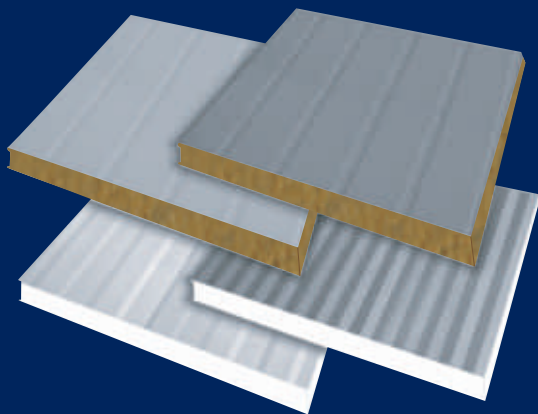


SANDWICH PANELS

- with EPS core
- with mineral wool core

TECHNICAL CATALOG PANELTECH PWS, PWW

PaNELTECH[®]
MODERN BUILDING



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version 2014.1.

INTRODUCTION

PaNELTECH Ltd is a company specialized in building services and production of building materials. We have been present on the market of investment and industrial goods since 1989. High quality of our products is a result of modern production technology and application of materials and components supplied by renowned domestic and foreign companies. Thanks to our knowledge, experience and engagement we are able to offer high quality building products and services.

PaNELTECH offers a modern and complex light weight cladding system, which includes:

- sandwich panels with PUR core,
- sandwich panels with EPS core,
- sandwich panels with mineral wool core,
- flashing system,
- installation and mounting materials,
- PVC and aluminium joinery,
- gutter systems.

Thanks to years of experience in production, sale and installation of sandwich panels we were able to create a wide assortment that meets the requirements of our customers. We supply technical advice service, we offer transport services and installation.

This catalog describes sandwich panels with EPS and mineral wool core. PUR panels are described in Technical Catalog PaNELTECH PW PUR.

SANDWICH PANELS APPLICATION

Sandwich panels can be applied as:

- roofs and roof coverings,
- external walls and wall claddings,
- walls and ceilings within the external structure of the building.

In particular sandwich panels can be applied in:

- industrial buildings, including production facilities and storehouses,
- commercial buildings and offices,
- food industry facilities, including coldrooms and freezer rooms,
- agricultural objects,
- sport halls.

THE SCOPE THE OFFER

Within the range of EPS panels we offer following products:

- Wall panels, type PWS-S, available thickness: 50, 75, 100, 125, 150, 200, 250 [mm]
- Roof panels, type PWS-D, available thickness 75, 100, 125, 150, 200, 250 [mm]

Within the range of mineral wool panels we offer following products:

- Wall panels, type PWW-S, available thickness: 100, 120, 150, 200 [mm]
- Roof panels, type PWW-D, available thickness 100, 120, 150, 200 [mm]

SANDWICH PANELS CHARACTERISTICS

Panel facings are made of galvanized steel sheet coated with polyester paint, thickness 0,5 [mm] made in accordance with the norm PN-EN 10346. The steel we use to produce our panels are delivered by biggest world steel concerns, such as Arcelor Mittal, Voest Alpine or Thyssen Krupp.

The core of PWS-S and PWS-D panel can be made of expanded polystyrene, type EPS 037 ROOF FLOOR STANDARD, produced by our own factory. The core of PWW-S and PWW-D panels is made of mineral wool, density ab. 120 [kg/m³], delivered by Rockwool. EPS panels are produced in accordance with Technical Approval ITB AT-15-3515/2011, mineral wool panels are made in accordance with European Norm PN-EN-14509:2010.

INSTALLATION RECOMMENDATIONS

Installation works should be carried out by trained and experienced employers. The panels should be cut only with special fine-grained sawing machines or steel sheet shears. Any grinders or other devices that could damage the product must be avoided. After the installation the surface of the panel should be cleaned steel file dust.

It is also recommended to remove the protective foil from the surface of the panels up to 14 days after delivery to the building site.

TECHNICAL SUPPORT AND OFFER COMPLEXITY

Thanks to our experienced and qualified technical advisors and sale managers we ensure proper assistance and support on every stage of building process.

We also offer high quality services including installation of steel structures and sandwich panels, as well as general execution of industrial and agricultural building facilities (“turn key” investments).

Except for sandwich panels with PUR, PIR, EPS and mineral wool core we offer:

- flashing systems,
- joining and assembly elements,
- PVC and aluminium joinery,
- industrial and coldroom doors,
- gutter systems,
- EPS boards and shapes,
- steel structures,
- Hormann gates and loading systems.

More detailed information can be found on our web-site www.paneltech.pl

DISCLAIMER

All solutions shown in this catalog are just examples and must be discussed with a designer or architect. Paneltech does not bare any responsibility for mistakes arising from wrong interpretation or misuse of the information presented in the catalog.

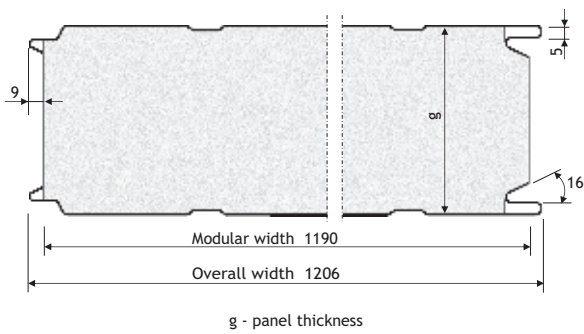
Additional information, including:

- General Warranty Conditions,
- General Sale Conditions,
- Conditions of panel maintenance and proper preservation of its surface,
- Conditions of panel transportation, loading, unloading and storage,
- Installation instructions,

Can be found on the company's web-site www.paneltech.pl.

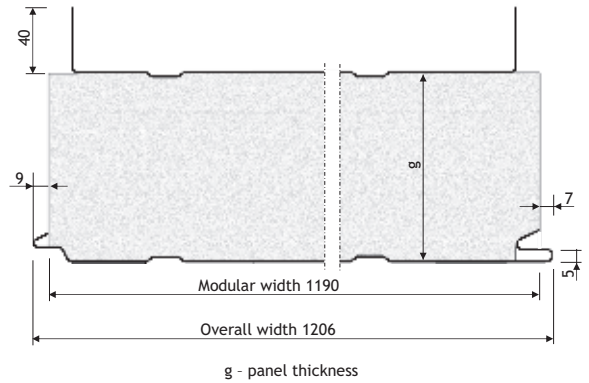
The author - PaNELTECH Ltd - serves the right to introduce changes in this catalog without prior notice. The catalog is not an offer in the legal meaning.

Draw. 1 | PaNELTECH WALL SANDWICH PANEL



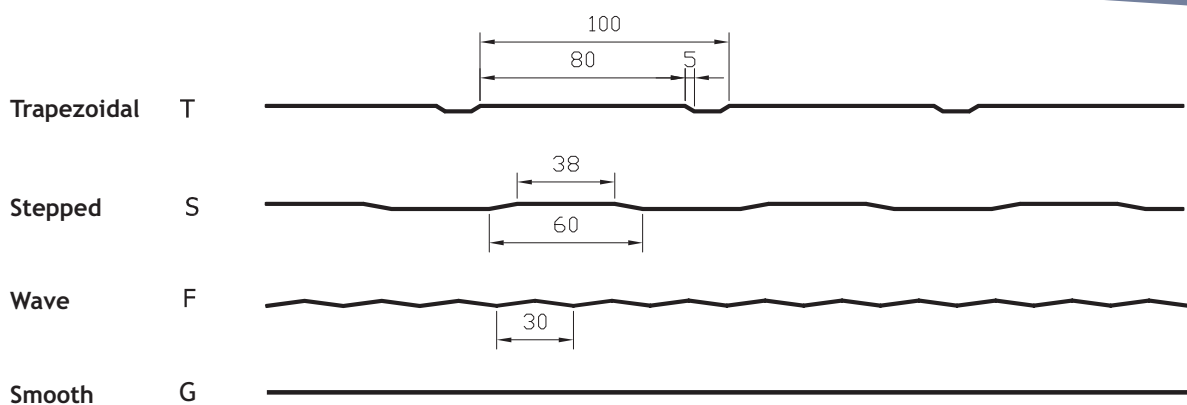
PWS-S: EPS core panel
 Available thickness: 50, 75, 100, 125, 150, 200, 250 mm
 PWW-S: mineral wool core panel
 Available thickness: 100, 120, 150, 200 mm

Draw. 2 | PaNELTECH ROOF SANDWICH PANEL



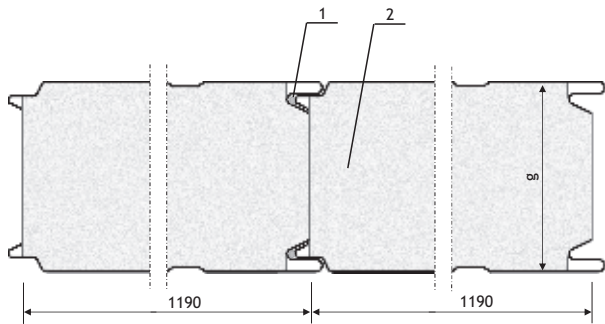
PWS-S: EPS core panel
 Available thickness: 75, 100, 125, 150, 200, 250 mm
 PWW-S: mineral wool core panel
 Available thickness: 100, 120, 150, 200 mm

Draw. 3 | AVAILABLE FACING PROFILES FOR PWS AND PWW PANELS



Available combinations (external/internal)
 S/S ; F/S ; S/G ; T/S ; F/T ; T/G ; T/T ; G/S ; F/G ; G/G
 a) For wall panels combinations F/S or S/S are recommended
 b) For roof panels combinations T/S or T/T are recommended

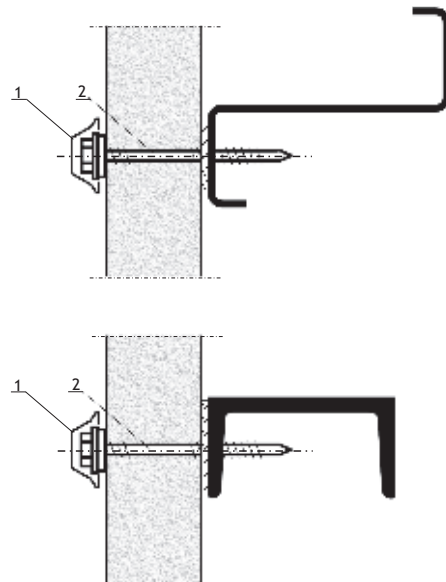
Draw. 4 | WALL PANELS JOINT



g - panel thickness

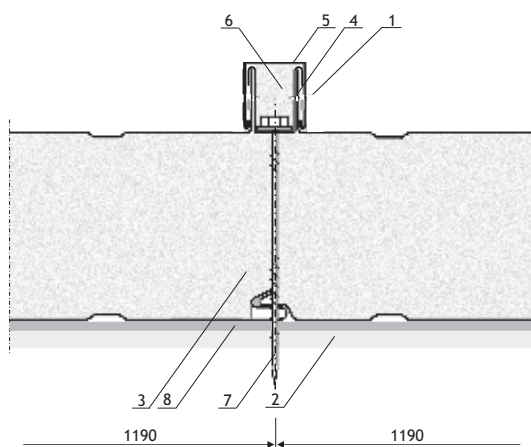
- 1. BUTYL OR SILICON SEALING MASS
- 2. WALL PANELS

Draw. 5 | WALL PANELS FIXING TO THE STEEL STRUCTURE



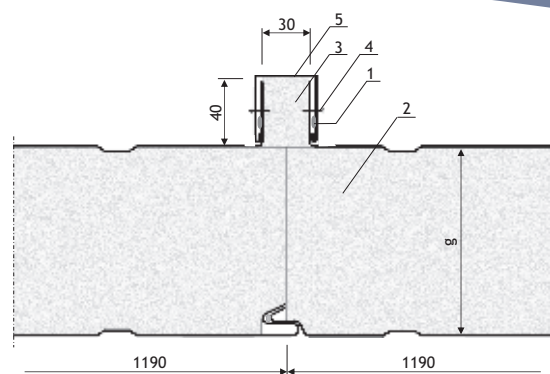
- 1. PVC CAP
- 2. SELF-DRILLING SCREW

Draw. 6 | ROOF PANELS FIXING TO THE STRUCTURE OF THE ROOF



- 1. BUTYL OR SILICON SEALING MASS
- 2. ROOF PURLIN
- 3. ROOF PANEL
- 4. CD PROFILE - CHANNEL SECTION MADE OF GALVANIZED STEEL, THICKNESS 1,40MM, LENGTH OF 300MM
- 5. DR PROFILE
- 6. EPS OR POLYURETHANE (30 X 40MM)
- 7. SELF-DRILLING SCREW
- 8. WASHER PLACED ON THE PURLIN

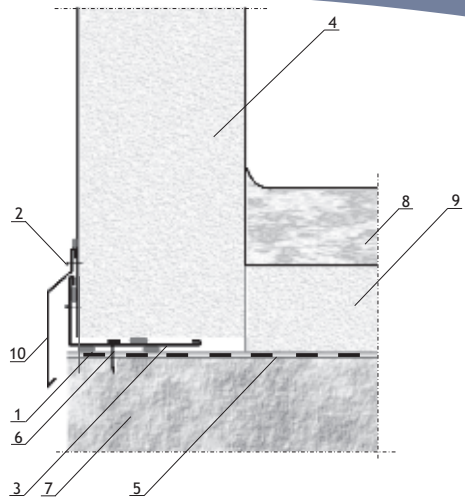
Draw. 7 | ROOF PANELS JOINT



g - panel thickness

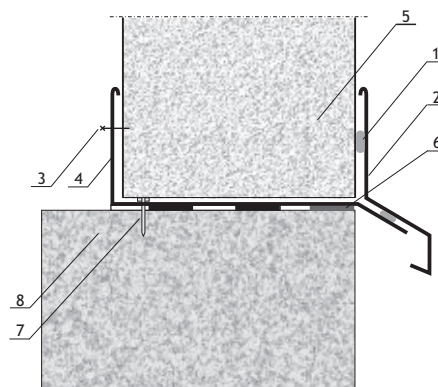
- 1. BUTYL OR SILICON SEALING MASS
- 2. ROOF PANEL
- 3. EPS OR POLYURETHANE (30 X 40MM)
- 4. ONE-SIDED RIVET
- 5. DR PROFILE

Draw. 8 | THE JOINT BETWEEN EXTERNAL WALL AND INSULATED FLOOR



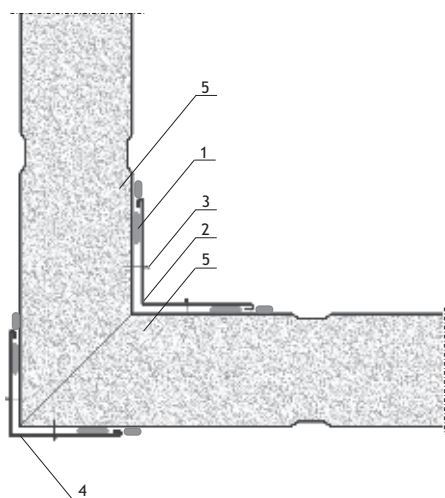
1. BUTYL OR SILICON SEALING MASS
2. ONE-SIDED RIVET
3. BK-70Z FLASHING
4. WALL PANEL
5. FOIL
6. EXPANDING SCREW ($\varnothing 6 \times 80\text{MM}$) OR INJECTING PINS (EVERY 700 MM)
7. BUILDING BASE
8. FLOOR
9. EPS
10. FLASHING

Draw. 9 | THE JOINT BETWEEN WALL AND GROUND SILL



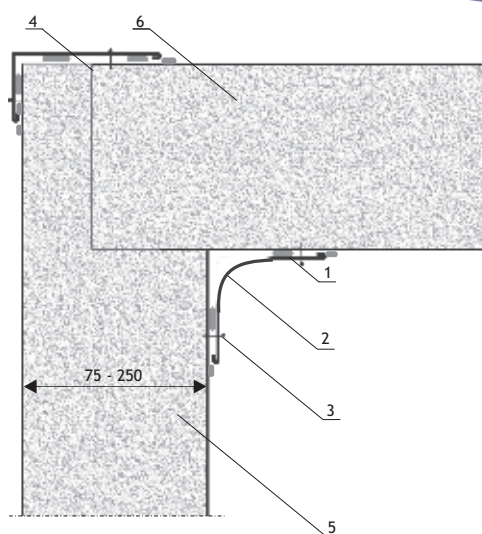
1. BUTYL OR SILICON SEALING MASS
2. Z-2 FLASHING
3. ONE-SIDED RIVET
4. Z-1 FLASHING
5. WALL PANEL
6. INSULATING TAPE
7. EXPANDING PIN
8. GROUND SILL

Draw. 10 | WALLS CORNER JOINT



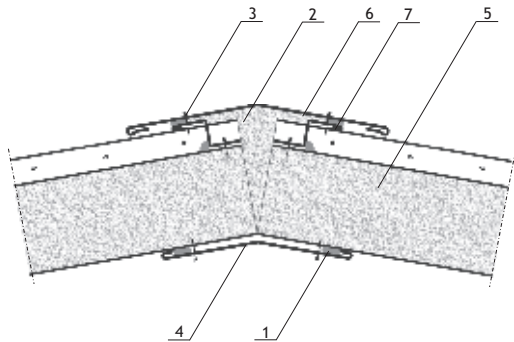
1. BUTYL OR SILICON SEALING MASS
2. BK-50W OR KZW FLASHING
3. ONE-SIDED RIVET
4. BK-50Z FLASHING
5. WALL PANEL

Draw. 11 | THE JOINT BETWEEN WALL AND CEILING IN THE COLDROOM



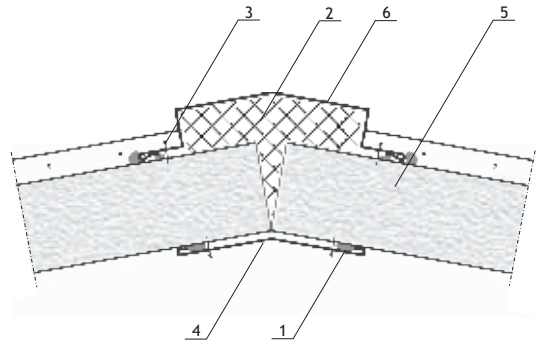
1. BUTYL OR SILICON SEALING MASS
2. BK-50W OR KZW FLASHING
3. ONE-SIDED RIVET
4. BK-70Z FLASHING
5. WALL PANEL
6. WALL PANEL (CEILING)

Draw. 12 | ROOF RIDGE FLASHING, OPTION I



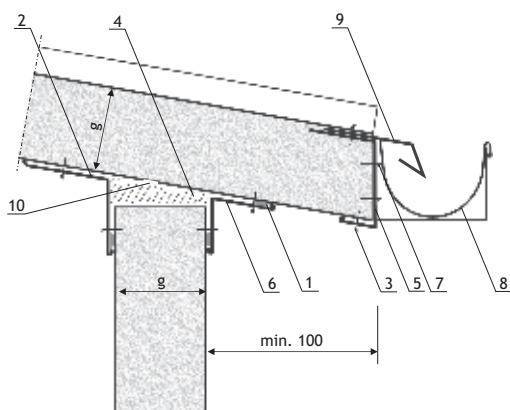
1. BUTYL OR SILICON SEALING MASS
2. PU FOAM
3. ONE-SIDED RIVET
4. DK-2 FLASHING
5. ROOF PANEL
6. DK-3 FLASHING
7. DK-4 FLASHING

Draw. 13 | ROOF RIDGE FLASHING, OPTION II



1. BUTYL OR SILICON SEALING MASS
2. PU FOAM
3. ONE-SIDED RIVET
4. DK-2 FLASHING
5. ROOF PANEL
6. DK-1 FLASHING

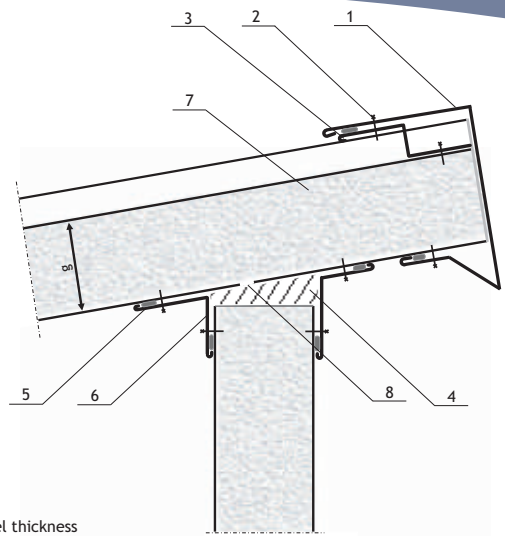
Draw. 14 | EAVES WITH PVC GUTTER



g - panel thickness

1. BUTYL OR SILICON SEALING MASS
2. BK-50W \triangleleft ... FLASHING
3. ONE-SIDED RIVET
4. PU FOAM
5. CC FLASHING
6. BK-50W \triangleleft ... FLASHING
7. FIXING
8. PVC GUTTER
9. DO-1 FLASHING
10. INTERNAL FACING CUT DUE TO ELIMINATION OF THERMAL BRIDGE

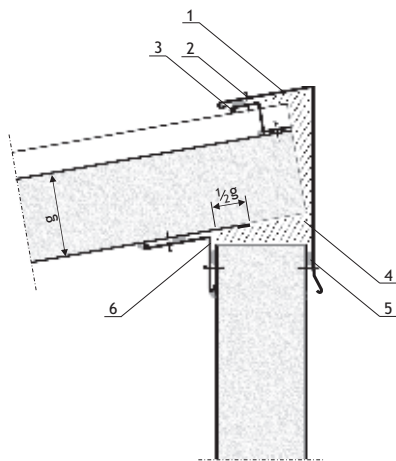
Draw. 15 | SHED ROOF FLASHING



g - panel thickness

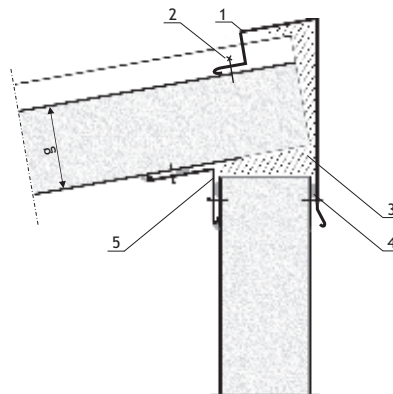
1. DK-6 FLASHING
2. ONE-SIDED RIVET
3. DK-4 FLASHING
4. PU FOAM
5. BUTYL OR SILICON SEALING MASS
6. BK-50W \triangleleft ... FLASHING
7. ROOF PANEL
8. INTERNAL FACING CUT DUE TO ELIMINATION OF THERMAL BRIDGE

Draw. 16 | SHED ROOF FLASHING
 OPTION I



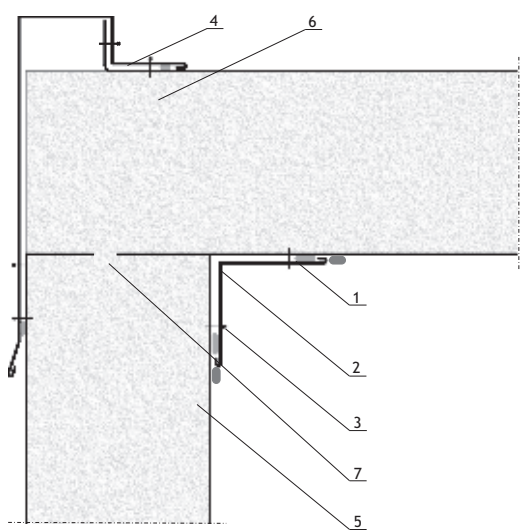
- 1. DK-5 FLASHING
- 2. ONE-SIDED RIVET
- 3. DK-4 FLASHING
- 4. PU FOAM
- 5. BUTYL OR SILICON SEALING MASS
- 6. BK-50W FLASHING

Draw. 17 | SHED ROOF FLASHING
 OPTION II



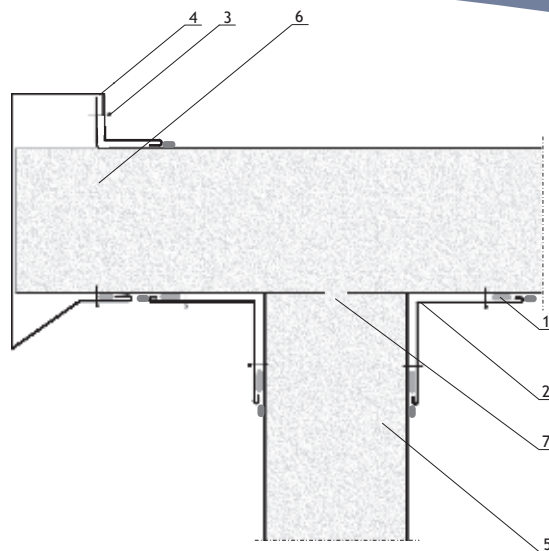
- 1. DK-7 FLASHING
- 2. ONE-SIDED RIVET
- 3. PU FOAM
- 4. BUTYL OR SILICON SEALING MASS
- 5. BK-50W FLASHING

Draw. 18 | FLASHING OF THE TOP OF THE BUILDING,
 OPTION I



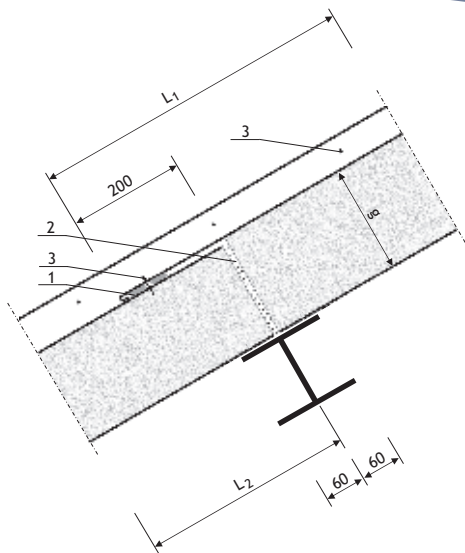
- 1. BUTYL OR SILICON SEALING MASS
- 2. BK-50W FLASHING
- 3. ONE-SIDED RIVET
- 4. DS-1 FLASHING
- 5. WALL PANEL
- 6. ROOF PANEL
- 7. INTERNAL FACING CUT DUE TO ELIMINATION OF THERMAL BRIDGE

Draw. 19 | FLASHING OF THE TOP OF THE BUILDING,
 OPTION II



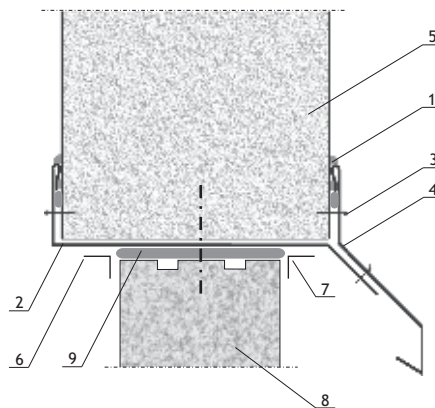
- 1. BUTYL OR SILICON SEALING MASS
- 2. BK-50W FLASHING
- 3. ONE-SIDED RIVET
- 4. DS-2 FLASHING
- 5. WALL PANEL
- 6. ROOF PANEL
- 7. INTERNAL FACING CUT DUE TO ELIMINATION OF THERMAL BRIDGE

Draw. 20 | **PANEL JOINT ALONG THE ROOF SLOPE**



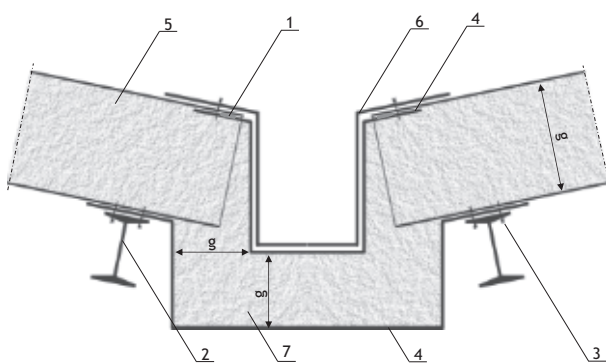
1. BUTYL OR SILICON SEALING MASS
2. PU FOAM
3. ONE-SIDED STAINLESS RIVET

Draw. 21 | **HORIZONTAL PANEL EDGE FLASHING**



1. BUTYL OR SILICON SEALING MASS
2. Z-1 FLASHING
3. ONE-SIDED RIVET
4. Z-2 FLASHING
5. WALL PANEL
6. SYSTEM FLASHING FOR WINDOW OR DOOR
7. SYSTEM FLASHING FOR WINDOW OR DOOR
8. WINDOW OR DOOR PROFILE
9. PU FOAM

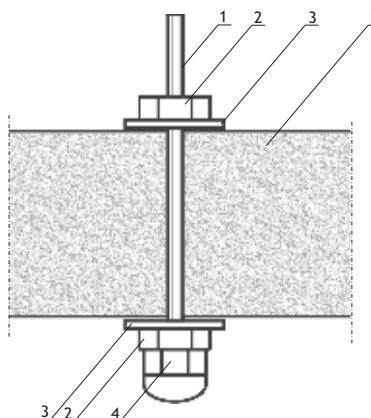
Draw. 22 | **INTERNAL GUTTER** In accordance with designer's individual solutions panel edge flashing



1. BUTYL OR SILICON SEALING MASS
2. PURLIN
3. ONE-SIDED RIVET
4. STEEL SHEET (INTERNAL AND EXTERNAL FACING)
5. ROOF PANEL
6. THERMO-WELDABLE BUILDING PAPER OR MEMBRANE
7. INSULATION

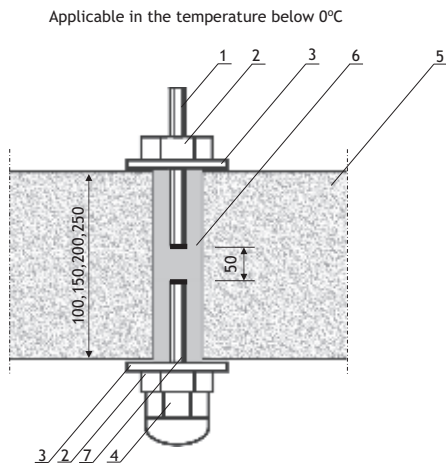
Draw. 23 | **INTERMEDIATE CEILING SUSPENSION**

Applicable in the temperature over 0°C



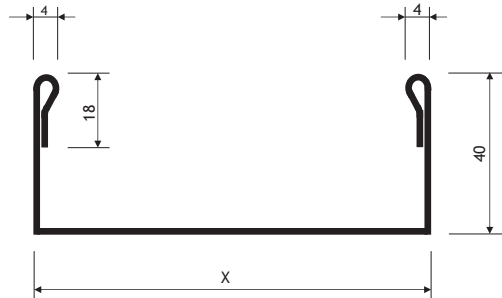
1. BAR WITH THREAD Ø10 OC
2. NUT M10 OC
3. ALUMINIUM WASHER (Ø60, THICKNESS 3MM)
4. CAP NUT M10 OC
5. WALL PANEL

Draw. 24 | INTERMEDIATE CEILING SUSPENSION
IN COLDROOMS AND FREEZERS



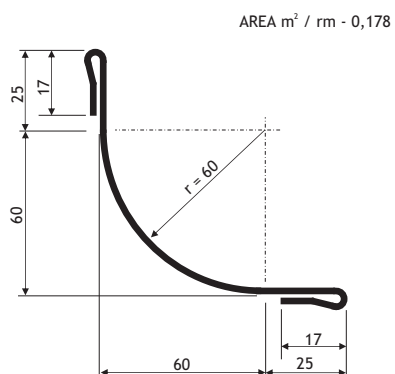
1. BAR WITH THREAD Ø10 OC
2. NUT M10 OC
3. ALUMINIUM WASHER (Ø60, THICKNESS 3MM)
4. CAP NUT M10 OC
5. WALL PANEL
6. TEFLON SLEEVE (Ø 30 X 150, 200, 250)
7. SCREW M10 OC

Rys. 25 | CHANNEL SECTION BC

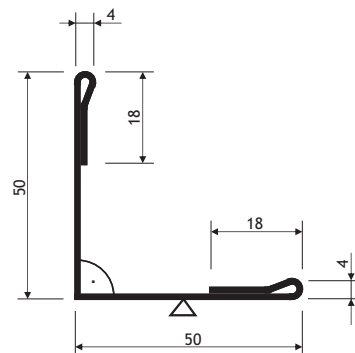


BC	Panel thickness (mm)					
	50	75	100	150	200	250
Width (x)	54	79	104	154	204	254
area (m ² /m)	0,178	0,203	0,228	0,278	0,328	0,378

Draw. 26 | INTERNAL ROUNDED
FLASHING KZW

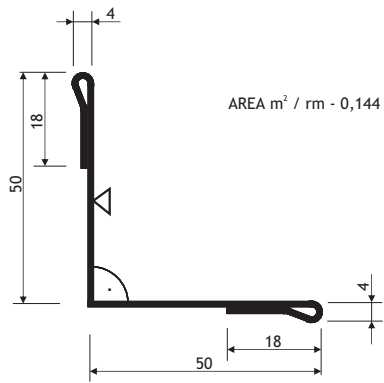


Draw. 27 | EXTERNAL FLASHING BK-50Z



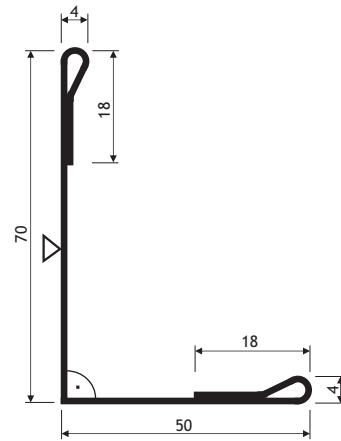
Attention: It is possible to produce this flashing with acute or obtuse angle.
In this case the value of the angle must be specified.

Draw. 28 | INTERNAL FLASHING BK-50W



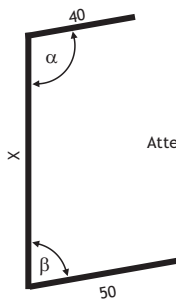
Attention: It is possible to produce this flashing with acute or obtuse angle. In this case the value of the angle must be specified.

Draw. 29 | EXTERNAL FLASHING BK-70Z



AREA m² / rm - 0,164

Draw. 30 | EAVES FLASHING CC

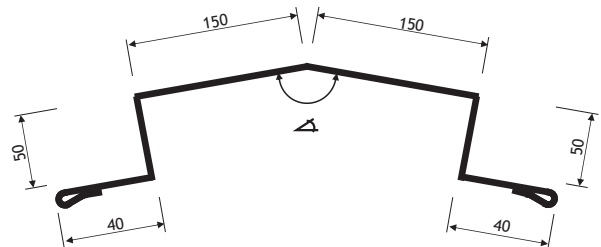


Attention: in case roof slope is bigger than 10% X value must be adjusted

Galvanized steel, thickness 1,5mm

	CC1	CC2	CC3	CC4
Panel thickness	100	150	200	250
Width X	100	150	200	250
Area m ² /rm	0,190	0,240	0,290	0,340

Rys. 31 | ROOF RIDGE FLASHING DK - 1

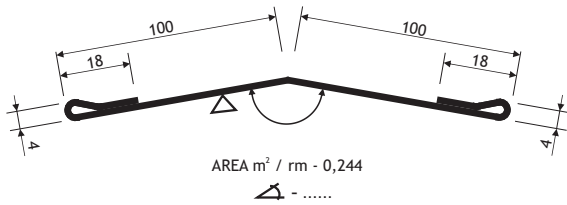


AREA m² / rm - 0,544

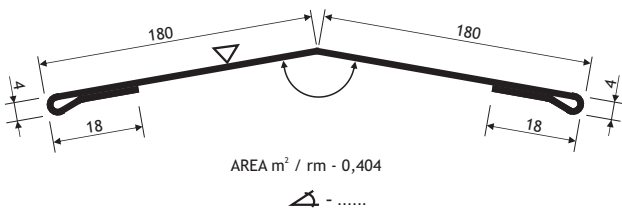
△ =

Draw. 32 | A. ROOF RIDGE FLASHING DK-2
B. ROOF RIDGE FLASHING DK-3

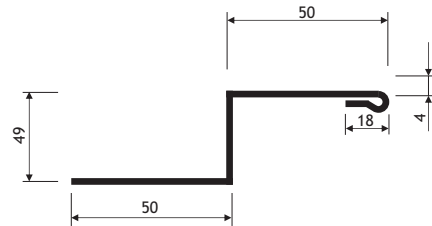
A. ROOF RIDGE FLASHING DK-2



A. ROOF RIDGE FLASHING DK-3



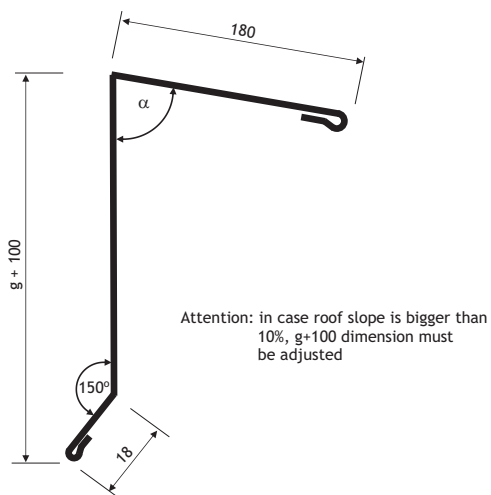
Draw. 33 | ROOF RIDGE FLASHING DK-4



AREA m² / rm - 0,171

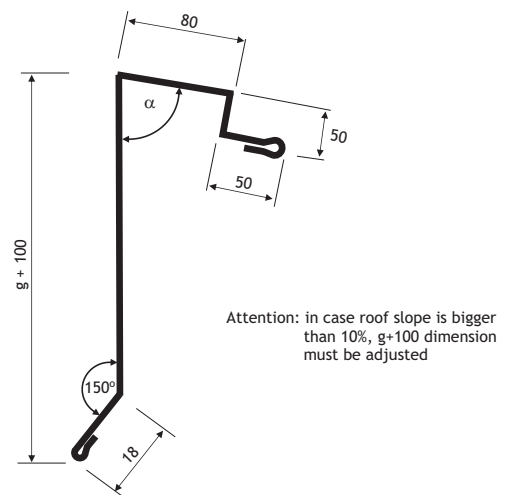
dt. 1150 mm

Draw. 34 | SHED ROOF FLASHING WITHOUT EAVES DK-5



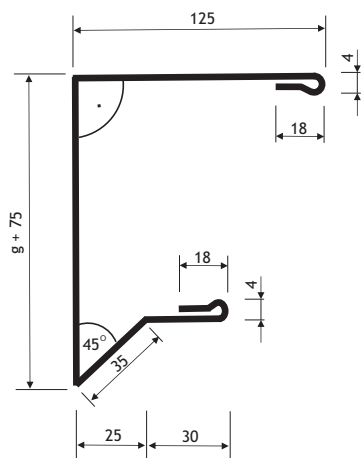
	roof panel thickness g (mm)			
DK - 5	100	150	200	250
area m ² /rm	0,429	0,479	0,529	0,579

Draw. 35 | SHED ROOF FLASHING WITHOUT EAVES DK-7



	roof panel thickness g (mm)			
DK - 7	100	150	200	250
area m ² /rm	0,429	0,479	0,529	0,579

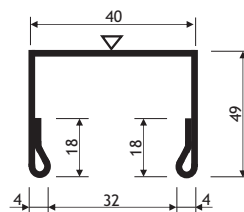
Draw. 36 | SHED ROOF FLASHING WITH EAVES DK-6



	roof panel thickness g (mm)			
DK - 6	100	150	200	250
area m ² /rm	0,408	0,459	0,509	0,559

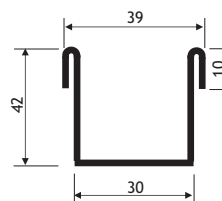
Draw. 37 | A. ROOF PROFILE DR
B. COLD-BENDED GALVANIZED PROFILE CD

A. ROOF PROFILE DR



AREA m²/ rm - 0,182

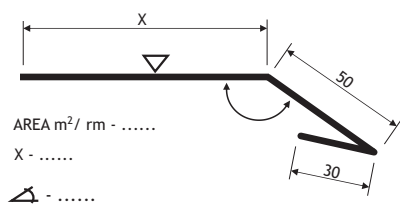
B. COLD-BENDED GALVANIZED PROFILE CD



Galvanized steel,
thickness 1,5mm, l=300mm

Draw. 38 | A. SOCKLE EAVES 0-1
B. ROOF EAVES D0-1

A. SOCKLE EAVES 0-1

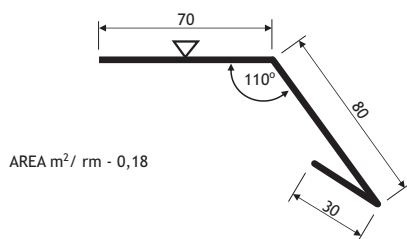


AREA m²/ rm -

X -

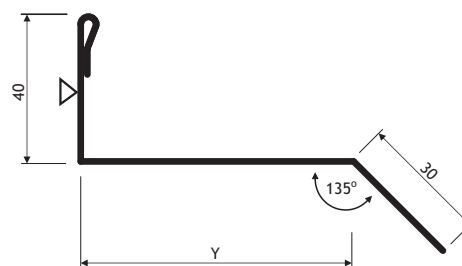
∠ -

B. ROOF EAVES D0-1



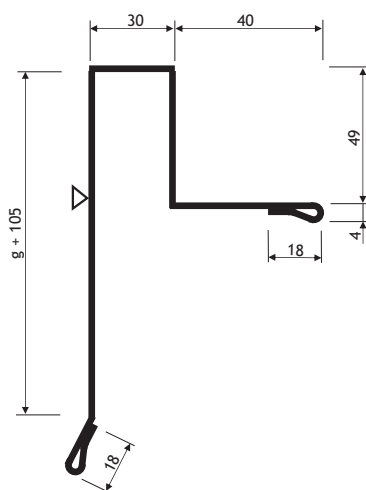
AREA m²/ rm - 0,18

Draw. 39 | FLASHING Z-1



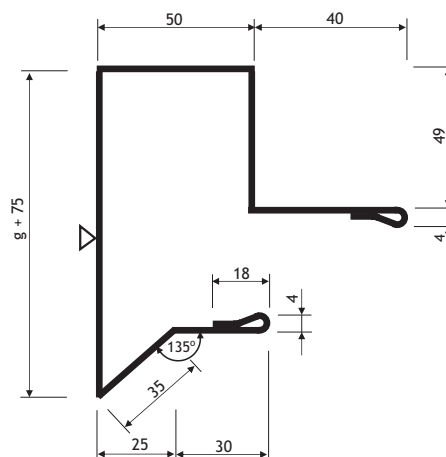
Y - 75, 100, 150, 200

Draw. 40 | TOP FLASHING DS-1



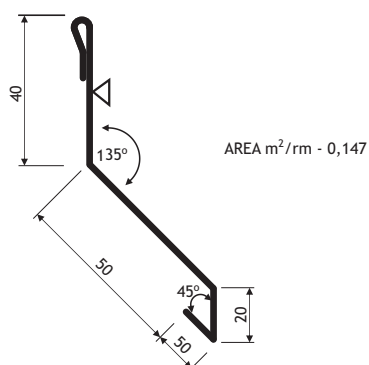
DS-1	panel thickness g (mm)			
	100	150	200	250
AREA m ² /rm	0,368	0,418	0,469	0,518

Draw. 41 | TOP FLASHING DS-2



DS-2	panel thickness g (mm)			
	100	150	200	250
AREA m ² /rm	0,413	0,463	0,513	0,563

Draw. 42 | CONNECTING ELEMENTS
FLASHING Z-2



TECHNICAL PARAMETERS OF SANDWICH PANELS WITH EPS CORE

Table 1. Maximal loads of single-span wall panels PWS-S in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - towards the support.

Core thickness	Load type	Maximal load [daN/m ²] with the following span [m]														
		2,1	2,4	2,7	3,0	3,3	3,6	3,9	4,2	4,5	4,8	5,1	5,4	5,7	6,0	6,3
75	load capacity	242	185	147	119	98	83	70	61	52	46	41				
	rigidity	173	139	114	95	78	66	55	46	38	33	28				
100	load capacity	268	228	180	146	120	101	86	74	65	57	50	45	40	36	33
	rigidity	200	166	139	119	102	87	76	66	57	50	44	38	33	29	26
125	load capacity	294	258	226	183	151	127	108	93	81	71	63	56	51	46	42
	rigidity	263	220	188	161	139	122	106	94	82	73	64	57	51	46	41
150	load capacity		280	249	220	182	153	130	112	98	86	76	68	61	55	50
	rigidity		276	236	205	179	157	138	123	109	97	86	78	70	63	57

Table 2. Maximal loads of multi-span wall panels PWS-S in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - towards the support.

Core thickness	Load type	Maximal load [daN/m ²] with the following span [m]														
		2,1	2,4	2,7	3,0	3,3	3,6	3,9	4,2	4,5	4,8	5,1	5,4	5,7	6,0	6,3
75	load capacity	234	202	177	157	123										
	rigidity	196	165	141	122	106										
100	load capacity	268	231	203	180	162	147	118	92							
	rigidity	215	183	157	137	121	108	96	87							
125	load capacity	306	264	232	207	186	169	154	136	107	85					
	rigidity	279	238	205	181	159	142	128	116	105	96					
150	load capacity		294	258	230	207	188	172	158	146	117	95				
	rigidity		294	255	224	199	178	161	146	133	121	111				

Table 3. Maximal loads of single-span wall panels PWS-S in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - from the support (3 fixings on panel's width).

Core thickness	Load type	Maximal load [daN/m ²] with the following span [m]														
		2,1	2,4	2,7	3,0	3,3	3,6	3,9	4,2	4,5	4,8	5,1	5,4	5,7	6,0	6,3
75	load capacity	194	148	117	95	78	66	56	49	42	37	33				
	rigidity	155	128	108	91	76	65	55	46	38	33	28				
100	load capacity	215	182	144	117	96	81	69	60	52	46	40	36	32	29	26
	rigidity	172	146	125	108	95	83	73	64	57	50	44	38	33	29	26
125	load capacity	235	206	181	147	121	102	86	75	65	57	50	45	41	36	33
	rigidity	220	188	163	142	125	111	98	88	78	70	63	57	51	46	41
150	load capacity		224	199	176	145	122	104	90	78	69	61	54	49	44	40
	rigidity		229	199	176	156	139	124	112	101	90	82	75	49	44	39

Table 4. Maximal loads of multi-span wall panels PWS-S in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - from the support (3 fixings on panel's width).

Core thickness	Load type	Maximal load [daN/m ²] with the following span [m]															
		2,1	2,4	2,7	3,0	3,3	3,6	3,9	4,2	4,5	4,8	5,1	5,4	5,7	6,0	6,3	
75	load capacity	187	161	141	126	99											
	rigidity	164	139	121	106	93											
100	load capacity	214	185	162	144	130	118	95	74								
	rigidity	191	164	142	124	110	99	89	80								
125	load capacity	244	211	185	165	149	135	123	109	85	68						
	rigidity	245	210	183	162	144	129	117	106	96	89						
150	load capacity		235	206	184	165	151	137	126	117	94	76					
	rigidity		258	225	198	177	159	145	132	121	110	102					

Table 5. Maximal loads of single-span roof panels PWS-D in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - from the support and towards the support.

Core thickness	Load type	Maximal load [daN/m ²] with the following span [m]															
		2,1	2,4	2,7	3,0	3,3	3,6	3,9	4,2	4,5	4,8	5,1	5,4	5,7	6,0		
75	load capacity	252	193	152	123	102	86	73	63	55	48						
	rigidity	184	152	127	107	90	77	66	57	50	44						
100	load capacity	279	237	187	152	125	105	89	77	67	59	52	47				
	rigidity	207	174	149	128	111	97	85	75	66	58	52	47				
125	load capacity	306	268	235	190	157	132	112	97	85	74	66	58	53	47		
	rigidity	267	227	195	169	148	131	115	102	91	82	73	66	59	54		
150	load capacity		291	259	229	189	159	135	117	102	89	79	70	63	57		
	rigidity		279	242	211	185	164	147	131	117	106	95	86	78	71		
200	load capacity			300	270	246	213	181	156	136	119	106	95	85	77		
	rigidity			336	295	261	234	209	189	170	155	142	129	118	108		
250	load capacity				308	280	257	227	196	171	150	133	119	106	96		
	rigidity				380	339	303	273	248	226	206	188	173	159	147		

Table 6. Maximal loads of multi-span roof panels PWS-D in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - from the support and towards the support.

Core thickness	Load type	Maximal load [daN/m ²] with the following span [m]													
		2,1	2,4	2,7	3,0	3,3	3,6	3,9	4,2	4,5	4,8	5,1	5,4	5,7	6,0
75	load capacity	207	179	157	139	126	114	95	78						
	rigidity	202	171	147	128	112	99	88	79						
100	load capacity	237	205	180	160	144	131	120	110	96					
	rigidity	219	188	162	142	125	112	101	92	83					
125	load capacity	271	234	206	183	165	150	137	126	117	108	93			
	rigidity	282	241	209	184	163	147	132	119	109	100	92			
150	load capacity		261	229	204	183	167	152	140	130	121	114	103	88	
	rigidity		295	257	226	202	182	163	149	136	124	115	106	98	
200	load capacity			275	245	221	200	183	169	157	146	136	128	120	114
	rigidity			353	312	279	251	227	208	191	175	162	150	140	131
250	load capacity				286	258	235	215	198	183	171	160	150	141	133
	rigidity				399	357	322	293	268	246	227	210	196	183	170

Attention: allowable loadings shown in tables 1-6 should be compared with computational loadings. Allowable loadings due to rigidity should be compared with characteristic loading.

Table 7. Allowable spans for single-span coldroom panels.

Core thickness	Internal facing temperature °C	Height over the terrain	Maximal span, m	
			zone 1 or 3	zone 2
100	0°C	up to 10 m	3,6	2,9
		up to 20 m	3,2	2,6
125		up to 10 m	4,3	3,6
		up to 20 m	3,9	3,2
150		up to 10 m	5,0	4,2
		up to 20 m	4,6	3,8
100	-5°C	up to 10 m	3,5	2,9
		up to 20 m	3,2	2,6
125		up to 10 m	4,3	3,5
		up to 20 m	3,9	3,2
150		up to 10 m	5,0	4,1
		up to 20 m	4,5	3,7
200		up to 10 m	6,0	5,3
		up to 20 m	5,8	4,8
150	-25°C	up to 10 m	4,7	4,0
		up to 20 m	4,3	3,6
200		up to 10 m	6,0	5,1
		up to 20 m	5,6	4,6
250		up to 10 m	6,0	6,0
		up to 20 m	6,0	5,6

Table 8. Allowable spans for double-span coldroom panels.

Core thickness	Internal facing temperature °C	Height over the terrain	Maximal span, m Wind burden zone 1, 2 or 3
100	0°C	up to 20 m	3,0
125		up to 20 m	3,3
150		up to 20 m	3,5
100	-5°C	up to 20 m	2,7
125		up to 20 m	3,1
150		up to 20 m	3,3
200		up to 20 m	3,9
150	-25°C	up to 20 m	2,7
200		up to 20 m	3,2
250		up to 20 m	3,6

Table 9. Allowable spans for single- and Multi-span panels with additional cover.

Core thickness mm	Maximal span, m		
	0°C	-5°C	-25°C
100	6,0	5,1	-
125	6,5	5,5	-
150	7,0	6,0	3,8
200	-	6,9	4,3
250	-	-	4,9

Table 10. Thermal transmittance U_c value [W/m^2K] for PWS-S and PWS-D panels.

wall panel thickness (mm)	50	75	100	125	150	200	250
U_c value ($W/m^2 K$)	0,69	0,48	0,37	0,30	0,25	0,19	0,15
roof panel thickness (mm)	-	75	100	125	150	200	250
U_c value ($W/m^2 K$)	-	0,47	0,36	0,30	0,24	0,19	0,15

Table 11. Reaction to fire for PWS-S panels according to PN-EN 13501-1.

panel thickness (mm)	50	75	100	125	150	200	250
PN-EN 11925-2	E	E	E	E	E	E	E
PN-EN 13823	D-s3, d0	-	-	-	-	-	-

Table 12. Fire resistance classification for PWS-S panels according to PN-EN-13501-2.

Wall panel thickness (mm)	50	75	100	125	150	200	250
PN-EN 1364-1	-	-	E15/EW15	E15/EW15	E15/EW15	E15/EW15	E15/EW15
PN-B-02867	NRO	NRO	NRO	NRO	NRO	NRO	NRO

Table 13. Fire resistance classification for PWS-D panels according to PN-EN-13501-5 / PN-EN 13501-2.

Roof panel thickness (mm)	75	100	125	150	200	250
PN-ENV 1187	B _{ROOF} /NRO	B _{ROOF} /NRO	B _{ROOF} /NRO	B _{ROOF} /NRO	B _{ROOF} /NRO	B _{ROOF} /NRO
PN-B-02851	-	-	RE30	RE30	RE30	RE30

Table 14. Allowable suction loading for single self-screwing fixing.

For roofs	200 daN
For walls	100 daN

TECHNICAL PARAMETERS OF SANDWICH PANELS WITH MINERAL WOOL CORE

Table 15. Maximal loads of single-span roof panels PWW-D in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - from the support and towards the support.

Core thickness mm	Span, m, by maximal load daN/m ²					
	50	70	100	150	200	250
100	5,0	4,2	3,1	2,1	1,6	1,2
120	5,5	4,3	3,1	2,2	1,7	1,3
150	6,1	4,5	3,2	2,3	1,8	1,4
200	6,4	4,8	3,5	2,5	2,0	1,6

Table 16. Maximal loads of multi-span roof panels PWW-D in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - from the support and towards the support.

Core thickness mm	Span, m, by maximal load daN/m ²					
	50	70	100	150	200	250
100	5,0	3,5	2,5	1,6	1,2	1,0
120	5,1	3,6	2,6	1,7	1,3	1,1
150	5,2	3,8	2,7	1,8	1,4	1,2
200	5,6	4,1	3,0	2,0	1,6	1,5

Table 17. Maximal loads of single-span wall panels PWW-S in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - from the support and towards the support.

Core thickness mm	Span, m, by maximal load daN/m ²							
	30	40	60	80	100	120	140	150
100	6,7	6,0	4,3	3,2	2,6	2,1	1,8	1,7
120	7,2	6,2	4,4	3,3	2,7	2,2	1,9	1,8
150	7,8	6,7	4,5	3,4	2,8	2,3	2,0	2,1
200	8,2	7,0	4,7	3,7	3,0	2,5	2,2	2,3

Table 18. Maximal loads of multi-span wall panels PWW-S in bright and very bright facings, thickness of the facings 0,5/0,5 mm, load direction - from the support and towards the support.

Core thickness mm	Span, m, by maximal load daN/m ²							
	30	40	60	80	100	120	140	150
100	6,9	6,0	4,1	3,1	2,5	2,1	1,7	1,6
120	7,2	6,2	4,2	3,2	2,6	2,2	1,8	1,7
150	7,8	6,5	4,5	3,4	2,7	2,3	1,9	1,8
200	8,2	7,0	4,9	3,7	2,9	2,5	2,2	2,0

Additional info for tables 15-18

During assessment of ultimate limit state, by loading influencing the supports (wind suction), the span should be decreased by 25%. In case external facing of the panel is 0,6mm, the span can be increased by 8%.

Table 19. Thermal transmittance U_c value for PWW-S and PWW-D panels.

Wall panel thickness, (mm)	100	120	150	200
U_c value (W/m ² K)	0,43	0,36	0,29	0,22
Roof panel thickness, (mm)	100	120	150	200
U_c value (W/m ² K)	0,43	0,36	0,30	0,22

Tabela 20. Reaction to fire classification for PWW-S panels according to PN-EN 13501-1.

Wall panel thickness, (mm)	100	120	150	200
PN-EN ISO 1182	A1	A1	A1	A1
PN-EN 13923	A2-s1, d0	A2-s1, d0	A2-s1, d0	A2-s1, d0

Table 21. Fire resistance classification for PWW-S panels according to PN-EN 13501-2.

Wall panel thickness, (mm)	100	120	150	200
PN-EN 1364-1	EI90	EI90	EI90	EI90
PN-B-02851	EI90/E120	EI90/E120	EI90/E120	EI90/E120
PN-B-02867	NRO	NRO	NRO	NRO

Tabela 22. Fire resistance classification for PWW-D panels according to PN-EN 13501-5 / PN-EN 13501-2.

Roof panel thickness, (mm)	100	120	150	200
PN-ENV 1187	B _{ROOF} /NRO	B _{ROOF} /NRO	B _{ROOF} /NRO	B _{ROOF} /NRO
PN-B-02851	EI90/E120	EI90/E120	EI90/E120	EI90/E120
PN-EN 1365-2	EI90	EI90	EI90	EI90

Table 23. Allowable suction loading for single self-screwing fixing.

For roofs	200 daN
For walls	100 daN

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