

GORLICKA CH / GORLICKA CH GS-PIR

COLDSTORE CATALOGUE



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INTRODUCTION

This publication is intended to present an assortment and technical properties of **GORLICKA** panels to our customers. With over 12 years of experience and extensive knowledge we perfectly know the needs of the market. As a result, we create products and solutions that give our customers real benefits.

ABOUT THE COMPANY

Gór-Stal is a Polish company founded in 2003. It had originally produced and sold finished steel construction elements. The increase in demand for building materials for light industrial facilities forced co-owners to buy the line for the production of sandwich panels with a polyurethane core. It is one of the most modern and technologically advanced production lines in Europe. Gór-Stal manufactures sandwich panels and termPIR insulating panels. Sandwich panels are commonly used building materials for light cladding of industrial halls, warehouses, production halls and commercial buildings, offices, administrative buildings, freezers and cold storages. Since the beginning of the company's operation it has rapidly developed and extensively expanded its operations both geographically and in terms of product offerings. Gór-Stal is recognized by customers in Poland, Czech Republic, Austria, Romania, Belgium, the Netherlands, Luxembourg, Great Britain, France, Germany, Estonia and the Nordic countries, Slovakia, Hungary, Ukraine, Lithuania and Latvia. We currently have two factories, one in Gorlice and the other in Bochnia, where we manufacture termPIR insulation panels.

ABOUT THE PRODUCT

Gór-Stal offers a wide range of modern wall, roof and cooling sandwich panels with **polyurethane (PUR)** or **polyisocyanurate (PIR)** core. **GORLICKA** sandwich panels consist of two steel claddings and a structural insulation core of rigid, HCFC-free self-extinguishing PUR or PIR foam with very good thermal insulation. When building with composite panels, you can create an object with excellent insulation properties, with a significant reduction in the thickness and weight. Speed and ease of installation, possibility of carrying out the work even in difficult weather conditions, low cost of implementation and ease of wall cleaning, modernity and versatility of the system make **GORLICKA** composite panels the best building material. A wide range of colors and varied shape of panels profiles allow for the implementation of ambitious architectural projects. Gór-Stal owes its leader position in the production of sandwich panels to high technological advancement of production lines, well-qualified team of employees and special attention to the quality of the products.

STRUCTURE OF PANELS

GORLICKA sandwich panels have two types of cores of **polyurethane (PUR)** or **polyisocyanurate (PIR)** foam with a density of $40 \pm 3 \text{m}^3$. The heat conductivity calculation value of the foam is: $\lambda = 0.022 \text{ W/m}^{\circ}\text{K}$. Bonds in PUR foams disintegrate at temperatures **above 200 °C**, and carbonization during burning is approximately **20%**. PIR foams are characterized by an increased resistance to high temperatures. Isocyanurate structures of PIR foams decompose at temperatures **above 325 °C**, and carbonization is approximately **50%**. The carbonized layer protects against heat transition through the panel, which in turn provides an effective protection against fire. Sheet metal grade **S220-S280GD DIN EN 10346** galvanized on both sides with the organic polyester lacquer with a film thickness of **25 microns** is used as cladding of **GORLICKA** sandwich panels. Due to the increased anticorrosion requirements, it is possible to make panels with metal plate dedicated for environments **C4** and **C5**, and the prevailing aggressive environments inside the buildings. It is possible to use stainless steel **1.4301** coating. Panels are protected against mechanical damage that may occur during transport or installation with a protective foil.

CERTIFICATES

GORLICKA sandwich panel have the following certificates and technical approvals:

- Quality Management System certificate **ISO 9001: 2009**;
- CE declaration of conformity in accordance with **EN 14509: 2013 - GORLICKA** sandwich panels with a core of rigid **polyurethane (PUR)** or **polyisocyanurate** foam in sheet metal facing;
- **Declaration of Performance** in accordance with Regulation (EU) **No. 305/2011 CE**;
- **Hygienic Approval No. HK/B/0250/01/2012** - allowing for use in service, commercial, industrial, food processing, refrigeration facilities, residential and public buildings, including health service.

PRODUCTION PROGRAMME

The production program for **GORLICKA** sandwich panel systems includes the following items:

Wall sandwich panels:

GORLICKA S / GORLICKA S GS-PIR – (standard cam-lock) – thickness: 40, 60, 80 and 100 mm;

GORLICKA U / GORLICKA U GS-PIR – (hidden cam-lock) – thickness: 60, 80, 100 and 120 mm

Roof sandwich panels:

GORLICKA D / GORLICKA D GS-PIR – (roof cam-lock) – thickness: 40, 60, 80, 100, 120 and 160 mm;

Coldstore panels:

GORLICKA CH / GORLICKA CH GS-PIR – (cold storage cam-lock) – thickness: 100, 120, 160 and 200 mm;

Flashings: typical and custom made according to the client's design with a maximum length of 6m. This publication provides detailed characteristics of cold store panels.

GUIDELINES FOR TRANSPORT

GORLICKA sandwich panels are packed in batches. Loading and unloading of the batches may be done by means of forklift trucks or a lift equipped with an appropriate bar lifting sling, however:

- one forklift can be used to transport batches up to **8 m** long. Longer panels shall be unloaded with two forklifts. The space between supports of the transported batch may not exceed 4 m.
- for unloading with a lift equipped with rope slings use spacers preventing the panels from being squeezed.

The transportation of sandwich panels shall be carried out by vehicles adapted for that purpose, while maintaining the following conditions:

- free access on both sides of the trailer along its entire length.
- up to 2 batches of panels in one stake.
- the width of the loading area: minimum 2450 mm (in case of 2 stakes of panel).
- support for the batch provided on the entire length of the load-carrying body.
- panels may not contact one another, the load-carrying body or the transportation belts.
- the vehicle must be equipped with load fixing belts; flexible separators shall be placed under the belts. Tensioned belts must not deform the panels.
- Plates indicating the number of panels in a batch are available in the technical specification of specific panels.

GUIDELINES FOR MOUNTING

The manufacturer of **GORLICKA** sandwich panels recommends using flashings and cam-locks supplied with the panel as part of the **GORLICKA** panels light housing system.

When mounting the panels, follow the guidelines provided below:

- cut the plates and flashings with a fine-toothed sawing machine or tinman's shears – do not use cut-off wheels!
- cut the panels and flashings at a properly prepared station in order not to damage the lacquer and tin coatings.
- remove the protection foil after the panels have been installed, but not later than 3 months after purchase.
- after installation thoroughly clean the surface of the panels, particularly off steel filings.

Typical panel mounting solutions are presented farther in this publication.

TECHNICAL SUPPORT

We pay great importance to friendly and professional service to our customers. Technical department and sales representatives provide assistance for designers, engineers and contractors in the designing, ordering and advising on the application of our products and their installation. Customers are offered active support from the design stage to installation. We provide instant technical advice and cost calculation. The process of ordering and delivery is coordinated by our **Customer Service Department**. For more information visit our website www.gor-stal.pl

APPLICATION

GORLICKA CH / GORLICKA CH GS-PIR coldstore panel is intended to build the walls and ceilings in rooms with low temperature or in cold storage ($t > 0\text{ }^{\circ}\text{C}$) and freezers ($t < 0\text{ }^{\circ}\text{C}$), and other facilities

with controlled temperature and humidity. Panels can be used to erect freestanding objects and cold rooms or freezers inside existing buildings. Panels can be assembled both vertical and horizontal, as single and multi-span elements.

PHYSICAL PROPERTIES

GORLICKA CH / GORLICKA CH GS-PIR coldstore panel is produced in the four **thicknesses** of the core **100, 120, 160 and 200 mm**. The cladding layer is made of sheet steel with a thickness of **0.40 to 0.70 mm** galvanized on both sides with an organic polyester lacquer coating with a thickness of **25 μm** . Thermal insulation **core** of the panels is a rigid **polyurethane (PUR)** or **polyisocyanurate (PIR)** foam with a thickness of **40 \pm 3 m^3** . The heat conductivity calculation value of the foam is: $\lambda = 0.022\text{ W/m}\cdot\text{K}$. Bonds in **PUR** foams disintegrate at temperatures **above 200 $^{\circ}\text{C}$** , and carbonization during burning is approximately **20%**. **PIR** foams are characterized by an increased resistance to high temperatures. Isocyanurate structures of **PIR** foams decompose at temperatures **above 325 $^{\circ}\text{C}$** , and carbonization is **approximately 50%**. Modular **width** of plates is **1000 mm** or **1140 mm**. The standard panel **length** is between **2.0 to 12 m**. On special request we deliver panels shorter than **2 m** and longer than **12 m**, with a maximum length of **16.5 meters**.

Thickness [mm]	Weight [kg/m ²]	Modular width [mm]	Length: typical/available [m]	Lining standard RAL colours
100	12,70	1000 1140 - for L,M and F panel lining	2,0 - 12,0 / 16,5	9002 9006 9010
120	13,30			
160	14,90			
200	16,50			

Thermal insulation of panels depends on the thickness of the core characterized by **Uc** thermal coefficient, taking into account the impact of linear thermal bridge appearing on panel joint and point thermal bridge appearing because of connectors. **Acoustic parameters** were determined on the basis of **EN ISO 10140-3**. Coldstore plates can be used as partitions of the requirements of sound insulation no greater than those specified below. **Resistance to chemical corrosion** - **GORLICKA** sandwich panels can be used in environments with atmosphere corrosiveness category **C1, C2, C3** according to **EN ISO 12944-2**.

TECHNICAL PARAMETERS OF PUR CORE

Thickness [mm]	Heat-transfer coefficient U [W/m ² ·K]	Acoustic insulation	Reaction to fire	Fire resistance	NRO
	PN-EN 14509				
100	0,22	R _w = 23 dB R _{a1} = 21 dB R _{a2} = 19 dB	B-s2,d0	NPD	„NRO”
120	0,18			EI20*, E60/EI15/EW60	
160	0,14			Conditions by classification	
200	0,11				

* for internal walls

TECHNICAL PARAMETERS OF PIR CORE

Thickness [mm]	Heat-transfer coefficient U [W/m ² ·K]	Acoustic insulation	Reaction to fire	Fire resistance	NRO
	PN-EN 14509				
100	0,22	R _w = 23 dB R _{a1} = 21 dB R _{a2} = 20 dB	B-s1,d0	EI30*, EI15/E30 Conditions by classification	„NRO”
120	0,18				
160	0,14				
200	0,11				

* connection bolts every 300 mm

PANEL THICKNESS SELECTION

Panel thickness suitable for the facility is chosen by the designer depending on the temperature difference inside and outside the room.

The following table shows the values of heat flux for each **GORLICKA** panel.

The recommended maximum heat flux density value for cold storage is **10 W/m²**

An example of panel selection:

Internal temperature: **-15 °C**

External temperature: **+35 °C**

$$\Delta t = 50 \text{ °C}$$

Panel suitable for covering an object with an internal temperature of **-15 °C** is **GORLICKA CH / GORLICKA CH GS-PIR** with a thickness of **120 mm**, for which the heat flux density is **9.24 W/m²**.

Temperature difference Δt [°C]	Panel type and thickness [mm]					
	Wall panel GORLICKA S / GORLICKA S GS-PIR			Cold store panel GORLICKA CH / GORLICKA CH GS-PIR		
	60	80	100	120	160	200
Heat flux density [W/m ²]						
10	3,73	2,78	2,22	1,85	1,38	1,11
15	5,59	4,18	3,33	2,77	2,08	1,66
20	7,46	5,57	4,44	3,70	2,77	2,21
25	9,32	6,96	5,56	4,62	3,46	2,76
30	11,19	8,35	6,67	5,55	4,15	3,32
35	13,05	9,75	7,78	6,47	4,84	3,87
40	14,92	11,14	8,89	7,39	5,53	4,42
45	16,78	12,53	10,00	8,32	6,23	4,97
50	18,64	13,92	11,11	9,24	6,92	5,53
55	20,51	15,32	12,22	10,17	7,61	6,08
60	22,37	16,71	13,33	11,09	8,30	6,63
65	24,24	18,10	14,44	12,02	8,99	7,19
70	26,10	19,49	15,56	12,94	9,69	7,74
75	27,97	20,89	16,67	13,87	10,38	8,29
80	29,83	22,28	17,78	14,79	11,07	8,84
85	31,69	23,67	18,89	15,71	11,76	9,40
90	33,56	25,06	20,00	16,64	12,45	9,95
95	35,42	26,46	21,11	17,56	13,14	10,50

PACKING AND SHIPPING

GORLICKA sandwich panels are packed in packages on pallets to allow their transport. A typical height of such package is **1,000 mm** to **1,120 mm**. The number of panels in each package depends on their thickness. Details in the table below.

Panel thickness [mm]	100	120	160	200
Maximum number of panels in one	11	9	7	5

LOAD SPAN TABLES FOR GORLICKA CH

Load capacity tables were developed in accordance with PN-EN 1450 for light-coloured linings. The adopted deflection limit is L/100. The minimum support width is 40/60 mm. The number of joining elements on intermediate supports – 4, on extreme supports – 3. It is necessary to make separate calculations for any other conditions. The detailed load tables are available in a separate document and on the website.

Table of maximum permissible loads for GORLICKA CH in a single span, in support direction (pressure)

Panel thickness	Internal temperature [°C]	The load due to:	The maximum load [kN/m ²] on the span length [m]:									
			1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0
100	20	SGN (q _d)	7,617	5,673	4,520	3,756	2,849	2,175	1,714	1,386	1,143	0,959
		SGU (q _k)	9,695	7,222	5,751	4,426	3,239	2,472	1,949	1,575	1,300	1,091
120	0	SGN (q _d)	7,631	5,684	4,528	3,763	3,219	2,543	2,005	1,621	1,337	1,122
		SGU (q _k)	9,713	7,235	5,764	4,790	3,787	2,891	2,279	1,842	1,520	1,276
160	-15	SGN (q _d)	7,631	5,684	4,528	3,763	3,219	2,812	2,497	2,164	1,785	1,498
		SGU (q _k)	9,713	7,235	5,764	4,790	4,098	3,580	3,042	2,459	2,029	1,709
200	-25	SGN (q _d)	7,631	5,684	4,528	3,763	3,219	2,812	2,497	2,145	1,770	1,485
		SGU (q _k)	9,713	7,235	5,764	4,790	4,098	3,580	3,016	2,439	2,012	1,689

Table of maximum permissible loads for GORLICKA CH in a single span, in non-support direction (suction)

Panel thickness	Internal temperature [°C]	The load due to:	The maximum load [kN/m ²] on the span length [m]:									
			1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0
100	20	SGN (q _d)	4,232	3,152	2,511	2,086	1,785	1,559	1,384	1,245	1,130	0,595
		SGU (q _k)	3,369	2,509	1,999	1,661	1,421	1,241	1,102	0,991	0,900	0,825
120	0	SGN (q _d)	4,232	3,152	2,511	2,086	1,785	1,559	1,384	1,245	1,130	1,035
160	-15	SGU (q _k)	3,369	2,509	1,999	1,661	1,421	1,241	1,102	0,991	0,900	0,825
200	-25	SGN (q _d)	4,232	3,152	2,511	2,086	1,785	1,559	1,384	1,245	1,130	1,035
		SGU (q _k)	3,369	2,509	1,999	1,661	1,421	1,241	1,102	0,991	0,900	0,825

Table of maximum permissible loads for GORLICKA CH in a multiple span, in support direction (pressure)

Panel thickness	Internal temperature [°C]	The load due to:	The maximum load [kN/m ²] on the span length [m]:									
			1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0
100	20	SGN (q _d)	7,617	5,673	4,520	3,756	2,849	2,175	1,714	1,386	1,143	0,959
		SGU (q _k)	9,695	7,222	5,751	4,426	3,239	2,472	1,949	1,575	1,300	1,091
120	0	SGN (q _d)	6,028	4,436	3,504	2,898	2,472	1,741	1,285	0,985	0,778	0,630
		SGU (q _k)	7,794	5,718	4,513	3,728	3,177	2,768	2,398	1,894	1,536	1,271
160	-15	SGN (q _d)	4,546	3,380	3,030	2,814	2,021	1,227	0,775	0,506	0,339	0,232
		SGU (q _k)	7,926	5,811	4,578	3,775	3,212	2,795	2,475	2,220	2,014	1,717
200	-25	SGN (q _d)	2,420	1,431	1,330	0,022	-	-	-	-	-	-
		SGU (q _k)	7,788	5,872	4,638	3,821	-	-	-	-	-	-

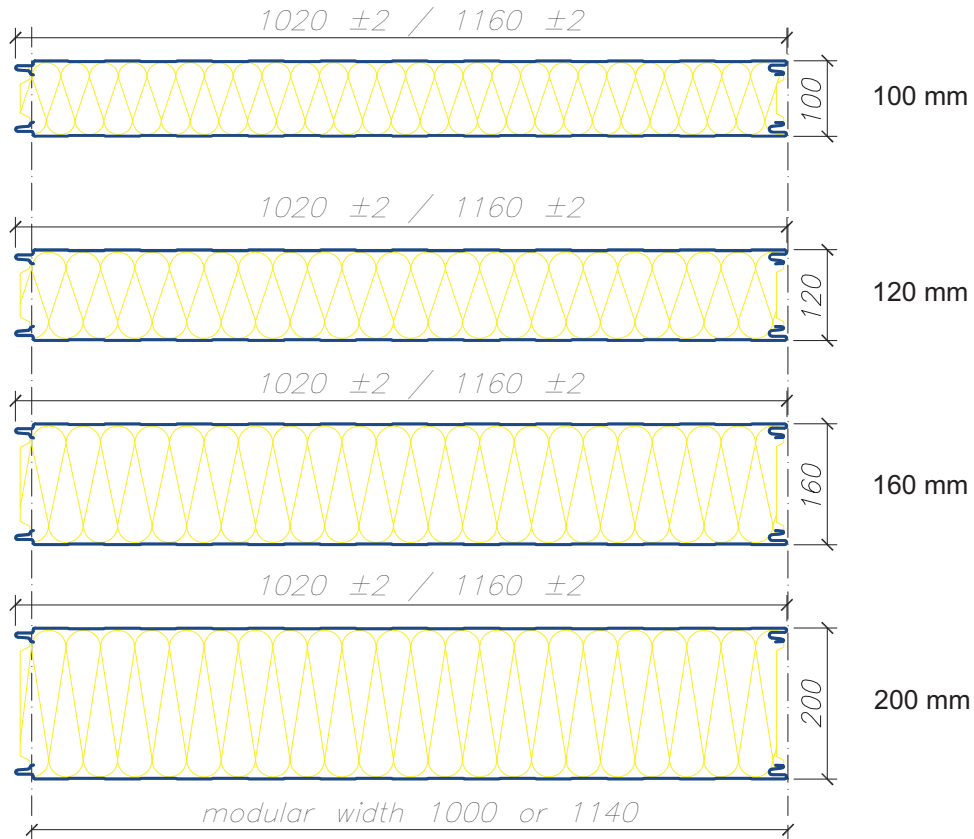
Table of maximum permissible loads for GORLICKA CH in a multiple span, in non-support direction (suction)

Panel thickness	Internal temperature [°C]	The load due to:	The maximum load [kN/m ²] on the span length [m]:									
			1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0
100	20	SGN (q _d)	4,232	3,152	2,511	2,086	1,785	1,559	1,384	1,245	1,130	0,959
		SGU (q _k)	3,369	2,509	1,999	1,661	1,421	1,241	1,102	0,991	0,900	0,825
120	0	SGN (q _d)	2,241	1,654	1,325	1,114	0,964	0,656	0,408	0,265	0,179	0,125
		SGU (q _k)	1,885	1,389	1,109	0,929	0,802	0,706	0,632	0,572	0,523	0,481
160	-15	SGN (q _d)	2,044	1,490	1,194	1,008	0,246	-	-	-	-	-
		SGU (q _k)	1,756	1,282	1,023	0,859	0,745	-	-	-	-	-
200	-25	SGN (q _d)	1,887	1,351	1,075	0,862	-	-	-	-	-	-
		SGU (q _k)	1,653	1,190	0,945	0,794	-	-	-	-	-	-

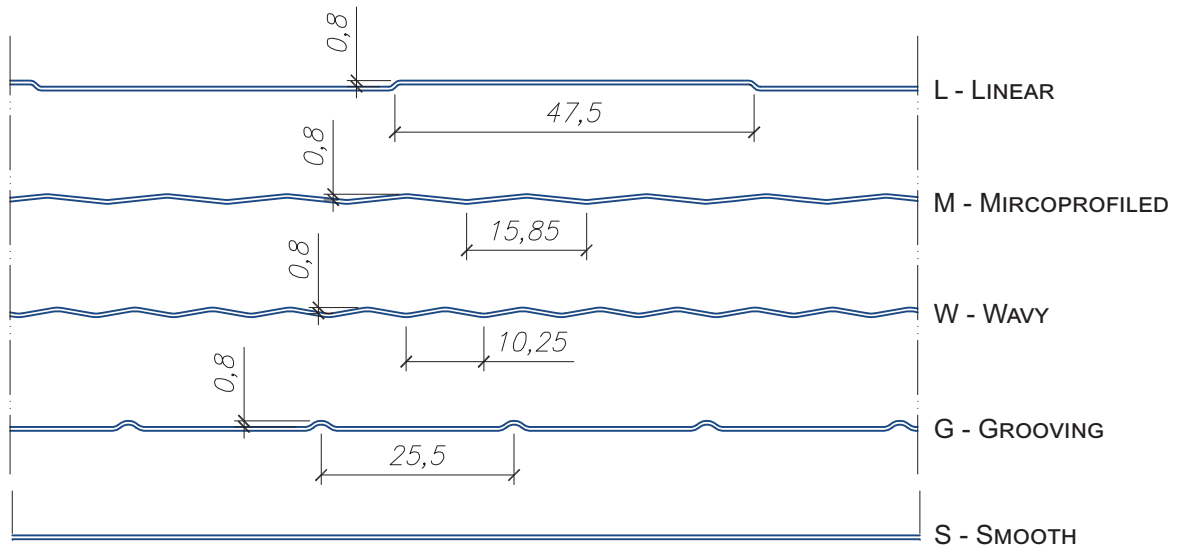
Production programme of panels **Gorlicka CH / Gorlicka CH GS-PIR:**
 Panel thickness
 External and internal lining profiles

Scale
1:10
1:1

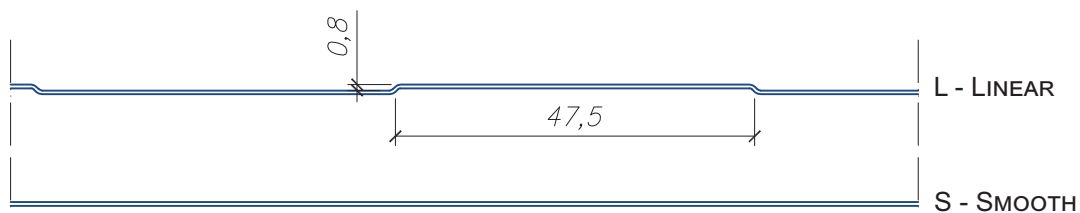
Panel thickness



External lining profiles



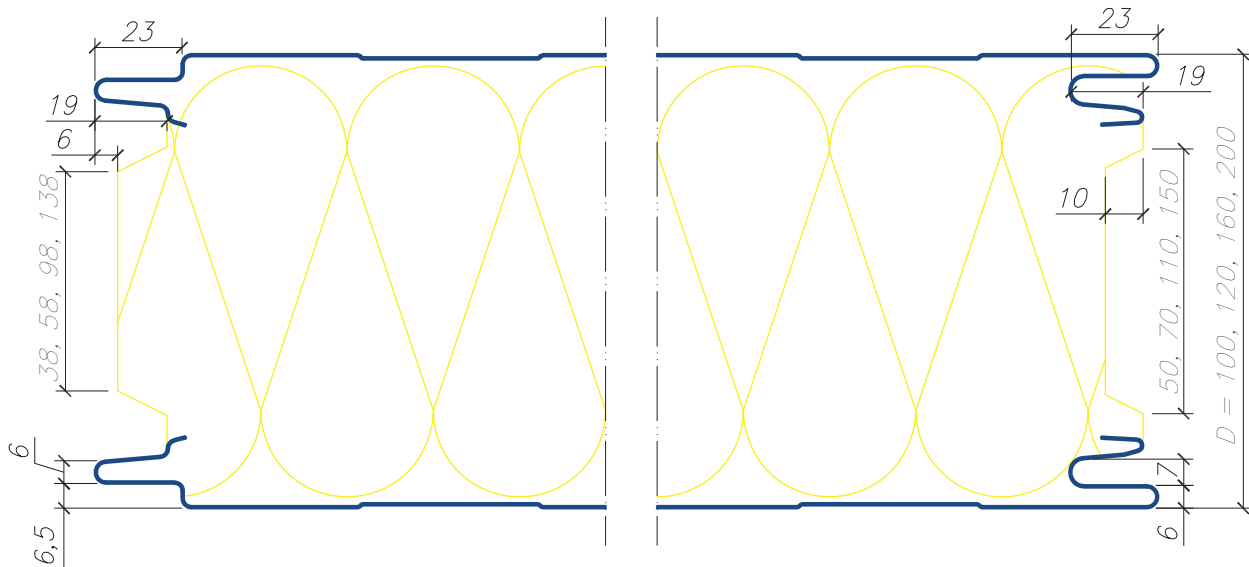
Internal lining profiles



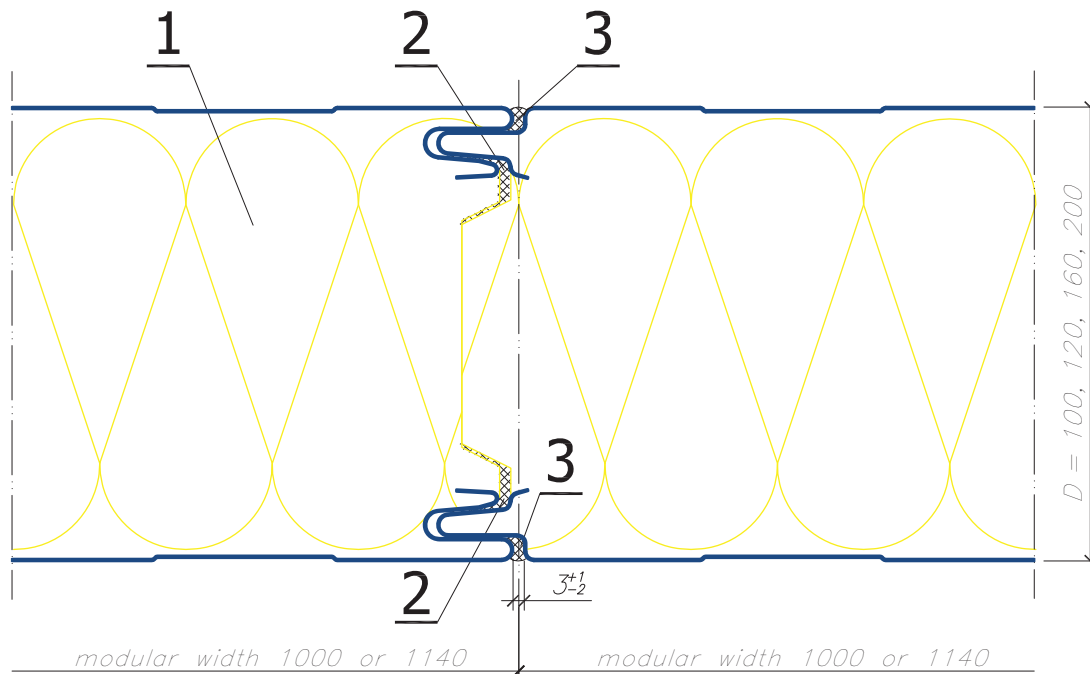
Example details of cooling and production rooms constructed with sandwich panels GORLICKA CH / GORLICKA CH GS-PIR

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Mounting the cold store door. Horizontal cross-section	19
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Shape of the coldstore panel lock

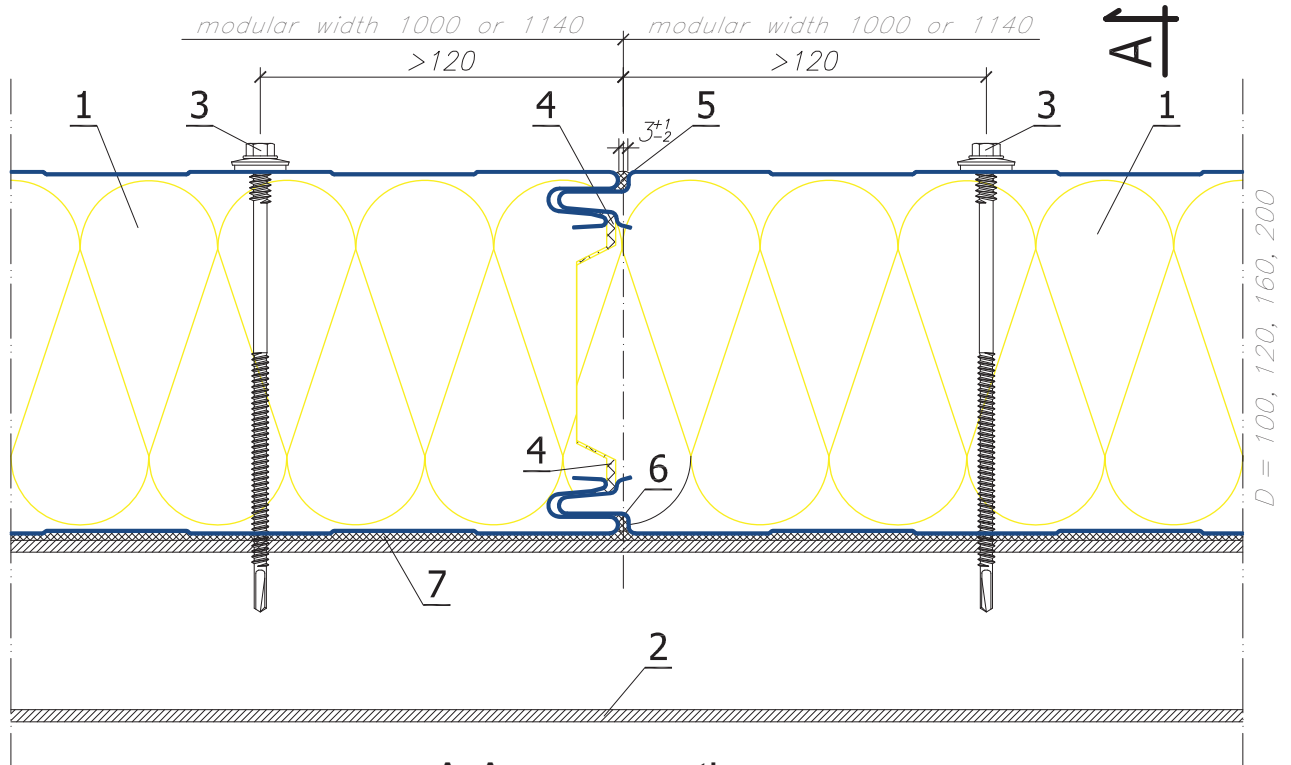


Joining the coldstore panels

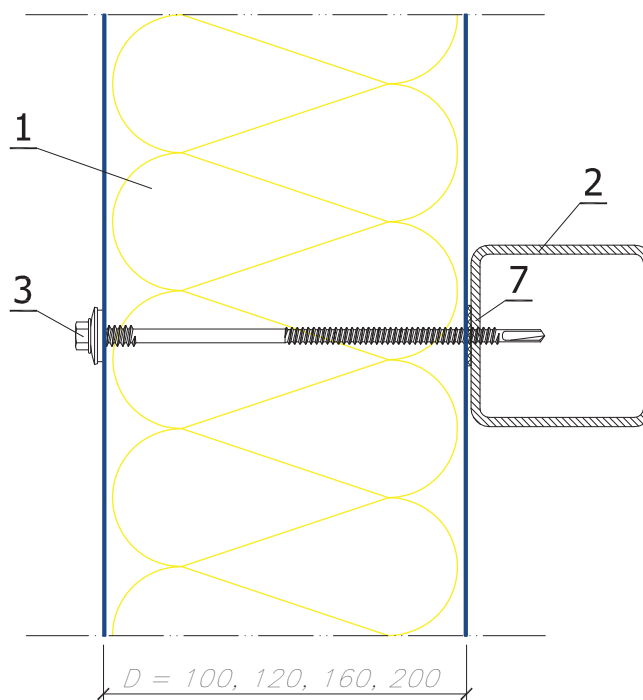


LEGEND:

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Polyurethane mounting foam (applied during installation)
3. Plastic



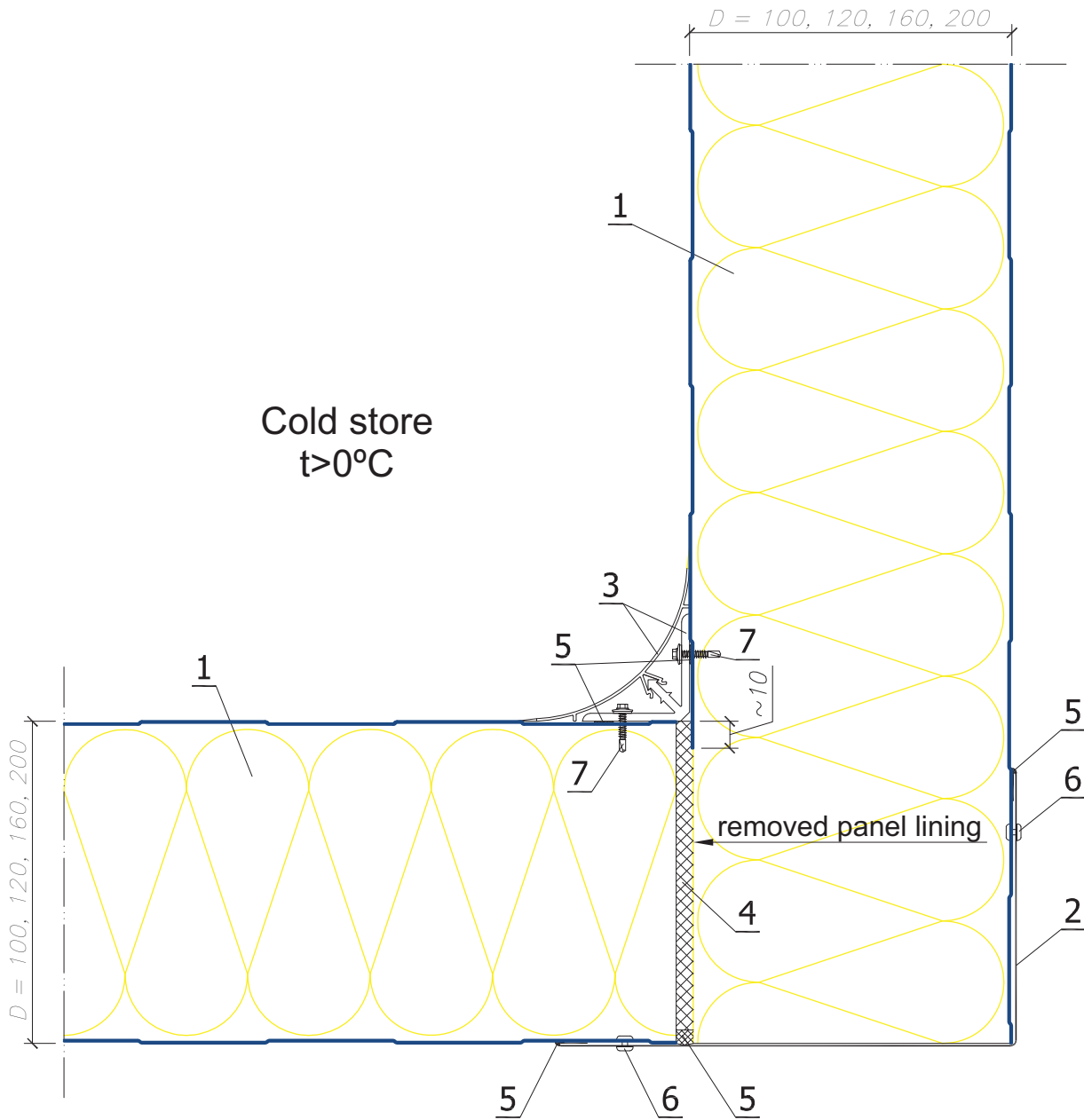
A-A cross-section



LEGENDA:

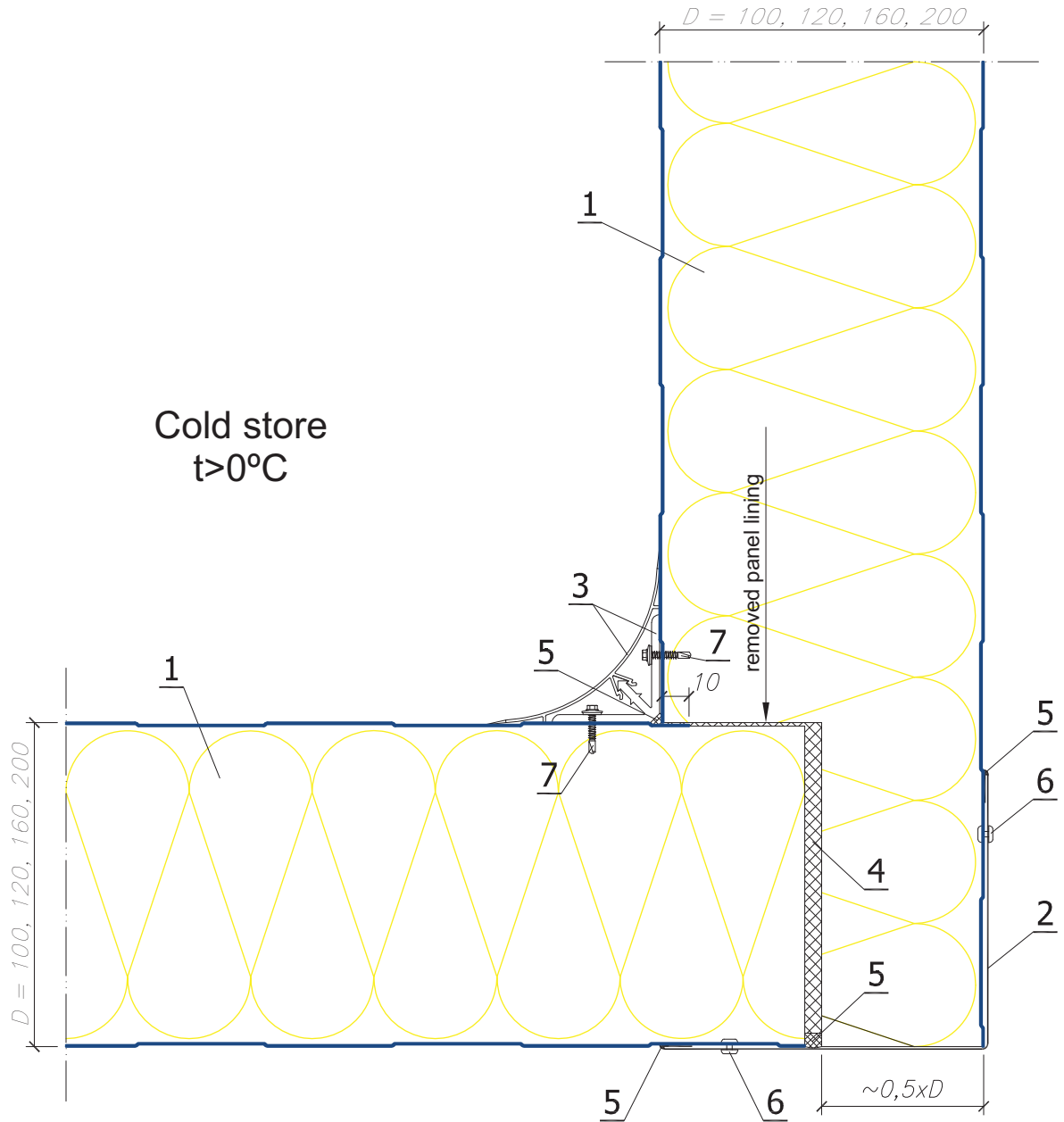
1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Support
3. Stainless steel self-drilling fastener for mounting sandwich panels
4. Polyurethane mounting foam
5. Sealing plastic
6. Sealing plastic (with increased tightness requirements)
7. Self-adhesive sealing polyethylene tape (**PES**)

NOTE: Each panel shall be fixed by its width to the construction with at least two joints

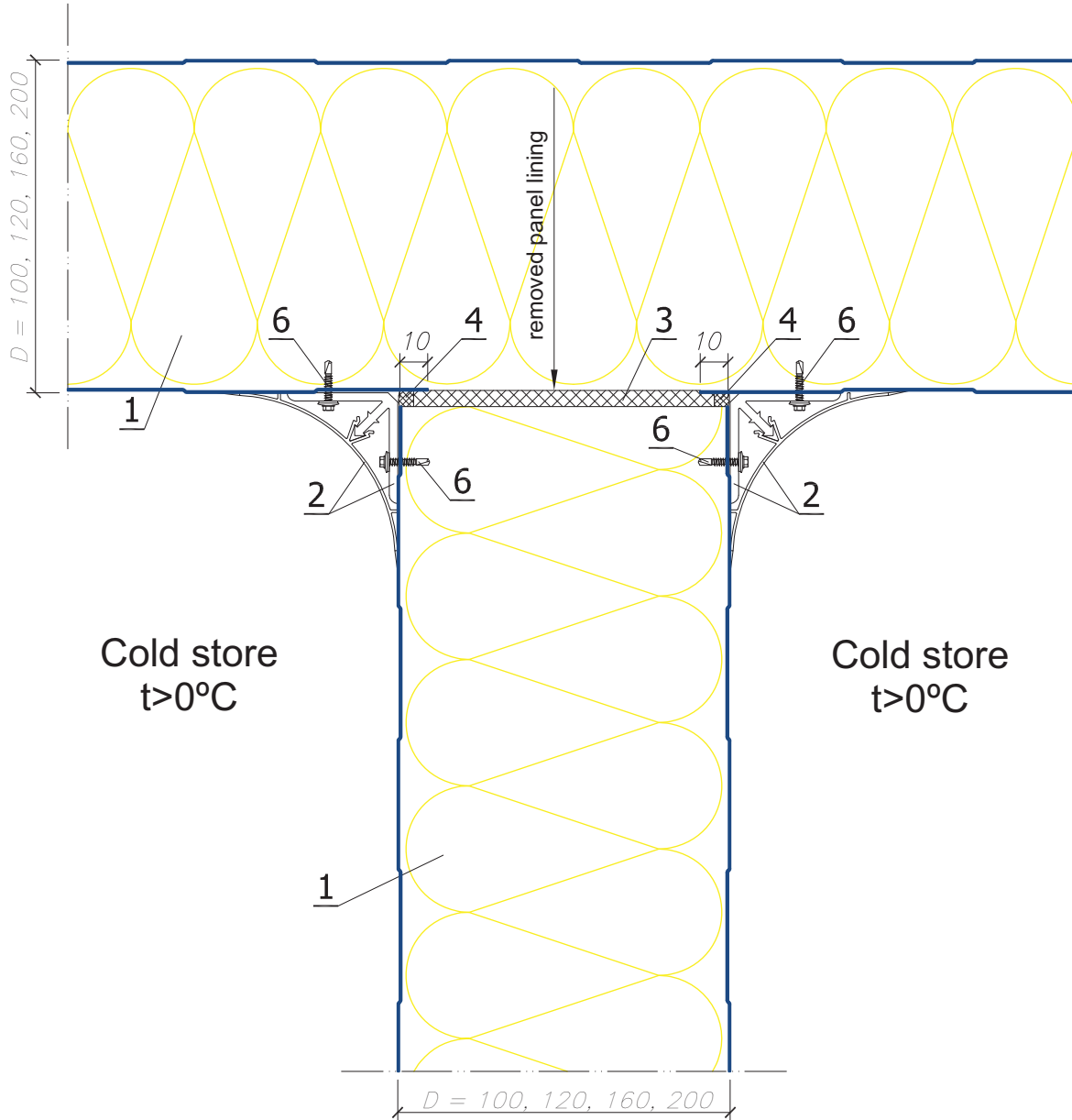


LEGEND:

- 1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
- 2. Masking flashing
- 3. PVC corner profile
- 4. Polyurethane mounting foam
- 5. Sealing plastic
- 6. One-side rivet **4.8 x 9.5**
- 7. Self-drilling stainless fastener with seal

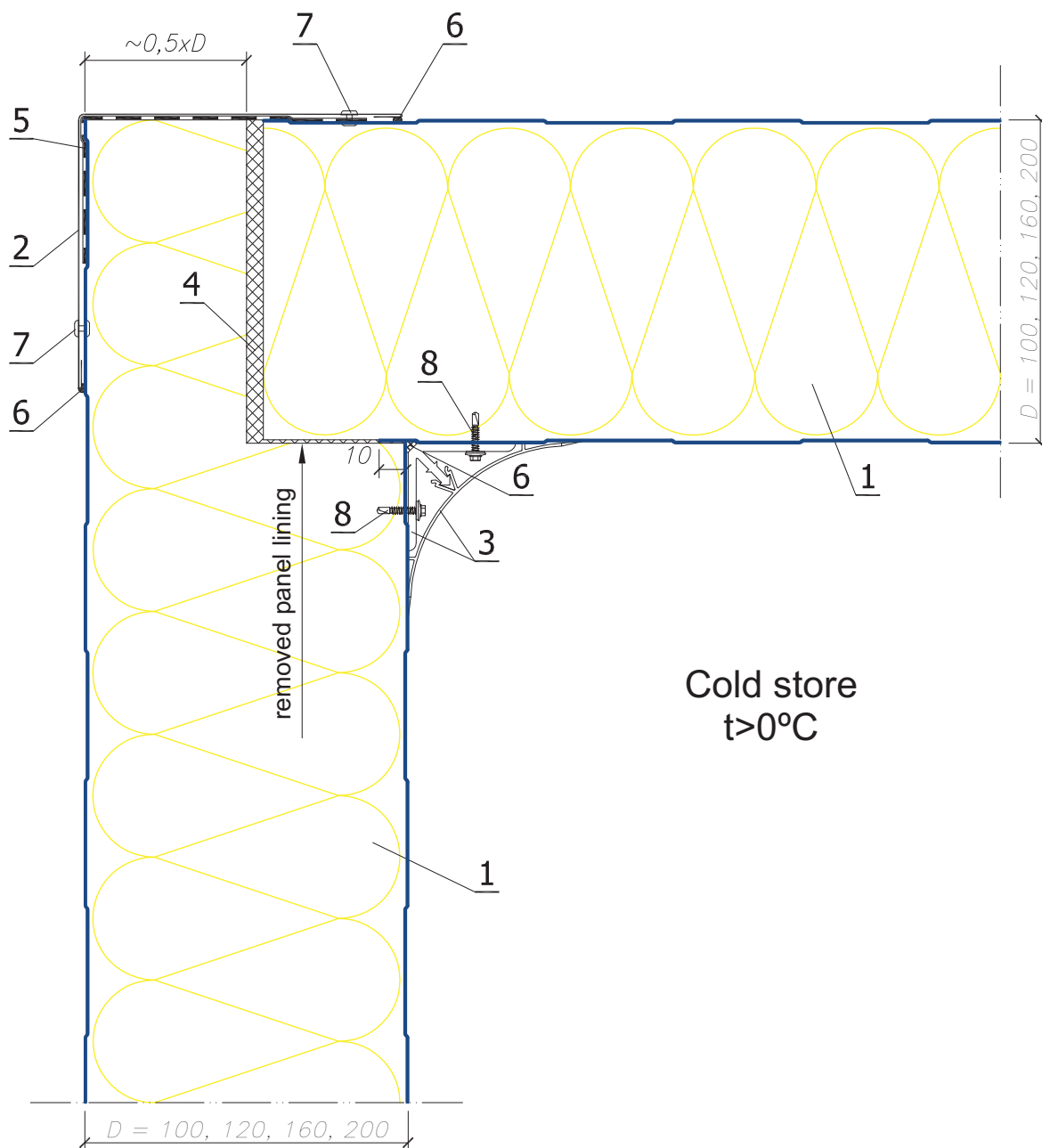
**LEGEND:**

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Masking flashing
3. PVC corner profile
4. Polyurethane mounting foam
5. Sealing plastic
6. One-side rivet **4.8 x 9.5**
7. Self-drilling stainless fastener with seal

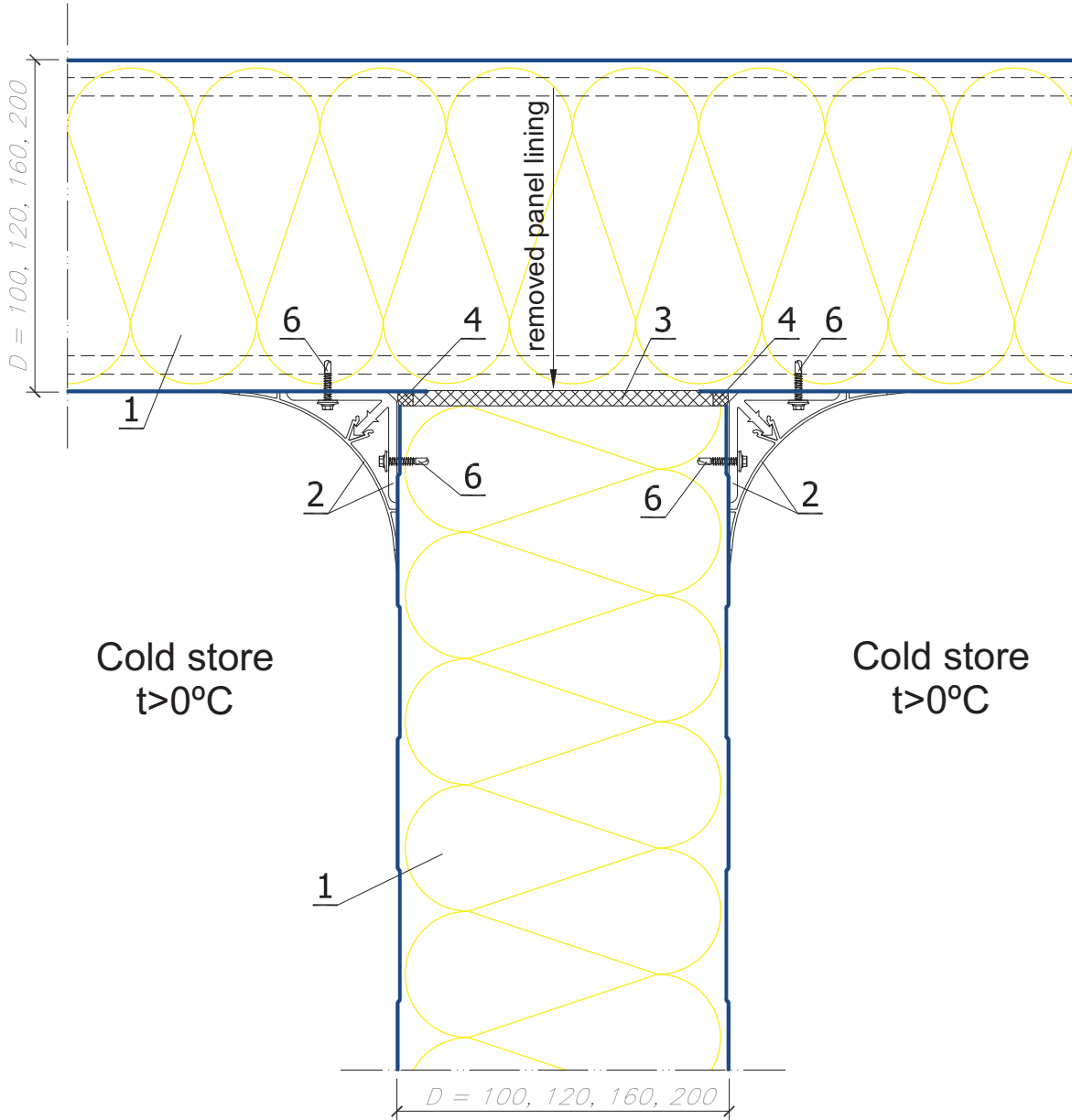


LEGEND:

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. PVC corner profile
3. Polyurethane mounting foam
4. Sealing plastic
5. One-side rivet **4.8 x 9.5**
6. Self-drilling stainless fastener with seal

**LEGEND:**

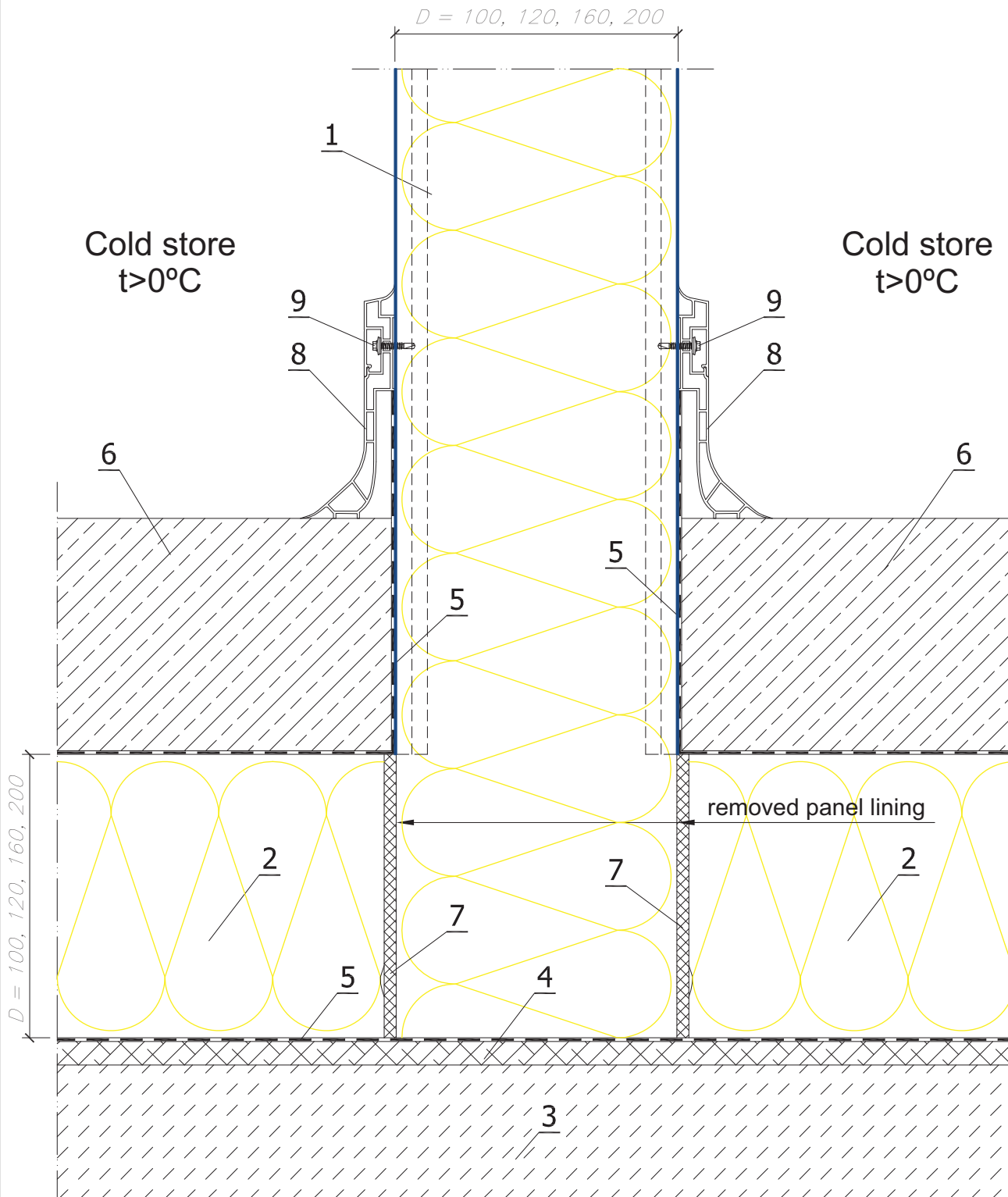
1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Masking flashing
3. PVC corner profile
4. Polyurethane mounting foam
5. Vapour control layer – bitumen tape or polyethylene foil
6. Sealing plastic
7. One-side rivet **4.8 x 9.5**
8. Self-drilling stainless fastener with seal



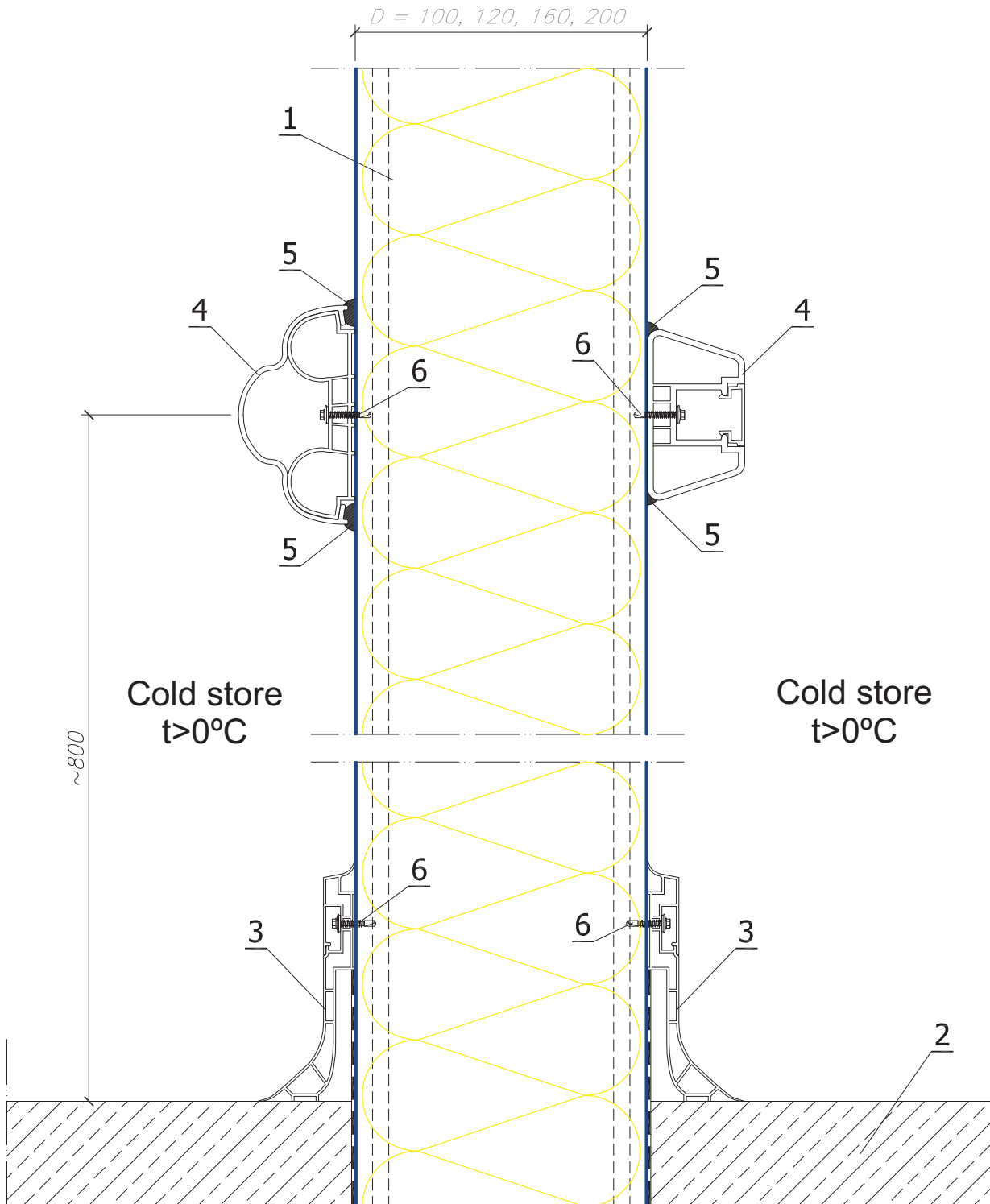
LEGEND:

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. PVC corner profile
3. Polyurethane mounting foam
4. Sealing plastic
5. One-side rivet **4.8 x 9.5**
6. Self-drilling stainless fastener with seal

NOTE: The lining is removed only if the wall is perpendicular to the roof panel locks

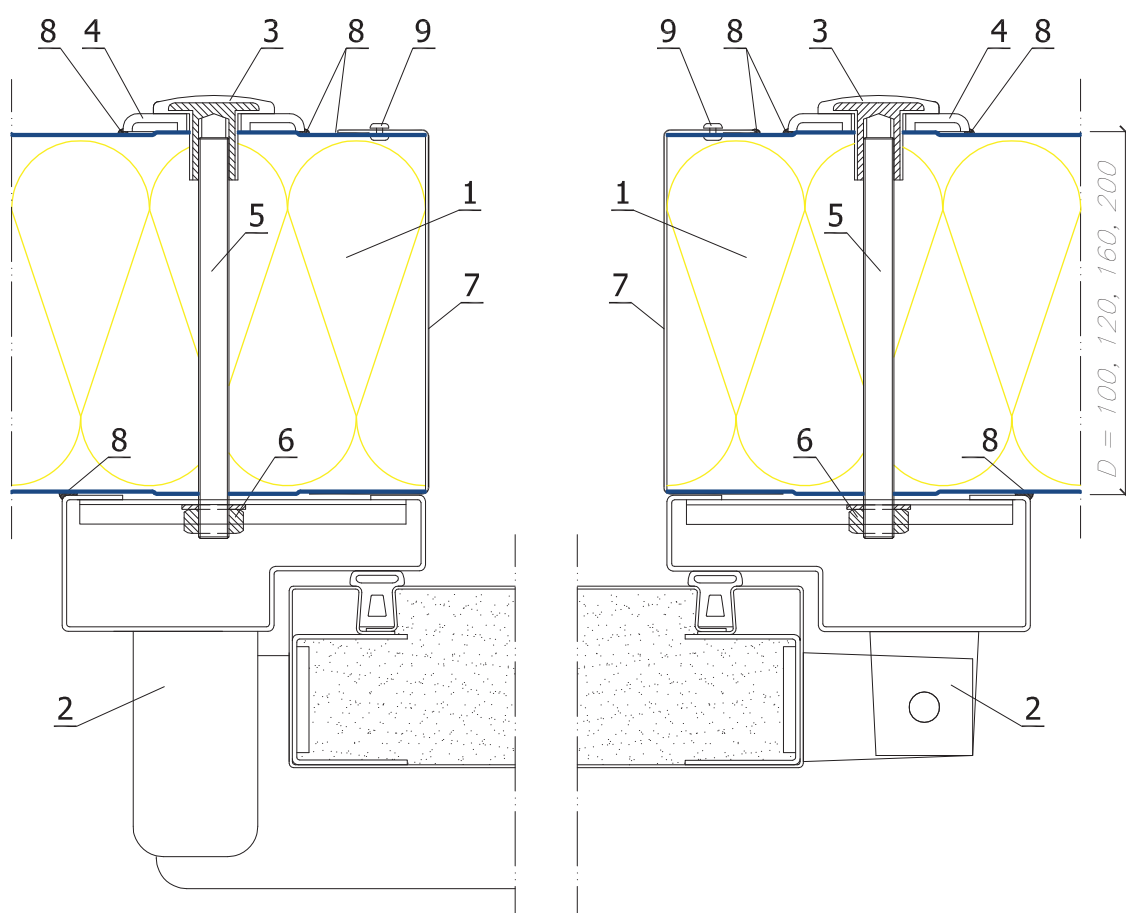
**LEGEND:**

- | | |
|--|--|
| 1. Coldstore panel GORLICKA CH / GORLICKA CH GS-PIR | 6. Concrete floor acc. to architectural design |
| 2. Panel termPIR | 7. Polyurethane mounting foam |
| 3. Concrete floor plate | 8. PVC baseboard |
| 4. Cement levelling layer | 9. Self-drilling stainless fastener with seal |
| 5. Vapour control layer – felt or PE foil | |

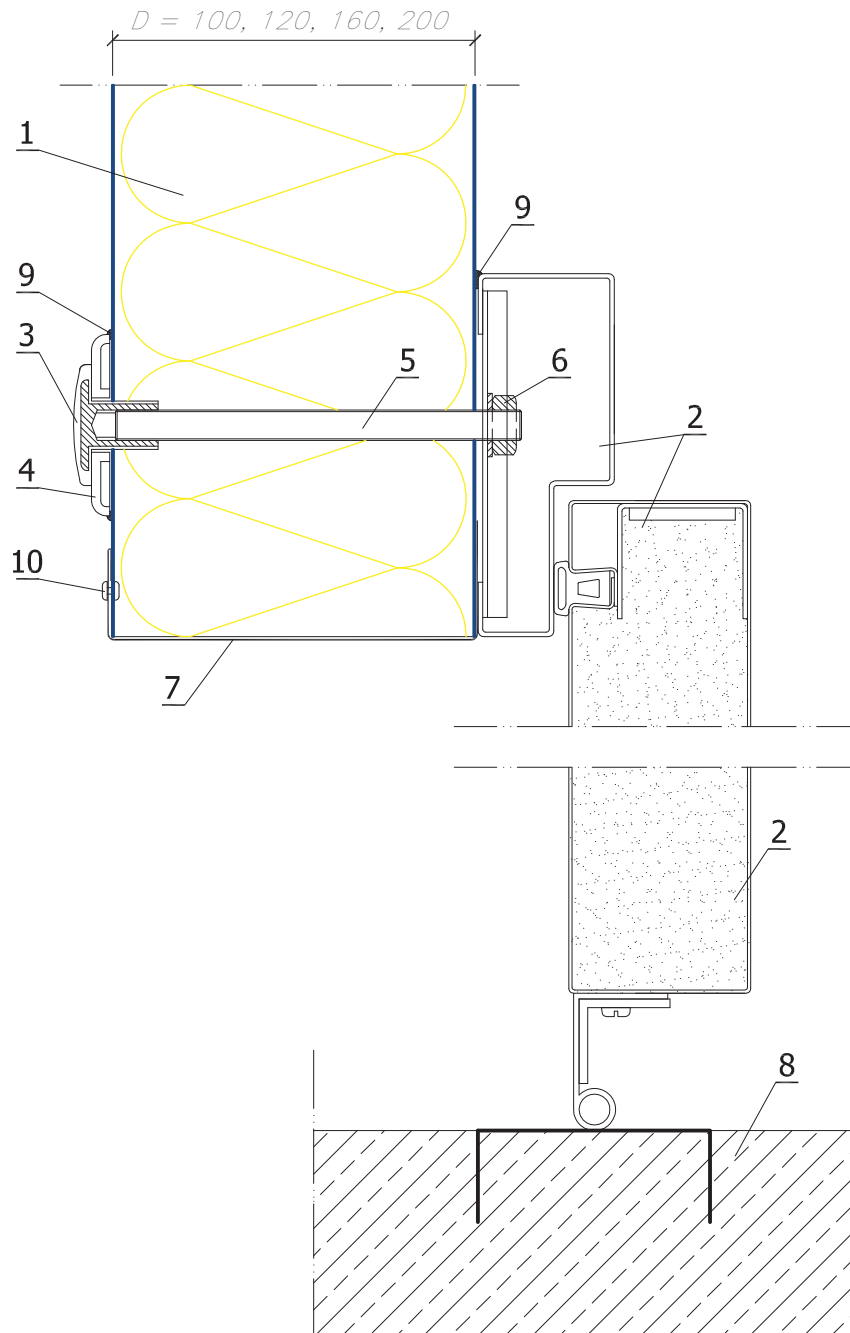


LEGEND:

- 1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
- 2. Floor acc. to architectural design
- 3. PVC baseboard
- 4. PVC fender rail
- 5. Plastic
- 6. Self-drilling stainless fastener with seal

**LEGEND:**

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Cold store door
3. PVC insulation ring with steel insert
4. PVC mounting washer
5. Steel galvanized threaded bar $\varnothing 10$
6. Steel galvanized nut **M10** with washer $\varnothing 21 / \varnothing 10.5$
7. Closing flashing
8. Plastic
9. One-side rivet **4.8 x 9.5**

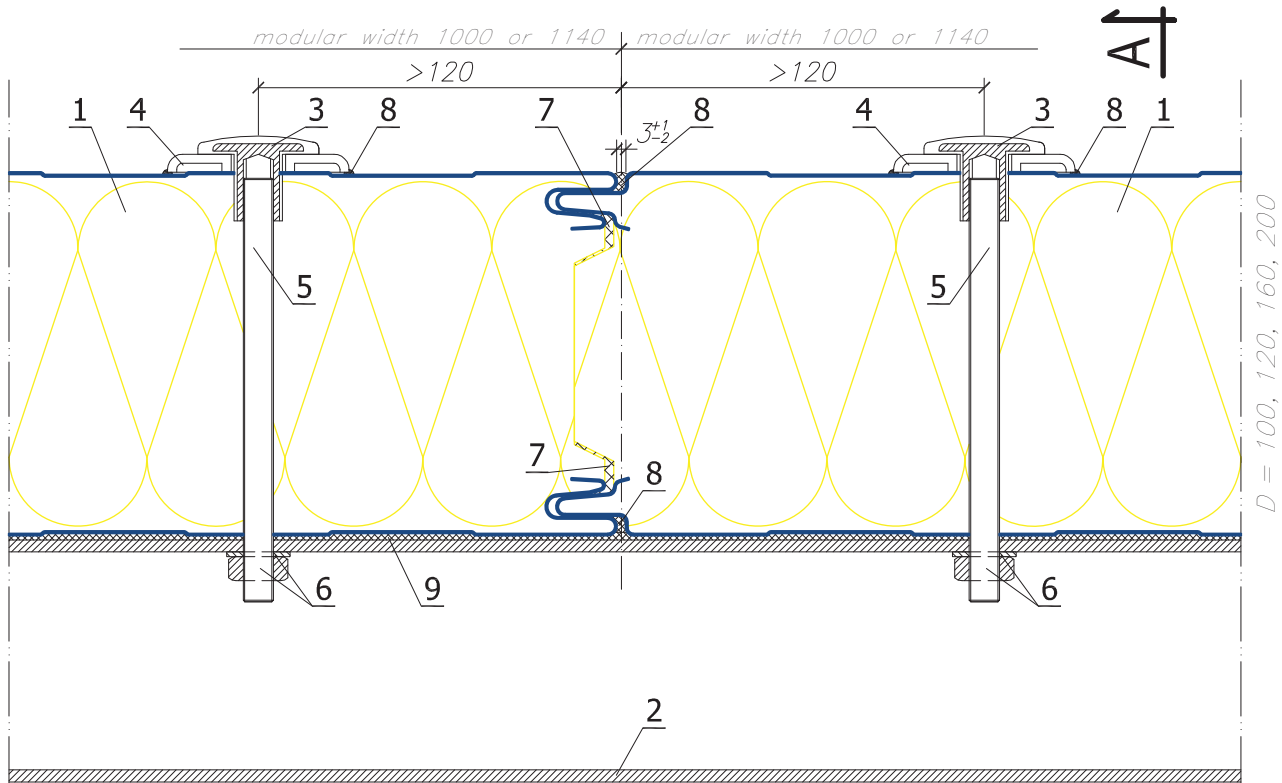


LEGEND:

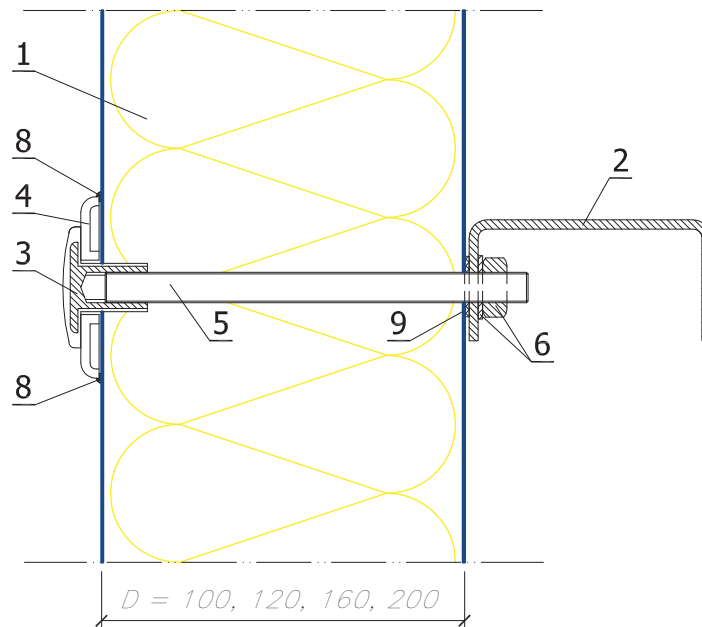
1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Cold store door
3. PVC insulation ring with steel insert
4. PVC mounting washer
5. Steel galvanized threaded bar $\varnothing 10$
6. Steel galvanized nut **M10** with washer $\varnothing 21 / \varnothing 10.5$
7. Closing flashing
8. Floor acc. to architectural design
9. Plastic
10. One-side rivet **4.8 x 9.5**

Example details of freezers and warehouse rooms constructed with sandwich panels GORLICKA CH / GORLICKA CH GS-PIR

Mounting the coldstore panels. Rooms with negative temperature	22
Corner of the freezer wall. Option I	23
Corner of the freezer wall. Option II	24
Joining chambers with different temperatures	25
Corner of the wall panel and the roof panel	26
Mounting the coldstore panels to the roof support	27
Suspension of coldstore panels. Option I	28
Suspension of coldstore panels. Option II	29
Joining the partition wall with the roof	30
Freezer at the socle of the external wall. Option I	31
Freezer at the socle of the external wall. Option II	32
Partition wall at the floor. Option I	33
Partition wall at the floor. Option II	34
Mounting the freezer door. Horizontal cross-section	35
Mounting the freezer door. Vertical cross-section	36

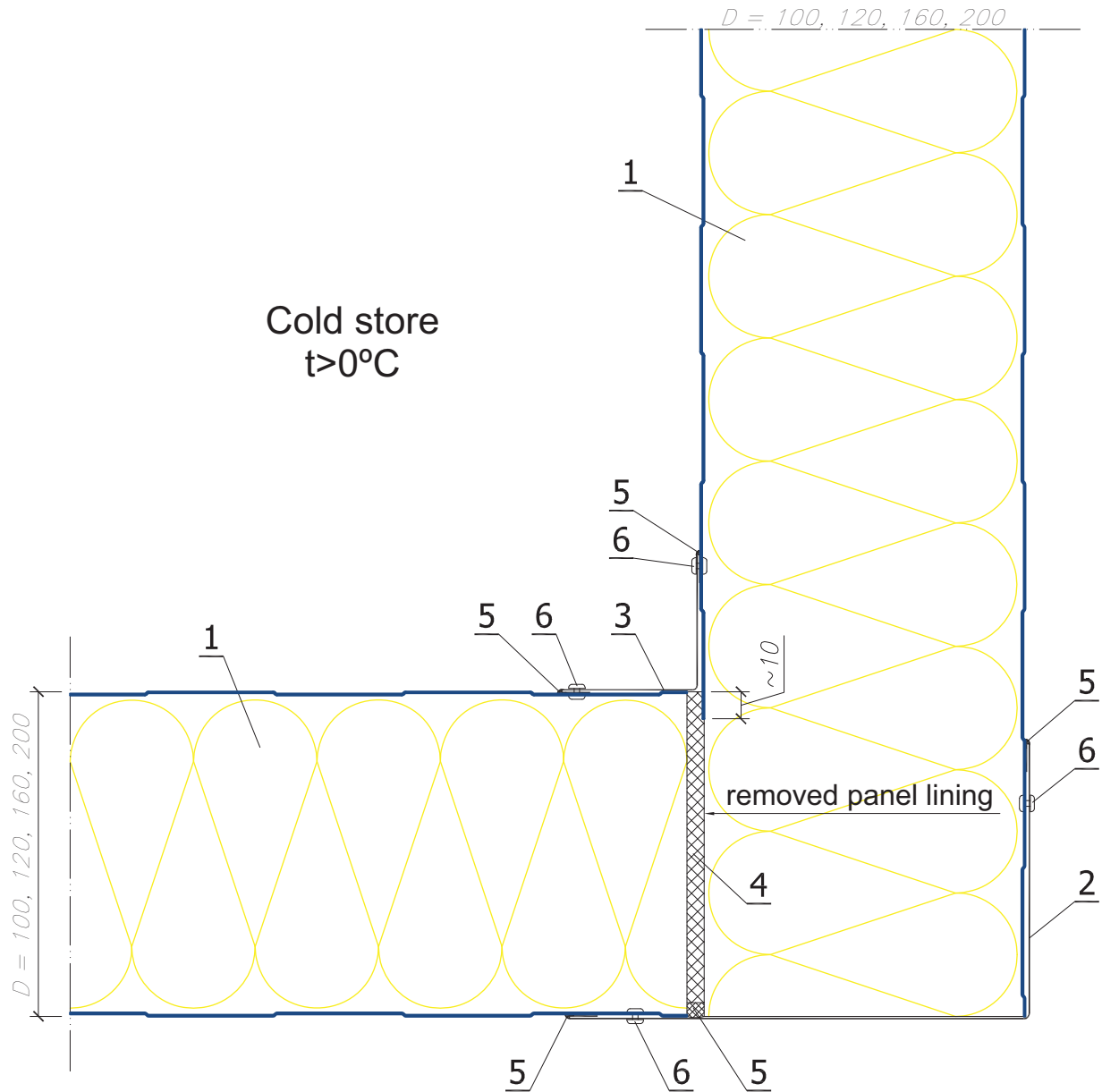


A-A cross-section

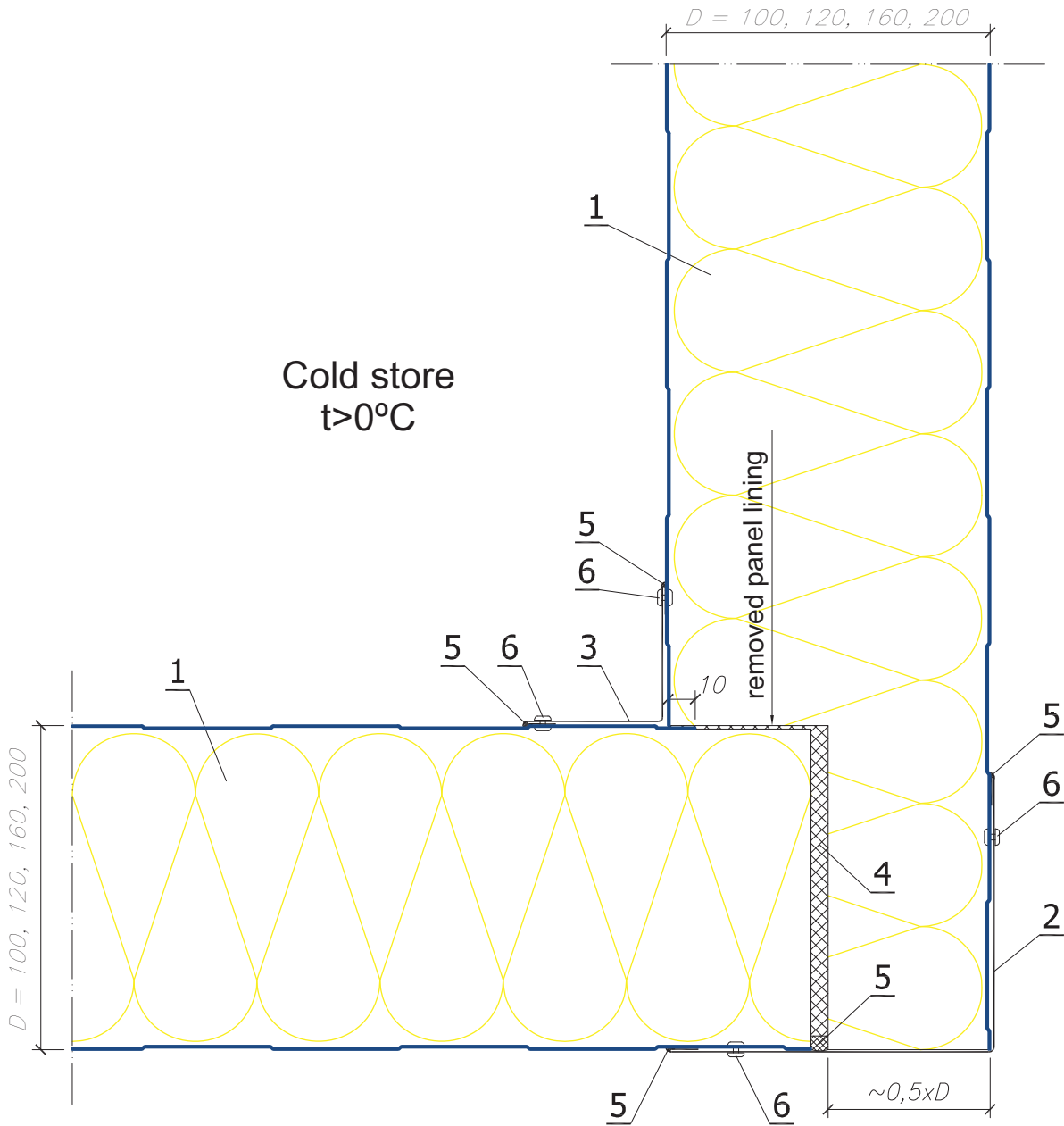


LEGEND:

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Support
3. PVC insulation ring with steel insert
4. PVC mounting washer
5. Steel galvanized threaded bar $\varnothing 10$
6. Steel galvanized nut **M10** with washer $\varnothing 21 / \varnothing 10.5$
7. Polyurethane mounting foam
8. Sealing plastic
9. Self-adhesive sealing polyethylene tape (**PES**)

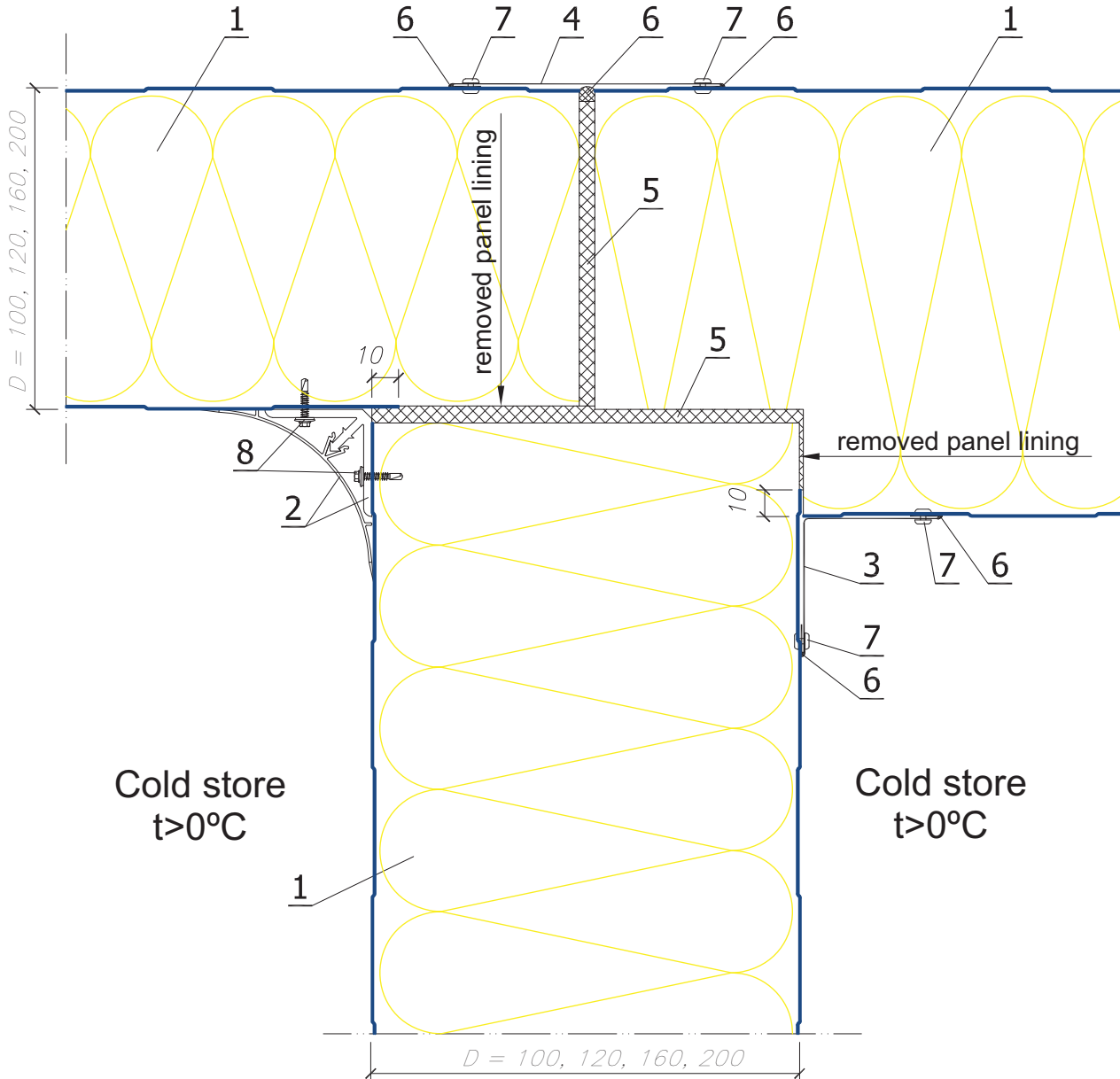
**LEGEND:**

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Flashing – external corner
3. Flashing – internal corner
4. Polyurethane mounting foam
5. Sealing plastic
6. One-side rivet **4.8 x 9.5**

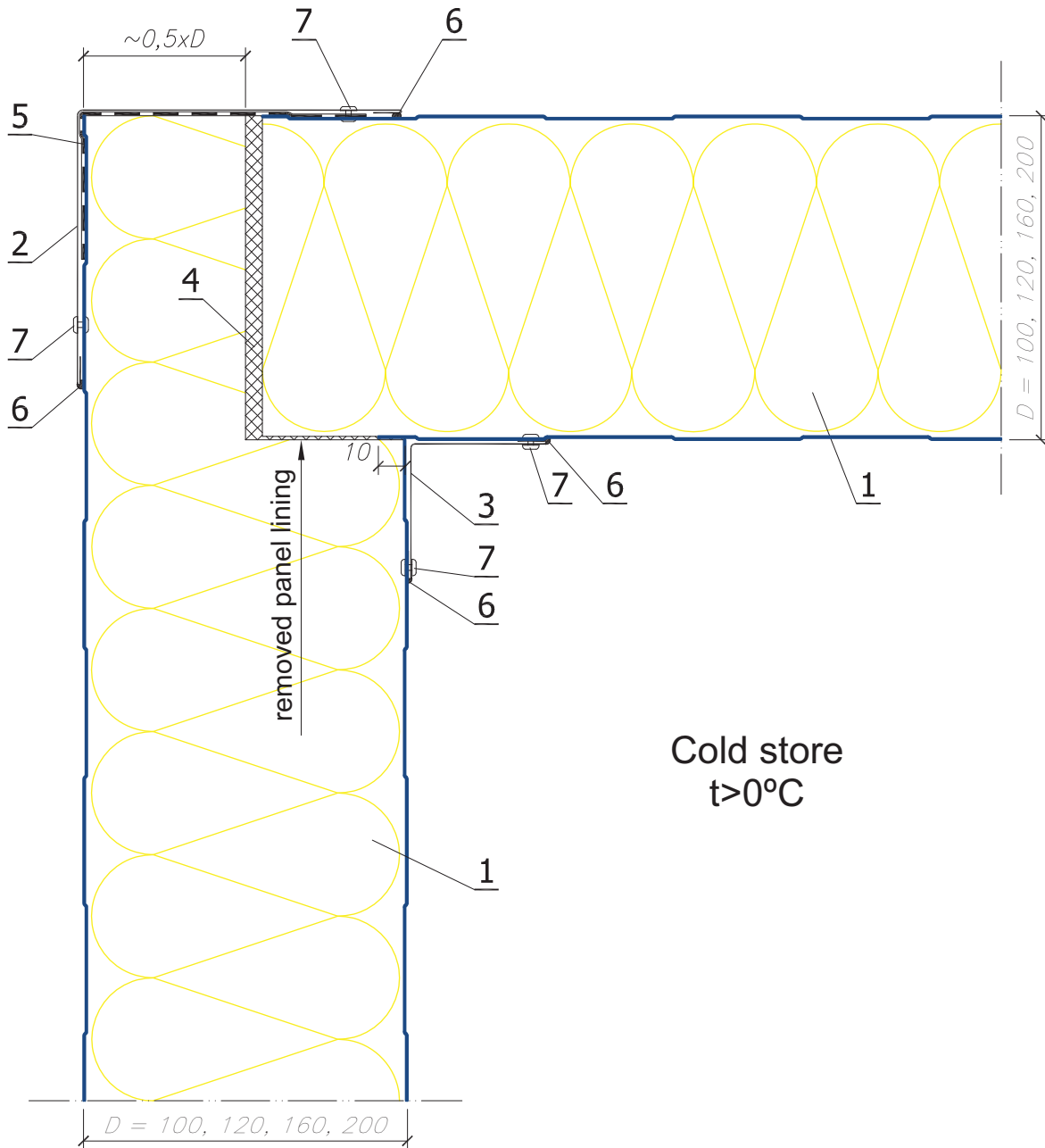


LEGEND:

- 1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
- 2. Flashing – external corner
- 3. Flashing – internal corner
- 4. Polyurethane mounting foam
- 5. Sealing plastic
- 6. One-side rivet **4.8 x 9.5**

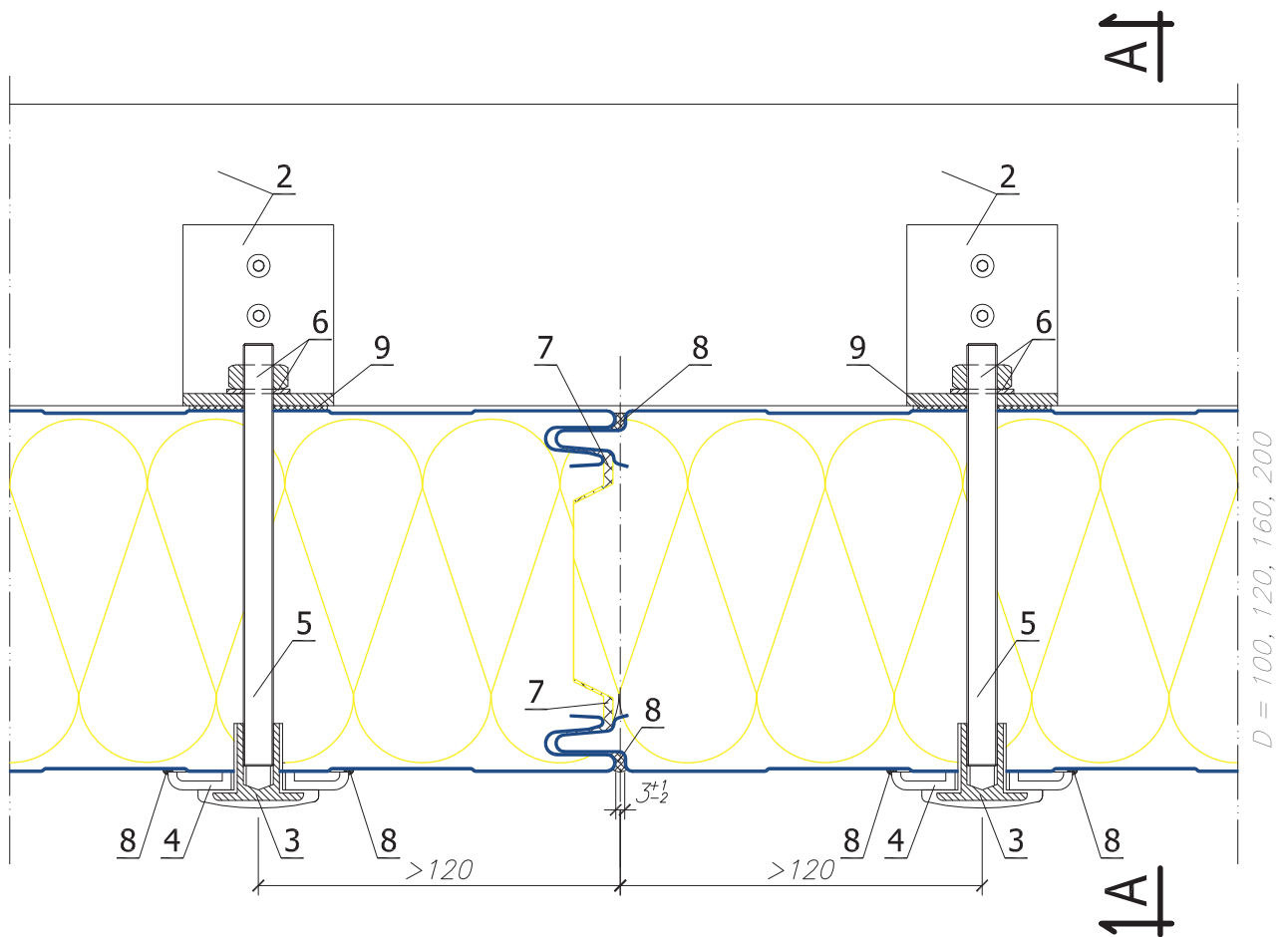
**LEGEND:**

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. PVC corner profile
3. Flashing – internal corner
4. Masking flashing
5. Polyurethane mounting foam
6. Sealing plastic
7. One-side rivet **4.8 x 9.5**
8. Self-drilling stainless fastener with seal

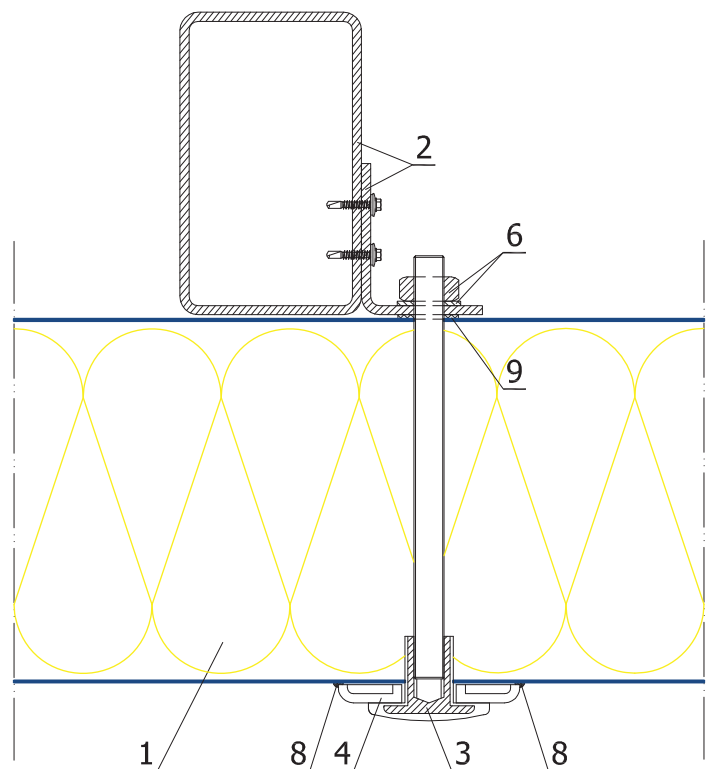


LEGEND:

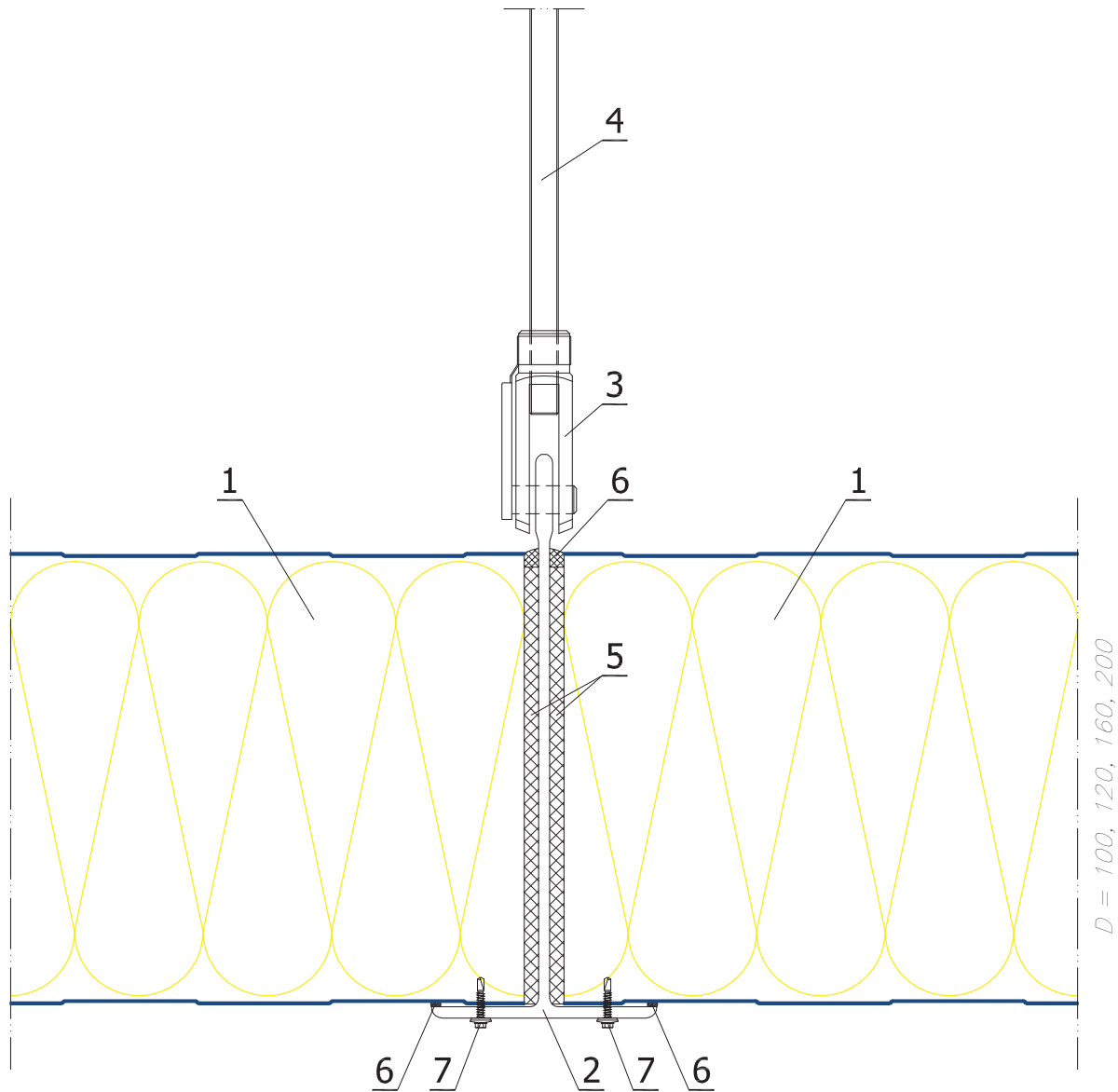
1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Flashing – external corner
3. Flashing – internal corner
4. Polyurethane mounting foam
5. Vapour control layer – bitumen tape or polyethylene foil
6. Sealing plastic
7. One-side rivet **4.8 x 9.5**



A-A cross-section

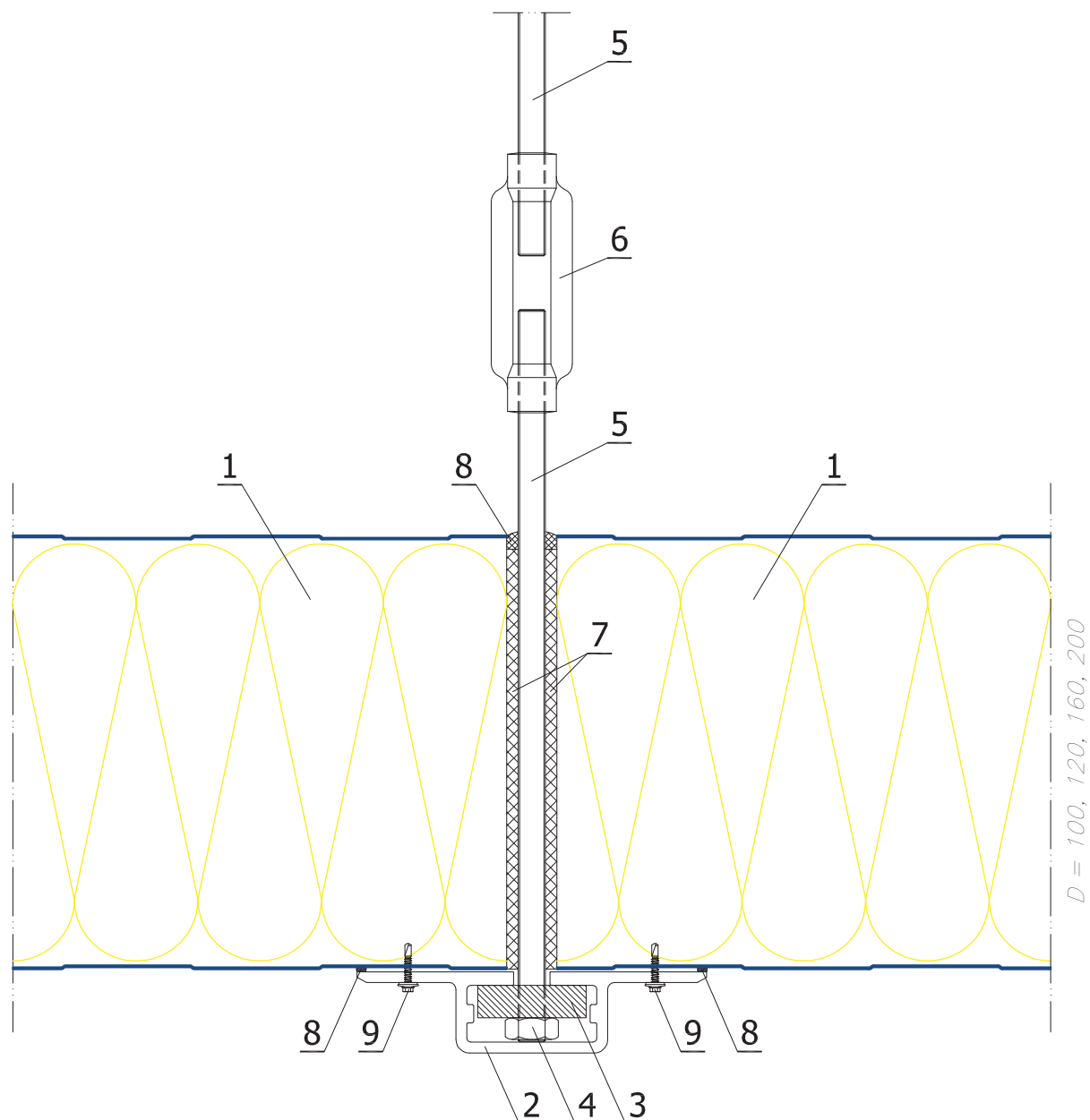
**LEGEND:**

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Support
3. PVC insulation ring with steel insert
4. PVC mounting washer
5. Steel galvanized threaded bar $\text{Ø } 10$
6. Steel galvanized nut **M10** with washer $\text{Ø } 21 / \text{Ø } 10.5$
7. Polyurethane mounting foam
8. Sealing plastic
9. Self-adhesive sealing polyethylene tape (**PES**)

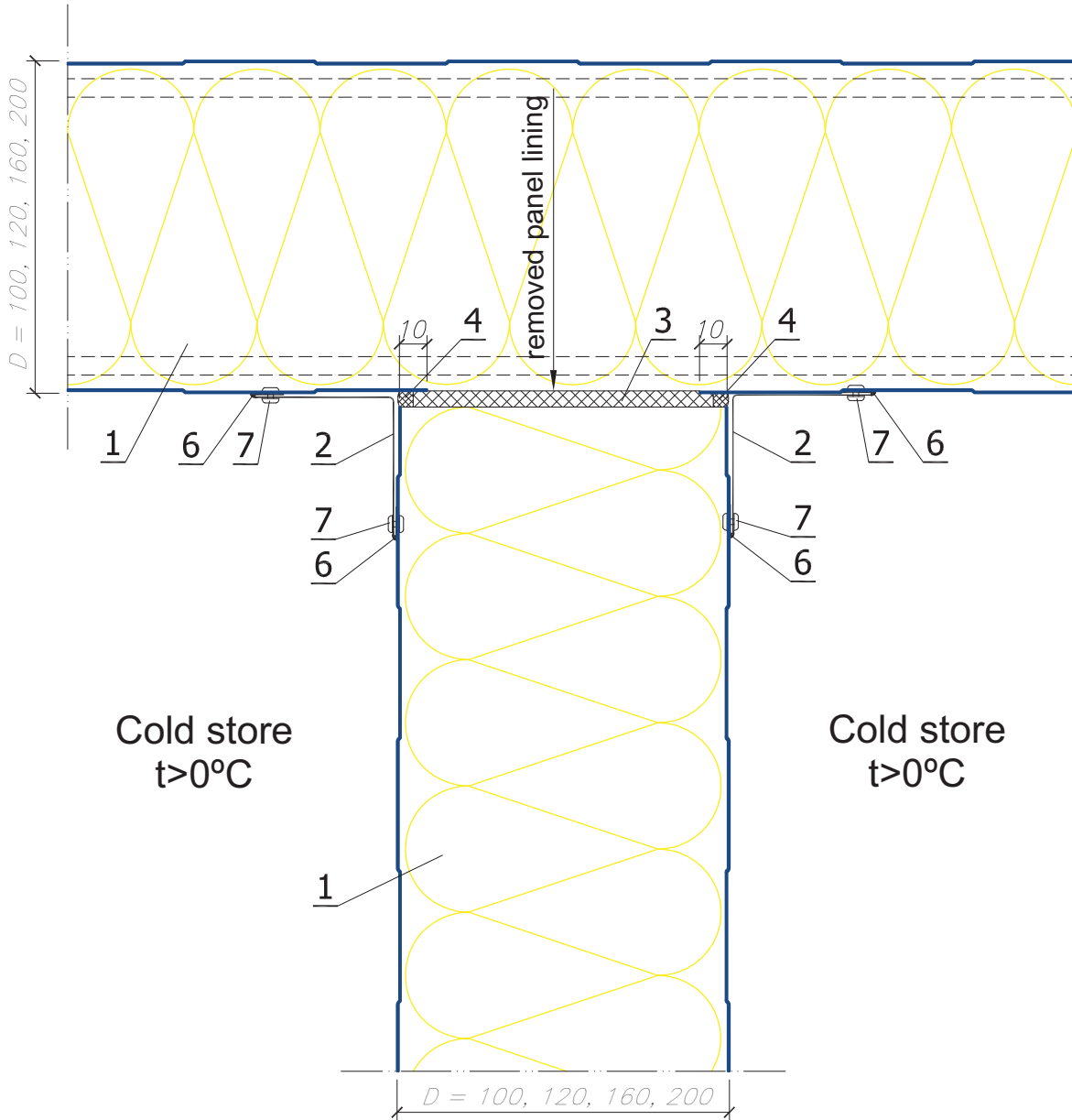


LEGEND:

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Polyester T-profile of the roof suspension
3. Steel mounting slings for T-profiles
4. Sling – steel threaded bar **Ø10**
5. Polyurethane mounting foam
6. Sealing plastic
7. Self-drilling stainless fastener with seal

**LEGEND:**

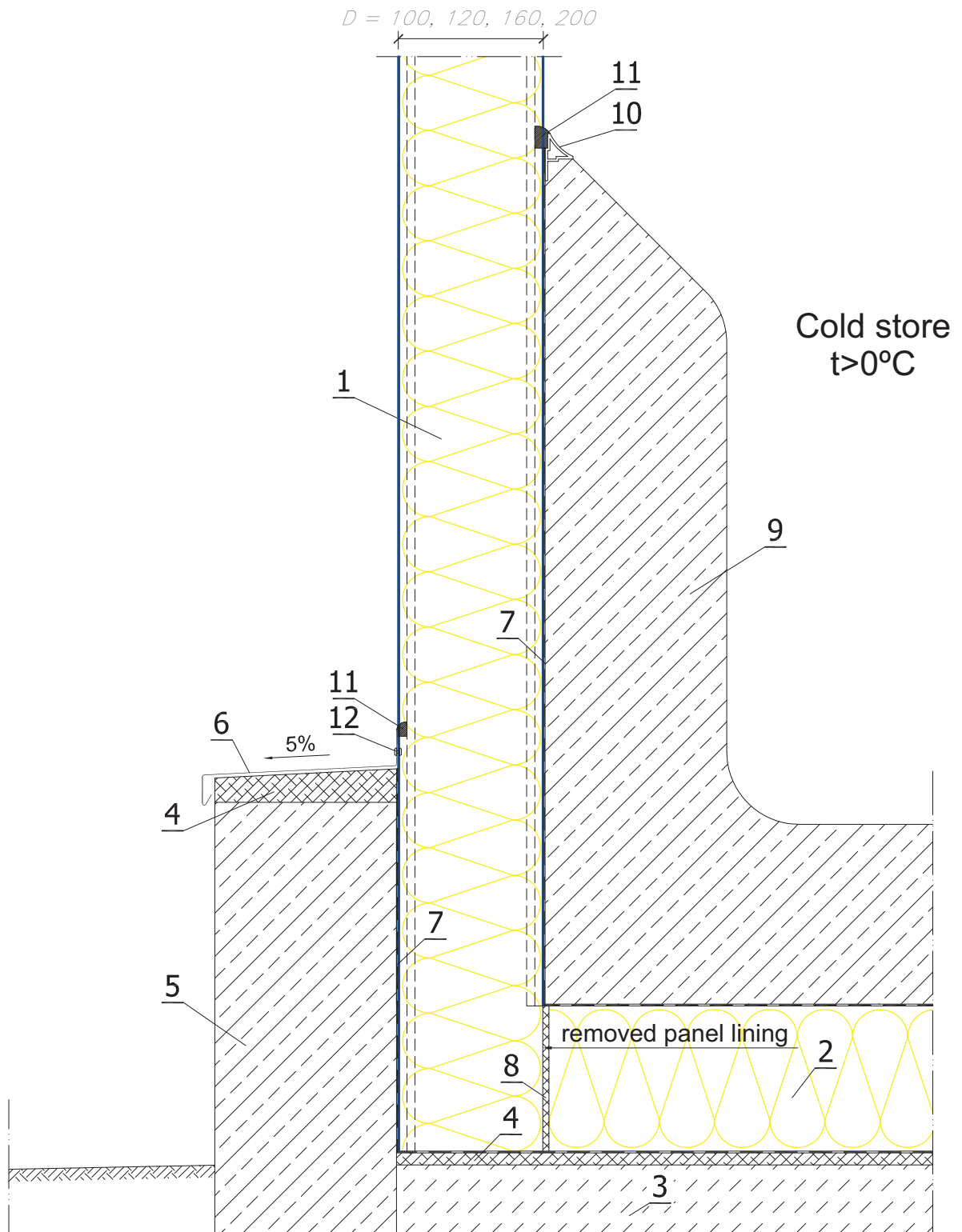
1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Polyester Ω -profile of the roof suspension
3. Steel spacer washer
4. Steel galvanized nut **M10**
5. Sling – steel threaded bar **$\varnothing 10$**
6. Steel tension nut
7. Polyurethane mounting foam
8. Sealing plastic
9. Self-drilling stainless fastener with seal



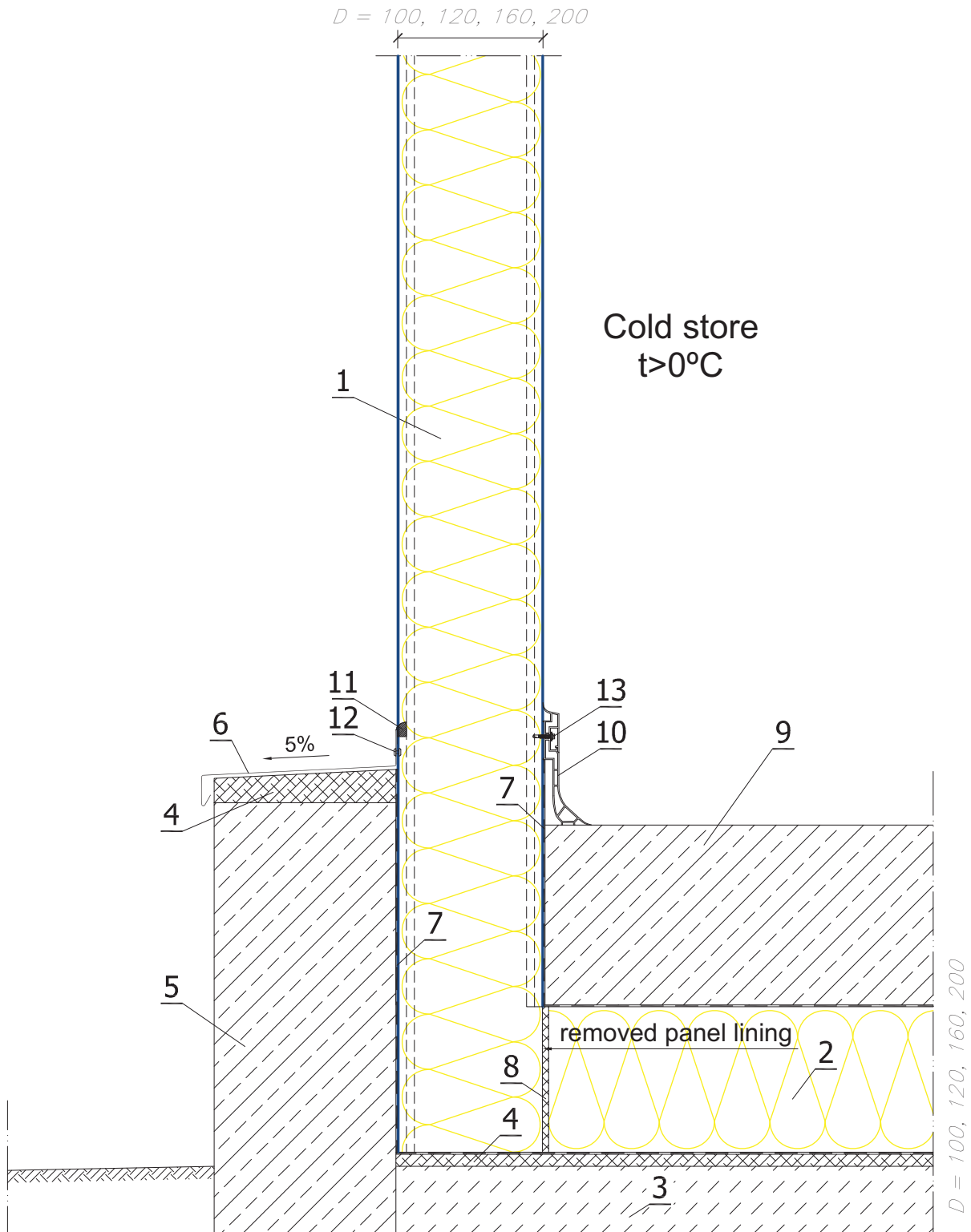
LEGEND:

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Flashing – internal corner
3. Polyurethane mounting foam
4. Sealing plastic
5. One-side rivet **4.8 x 9.5**

NOTE: The lining is removed only if the wall is perpendicular to the locks of the roof panel

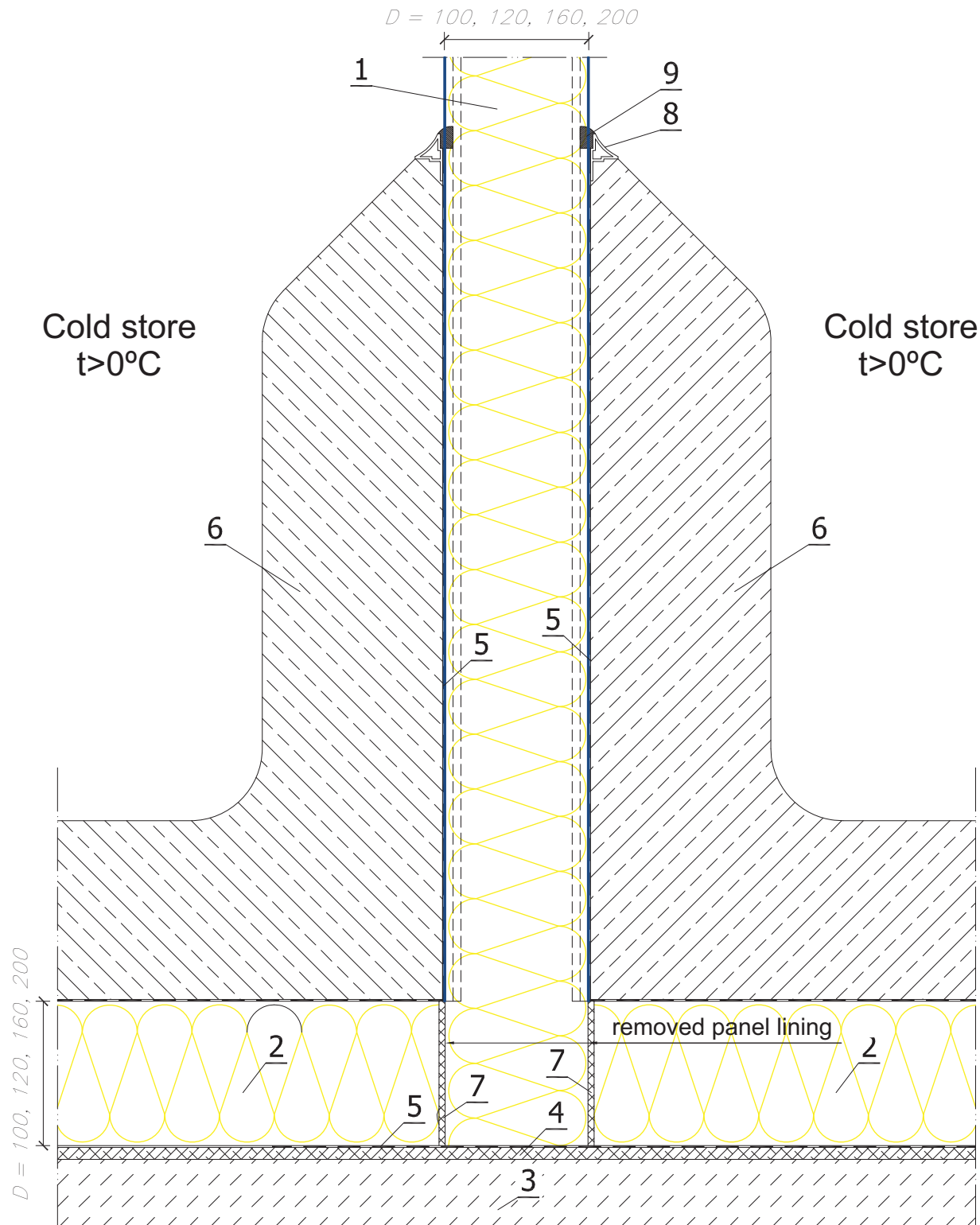
**LEGEND:**

- | | |
|--|---|
| 1. Coldstore panel GORLICKA CH / GORLICKA CH GS-PIR | 7. Vapour control layer – felt or PE foil |
| 2. Panel termPIR | 8. Polyurethane mounting foam |
| 3. Concrete floor plate | 9. Concrete floor with socle |
| 4. Cement levelling layer | 10. Concrete socle PVC profile |
| 5. Socle acc. to architectural design | 11. Sealing plastic |
| 6. Socle flashing | 12. One-side rivet 4.8 x 9.5 |



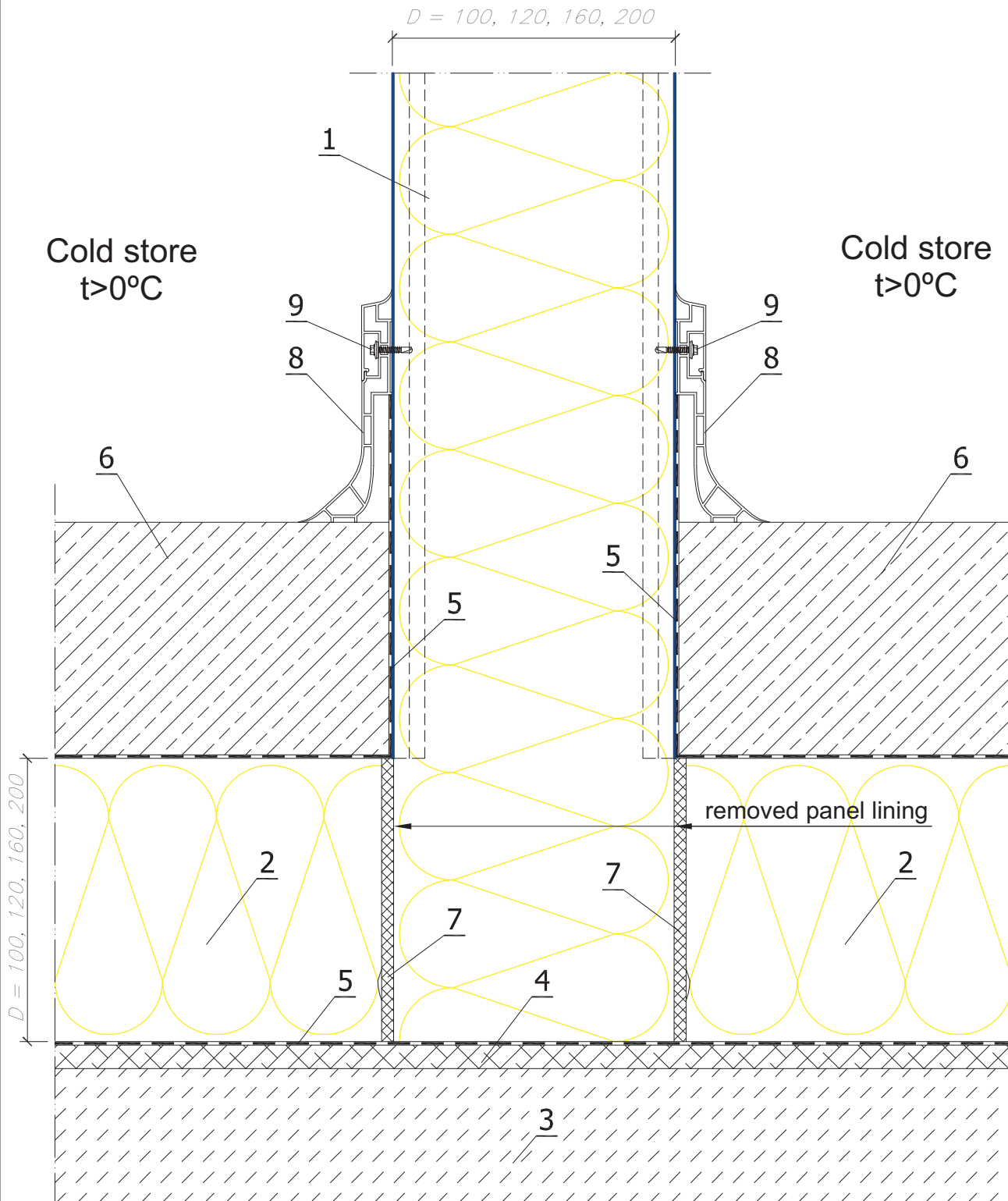
LEGEND:

- | | |
|--|--|
| 1. Coldstore panel GORLICKA CH / GORLICKA CH GS-PIR | 8. Polyurethane mounting foam |
| 2. Panel termPIR | 9. Concrete floor |
| 3. Concrete floor plate | 10. PVC baseboard |
| 4. Cement levelling layer | 11. Sealing plastic |
| 5. Socle acc. to architectural design | 12. One-side rivet 4.8 x 9.5 |
| 6. Socle flashing | 13. Self-drilling stainless fastener with seal |
| 7. Vapour control layer – felt or PE foil | |

**LEGEND:**

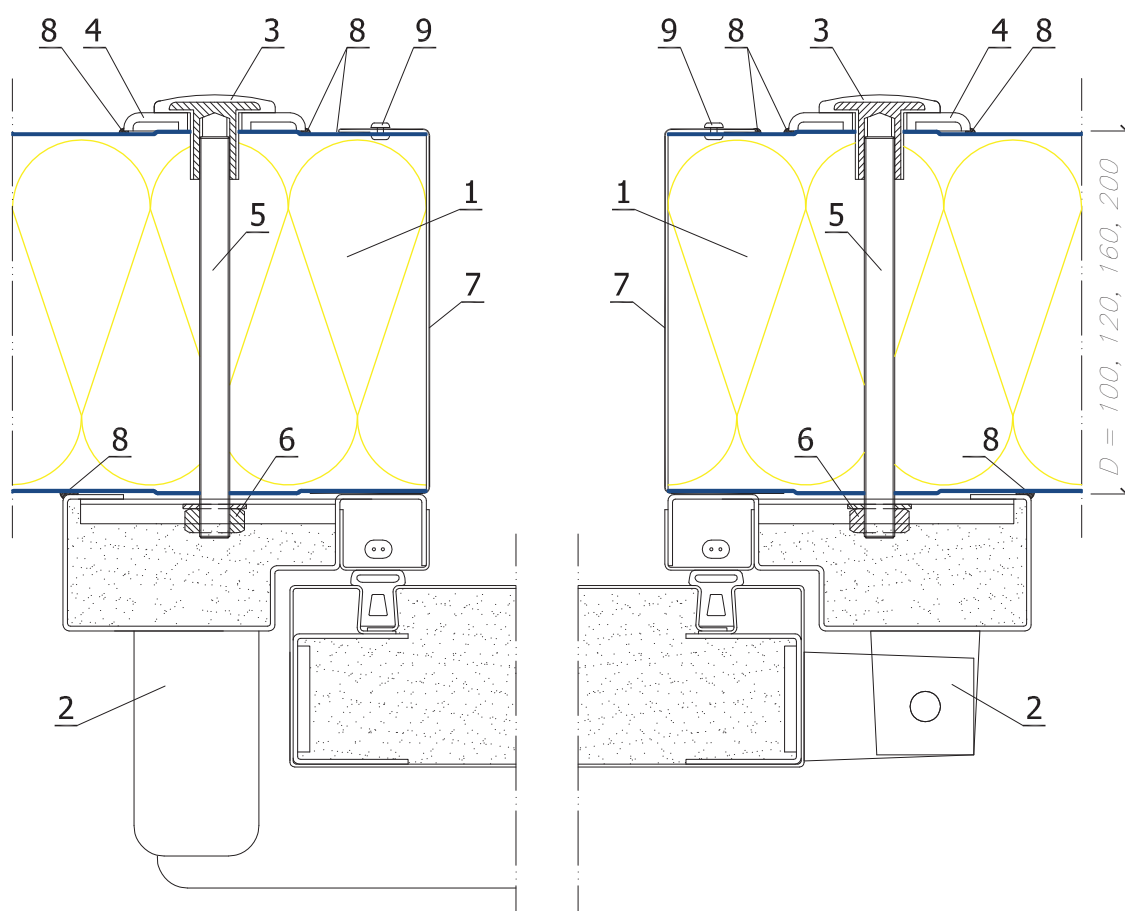
1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Panel **termPIR**
3. Concrete floor plate
4. Cement levelling layer
5. Vapour control layer – felt or PE foil

6. Concrete floor with socle
7. Polyurethane mounting foam
8. Concrete socle PVC profile
9. Sealing plastic

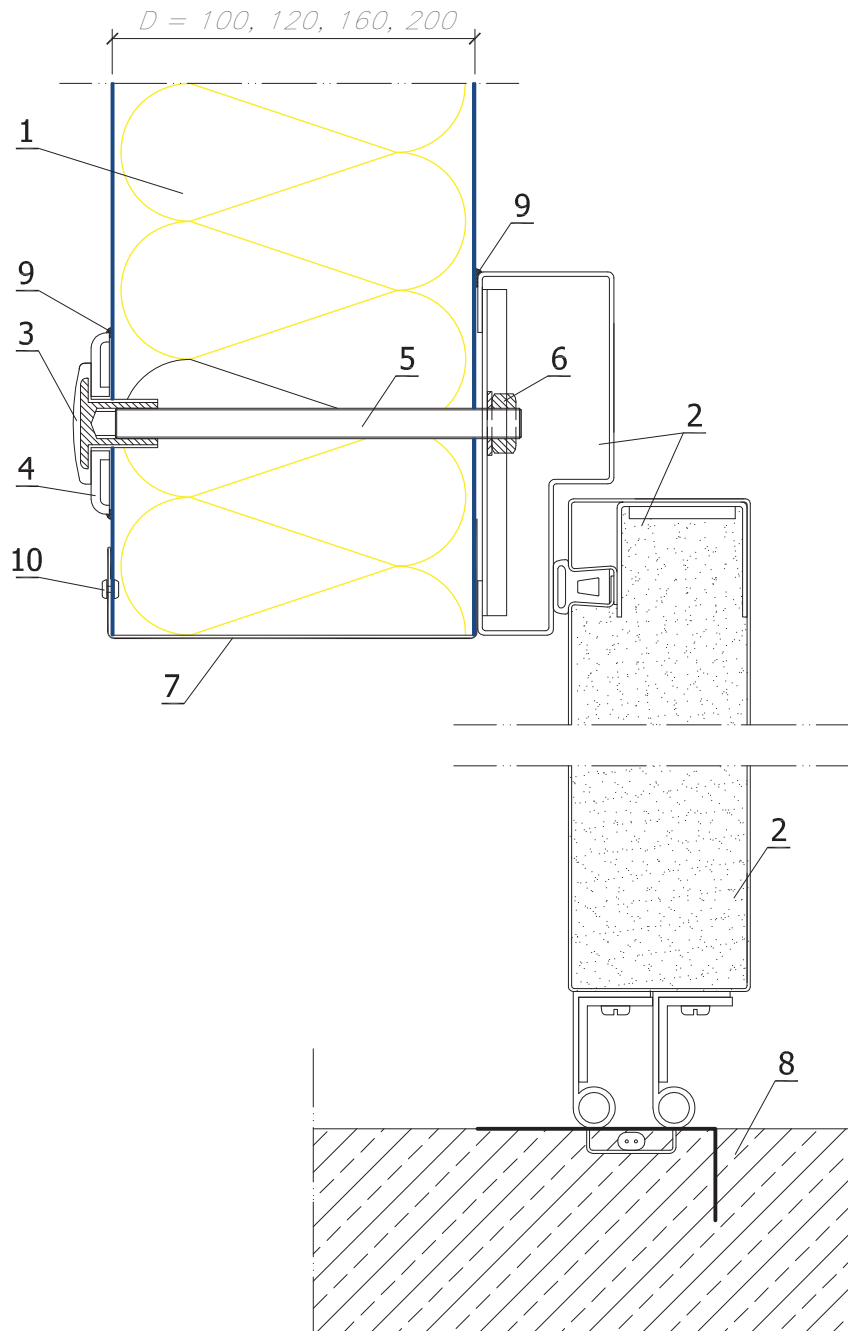


LEGEND:

- | | |
|--|--|
| 1. Coldstore panel GORLICKA CH / GORLICKA CH GS-PIR | 6. Concrete floor acc. to architectural design |
| 2. Panel termPIR | 7. Polyurethane mounting foam |
| 3. Concrete floor plate | 8. PVC baseboard |
| 4. Cement levelling layer | 9. Self-drilling stainless fastener with seal |
| 5. Vapour control layer – felt or PE foil | |

**LEGEND:**

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Freezer door
3. PVC insulation ring with steel insert
4. PVC mounting washer
5. Steel galvanized threaded bar $\text{Ø}10$
6. Steel galvanized nut M10 with washer $\text{Ø}21 / \text{Ø}10.5$
7. Closing flashing
8. Sealing plastic
9. One-side rivet **4.8 x 9.5**



LEGEND:

1. Coldstore panel **GORLICKA CH / GORLICKA CH GS-PIR**
2. Freezer door
3. PVC insulation ring with steel insert
4. PVC mounting washer
5. Steel galvanized threaded bar **Ø10**
6. Steel galvanized nut **M10** with washer **Ø21 / Ø10.5**
7. Closing flashing
8. Floor acc. to architectural design
9. Sealing plastic
10. One-side rivet **4.8 x 9.5**

ACCESSORIES

The coldstore panel housing system is supplemented with flashings, fasteners, sealing tapes, suspension systems and finishing strips.

FLASHINGS

Gór-Stal is equipped with a profiler able to produce steel sheet flashings up to **1.25 mm** thick and **6 m long**, in catalogue-typical or custom-made shapes. Available thicknesses and standard colours of the sheets are provided in the table below. The flashings are secured for transportation by means of foiling the external layer.

Sheet thickness [mm]	Sheet weight [kg/m ²]	Length of standard flashings [m]	Available length of flashings [m]	Sheet standard RAL colours
0,50	4,00	6,0	do 6,0	9002, 9010, 9006, 9007, 5010, 1015, 3000, 6029, 7016
0,70	5,60			zinc coating
1,00	8,00			

SEALS

We supply sealing tapes presented in the technical solutions of this catalogue, as well as in other dimensions on the client's request: self-adhesive polyurethane (**PUS, PURS**), polyethylene (**PES**) and butyl. Because freezer chambers are constructed as sealed rooms, it is important to avoid negative pressure when freezing and de-frosting by means of pressure equalizing valves.

FASTENERS

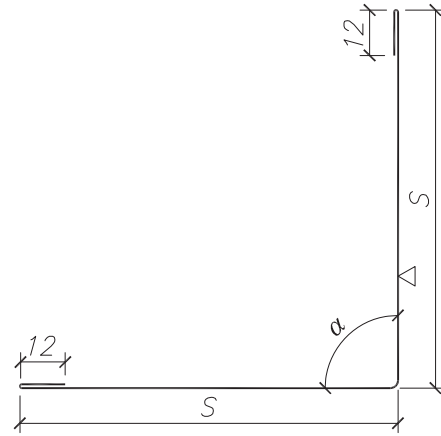
Sandwich panel can be fixed to steel, concrete and wood constructions by means of dedicated fasteners. In case of cold stores ($t > 0^{\circ}\text{C}$) it is possible to use self-drilling stainless steel screws. In freezing chambers it is necessary to apply fasteners preventing form freezing and condensation – PVC nuts with steel screws, polyamide screws or bolts and plastic suspension systems.

System fasteners are illustrated in the following tables.

Sandwich panel type and thickness [mm]	Fastener
stainless steel self-drilling screws	
Coldstore panel CH / CH GS-PIR	100 stainless screw 6,3/5,5x 130 - 150
	120 stainless screw 6,3/5,5x 150 - 160
	160 stainless screw 6,3/5,5x 195 - 210
	200 stainless screw 6,3/5,5x 230 - 235
thermo-insulating mounting elements	
Coldstore panel CH / CH GS-PIR	PVC mounting nut with washer - M8, M10, M12
	PVC mounting nut with steel insert and washer - M8, M10, M12
	polyamide mounting screw- M10, M12

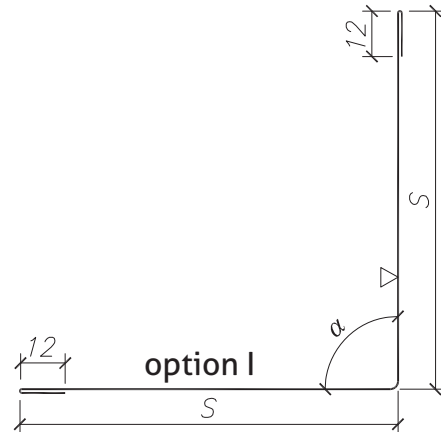
Flashing OB-01 external corner

Item	Symbol	S [mm]	α [°]	L [mm]	Weight [kg]
Standard – steel sheet 0.5 mm thick					
1	OB-01/25	25	90	6000	1.77
2	OB-01/50	50			2.97
3	OB-01/75	75			4.17
4	OB-01/100	100			5.37
5	OB-01/150	150			7.77
6	OB-01/200	200			10.17
7	OB-01/250	250			12.57
Non-standard – steel sheet 0.5 or 0.7 mm thick					
8	OB-01/ S=..... / α =..... / L=.....				
9	OB-01/ S1=..... / S2=..... / α =..... / L=.....				



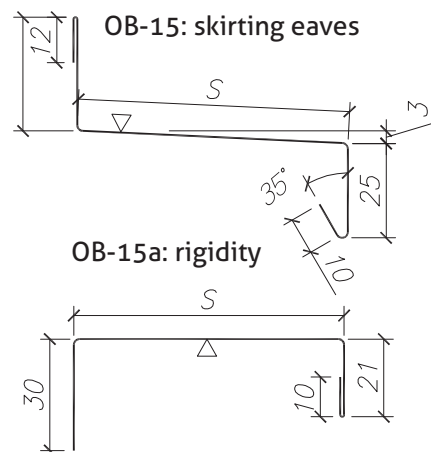
Flashing OB-02 external corner

Item	Symbol	S [mm]	α [°]	L [mm]	Weight [kg]
Standard – steel sheet 0.5 mm thick					
1	OB-02/25	25	90	6000	1.77
2	OB-02/50	50			2.97
3	OB-02/75	75			4.17
4	OB-02/100	100			5.37
5	OB-02/150	150			7.77
6	OB-02/200	200			10.17
7	OB-02/250	250			12.57
Non-standard – steel sheet 0.5 or 0.7 mm thick					
8	OB-02/ S=..... / α =..... / L=.....				
9	OB-02/ S1=..... / S2=..... / α =..... / L=.....				



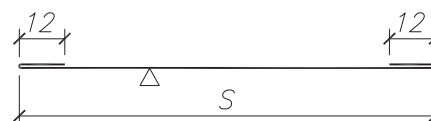
Flashing OB-15 - skirting eaves OB-15 + Ob15a - skirting eaves with rigidity

Item	Symbol	S [mm]	α [°]	L [mm]	Weight [kg]
Standard – steel sheet 0.5 mm thick					
1	OB-15/70	70	-	6000	3.53
2	OB-15/90	90			4.00
3	OB-15/110	110			4.48
Non-standard – steel sheet 0.5 or 0.7 mm thick					
4	OB-15/ S=..... / L=.....				
Standard – steel sheet 0.5 mm thick					
5	OB-15a/70	70	-	6000	3.14
6	OB-15a/90	90			3.62
7	OB-15a/110	110			4.10
Non-standard – steel sheet 0.5 or 0.7 mm thick					
8	OB-15a/ S=..... / L=.....				



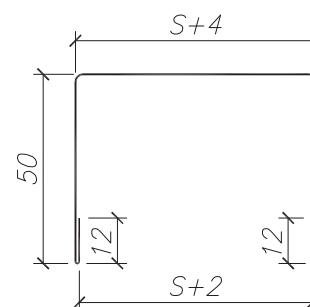
Flashing OB-18 masking

Item	Symbol	S [mm]	α [°]	L [mm]	Weight [kg]
Standard – steel sheet 0.5 mm thick					
1	OB-18/50	50	-	6000	1.77
2	OB-18/75	75			2.37
3	OB-18/100	100			2.97
4	OB-18/120	120			3.45
Non-standard – steel sheet 0.5 or 0.7 mm thick					
5	OB-18/ S=..... / L=.....				



Flashing OB-36 panel closing

Item	Symbol	S [mm]	α [°]	L [mm]	Weight [kg]
Standard – steel sheet 0.5 mm thick					
1	OB-36/40	40	-	6000	4.03
2	OB-36/60	60			4.51
3	OB-36/80	80			4.99
4	OB-36/100	100			5.47
5	OB-36/120	120			5.95
6	OB-36/160	160			6.91
7	OB-36/180	180			7.39
8	OB-36/200	200			7.87
Non-standard – steel sheet 0.5 or 0.7 mm thick					
9	OB-36/ S=..... / L=.....				





Order form of sandwich panels

ORDER FORM of
SANDWICH PANELS

ORDER

No of

SUPPLIER: (name, company address, phone/fax, TIN)

Gór-Stal sp. z o.o.

ul. Przemysłowa 11

38-300 Gorlice

Phone/Fax: + 48 18 353 98 00

Account No: 79 1140 1081 0000 5859 5500 1001

Agent:

Commercial Terms

Payment method:

Advance (%): payable until:

Maturity:

Credit limit:

Remarks:

ORDERING PARY (name, company address, phone/fax, TIN)

Agent:

REMARKS:

DELIVERY PLACE (recipient, address, city, post code, phone/fax)

	Plate type:	Plate thickness[mm]:	Plate profile:		Plate width [mm]:	Colour RAL		Quantity		Net price: Unit/value	
			L - Linear	M - Microprofiled		ext.	int.	ext.	int.	L [m]	pcs.
	GORLICKA S	40 60 80 100			1000						
	GORLICKA U	60 80 100 120			1140						
	GORLICKA D	40 60 80 100 120 160									
	GORLICKA CH	100 120 160 200									
	GORLICKA S GS-PIR	40 60 80 100									
	GORLICKA U GS-PIR	60 80 100 120									
	GORLICKA D GS-PIR	40 60 80 100 120 160									
	GORLICKA CH GS-PIR	100 120 160 200									
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
IN TOTAL:									[m ²]:		EUR:


 ORDER FORM of
TYPICAL FLASHING
ORDER

No of

TO SANDWICH PANELS ORDER

No of

Supplier information		Symbol	S [mm]	α [°]	Sheet thickness [mm]	Length [mm]	Quantity [szt.]	Total weight [kg]	Colour RAL
SUPPLIER: (name, company address, phone/fax, TIN)		OB. - 01							
Gór-Stal sp. z o.o. ul. Przemysłowa 11 38-300 Gorlice Phone/Fax: +48 18 353 98 00		OB. - 02							
		OB. - 15							
Account No: 79 1140 1081 0000 5859 5500 1001		OB. - 15A							
Agent:		OB. - 18		-					
		OB. - 36		-					
Commercial Terms		L - 01		-					
		L - 02		-					
Payment method:		L - 03		-					
Advance (%):		L - 04		-					
payable until:		P - 01		-					
Maturity:		P - 02		-					
Credit limit:		W - 01		-					
Remarks:		N - 01							
ORDERING PARY (name, company address, phone/fax, TIN)									
DELIVERY PLACE (recipient, address, city, post code, phone/fax)									
Flashing length: 6 m. Default $\alpha = 90^\circ$ Shape of flashing acc. to technological catalogue									
Ordering Party's signature						Total:			
						Net price:			
						Net value:			
		ACCESSORIES	Type	Size [mm]	Quantity [szt/mb]	Colour RAL			
		Bolts fixing the plate to the structure	Stal G12						
			Drewno/Beton						
		Flashing bolts							
		Rivets							
		Rivets	PE						
		Rivets	PES						
		Rivets	PUS						
		Rivets							
		Saddle washer	35-35	-					
		Washer	PM1	-					
		Covering caps	----						
		Connector	ALF						



Order form of individual flashing

ORDER FORM of INDIVIDUAL FLASHING

ORDER No of

SUPPLIER: (name, company address, phone/fax, TIN)

Gór-Stal sp. z o.o.

ul. Przemysłowa 11

38-300 Gorlice

Phone/Fax: + 48 18 353 98 00

Account No: 79 1140 1081 0000 5859 5500 1001

Agent:

DELIVERY PLACE (recipient, address, city, post code, phone/fax)

SUPPLIER (name, company address, phone/fax, TIN)

Table with 5 columns: No, Plate thickness [mm], Colour RAL, Length [m], Quantity [pcs]

Table with 5 columns: No, Plate thickness [mm], Colour RAL, Length [m], Quantity [pcs]

Table with 5 columns: No, Plate thickness [mm], Colour RAL, Length [m], Quantity [pcs]

Table with 5 columns: No, Plate thickness [mm], Colour RAL, Length [m], Quantity [pcs]

REMARK!

Flashing will be made acc. to the above drawings and their dimensions.

Ordering Party's signature



**NARODOWY INSTYTUT ZDROWIA PUBLICZNEGO
- PAŃSTWOWY ZAKŁAD HIGIENY**

**NATIONAL INSTITUTE OF PUBLIC HEALTH
- NATIONAL INSTITUTE OF HYGIENE**

**ZAKŁAD HIGIENY KOMUNALNEJ
DEPARTMENT OF ENVIRONMENTAL HYGIENE**

24 Chocimska 00-791 Warsaw • Phone (22) 5421354; (22) 5421349 • Fax (22) 5421287 • e-mail: sek-zhk@pzh.gov.pl

ATEST HIGIENICZNY

HK/B/0250/01/2012

HYGIENIC CERTIFICATE

ORIGINAL

Wyrób / product: **Płyta warstwowa GORLIKA GR 1000S, GR 1000u, GR 1000CH, GR 1000D z rdzeniem ze sztywnej pianki poliuretanowej w okładzinach z blachy stalowej ocynkowanej powlekanej powłokami organicznymi.**

Zawierający / containing: stal ocynkowaną, poliuretan, żywice syntetyczne i inne składniki wg dokumentacji producenta.

Przeznaczony do / destined: stosowania na ściany zewnętrzne i wewnętrzne, pokrycia dachowe w budownictwie obiektów: usługowych, handlowych, przemysłowych, branży spożywczej, chłodniczych, mieszkaniowych i użyteczności publicznej, w tym obiektach służby zdrowia.

Wymieniony wyżej produkt odpowiada wymaganiom higienicznym przy spełnieniu następujących warunków / is acceptable according to hygienic criteria with the following conditions:

W przypadku stosowania w obiektach służby zdrowia wyrób musi spełniać wymagania rozporządzenia Ministra Zdrowia z dnia 02 lutego 2011r (Dz. U. z dn. 11 lutego 2011, nr 31, poz. 158) w sprawie wymagań, jakim powinny odpowiadać pod względem fachowym i sanitarnym pomieszczenia i urządzenia zakładu opieki zdrowotnej. Wyrób nie może być źródłem emisji lotnych związków organicznych do środowiska i wewnątrz pomieszczeń. Atest nie dotyczy bezpośredniego kontaktu wyrobu z żywnością. Atest nie dotyczy cech użytkowych wyrobu.

Wytwórca / producer:

„GÓR-STAL” Spółka z o. o.
38-300 Gorlice
ul. Przemysłowa 11

Niniejszy dokument wydano na wniosek / this certificate issued for:

„GÓR-STAL” Spółka z o. o.
38-300 Gorlice
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Atest może być zmieniony lub unieważniony po przedstawieniu stosownych dowodów przez którąkolwiek stronę. Niniejszy atest traci ważność po 2017-03-30 lub w przypadku zmian w recepturze albo w technologii wytwarzania wyrobu.

The certificate may be corrected or cancelled after appropriate motivation.
The certificate loses its validity after 2017-03-30
or in the case of changes in composition or in technology of production.

Data wydania atestu higienicznego: 30 marca 2012

The date of issue of the certificate: 30th March 2012

Reprodukowanie, kopiowanie, fotografowanie, skanowanie, digitalizacja Atestu Higienicznego w celach marketingowych bez zgody NIZP-PZH jest zabronione.

Kierownik
Zakładu Higieny Komunalnej

Bożena Krogulska
dr Bożena Krogulska

zł. 7. Polkad

www.pzh.gov.pl



CERTYFIKAT

POLSKIE CENTRUM CERTYFIKACJI

potwierdza, że:

Gór-Stal Sp. z o.o.
ul. Przemysłowa 11, 38-300 Gorlice

stosuje System Zarządzania Jakością i spełnia wymagania

PN-EN ISO 9001:2009

w zakresie:

wytwarzania płyt warstwowych z rdzeniem poliuretanowym
oraz paneli termoizolacyjnych z rdzeniem poliuretanowym.

*Niniejszy certyfikat pozostaje w mocy pod warunkiem spełnienia wymagań umowy
nr 51/2013 oraz załącznika nr SWC_PW-03705-13.*

Certyfikacji udzielono:	20.05.2013
Certyfikat ważny do:	19.05.2016
Nr rejestracyjny certyfikatu:	PW-03705-13
Data wydania certyfikatu:	20.05.2013



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Dyrektor
Błaut
Miroslaw Błaut

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Niniejsze opracowanie nie stanowi oferty w rozumieniu prawa.

Opracował: mgr. inż. Szymon Jamro, Wydanie II, Gorlice, 03.2008 r.

Aktualizacja: Maciej Kluba, Ela Kuta 02.2016r.



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