish other security for the claim for payment of the price, and in particular a surety by the owner of the real estate or an assignment of the Purchaser's receivables (due) from the investor.

## **§ 6. Conditions for receipt, delivery and storage**

1. Due to the fact that Balex Metal produces the goods in the system of production sessions (necessity to plan the production considering dimensions of ordered goods), Balex Metal defines in quotation estimated lead time only aiding to specify production date. Balex Metal is bound by the lead time only if it results from the final quotation given when it has contained all parameters (including in particular dimensional specification of delivered goods) and meeting by the Purchaser additional conditions for quotation implementation stipulated by Balex Metal in due time (implementation date is verified on the day of meeting specific conditions) or when Balex Metal confirms it in writing interchangeably and without reservation. The Purchaser is obligated to collect the goods in lead time, not later than within 7 days from quotation implementation according to contract's provisions or notification about possibility of collecting the goods (implementation date results from production sessions received and is decided in the moment of concluding the contract that means giving the offer 'final' status and meeting additional conditions for quotation implementation, and yet it also depends on other conditions stipulated in these GSC). If that date expires, Balex Metal is entitled to charge the Purchaser with the storage costs of the uncollected products in the amount of 0,1% of the gross value of products for each day of storage of products, without necessity to sign with the Purchaser a separate understanding concerning the storage. The Purchaser authorizes Balex Metal to issue an invoice for the aforementioned service. If that deadline is exceeded by 30 days Balex Metal is entitled to sell the Goods to a third party based on the conditions and price decided by Balex Metal and includes the received price in the Purchaser's liabilities concerning the sales of the Goods.
2. If Balex Metal does not confirm the date of final quotation implementation, it will make every effort to prepare the goods for receipt taking into account the Purchaser's benefit.
3. If Balex Metal was unable to perform the service due to Force Majeure, the Purchaser is not entitled to any claims to repair a damage resulting from not performing or untimely performing the agreement. Balex Metal is obliged to inform the Purchaser immediately about the circumstances which prevented the delivery. Force Majeure conditions include disturbances in the plant's functioning for which Balex Metal is not responsible, lack of raw resources, limitations resulting from governmental decisions, natural disasters, strikes etc.
4. If the Purchaser delays payments, does not pay interests for delayed payments or exceeds loan limits, performing next deliveries (including the final quotations confirmed by Balex Metal and the final quotations which time of implementation was confirmed in a written form) are withheld until the time of issuing all the outstanding payments.
5. Balex Metal products must be stored, transported and unloaded in compliance with the guidelines contained in the technical catalogues, in the "Manual for Unloading of Balex Metal Products" and on [www.balex.eu](http://www.balex.eu) website.
6. If the Purchaser does not abide by the guidelines for transport and storing, Balex Metal reserves the right not to accept any possible complaints.



## § 7. Dispatch

1. The delivery of ordered goods to the Purchaser (customer) by Balex Metal is done on the means of transport takes place when the goods are at the Purchaser's (customer's) disposal at an agreed location (DAP option, INCOTERMS 2020. At the moment of handing over the goods by Balex Metal to the Purchaser or to a person authorised by the Purchaser (including customer designated by Purchaser), all the benefits and encumbrances connected with the goods, as well as the danger of an accidental loss or damage are transferred to the Purchaser.
2. The venue of providing the service by Balex Metal, that is the venue of handing the goods over is the venue of unloading the goods if the transport is organised by Balex Metal or loading the goods if the transport is organised by the Purchaser, unless the sales agreement or final quotation specify otherwise.
3. The Purchaser is obligated to unload the goods from the vehicle within 2 hours from the moment when the vehicle arrives at the place of destination. If the Purchaser does not unload the goods within the aforementioned time, the Purchaser pays the costs of the layoff time. The parking fee is charged for each started hour in the amount specified in Balex Metal price list. The Purchaser is entitled to indicate another, alternative venue of unloading the goods from the vehicle. Costs of unloading the vehicle in the additional venue are paid by the Purchaser. If delivering the goods to an additional venue of unloading prolongs the transport distance or significantly changes it, the Purchaser pays additional costs of transport. In case of deliveries made on the Purchaser's request by means of special vehicle with HDS crane, Balex Metal reserves the right to charge the Purchaser with the cost of using that crane vehicle on the basis of the rate specified in Balex Metal price list or on the basis of separate rules binding for Balex Metal.
4. Balex Metal labels the plant or a warehouse from which the goods will be supplied, as well as the way of transporting them. The Balex Metal will make every possible effort to abide to the Purchaser's request with regard to the transport in the widest possible scope. The Purchaser is obliged to diligently check completeness of the package while receiving it and specify any possible shortages or damage of the goods caused by the transport. If transport of goods is organised by Balex Metal, the Purchaser will check the dispatch for conformity with the quantity ordered while it is handed over, signing the declaration on collecting the goods in compliance with the specification, on the document of the Expenditure (give outside WZ). The declaration is an evidence of collecting the goods conformity with quantity ordered. The ordering party is obliged to notify any complaints concerning the condition, and especially the condition of the package and securing it, in a written form while the goods are handed over, on the waybill and on the copy of the Expenditure (give outside) or possibly issue a separate receipt report with a full description of the damage, signed by both the driver and the Purchaser, on pain of losing the right of tabling them and referring to them later. The waybill and the Expenditure (give outside WZ) which do not contain any remarks concerning the quantity and quality of the ordered goods, are the evidence of concluding the contract in compliance with the final quotation without any reservations of the Purchaser.
5. In case of detecting a quality of quantity defect of the goods, the ordering party is obliged to secure the goods in an unaltered condition, and especially is obliged to restrain from mounting the faulty goods until the complaint is investigated by the deliverer on pain of losing the right to any claims against Balex Metal.
6. Balex Metal is not liable for any damage caused during unloading the goods at the Purchaser's site.

## § 8. Packaging

1. Balex Metal shall make every endeavour to ensure that the goods are packed properly.
2. The cost of disposable pallets is included in the price of the product. The Purchaser is not allowed to resell the pallets at the location (outlet) where the delivery is made. The trading involving non-disposable pallets is regulated by separate agreements between the Purchaser and Balex Metal.
3. The Purchaser is obliged to remove the protective foil from the Balex Metal products and clean the outer and inner surface of the product not later than two months from the production date on pain of losing the right to claim. That action must be taken in the above zero temperature of the steel cladding. That duty is owed by the Purchaser regardless of the place of storing the goods.

## § 9. Complaints

1. The Parties are obligated to cooperate while commencing complaint proceedings; especially it concerns the access to faulty goods, submitting all necessary documents and information to make repairs (plans of buildings, technical documentation) as well as to enable handling of the chosen method of the complaint.
2. The Balex Metal is liable for the goods in compliance with the provisions binding in Poland subject to the provisions included in the sales agreement or the GSC.
3. The Purchaser is obliged to check the dispatch for conformity with the quantity and quality ordered while it is handed over.
4. Any complaints must be lodged to the Balex Metal immediately and in writing on pain of being null and void, but Balex Metal is entitled

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to accept complaints without this form. In the case of roof tiles or seam profiles, the customer can also submit complaints in documentary form via the form at [www.balex.eu](http://www.balex.eu). In the complaint the Purchaser specifies the following data identifying the purchase of the goods: date of purchase, number of final quotation, reason for the complaint, and list of goods complained about indicating, among others, their quantity and specifying the claim (value of the claim, expected way of responding the complaint). In case of the entitlement right arising from the guarantee, the Purchaser is obliged to supply Balex Metal with the guarantee document.

5. A prerequisite of lodging a complaint by the Purchaser is following the rules mentioned below:
  - the goods should be stored, as well as treated and processed, in compliance with all necessary specialised requirements within that scope, especially with the requirements on technical documentation (permits) and generally accepted technical rules,
  - In case of detecting a defect, treatment and processing of the goods must be immediately stopped, and the goods should be made available to Balex Metal for inspection. On Balex Metal demand the Purchaser must deliver samples of goods complained.
6. Complaints concerning quantity, arising from faulty loading of the goods or complaints concerning visible physical defects occurring during the transport (crooked locks, mechanical damage to facing, abrasion and scratches on organic coating) should be lodged by the Purchaser in writing immediately after detecting them, not later than on the day of unloading the goods or day of giving the goods. Moreover, in case of complaints like those, the Purchaser must specify on the Expenditure (Give outside WZ) the damage of the purchased goods (notification of shortage or damage). The notification on the Expenditure (Give outside WZ) must be signed by the driver who delivered the goods or the person giving the goods on behalf of Balex Metal.
7. Complaints concerning visible physical defects (e.g. measurement discrepancies, quality of surface, bending, and dents) other than the ones specified in article 6, should be notified by the Purchaser in writing immediately after detecting them, not later than 14 days from the date of handing over the goods to the Purchaser and only if the goods were not subjected to processing.
8. Complaints about manufacturing defects (quality hidden defects) which detection despite a thorough checking of the goods was not possible, must be submitted to the Balex Metal in writing immediately after detecting them, but not later than 3 months from the date of handing the goods over the Purchaser. Lack of making a complaint within the time limit stipulated in the sales agreement and the GSC or failure of submitting the required documents results in losing the right to any claims to Balex Metal by the Purchaser.
9. The Purchaser is obliged to allow the Balex Metal to inspect the goods complained about, also to take the samples and make technical tests, on pain of losing the right to any claims against Balex Metal.
10. The costs of employing an expert will be paid by the party indicated by the expert as the one liable for the damage.
11. If the Purchaser's complaint is considered as accepted, Balex Metal reserves the right to choose the final method of adjusting the complaint, depending on the volume of damage and costs connected with it (repair, replacing the goods with the new ones, the ones free from defects or paying the damages specified by Balex Metal, subject to any possible guarantee entitlements to the contrary, if they were specified in the guarantee documents). If Balex Metal accepts a complaint but refuses to repair the goods, replace them with the ones free from defects or to pay damages, the Purchaser may demand to reduce the price of the purchase or renege on the agreement.
12. If the way of satisfying the claim chosen by Balex Metal was ineffective, the Purchaser may lodge the complaint again.
13. If the Purchaser makes it difficult or impossible to satisfy the claim in the way chosen by Balex Metal, the Purchaser loses any rights to claims against Balex Metal, and Balex Metal is especially free from any liability for the damage occurred due to the defects complained about.
14. Satisfying the Purchaser's claim in the aforementioned way excludes a possibility to demand other compensation for that reason in the future, especially a demand to repair the damage on general basis.
15. If Balex Metal recognizes the entitlement to replace the goods for the ones free from defects, the Purchaser is obliged without additional calls to first return the goods replaced. If the Purchaser does not return the goods within 14 days from the day of delivering them the decision on accepting the complaint, Balex Metal is entitled to abstain from performing the guarantee entitlement and to state that the replaced goods were sold as goods of inferior quality for the price reduced by 20% as compared to Balex Metal price list.
16. The Balex Metal is entitled to abstain from performing the Purchaser's claims until the Purchaser pays all the liabilities and performs all his or her other obligations to Balex Metal.
17. The Balex Metal is not liable for any indirect and consequential damage, business losses and missed benefits of the Purchaser, particularly for the damage caused by the loss of the designed facility or accompanying equipment, loss of interests, remuneration or profit. In each case the Balex Metal's liability is limited to the net price of the sold goods actually paid by the Purchaser.
18. The Purchaser loses any and all rights to claim damages against the Balex Metal, connected with purchasing the goods, if the Purchaser did not check the goods at the moment of receiving them or if he or she checked the goods and did not immediately notify the Balex Metal of detecting defects or irregularities. The entitlements are lost particularly in the situation when the Purchaser noticed the defects or irregularities and despite that fact mounted the goods.
19. All colours available in Balex Metal palette were classified on the basis of the relative lightness of the 3rd group. **Table 1** specifies which colours belong to which group.

Table 1.

Balex Metal color palette	
Symbol	Group
7047	very bright
9010	very bright
9002	very bright
7035	very bright
1015	very bright
7040	bright
6011	bright
9006	bright
9007	bright
5012	bright
1003	bright
1017	bright
7012	dark
9005	dark
5010	dark
6005	dark
6020	dark
7016	dark
7024	dark
8019	dark
8017	dark
8012	dark
8004	dark
3016	dark
3011	dark

20. The Balex Metal is not liable for sandwich panels in dark colours within the scope of physical defects resolving from thermal expansion, which means that especially those sheets, regardless of their length, are not covered by either a warranty or a guarantee.
21. For all sandwich panels in dark colours the designer is obliged to consider the effect of thermal load in the technical project (also while specifying the list of cuttings) and the way of their fixing, as well as to specify the length of elements.
22. As for the products which are zinc coated or produced from fire zinc coated steel, dark- and light-grey areas on the surface, slight unevenness of external surface, as well as white rust, if the zinc coat is still of minimal thickness, are not grounds for complaints.
23. Balex Metal is not liable for the damage which may arise during the transport (scratches, abrasion and other mechanical damage of organic coating) as concerns the goods produced from steel with coating of coarse grain mat type as well as Rustika and Malaga, if the Purchaser did not purchase from the Balex Metal protective foil intended for products like those.
24. Balex Metal is not liable for the damage which may occur as a result of the contact of organic coated steel with wet concrete or wood, plaster and soil.
25. Balex Metal is not responsible for the product labeled as a good of II species in terms of any physical defects, so, in particular, such product, regardless of its type and quantity, is not covered by the pledge, guarantee or other liability for non-performance or improper performance of the contract. The Purchaser purchase the goods of II species at its own risk, at the quality of the time of handing over, at the reduced price, without the right to any claims related to its quality, and at the moment of handing over the goods Purchaser declines to Balex Metal such claims in the future. In particular, the Purchaser is not entitled to a refund or reduction of the order, indemnification or reimbursement. Goods of II species may not meet the normal quality standards and there is no guarantee that they meet the standards adopted in the user country's terms of thickness of steel and foam. Goods of II species may have eg. some bumps, scratches, dents, paint defects or foam (including non color), deviations from the standards for data sizes and thicknesses, other features of the thickness of steel and foam, etc. Such deviations from accepted standards do not constitute defects of the product.



## § 10. Warranty and guarantee

1. According to the article number 558 of the Polish Civil Code, the warranty is excluded in relations between entrepreneurs, unless the parties decide otherwise or the damage is caused by wilful misconduct or gross negligence of Balex Metal. Entitlements base on warranty expire after 6 months from handing the goods over to the Purchaser.
2. The guarantee covers only the products for which a separate guarantee document was issued and submitted to the Purchaser. The Purchaser is not entitled to demand to issue a guarantee document.
3. Balex Metal reserves the right to modify technical parameters as concerns the data included in the descriptions in the prospectuses, drawings and other advertising materials in connection with modernising the product and increasing its usable value.
4. Balex Metal is bound by technical parameters after agreeing them expressly within the Purchaser in writing, which guarantees the properties of the goods sold.
5. Balex Metal assures that the delivered goods comply with the principles of modern technology, including the requirements specified by appropriate permits within that scope, as well as with contractual understandings with the Purchaser. Balex Metal also assures that the sold goods will be functioning faultlessly if they are used in compliance with their intended use in the ordinary Central European climate and atmospheric conditions, not subject to direct effect of marine waters and excessive UV radiation, free from effect of intense chemical compounds including atmospheric pollution. Referring to any values and sizes of the goods included in appropriate permits and agreements, the Purchaser should also consider the commonly accepted or specified by appropriate standard limits of acceptable deviations (tolerance), unless a written understanding say otherwise. The parties accept discrepancies in the shades of the goods colour which may appear in deliveries of individual batches of the goods separately or within diversified goods, as concerns the implementation date and thickness of sheets. Balex Metal is not responsible for the loss of color intensity of goods (discoloration), unless the Purchaser has been provided with an additional written guarantee as to the durability of the color during use.
6. Guarantee entitlements expire after 6 months from the day of handing the goods over to the Purchaser, unless the guarantee document stipulates otherwise. The guarantee is not prolonged in case of fixing of defects. A new guarantee may be issued and given for the products free from defects which replaced faulty products, and the period of such new guarantee will not be longer than the period of the original guarantee.

## § 11. Personal data protection

Personal data are processed by Balex Metal in accordance with the Regulation (EU) 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) and rules regarding the processing of personal data within the commercial relations established with Balex Metal are provided in a separate notice available at <https://balex.eu/ochronadanychosobowych>, as well as available in locations from Annex No. 1.

## § 12. Final provisions

1. All time limits provided for in the GSC and in the sales agreement are reserved to Balex Metal benefit.
2. To matters not regulated by these GSC, the provisions of the Polish Civil Code apply.
3. In case some provisions of GSC are not recognised due to introduction of different bill-regulated regulations, other provisions shall remain valid and effective.
4. Balex Metal reserves the right to use the information about the investment and/or about design works and/or practical works, conducted with the use of Balex Metal products or technology. The use of the information refers to marketing activities including in particular, giving information about such investment and/or works and to fix the investment and/or works in the form of a photograph or any other graphic form and to place them in all advertising materials of Balex Metal.
5. In case of any disputes arising from the fulfilment of the agreements covered by GSC, Balex Metal and the Purchaser shall make every effort to settle such disputes amicably. If the dispute can not be settled amicably, the case shall be decided by the court having jurisdiction over the registered office of Balex Metal.

Appendix 1 to General Sales Conditions – the list of locations where GSC are available

**REGISTERED OFFICE: BALEX Metal sp z o.o., ul.Wejherowska 12C, 84-239 Bolszewo, Poland**

OFFICE/LOCATION	ADDRESS	TEL.
CZECH REPUBLIC BALEX METAL S.R.O.	Važni 1097, Hradec Kralove, 500-11	+420 495 543 267
LATVIA SIA BALEX METAL	Mūkusalas iela 72, Riga, LV-1004 Liepnieku 10, Brocēni, LV-3851	+371 27 300 500 +371 27 300 500
LITHUANIA UAB BALEX METAL	Lentvario g.1, Vilnius, LT-02300	+370 5 273 02 99
SLOVAKIA BALEX METAL a.s.	Žilinská cesta 504/94 Lietavská Lúčka, 013 11	+421 41 507 40 01

#### BRANCH OFFICES IN POLAND

OFFICE/LOCATION	ADDRESS	TEL.
BOLSZEWO HEADQUARTERS	ul. Wejherowska 12C, 84-239 Bolszewo	+48 58 778 44 44
WROCŁAW DŁUGOŁĘKA	ul. Wrocławska 42, 55-095 Długołęka	+48 71 315 16 11 +48 538 818 430 +48 600 263 053
TOMASZÓW MAZOWIECKI	ul. Spalska 143/147, 97-200 Tomaszów Mazowiecki	+48 44 618 22 22 +48 696 030 424 +48 539 675 045
PUSTKÓW	Pustków 363C, 39-205 Pustków	+48 14 634 84 44

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# SLOPING ROOF CONFIGURATOR

CALCULATE IN 3 MINUTES  
MATERIALS NEEDED FOR THE ROOF

On the [balex.eu](https://www.balex.eu) website , we have prepared for you a quick and easy-to-use tool for calculating the amount of materials needed to make a roof, from the type of covering to the screws.

You don't have to be a roofer to use the application - just provide the basic parameters of the building and the calculation will be ready for download.

## The tool will generate for you:

- dimensioned drawing of the roof
- list of needed materials, including: covering area, membrane, number of screws and necessary installation accessories
- surface of the thermal insulating layer, in a single or double layer system



THE APPLICATION IS FREE  
AND DOES NOT REQUIRE INSTALLATION.  
YOU CAN DO EVERYTHING ONLINE.

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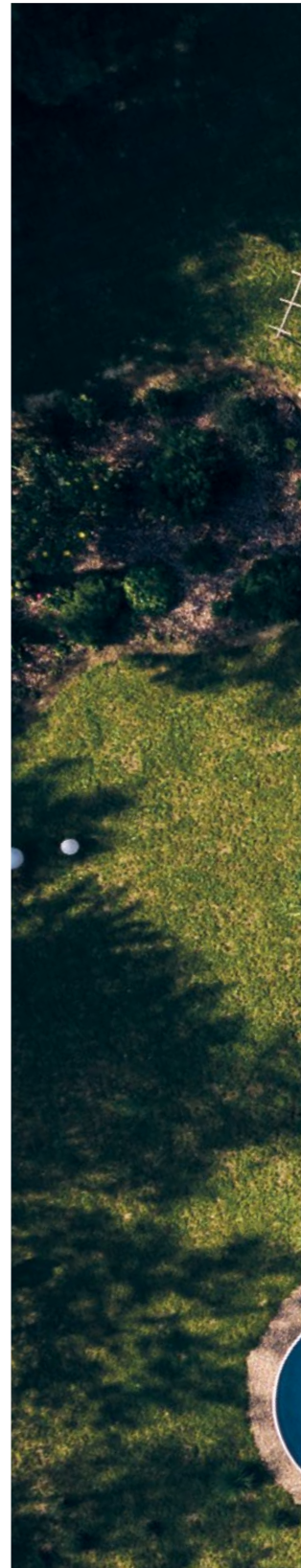
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# CHECK THE ROOF SLOPE LENGTH FACTOR

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







CONTENT

1  
THERMAL  
INSULATION  
THERMANO

2  
SANDWICH  
PANELS

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BOX PROFILE  
SHEETS

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ROOFING  
SOLUTIONS

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ROOF & WALL  
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ROOF  
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7  
COLD-FORMED  
PROFILES

8  
FACADE  
CLADDING

9  
OTHER



# WARRANTY

COATING	WARRANTY				PERMISSIBLE CORROSIVENESS OF THE EXTERNAL ENVIRONMENT
	BASIC		EXTENDED		
	technical	aesthetic	technical	aesthetic	
SP POLYESTER GLOSS 25 µm	 <b>10 YEARS</b>	 <b>5 YEARS</b>	 <b>25 YEARS</b>	 <b>5 YEARS</b>	C3
SP POLYESTER MAT 35 µm	 <b>15 YEARS</b>	 <b>5 YEARS</b>	 <b>35 YEARS</b>	 <b>10 YEARS</b>	C4
CESAR 55	 <b>20 YEARS</b>	 <b>10 YEARS</b>	 <b>55 YEARS</b>	 <b>20 YEARS</b>	C5

The warranty covers profiled sheet products such as Panorama, Astra, Elipsa, Spektrum, Horizont, Elegant 2.0 roof tiles, Box profile sheets and the ZENIT gutter system.



TERMS OF WARRANTY

# CLADDING PROFILE TYPES

## SANDWICH PANELS

**T** Box profile



**L** Lined



**M** Micro-profile



**R** Grooved



**S** Softline



**G** Plain\*



**1L** Clearline\*



**2L** Double Clearline\*



## ELEGANT 2.0 CLICK PANEL

**L** Lined



**M** Micro-profile



**R** Grooved



**G** Plain



\* Thickness 0,5 mm in G/1L/2L profiling requires the Customer to sign a declaration accepting the possibility of a visible deviation from flatness, being within the permissible tolerance of up to 0,6 mm/200 mm in accordance with the EN:14509 standard. It is not possible to make the cladding in stainless steel.

CONTENT

1

THERMAL INSULATION THERMANO

2

SANDWICH PANELS

3

BOX PROFILE SHEETS

4

ROOFING SOLUTIONS

5

ROOF & WALL CLADDING ACCESSORIES

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ROOF GUTTERS

7

COLD-FORMED PROFILES

8

FACADE CLADDING

9

OTHER

# PARAMETERS OF BALEX METAL PANELS

	Panel length		Panel side	Cladding thickness [mm]				Profiling									
	minimum [mm]	maximum [mm]		0,4	0,5	0,6	0,7	T	L	M	R	S	G	1L	2L		
<b>PIR STANDARD</b> roof sandwich panel	2500	16000 (th. 40) 17000 (th. 60) 18000 (th. 80-160)	outer														
			inner														
<b>PIR FIBER</b>	2500	10000	outer														
			inner	Fiberglass													
<b>PIR ALU</b>	2500	10000	outer														
			inner	Thick, corrugated aluminum foil													
<b>MW ROOF</b> sandwich panel	2500	15000	outer														
			inner														
<b>PIR SLATE</b> sandwich panel	3000	10000	outer					Slate panel									
			inner														
<b>PIR STANDARD</b> sandwich panel	2000	18000	outer														
			inner														
<b>PIR PLUS</b> sandwich panel	2000	18000	outer						1000		1050						
			inner														
<b>PIR LIGHT</b> sandwich panel	2500	18000	outer														
			inner														
<b>PIR FROST</b> sandwich panel	2000	18000	outer														
			inner														
<b>MW FIRE</b> sandwich panel	2500	12000 (th. 100) 15000 (other panels)	outer														
			inner														
<b>MW STANDARD</b> sandwich panel	2500	10000 (th. 80) 12000 (th. 100) 15000 (other panels)	outer														
			inner														
<b>MW PLUS</b> sandwich panel	2500	10000 (th. 80) 12000 (th. 100) 15000 (other panels)	outer								1050						
			inner														
<b>MW LIGHT</b> sandwich panel	2500	15000	outer														
			inner														
<b>MW DEFENDER</b> sandwich panel	2500	15000	outer														
			inner														



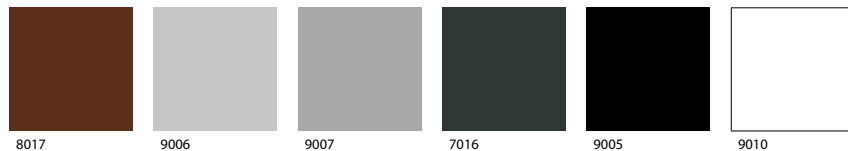


# COLOR PALETTE

## STANDARD COLORS

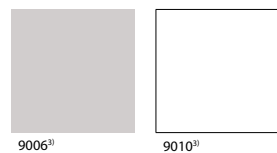
### PREMIUM COATINGS

#### CESAR 55<sup>®</sup> Semi-Mat



### ORGANIC COATINGS

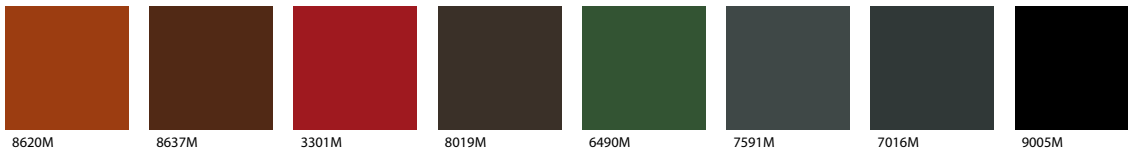
#### SP Polyester Gloss 15 µm



#### SP Polyester Gloss 25 µm



### SP Polyester Mat 35 µm



### PVC(F) „Food Safe” Metallic coats

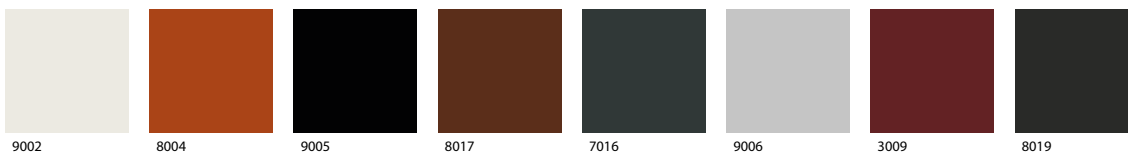


### Other

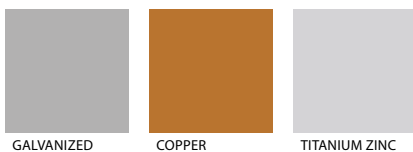


### ZENIT GUTTER COLOURS

#### CESAR 35

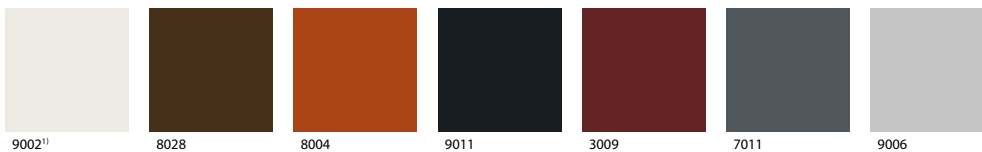


#### Metallic coatings



### WIJO GUTTER COLOURS

#### Prelaq Nova (HBP 35µm)



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  
3) Also available with 0,40 mm thick sheet metal;



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