

## TECHNICAL DETAILS

Thermal insulating **roof panels**



# TABLE OF CONTENTS

page

<b>Chapter 1.</b> Technical characteristics of panels. Computing hypotheses	<b>page 3</b>
<b>Chapter 2.</b> Loadbearing capacities of panels	<b>page 12</b>
<b>Chapter 3.</b> Technical details for panels assembly	<b>page 20</b>

# INTRODUCTION

## SUMMARY

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### Chapters 1 and 2

Chapters 1 and 2 of this technical catalogue were carried out in collaboration with Technical University of Cluj Napoca, Faculty of Construction - Structures Department, under a research contract.

Chapter 1 presents the hypotheses on which the calculation has been made and the static systems analyzed.

Chapter 2 contains tables with loadbearing capacities depending on maximum spans allowed for roof sandwich panels with 3 and 5 ribs.

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### Chapter 3

Chapter 3 was developed by the Design Department of the company Terasteel.

Chapter 3 contains details of assembling the roof panels.

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### Loading tables

Load tables refer solely to the types of polyurethane foam panels with 3 and 5 ribs, manufactured by our company. The tables present load bearing capacities of panels analyzed according the types and sizes of the manufactured sections and the related physical and mechanical characteristics. The calculations were carried out according the standard EN 14509: 2013 - Appendix E " Selfsupporting insulated panels, with two metal faces", regulating the design of sub-assemblies made from sandwich panels.

Chapter **01**

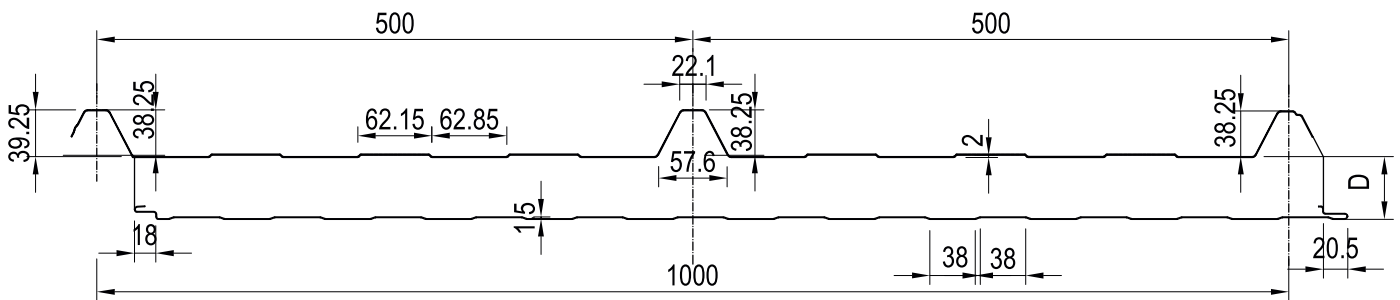
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**TECHNICAL CHARACTERISTICS OF  
PANELS. COMPUTING HYPOTHESES**

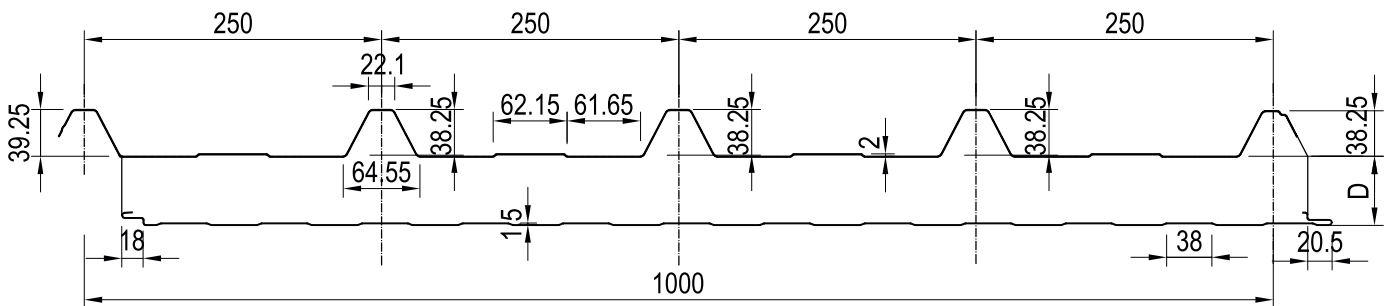
# Technical characteristics of panels

## THICKNESS

The analysis considered the types of thermal insulating panels included in Terasteel's portfolio, having the geometrical characteristics listed below.



Type 1: Transversal 3 ribs panel - ISOAC 3  
 Thicknesses: D=30,40,50,60,80,100,120 mm



Type 2: Transversal 5 ribs panel - ISOAC 5  
 Thicknesses: D=30,40,50,60,80,100,120 mm

# Characteristics

## Materials / Thicknesses / Hypothesis

Steel qualities considered in the calculation are according to EN 10346: 2009 "Continuously hot-dip coated steel flat products - Technical delivery conditions". The analyzed thermal insulating panels have the following typology dimensions:

· Exterior steel sheet made of prepainted galvanized steel <b>S250GD+Z180</b> with corrosion protection by hot galvanizing, of thickness	<b>25µm, thickness of the steel sheet 0.45 mm</b>
· Interior steel sheet made of prepainted galvanized steel <b>S220GD+Z100</b> with corrosion protection by hot galvanizing, of thickness	<b>15µm, thickness of the steel sheet 0.40 mm</b>
· Thickness of panel (polyurethane foam core)	<b>30-40-50-60-80-100-120 mm</b>

Characteristics of the steel used for the exterior face, with reference to steel grade S250GD + Z180, are as follow:

· Yield strength	<b><math>f_y = 250 \text{ N/mm}^2</math>;</b>
· Thermal expansion coefficient	<b><math>\alpha_{Ti} = 1.20 \times 10^{-5} / ^\circ\text{C}</math></b>
· Elasticity modulus	<b><math>E = 210000 \text{ N/mm}^2</math></b>

Characteristics of the steel used for the interior face, with reference to steel grade S220GD + Z100, are as follow:

· Yield strength	<b><math>f_y = 220 \text{ N/mm}^2</math></b>
· Thermal expansion coefficient	<b><math>\alpha_{Ti} = 1.20 \times 10^{-5} / ^\circ\text{C}</math></b>
· Elasticity modulus	<b><math>E = 210000 \text{ N/mm}^2</math></b>

The characteristics of the foam forming the core of the panel and the bending effort of the faces, obtained from the laboratory tests were used in determining the load bearing capacity of the panels.

Types of panels, for which loadbearing capacity tables were drafted:

· Thickness of transversal panels with 3 and 5 ribs	<b>30-40-50-60-80-100-120 mm</b>
· Maximum manufacturing length	<b>L max = 13,50 m</b>

## Drafting the tables referring to

Computing hypothesis

## capable loads of thermal insulating sandwich panels

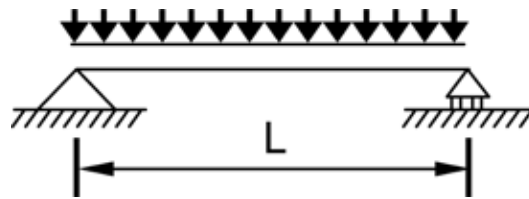
Thermal insulating panels are mostly used as outer enclosures. Following the arrangement on the roof purlins or wall rulers, simply supported or continuously supported static schemes may result. Therefore, static schemes were analyzed, on simply supported beam or continuous beam with two spans.

The calculation model to determine the loadbearing capacity of sandwich panels has considered the following hypotheses:

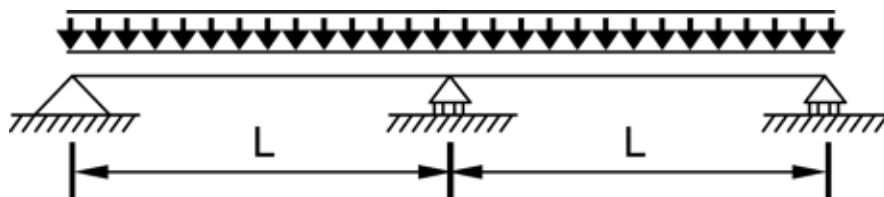
- Load is uniformly distributed over the entire length of the panel;
- Load may come from its own weight combined with the action of snow loads (pressure);
- Load may come from its own weight combined with the action of wind load (suction);
- According to EN 14509: 2013, the exterior face color can affect the loadbearing capacity (additional effort from differentiated / prevented expansions and contractions, overlapping the efforts resulted from suction and pressure), so analysis was done for three distinct color groups;
- According to EN 14509: 2013, the loadbearing capacity of the panel is affected by the effect of creep, so when sizing the panels, we considered both long and short-term effects;
- Temperature gradient between the faces of the panel was considered.

- o  $\Delta t=40^{\circ}\text{C}$  for color group I
- o  $\Delta t=45^{\circ}\text{C}$  for color group II
- o  $\Delta t=60^{\circ}\text{C}$  for color group III

Thus, we analyzed two types of static systems, each with two load cases (gravitational from snow and wind suction):



Static system No. 1: Simply supported beam



Static system No. 2: Continuous beam over two spans



## Drafting the tables referring to

Computing hypothesis

# capable loads of thermal insulating sandwich panels

Depending on the color of the thermal insulating panels considered in the project, 3 cases of sizing are to be considered in the loadbearing capacities tables:

### o $\Delta t=40^{\circ}\text{C}$ - for color group I

presents the loadbearing capacity with its allowable span, specified in meters (capacity in kN / m<sup>2</sup> - computing value is obtained by multiplying the characteristic value with the safety coefficient) for very light colors. This group may include colors as **RAL 1015, 1016, 1018, 6019, 7035, 9001, 9002, 9010.**

### o $\Delta t=45^{\circ}\text{C}$ - for color group II

presents the loadbearing capacity with its allowable span, specified in meters (capacity in kN / m<sup>2</sup> - computing value is obtained by multiplying the characteristic value with the safety coefficient) for light colors. This group may include colors as **1001, 1002, 1003, 1004, 1014, 1017, 1019, 1021, 1023, 1035, 2000, 2003, 2004, 2008, 2009, 2011, 5012, 5018, 5024, 6018, 6021, 6033, 7000, 7004, 7032, 7037, 7040, 7042, 7045, 7046, 9006, 9022.**

### o $\Delta t=60^{\circ}\text{C}$ - for color group III

presents the loadbearing capacity with its allowable span, specified in meters (capacity in kN / m<sup>2</sup> - computing value is obtained by multiplying the characteristic value with the safety coefficient) for dark colors. This group may include colors as **RAL 3000, 3002, 3003, 3005, 3009, 3011, 3013, 3020, 5002, 5005, 5007, 5009, 5010, 5011, 5012, 5014, 5017, 5022, 6000, 6003, 6005, 6011, 6020, 6024, 6029, 7011, 7012, 7015, 7016, 7021, 7022, 7024, 8004, 8016, 8017, 8023, 9005, 9007.**

According to EN 14509: 2013 the permissible limit value for deformation was considered  $L / 200$  for short-term load and  $L / 100$  for long-term loads.

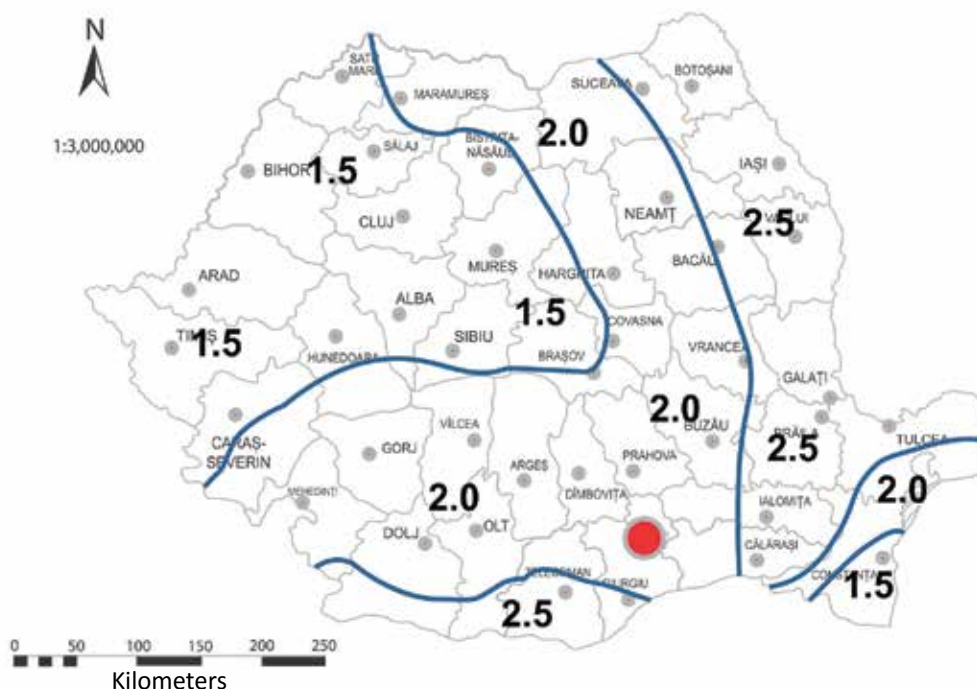
# Example of selecting the appropriate panel for an assessed load in roof panels

**Input:**  
It is exemplified the selection of the appropriate panel, considering the distributed snow load (according to norm CR 1-1-3-2012).

a) The characteristic value of snow load on the roof is determined by the relation:

$$S_k = \mu_i \times C_e \times C_t \times S_{0,k}$$

- geographical location of the construction: Bucharest:  $S_{0,k} = 2\text{kN/m}^2$  (back to 50 years according to the figure below)
- $C_e$  (exposure coefficient) it was taken into the consideration the case of partial exposure, for the uncrowded areas
- $C_t = 1.0$  (thermal coefficient)
- $\mu_i$  shape coefficient, considering the snow crowding in the attic area



The zoning of characteristic values of the snow load on the ground  $S_k$  -  $\text{kN/m}^2$  for altitudes  $A \leq 1000\text{m}$   
Note: For altitudes  $A > 1000\text{m}$ , the value  $S_k$  shall be determined using relations from CR 1-1-3-2012

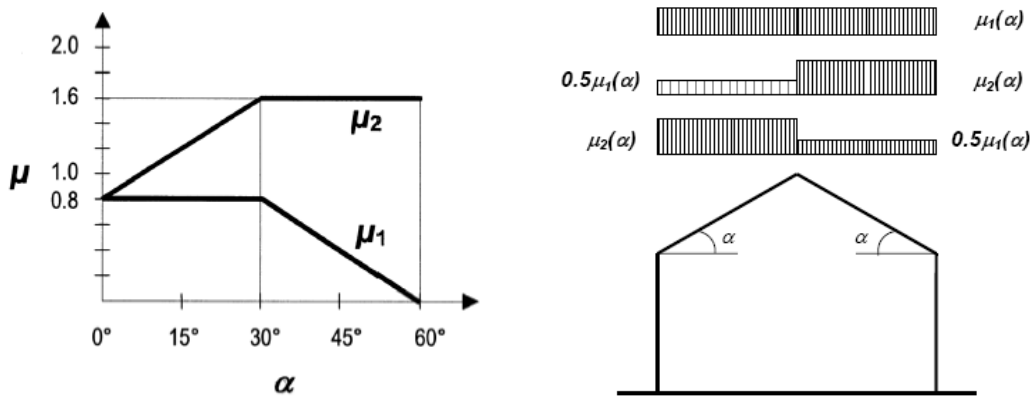
The Value of  $\mu_1$  coefficient (shape coefficient) for a hall's roof shall be 0,8.

Roof slope, $\alpha$	$0^\circ \leq \alpha \leq 30^\circ$	$30^\circ < \alpha < 60^\circ$	$\alpha \geq 60^\circ$
$\mu_1$	0,8	$0,8 (60-\alpha)/30$	0,0
$\mu_2$	$0,8+0,8 \alpha/30$	1,6	-

## Example of selecting

Computing values

# the appropriate panel for an assessed load in roof panels



Load coefficients for final limit state (ULS) and serviceability limit state (SLS) are as follow:

- $n = 1.50$  - ultimate limit state of resistance and stability, under the action of fundamental grouping
- $n = 1.00$  - serviceability limit state, under the action of total serviceability loads

According to the above, this results in a characteristic load for a building enclosure in Bucharest, subjected to the action of snow on the roof panels:

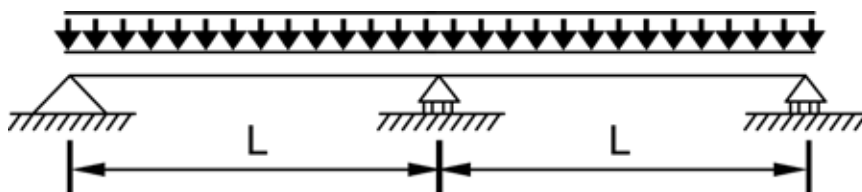
$S_k = 0,8 \times 2 = 1,60 \text{ kN/m}^2$  respectively the computing value  $S_d = 0,8 \times 2 \times 1,5 = 2,40 \text{ kN/m}^2$ . The self-weight of panel shall not be added, due to the fact that when drafting the loadbearing capacities tables, we have considered the self-weights for each type of panels, depending on the actual panel thickness.

When determining the loadbearing capacity of the panels, load coefficients were taken into account for the specific load types analyzed (permanent load from self-weight with safety coefficient  $\gamma_G = 1,35$  and snow load  $\gamma_Q = 1,5$ ), thus the tables assessed shall identify the allowed span with the allowed snow load, without multiplying it by the coefficient  $\gamma_Q = 1,5$ , if the given values are the characteristic ones, or by multiplying it with the coefficient  $\gamma_Q = 1,5$ , if the given values are the computing ones.

Selecting the appropriate panel according the assessed tables should be as follows:

### Step 1:

Select the type, thickness of insulation and static scheme of the desired panel. Assuming we choose a 60 mm thick panel, having 3 ribs, on its width supported on at least two spans, we shall identify the table referring to the type and thickness of the desired panel



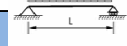
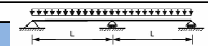


Static scheme of roof panel

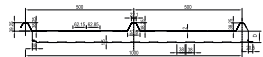
# Example of selecting

Computing values

# the appropriate panel for an assessed load in roof panels

Panel type ISOAC3		General data		Load bearing capacities by																	
Terasteel panel 60 mm with 3 ribs		D=98.3 mm		 																	
		$t_{nom,1}=0.45$ mm																			
		$t_{nom,2}=0.40$ mm																			
Exterior face S250 GD+Z180, Interior face S220GD+Z100																					
Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
Allowed distance between supports [m]																					
I	5.03	5.03	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
II	5.03	5.03	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
III	4.90	4.90	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
Allowed distance between supports [m]																					
I	5.03	5.03	5.03	4.34	3.65	3.13	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98
II	5.03	5.03	4.56	4.09	3.65	3.13	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98
III	4.90	4.14	3.73	3.46	3.24	3.07	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98
Panel with two spans																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
Allowed distance between supports [m]																					
I	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
II	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
III	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
Allowed distance between supports [m]																					
I	10.14	7.25	3.94	2.89	2.35	2.02	1.80	1.63	1.50	1.40	1.31	1.24	1.18	1.13	1.08	1.04	1.00	0.97	0.94	0.91	0.89
II	10.14	6.62	3.57	2.64	2.17	1.88	1.68	1.54	1.42	1.33	1.25	1.19	1.14	1.09	1.05	1.01	0.97	0.94	0.92	0.89	0.87
III	10.14	3.89	2.33	1.96	1.75	1.61	1.51	1.41	1.32	1.24	1.18	1.12	1.08	1.03	1.00	0.97	0.94	0.91	0.88	0.86	0.84

**Note:**  
 1. Panel's orientation is with its ribs upwards, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.4m  
 2. Computing values include safety factor  $\gamma_Q=1.50$   
 3. The arrow condition, under which permissible limit spans were determined, is according SR EN 14509:2013. L/200 for short term loading and L/100 long term loading



The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

### Step 2:

Identify the color group (I, II, III) depending on the color chosen for the desired panel. Assuming we choose a white color panel (RAL 9010), it falls in Group I of colors.

Group I.	Group II.				Group III.				
RAL 1015	RAL 1001	RAL 1023	RAL 5012	RAL 7032	RAL3000	RAL 3013	RAL 6020	RAL 7022	
RAL 1016	RAL 1002	RAL 1035	RAL 5018	RAL 7037	RAL 3002	RAL 3020	RAL 5014	RAL 6024	
RAL 1018	RAL 1003	RAL 2000	RAL 5024	RAL 7040	RAL 3003	RAL 5002	RAL 5017	RAL 6029	
RAL 6019	RAL 1004	RAL 2003	RAL 6018	RAL 7042	RAL 3005	RAL 5005	RAL 5022	RAL 7011	
RAL 7035	RAL 1014	RAL 2004	RAL 6021	RAL 7045	RAL 3009	RAL 5007	RAL 6000	RAL 7012	
RAL 9001	RAL 1017	RAL 2008	RAL 6033	RAL 7046	RAL 3010	RAL 5009	RAL 6003	RAL 7015	
RAL 9002	RAL 1019	RAL 2009	RAL 7000	RAL 9006	RAL 3011	RAL 5010	RAL 6005	RAL 7016	
RAL 9010	RAL 1021	RAL 2011	RAL 7004	RAL 9022	RAL 3013	RAL 5011	RAL 6011	RAL 7021	

### Step 3:

For the assessed load from snow of 2,40 kN/m<sup>2</sup> (computing value) presented as input data, we shall identify the proper table of computing values, and in the blue cells of load - the permissible span between the supports of the panel, which defines the arrangement on the resistance structure of the roof wedges system. When having a load value that cannot be found among the calculated load values from the header row of the table, we can easily perform a linear interpolation to determine the precise distance between supports

At 2,25 kN/m<sup>2</sup> - the allowed distance between supports, according the table is 1.72 m

At 2,63 kN/m<sup>2</sup> - the allowed distance between supports, according the table is 1.51 m

By linear interpolation for 2,40 kN/m<sup>2</sup>, according to the table, it results a permissible distance between supports, for the roof panel of approx. 1,60 m.

# Example of selecting

Computing values

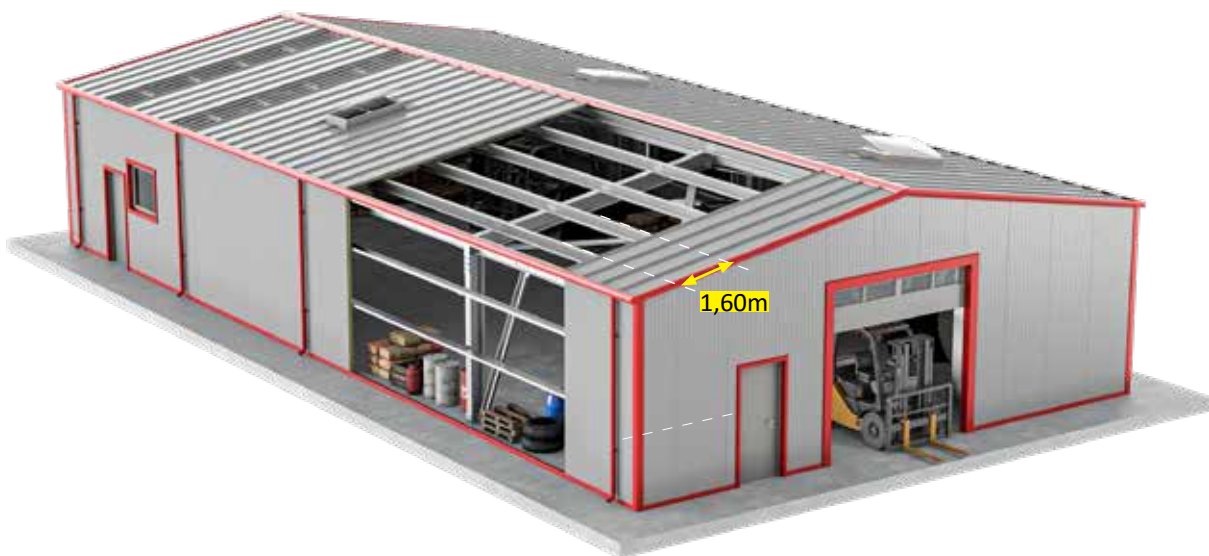
# the appropriate panel for an assessed load in roof panels

Panel type ISOAC3		General data		Load bearing capacities calculated by:																	
Terasteel panel 60 mm with 3 ribs		D=98.3 mm																			
		$t_{nom,1}=0.45\text{ mm}$																			
		$t_{nom,2}=0.40\text{ mm}$																			
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span																			
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
Allowed distance between supports [m]																					
I	5.03	5.03	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
II	5.03	5.03	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
III	4.90	4.90	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
Allowed distance between supports [m]																					
I	5.03	5.03	5.03	4.34	3.65	3.13	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98
II	5.03	5.03	4.56	4.09	3.65	3.13	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98
III	4.90	4.14	3.73	3.46	3.24	3.07	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98
Panel with two spans																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
Allowed distance between supports [m]																					
I	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
II	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
III	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
Allowed distance between supports [m]																					
I	10.14	7.25	3.94	2.89	2.35	2.02	1.80	1.63	1.50	1.40	1.31	1.24	1.18	1.13	1.08	1.04	1.00	0.97	0.94	0.91	0.89
II	10.14	6.62	3.57	2.64	2.17	1.88	1.68	1.54	1.42	1.33	1.25	1.19	1.14	1.09	1.05	1.01	0.97	0.94	0.92	0.89	0.87
III	10.14	3.89	2.33	1.96	1.75	1.61	1.51	1.41	1.32	1.24	1.18	1.12	1.08	1.03	1.00	0.97	0.94	0.91	0.88	0.86	0.84
<b>Note:</b> 1. Panel's orientation is with its ribs upwards, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.4 mm 2. Computing values include safety factor $\gamma_Q=1.50$ 3. The arrow condition, under which permissible limit spans were determined, is according SR EN 14509:2013. L/200 for short term loading and L/100 long term loading																					



The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

Layout of roof wedges shall be as follows:





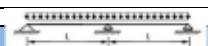
Chapter **02**

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**LOAD BEARING CAPACITIES  
OF PANELS**

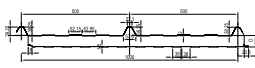
# Loadbearing capacities of panels

Part .01



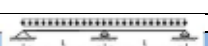
Panel type ISOAC3		General data		Load bearing capacities calculated by																			
Terasteel Panel 30 mm with 3 ribs		D=68.3 mm																					
		$t_{nom,1}=0.45$ mm																					
		$t_{nom,2}=0.40$ mm																					
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																						
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50		
Allowed distance between supports [m]																							
I	3.44	3.44	2.46	1.93	1.62	1.42	1.28	1.17	1.09	1.02	0.96	0.91	0.87	0.84	0.80	0.78	0.75	0.73	0.70	0.68	0.67		
II	3.44	3.44	2.46	1.93	1.62	1.42	1.28	1.17	1.09	1.02	0.96	0.91	0.87	0.84	0.80	0.78	0.75	0.73	0.70	0.68	0.67		
III	3.16	3.16	2.46	1.93	1.62	1.42	1.28	1.17	1.09	1.02	0.96	0.91	0.87	0.84	0.80	0.78	0.75	0.73	0.70	0.68	0.67		
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																						
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
Allowed distance between supports [m]																							
I	3.44	3.44	3.31	2.55	2.12	1.84	1.63	1.48	1.36	1.26	1.18	1.12	1.06	1.01	0.97	0.93	0.90	0.86	0.84	0.81	0.79		
II	3.44	3.44	3.09	2.55	2.12	1.84	1.63	1.48	1.36	1.26	1.18	1.12	1.06	1.01	0.97	0.93	0.90	0.86	0.84	0.81	0.79		
III	3.16	2.80	2.58	2.42	2.12	1.84	1.63	1.48	1.36	1.26	1.18	1.12	1.06	1.01	0.97	0.93	0.90	0.86	0.84	0.81	0.79		
Panel with two spans																							
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																						
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50		
Allowed distance between supports [m]																							
I	7.16	3.62	2.46	1.93	1.62	1.42	1.28	1.17	1.09	1.02	0.96	0.91	0.87	0.84	0.80	0.78	0.75	0.73	0.70	0.68	0.67		
II	7.16	3.62	2.46	1.93	1.62	1.42	1.28	1.17	1.09	1.02	0.96	0.91	0.87	0.84	0.80	0.78	0.75	0.73	0.70	0.68	0.67		
III	7.16	3.62	2.46	1.93	1.62	1.42	1.28	1.17	1.09	1.02	0.96	0.91	0.87	0.84	0.80	0.78	0.75	0.73	0.70	0.68	0.67		
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																						
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
Allowed distance between supports [m]																							
I	7.16	5.15	3.11	2.38	1.99	1.74	1.57	1.44	1.34	1.26	1.18	1.12	1.06	1.01	0.97	0.93	0.90	0.86	0.84	0.81	0.79		
II	7.16	4.82	2.87	2.21	1.86	1.65	1.49	1.38	1.29	1.22	1.16	1.11	1.06	1.01	0.97	0.93	0.90	0.86	0.84	0.81	0.79		
III	7.16	3.26	2.13	1.80	1.62	1.50	1.39	1.29	1.22	1.16	1.10	1.06	1.02	0.99	0.96	0.93	0.90	0.86	0.84	0.81	0.79		

Note:

- Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.40 mm
- Computing values include safety factor  $\gamma_Q=1.50$
- The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading

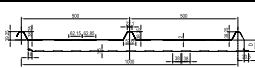


The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

Panel type ISOAC3		General data		Load bearing capacities calculated by																			
Terasteel Panel 40 mm with 3 ribs		D=78.3 mm																					
		$t_{nom,1}=0.45$ mm																					
		$t_{nom,2}=0.40$ mm																					
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																						
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50		
Allowed distance between supports [m]																							
I	3.93	3.93	2.93	2.23	1.83	1.57	1.39	1.26	1.16	1.08	1.01	0.96	0.91	0.87	0.83	0.80	0.77	0.75	0.72	0.70	0.69		
II	3.93	3.93	2.93	2.23	1.83	1.57	1.39	1.26	1.16	1.08	1.01	0.96	0.91	0.87	0.83	0.80	0.77	0.75	0.72	0.70	0.69		
III	3.66	3.66	2.93	2.23	1.83	1.57	1.39	1.26	1.16	1.08	1.01	0.96	0.91	0.87	0.83	0.80	0.77	0.75	0.72	0.70	0.69		
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																						
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
Allowed distance between supports [m]																							
I	3.93	3.93	3.93	3.14	2.58	2.21	1.94	1.73	1.57	1.44	1.33	1.25	1.17	1.11	1.06	1.01	0.97	0.93	0.90	0.86	0.84		
II	3.93	3.93	3.55	3.14	2.58	2.21	1.94	1.73	1.57	1.44	1.33	1.25	1.17	1.11	1.06	1.01	0.97	0.93	0.90	0.86	0.84		
III	3.66	3.20	2.93	2.73	2.58	2.21	1.94	1.73	1.57	1.44	1.33	1.25	1.17	1.11	1.06	1.01	0.97	0.93	0.90	0.86	0.84		
Panel with two spans																							
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																						
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50		
Allowed distance between supports [m]																							
I	8.11	4.36	2.93	2.23	1.83	1.57	1.39	1.26	1.16	1.08	1.01	0.96	0.91	0.87	0.83	0.80	0.77	0.75	0.72	0.70	0.69		
II	8.11	4.36	2.93	2.23	1.83	1.57	1.39	1.26	1.16	1.08	1.01	0.96	0.91	0.87	0.83	0.80	0.77	0.75	0.72	0.70	0.69		
III	8.11	4.36	2.93	2.23	1.83	1.57	1.39	1.26	1.16	1.08	1.01	0.96	0.91	0.87	0.83	0.80	0.77	0.75	0.72	0.70	0.69		
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																						
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
Allowed distance between supports [m]																							
I	8.11	5.93	3.40	2.55	2.11	1.83	1.64	1.50	1.39	1.30	1.23	1.17	1.12	1.07	1.03	0.99	0.96	0.93	0.90	0.86	0.84		
II	8.11	5.43	3.11	2.35	1.96	1.72	1.55	1.43	1.33	1.25	1.19	1.13	1.08	1.04	1.00	0.97	0.94	0.91	0.89	0.86	0.84		
III	8.11	3.44	2.18	1.84	1.65	1.53	1.43	1.33	1.25	1.18	1.12	1.08	1.04	1.00	0.97	0.94	0.91	0.89	0.87	0.85	0.83		



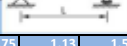

Note:

- Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.40 mm
- Computing values include safety factor  $\gamma_Q=1.50$
- The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading

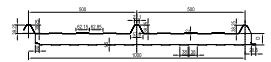


The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.



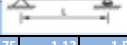

# Loadbearing capacities of panels

Panel type ISOAC3		General data		Load bearing capacities calculated by																			
Terasteel Panel 50 mm with 3 ribs		D=88.3 mm		 																			
		$t_{nom,1}=0.45$ mm																					
		$t_{nom,2}=0.40$ mm																					
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																						
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50		
Allowed distance between supports [m]																							
I	4.47	4.47	3.60	2.72	2.18	1.83	1.59	1.42	1.29	1.19	1.10	1.04	0.98	0.93	0.89	0.85	0.82	0.79	0.77	0.74	0.72		
II	4.47	4.47	3.60	2.72	2.18	1.83	1.59	1.42	1.29	1.19	1.10	1.04	0.98	0.93	0.89	0.85	0.82	0.79	0.77	0.74	0.72		
III	4.24	4.24	3.60	2.72	2.18	1.83	1.59	1.42	1.29	1.19	1.10	1.04	0.98	0.93	0.89	0.85	0.82	0.79	0.77	0.74	0.72		
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																						
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
Allowed distance between supports [m]																							
I	4.47	4.47	4.47	3.77	3.11	2.65	2.31	2.05	1.84	1.67	1.53	1.42	1.32	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.90		
II	4.47	4.47	4.04	3.64	3.11	2.65	2.31	2.05	1.84	1.67	1.53	1.42	1.32	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.90		
III	4.24	3.65	3.32	3.08	2.90	2.65	2.31	2.05	1.84	1.67	1.53	1.42	1.32	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.90		
Panel with two spans																							
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																						
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50		
Allowed distance between supports [m]																							
I	9.15	4.66	3.19	2.53	2.16	1.83	1.59	1.42	1.29	1.19	1.10	1.04	0.98	0.93	0.89	0.85	0.82	0.79	0.77	0.74	0.72		
II	9.15	4.66	3.19	2.53	2.16	1.83	1.59	1.42	1.29	1.19	1.10	1.04	0.98	0.93	0.89	0.85	0.82	0.79	0.77	0.74	0.72		
III	9.15	4.66	3.19	2.53	2.16	1.83	1.59	1.42	1.29	1.19	1.10	1.04	0.98	0.93	0.89	0.85	0.82	0.79	0.77	0.74	0.72		
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																						
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
Allowed distance between supports [m]																							
I	9.15	6.70	3.74	2.77	2.27	1.96	1.75	1.59	1.47	1.37	1.29	1.22	1.16	1.11	1.07	1.03	0.99	0.96	0.93	0.91	0.88		
II	9.15	6.14	3.41	2.54	2.10	1.83	1.64	1.50	1.40	1.31	1.24	1.18	1.12	1.08	1.04	1.00	0.97	0.94	0.91	0.89	0.87		
III	9.15	4.03	2.35	1.96	1.75	1.60	1.50	1.39	1.30	1.23	1.17	1.11	1.07	1.03	0.99	0.96	0.93	0.91	0.88	0.86	0.84		

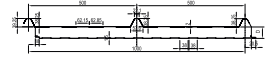
Note:  
 1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.40 mm  
 2. Computing values include safety factor  $\gamma_Q=1.50$   
 3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading



The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

Panel type ISOAC3		General data		Load bearing capacities calculated by																			
Terasteel Panel 60 mm with 3 ribs		D=98.3 mm		 																			
		$t_{nom,1}=0.45$ mm																					
		$t_{nom,2}=0.40$ mm																					
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																						
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50		
Allowed distance between supports [m]																							
I	5.03	5.03	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73		
II	5.03	5.03	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73		
III	4.90	4.90	4.08	3.08	2.45	2.02	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73		
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																						
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
Allowed distance between supports [m]																							
I	5.03	5.03	5.03	4.34	3.65	3.13	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98		
II	5.03	5.03	4.56	4.09	3.65	3.13	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98		
III	4.90	4.14	3.73	3.46	3.24	3.07	2.74	2.43	2.18	1.97	1.80	1.65	1.53	1.42	1.33	1.25	1.18	1.12	1.07	1.02	0.98		
Panel with two spans																							
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																						
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50		
Allowed distance between supports [m]																							
I	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73		
II	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73		
III	10.14	4.93	3.34	2.64	2.23	1.96	1.72	1.51	1.36	1.24	1.15	1.07	1.01	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.73		
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																						
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
Allowed distance between supports [m]																							
I	10.14	7.25	3.94	2.89	2.35	2.02	1.80	1.63	1.50	1.40	1.31	1.24	1.18	1.13	1.08	1.04	1.00	0.97	0.94	0.91	0.89		
II	10.14	6.62	3.57	2.64	2.17	1.88	1.68	1.54	1.42	1.33	1.25	1.19	1.14	1.09	1.05	1.01	0.97	0.94	0.92	0.89	0.87		
III	10.14	3.89	2.33	1.96	1.75	1.61	1.51	1.41	1.32	1.24	1.18	1.12	1.08	1.03	1.00	0.97	0.94	0.91	0.88	0.86	0.84		

Note:  
 1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.40 mm  
 2. Computing values include safety factor  $\gamma_Q=1.50$   
 3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading





The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

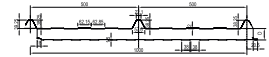


# Loadbearing capacities of panels



Part .01

Panel type ISOAC3		General data		Load bearing capacities calculated by																						
Terasteel Panel 80 mm with 3 ribs		D=118.3 mm		 	Computing values, snow load [kN/m <sup>2</sup> ]																					
		t <sub>nom,1</sub> =0.45 mm			0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50	
		t <sub>nom,2</sub> =0.40 mm			Allowed distance between supports [m]																					
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span			Color group	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
I	6.13	6.13	5.19		4.02	3.23	2.66	2.23	1.90	1.66	1.47	1.33	1.22	1.14	1.06	1.00	0.95	0.90	0.86	0.83	0.80	0.77				
II	6.13	6.13	5.19		4.02	3.23	2.66	2.23	1.90	1.66	1.47	1.33	1.22	1.14	1.06	1.00	0.95	0.90	0.86	0.83	0.80	0.77				
III	6.13	6.13	5.19		4.02	3.23	2.66	2.23	1.90	1.66	1.47	1.33	1.22	1.14	1.06	1.00	0.95	0.90	0.86	0.83	0.80	0.77				
Panel with two spans		Color group	0.00		-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
I	6.13	6.13	6.13		5.24	4.66	4.06	3.59	3.22	2.91	2.65	2.43	2.23	2.06	1.91	1.77	1.65	1.54	1.44	1.35	1.28	1.21				
II	6.13	6.13	5.64		4.97	4.44	4.06	3.59	3.22	2.91	2.65	2.43	2.23	2.06	1.91	1.77	1.65	1.54	1.44	1.35	1.28	1.21				
III	6.13	5.20	4.63		4.25	3.97	3.75	3.54	3.22	2.91	2.65	2.43	2.23	2.06	1.91	1.77	1.65	1.54	1.44	1.35	1.28	1.21				
Panel with two spans		Color group	0.00		-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
I	11.20	5.40	3.63		2.84	2.38	2.08	1.87	1.71	1.58	1.47	1.33	1.22	1.14	1.06	1.00	0.95	0.90	0.86	0.83	0.80	0.77				
II	11.20	5.40	3.63		2.84	2.38	2.08	1.87	1.71	1.58	1.47	1.33	1.22	1.14	1.06	1.00	0.95	0.90	0.86	0.83	0.80	0.77				
III	11.20	5.40	3.63		2.84	2.38	2.08	1.87	1.71	1.58	1.47	1.33	1.22	1.14	1.06	1.00	0.95	0.90	0.86	0.83	0.80	0.77				
Panel with two spans		Color group	0.00		-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
I	11.20	8.28	4.29		3.09	2.49	2.13	1.88	1.70	1.56	1.45	1.35	1.28	1.21	1.15	1.10	1.06	1.02	0.98	0.95	0.92	0.89				
II	11.20	7.49	3.84		2.79	2.28	1.96	1.75	1.59	1.47	1.37	1.29	1.22	1.16	1.11	1.06	1.02	0.99	0.95	0.92	0.90	0.87				
III	11.20	3.37	2.29	1.96	1.76	1.63	1.52	1.44	1.35	1.27	1.20	1.14	1.09	1.05	1.01	0.97	0.94	0.91	0.89	0.86	0.84					

- Note:  
 1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.40 mm  
 2. Computing values include safety factor  $\alpha Q=1.50$   
 3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading



The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.




Panel type ISOAC3		General data		Load bearing capacities calculated by																						
Terasteel Panel 100 mm with 3 ribs		D=138.3 mm		 	Computing values, snow load [kN/m <sup>2</sup> ]																					
		t <sub>nom,1</sub> =0.45 mm			0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50	
		t <sub>nom,2</sub> =0.40 mm			Allowed distance between supports [m]																					
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span			Color group	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
I	7.17	7.08	5.97		4.72	3.82	3.15	2.62	2.20	1.88	1.64	1.46	1.32	1.21	1.13	1.06	0.99	0.94	0.90	0.86	0.83	0.80				
II	7.17	7.08	5.97		4.72	3.82	3.15	2.62	2.20	1.88	1.64	1.46	1.32	1.21	1.13	1.06	0.99	0.94	0.90	0.86	0.83	0.80				
III	7.17	7.08	5.97		4.72	3.82	3.15	2.62	2.20	1.88	1.64	1.46	1.32	1.21	1.13	1.06	0.99	0.94	0.90	0.86	0.83	0.80				
Panel with two spans		Color group	0.00		-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
I	7.17	7.17	7.17		6.01	5.16	4.60	4.19	3.87	3.51	3.21	2.94	2.71	2.51	2.32	2.15	2.00	1.86	1.73	1.62	1.51	1.42				
II	7.17	7.17	6.70		5.73	5.10	4.60	4.19	3.87	3.51	3.21	2.94	2.71	2.51	2.32	2.15	2.00	1.86	1.73	1.62	1.51	1.42				
III	7.17	6.32	5.52		5.02	4.66	4.36	4.05	3.79	3.51	3.21	2.94	2.71	2.51	2.32	2.15	2.00	1.86	1.73	1.62	1.51	1.42				
Panel with two spans		Color group	0.00		-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
I	11.37	5.63	3.78		2.95	2.47	2.15	1.93	1.76	1.63	1.52	1.43	1.32	1.21	1.13	1.06	0.99	0.94	0.90	0.86	0.83	0.80				
II	11.37	5.63	3.78		2.95	2.47	2.15	1.93	1.76	1.63	1.52	1.43	1.32	1.21	1.13	1.06	0.99	0.94	0.90	0.86	0.83	0.80				
III	11.37	5.62	3.78		2.95	2.47	2.15	1.93	1.76	1.63	1.52	1.43	1.32	1.21	1.13	1.06	0.99	0.94	0.90	0.86	0.83	0.80				
Panel with two spans		Color group	0.00		-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50		
I	11.37	9.09	4.53		3.22	2.59	2.21	1.95	1.75	1.60	1.49	1.39	1.31	1.24	1.17	1.12	1.07	1.03	1.00	0.96	0.93	0.90				
II	11.37	8.16	4.02		2.90	2.37	2.04	1.81	1.65	1.52	1.41	1.32	1.25	1.19	1.13	1.08	1.04	1.00	0.97	0.94	0.91	0.88				
III	11.37	3.35	2.41	2.07	1.87	1.72	1.61	1.50	1.40	1.31	1.24	1.17	1.12	1.07	1.03	0.99	0.96	0.93	0.90	0.88	0.85					

- Note:  
 1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.40 mm  
 2. Computing values include safety factor  $\alpha Q=1.50$   
 3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading





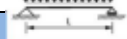
The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

# Loadbearing capacities of panels

Panel type ISOAC3		General data		Load bearing capacities calculated by																		
Terasteel Panel 120 mm with 3 ribs		D=158.3 mm																				
		t <sub>nom,1</sub> =0.45 mm																				
		t <sub>nom,2</sub> =0.40 mm																				
Exterior face S250 GD+Z180, Interior face S220GD+Z100																						
Color group		Computing values, snow load [kN/m <sup>2</sup> ]																				
		0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
		Allowed distance between supports [m]																				
I		7.72	7.66	6.53	5.18	4.26	3.56	3.00	2.53	2.15	1.85	1.62	1.44	1.30	1.20	1.11	1.04	0.98	0.93	0.88	0.85	0.81
II		7.72	7.66	6.53	5.18	4.26	3.56	3.00	2.53	2.15	1.85	1.62	1.44	1.30	1.20	1.11	1.04	0.98	0.93	0.88	0.85	0.81
III		7.72	7.66	6.53	5.18	4.26	3.56	3.00	2.53	2.15	1.85	1.62	1.44	1.30	1.20	1.11	1.04	0.98	0.93	0.88	0.85	0.81
Color group		Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
		0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
		Allowed distance between supports [m]																				
I		7.72	7.72	7.72	6.72	5.73	5.08	4.62	4.26	3.98	3.75	3.55	3.30	3.07	2.87	2.68	2.51	2.35	2.20	2.07	1.94	1.82
II		7.72	7.72	7.72	6.72	5.73	5.08	4.62	4.26	3.98	3.75	3.55	3.30	3.07	2.87	2.68	2.51	2.35	2.20	2.07	1.94	1.82
III		7.72	7.72	6.73	6.01	5.52	5.06	4.62	4.26	3.98	3.75	3.55	3.30	3.07	2.87	2.68	2.51	2.35	2.20	2.07	1.94	1.82
Color group		Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
		0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
		Allowed distance between supports [m]																				
I		8.92	8.92	5.41	3.68	2.90	2.44	2.13	1.91	1.74	1.60	1.49	1.40	1.32	1.25	1.19	1.14	1.09	1.05	1.01	0.98	0.95
II		8.92	8.92	4.79	3.30	2.64	2.25	1.98	1.79	1.64	1.52	1.42	1.33	1.26	1.20	1.15	1.10	1.05	1.02	0.98	0.95	0.92
III		8.92	8.92	2.78	2.32	2.06	1.89	1.75	1.62	1.50	1.40	1.32	1.25	1.19	1.13	1.09	1.04	1.01	0.97	0.94	0.91	0.89

Note:  
1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.40 mm  
2. Computing values include safety factor  $\gamma_Q=1.50$   
3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading




The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

Panel type ISOAC5		General data		Load bearing capacities calculated by																		
Terasteel Panel 30 mm with 5 ribs		D=68.3 mm																				
		t <sub>nom,1</sub> =0.45 mm																				
		t <sub>nom,2</sub> =0.40 mm																				
Exterior face S250 GD+Z180, Interior face S220GD+Z100																						
Color group		Computing values, snow load [kN/m <sup>2</sup> ]																				
		0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
		Allowed distance between supports [m]																				
I		3.93	3.93	3.26	2.59	2.18	1.91	1.72	1.57	1.45	1.36	1.28	1.21	1.16	1.11	1.06	1.02	0.99	0.96	0.93	0.90	0.88
II		3.93	3.93	3.26	2.59	2.18	1.91	1.72	1.57	1.45	1.36	1.28	1.21	1.16	1.11	1.06	1.02	0.99	0.96	0.93	0.90	0.88
III		3.68	3.68	3.26	2.59	2.18	1.91	1.72	1.57	1.45	1.36	1.28	1.21	1.16	1.11	1.06	1.02	0.99	0.96	0.93	0.90	0.88
Color group		Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
		0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
		Allowed distance between supports [m]																				
I		3.93	3.93	3.92	3.39	2.90	2.53	2.26	2.05	1.89	1.75	1.64	1.55	1.47	1.40	1.34	1.28	1.23	1.19	1.15	1.11	1.08
II		3.93	3.93	3.51	3.20	2.90	2.53	2.26	2.05	1.89	1.75	1.64	1.55	1.47	1.40	1.34	1.28	1.23	1.19	1.15	1.11	1.08
III		3.68	3.22	2.95	2.76	2.61	2.50	2.26	2.05	1.89	1.75	1.64	1.55	1.47	1.40	1.34	1.28	1.23	1.19	1.15	1.11	1.08
Color group		Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
		0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
		Allowed distance between supports [m]																				
I		8.08	6.71	4.09	3.14	2.63	2.30	2.07	1.89	1.76	1.65	1.56	1.48	1.41	1.36	1.31	1.26	1.22	1.18	1.15	1.11	1.08
II		8.08	6.30	3.83	2.95	2.48	2.18	1.97	1.81	1.69	1.59	1.50	1.43	1.37	1.32	1.27	1.23	1.19	1.16	1.13	1.10	1.07
III		8.08	5.62	3.26	2.59	2.25	2.01	1.83	1.69	1.59	1.50	1.43	1.36	1.31	1.26	1.22	1.19	1.15	1.12	1.09	1.07	1.04

Note:  
1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD+Z100-0.40 mm  
2. Computing values include safety factor  $\gamma_Q=1.50$   
3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading


The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

# Loadbearing capacities of panels




Panel type ISOACS	General data		Load bearing capacities calculated by																		
Terasteel Panel 40 mm with 5 ribs	D=78.3 mm	$t_{nom,1}=0.45$ mm	 																		
Exterior face S250 GD+Z180. Interior face S220GD+Z100	$t_{nom,2}=0.40$ mm																				
Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
I	Allowed distance between supports [m]																				
	4.38	4.38	3.71	2.90	2.42	2.09	1.85	1.68	1.54	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.98	0.95	0.93	0.90
II	4.38	4.38	3.71	2.90	2.42	2.09	1.85	1.68	1.54	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.98	0.95	0.93	0.90
III	4.20	4.20	3.71	2.90	2.42	2.09	1.85	1.68	1.54	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.98	0.95	0.93	0.90
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
I	Allowed distance between supports [m]																				
	4.38	4.38	4.38	3.79	3.37	2.92	2.59	2.34	2.14	1.97	1.83	1.72	1.62	1.53	1.46	1.39	1.33	1.28	1.23	1.19	1.15
II	4.38	4.38	3.96	3.58	3.24	2.92	2.59	2.34	2.14	1.97	1.83	1.72	1.62	1.53	1.46	1.39	1.33	1.28	1.23	1.19	1.15
III	4.20	3.61	3.29	3.06	2.89	2.75	2.59	2.34	2.14	1.97	1.83	1.72	1.62	1.53	1.46	1.39	1.33	1.28	1.23	1.19	1.15
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
I	Allowed distance between supports [m]																				
	8.87	5.32	3.71	2.90	2.42	2.09	1.85	1.68	1.54	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.98	0.95	0.93	0.90
II	8.87	5.32	3.71	2.90	2.42	2.09	1.85	1.68	1.54	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.98	0.95	0.93	0.90
III	8.87	5.32	3.71	2.90	2.42	2.09	1.85	1.68	1.54	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.98	0.95	0.93	0.90
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
I	Allowed distance between supports [m]																				
	8.87	7.54	4.43	3.35	2.78	2.42	2.16	1.97	1.83	1.71	1.61	1.53	1.46	1.39	1.34	1.29	1.25	1.21	1.17	1.14	1.11
II	8.87	7.05	4.14	3.14	2.62	2.28	2.05	1.88	1.75	1.64	1.55	1.47	1.41	1.35	1.30	1.26	1.22	1.18	1.15	1.12	1.09
III	8.87	6.25	3.43	2.69	2.33	2.09	1.90	1.75	1.64	1.54	1.46	1.40	1.34	1.29	1.25	1.21	1.17	1.14	1.11	1.08	1.06

Note:

1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD +Z100-0.40 mm
2. Computing values include safety factor  $\gamma_Q=1.50$
3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading

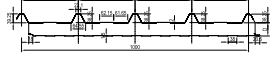


The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

Panel type ISOACS	General data		Load bearing capacities calculated by																		
Terasteel Panel 50 mm with 5 ribs	D=88.3 mm	$t_{nom,1}=0.45$ mm	 																		
Exterior face S250 GD+Z180. Interior face S220GD+Z100	$t_{nom,2}=0.40$ mm																				
Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
I	Allowed distance between supports [m]																				
	4.92	4.92	4.26	3.32	2.73	2.33	2.04	1.83	1.66	1.53	1.43	1.34	1.27	1.20	1.15	1.10	1.06	1.02	0.99	0.95	0.93
II	4.92	4.92	4.26	3.32	2.73	2.33	2.04	1.83	1.66	1.53	1.43	1.34	1.27	1.20	1.15	1.10	1.06	1.02	0.99	0.95	0.93
III	4.76	4.76	4.26	3.32	2.73	2.33	2.04	1.83	1.66	1.53	1.43	1.34	1.27	1.20	1.15	1.10	1.06	1.02	0.99	0.95	0.93
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
I	Allowed distance between supports [m]																				
	4.92	4.92	4.92	4.21	3.76	3.36	2.98	2.68	2.44	2.24	2.08	1.94	1.81	1.71	1.62	1.53	1.46	1.40	1.34	1.29	1.24
II	4.92	4.92	4.43	3.99	3.59	3.30	2.98	2.68	2.44	2.24	2.08	1.94	1.81	1.71	1.62	1.53	1.46	1.40	1.34	1.29	1.24
III	4.76	4.05	3.66	3.40	3.20	3.04	2.89	2.68	2.44	2.24	2.08	1.94	1.81	1.71	1.62	1.53	1.46	1.40	1.34	1.29	1.24
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
I	Allowed distance between supports [m]																				
	9.94	6.11	4.26	3.32	2.73	2.33	2.04	1.83	1.66	1.53	1.43	1.34	1.27	1.20	1.15	1.10	1.06	1.02	0.99	0.95	0.93
II	9.94	6.11	4.26	3.32	2.73	2.33	2.04	1.83	1.66	1.53	1.43	1.34	1.27	1.20	1.15	1.10	1.06	1.02	0.99	0.95	0.93
III	9.94	6.11	4.26	3.32	2.73	2.33	2.04	1.83	1.66	1.53	1.43	1.34	1.27	1.20	1.15	1.10	1.06	1.02	0.99	0.95	0.93
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
I	Allowed distance between supports [m]																				
	9.94	8.23	4.76	3.57	2.94	2.54	2.26	2.06	1.90	1.77	1.66	1.58	1.50	1.43	1.37	1.32	1.28	1.24	1.20	1.16	1.13
II	9.94	7.68	4.43	3.33	2.75	2.39	2.14	1.96	1.81	1.69	1.60	1.52	1.45	1.39	1.33	1.28	1.24	1.20	1.17	1.14	1.11
III	9.94	6.79	3.59	2.79	2.41	2.17	1.97	1.81	1.69	1.59	1.50	1.43	1.37	1.32	1.27	1.23	1.19	1.16	1.13	1.10	1.07

Note:

1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD +Z100-0.40 mm
2. Computing values include safety factor  $\gamma_Q=1.50$
3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading



The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

# Loadbearing capacities of panels

Part .02

Panel type ISOAC5		General data		Load bearing capacities calculated by																	
Terasteel Panel 60 mm with 5 ribs		D=98.3 mm																			
		$t_{nom,1}=0.45$ mm																			
		$t_{nom,2}=0.40$ mm																			
Exterior face S250 GD+Z180, Interior face S220GD+Z100																					
Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
	Allowed distance between supports [m]																				
	I	5.44	5.44	4.68	3.75	3.07	2.60	2.26	2.00	1.81	1.65	1.53	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.99
II	5.44	5.44	4.68	3.75	3.07	2.60	2.26	2.00	1.81	1.65	1.53	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.99	0.96
III	5.39	5.39	4.68	3.75	3.07	2.60	2.26	2.00	1.81	1.65	1.53	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.99	0.96

Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
	Allowed distance between supports [m]																				
	I	5.44	5.44	5.44	4.64	4.14	3.76	3.38	3.05	2.78	2.55	2.35	2.19	2.04	1.92	1.81	1.71	1.62	1.54	1.47	1.41
II	5.44	5.44	4.92	4.39	3.94	3.62	3.36	3.05	2.78	2.55	2.35	2.19	2.04	1.92	1.81	1.71	1.62	1.54	1.47	1.41	1.35
III	5.39	4.51	4.05	3.75	3.52	3.33	3.17	2.99	2.78	2.55	2.35	2.19	2.04	1.92	1.81	1.71	1.62	1.54	1.47	1.41	1.35

Panel with two spans		Load bearing capacities calculated by																			
Terasteel Panel 80 mm with 5 ribs		D=118.3 mm																			
		$t_{nom,1}=0.45$ mm																			
		$t_{nom,2}=0.40$ mm																			
Exterior face S250 GD+Z180, Interior face S220GD+Z100																					
Panel with two spans																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
	Allowed distance between supports [m]																				
	I	10.86	6.66	4.59	3.64	3.07	2.60	2.26	2.00	1.81	1.65	1.53	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.99
II	10.86	6.66	4.59	3.64	3.07	2.60	2.26	2.00	1.81	1.65	1.53	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.99	0.96
III	10.86	6.66	4.59	3.64	3.07	2.60	2.26	2.00	1.81	1.65	1.53	1.43	1.34	1.27	1.21	1.15	1.10	1.06	1.02	0.99	0.96

Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
	Allowed distance between supports [m]																				
	I	10.86	8.99	5.10	3.78	3.09	2.66	2.37	2.14	1.97	1.84	1.72	1.63	1.55	1.47	1.41	1.36	1.31	1.26	1.22	1.19
II	10.86	8.38	4.73	3.52	2.89	2.50	2.23	2.03	1.88	1.75	1.65	1.56	1.49	1.42	1.37	1.31	1.27	1.23	1.19	1.16	1.13
III	10.86	7.39	3.78	2.91	2.50	2.24	2.04	1.87	1.74	1.64	1.55	1.47	1.41	1.35	1.30	1.26	1.22	1.18	1.15	1.12	1.09

Note:

1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD +Z100-0.40 mm
2. Computing values include safety factor  $\gamma_Q=1.50$
3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading

The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

Panel type ISOAC5		General data		Load bearing capacities calculated by																	
Terasteel Panel 80 mm with 5 ribs		D=118.3 mm																			
		$t_{nom,1}=0.45$ mm																			
		$t_{nom,2}=0.40$ mm																			
Exterior face S250 GD+Z180, Interior face S220GD+Z100																					
Panel with one span																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
	Allowed distance between supports [m]																				
	I	6.50	6.50	5.51	4.65	3.84	3.25	2.81	2.46	2.18	1.96	1.79	1.64	1.53	1.43	1.34	1.27	1.21	1.16	1.11	1.07
II	6.50	6.50	5.51	4.65	3.84	3.25	2.81	2.46	2.18	1.96	1.79	1.64	1.53	1.43	1.34	1.27	1.21	1.16	1.11	1.07	1.03
III	6.50	6.50	5.51	4.65	3.84	3.25	2.81	2.46	2.18	1.96	1.79	1.64	1.53	1.43	1.34	1.27	1.21	1.16	1.11	1.07	1.03

Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
	Allowed distance between supports [m]																				
	I	6.50	6.50	6.50	5.52	4.91	4.43	4.05	3.75	3.48	3.20	2.97	2.76	2.58	2.42	2.28	2.15	2.03	1.92	1.83	1.74
II	6.50	6.50	5.97	5.24	4.69	4.29	3.98	3.73	3.48	3.20	2.97	2.76	2.58	2.42	2.28	2.15	2.03	1.92	1.83	1.74	1.66
III	6.50	5.54	4.92	4.52	4.22	3.98	3.75	3.53	3.34	3.18	2.97	2.76	2.58	2.42	2.28	2.15	2.03	1.92	1.83	1.74	1.66

Panel with two spans		Load bearing capacities calculated by																			
Terasteel Panel 80 mm with 5 ribs		D=118.3 mm																			
		$t_{nom,1}=0.45$ mm																			
		$t_{nom,2}=0.40$ mm																			
Exterior face S250 GD+Z180, Interior face S220GD+Z100																					
Panel with two spans																					
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
	Allowed distance between supports [m]																				
	I	12.46	7.28	4.99	3.92	3.29	2.87	2.57	2.34	2.17	1.96	1.79	1.64	1.53	1.43	1.34	1.27	1.21	1.16	1.11	1.07
II	12.46	7.28	4.99	3.92	3.29	2.87	2.57	2.34	2.17	1.96	1.79	1.64	1.53	1.43	1.34	1.27	1.21	1.16	1.11	1.07	1.03
III	12.46	7.28	4.99	3.92	3.29	2.87	2.57	2.34	2.17	1.96	1.79	1.64	1.53	1.43	1.34	1.27	1.21	1.16	1.11	1.07	1.03

Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
	Allowed distance between supports [m]																				
	I	12.46	10.60	5.79	4.23	3.42	2.92	2.58	2.33	2.13	1.97	1.84	1.74	1.64	1.56	1.49	1.43	1.38	1.33	1.28	1.24
II	12.46	9.89	5.36	3.91	3.18	2.73	2.42	2.19	2.02	1.88	1.76	1.66	1.58	1.50	1.44	1.38	1.33	1.29	1.25	1.21	1.17
III	12.46	9.89	4.21	3.16	2.69	2.41	2.20	2.01	1.86	1.74	1.64	1.56	1.48	1.42	1.36	1.31	1.27	1.23	1.19	1.16	1.13

Note:

1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD +Z100-0.40 mm
2. Computing values include safety factor  $\gamma_Q=1.50$
3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading

The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

# Loadbearing capacities of panels

## Part .02

Panel type ISOAC5		General data		Load bearing capacities calculated by																	
Terasteel Panel 100 mm with 5 ribs		D=138.3 mm																			
		$t_{nom,1}=0.45$ mm																			
		$t_{nom,2}=0.40$ mm																			
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span																			
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
Allowed distance between supports [m]																					
I	7.53	7.42	6.27	5.43	4.52	3.85	3.33	2.90	2.56	2.28	2.05	1.87	1.71	1.59	1.48	1.39	1.31	1.25	1.19	1.14	1.09
II	7.53	7.42	6.27	5.43	4.52	3.85	3.33	2.90	2.56	2.28	2.05	1.87	1.71	1.59	1.48	1.39	1.31	1.25	1.19	1.14	1.09
III	7.53	7.42	6.27	5.43	4.52	3.85	3.33	2.90	2.56	2.28	2.05	1.87	1.71	1.59	1.48	1.39	1.31	1.25	1.19	1.14	1.09
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
Allowed distance between supports [m]																					
I	7.53	7.53	7.51	6.15	5.28	4.71	4.29	3.97	3.72	3.51	3.33	3.18	3.05	2.89	2.72	2.57	2.43	2.30	2.18	2.07	1.97
II	7.53	7.53	7.03	6.03	5.28	4.71	4.29	3.97	3.72	3.51	3.33	3.18	3.05	2.89	2.72	2.57	2.43	2.30	2.18	2.07	1.97
III	7.53	6.64	5.81	5.29	4.91	4.61	4.29	3.97	3.72	3.51	3.33	3.18	3.05	2.89	2.72	2.57	2.43	2.30	2.18	2.07	1.97

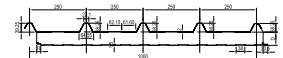
- Note:  
 1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD +Z100-0.40 mm  
 2. Computing values include safety factor  $\gamma_Q=1.50$   
 3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading



The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

Panel type ISOAC5		General data		Load bearing capacities calculated by																	
Terasteel Panel 120 mm with 5 ribs		D=158.3 mm																			
		$t_{nom,1}=0.45$ mm																			
		$t_{nom,2}=0.40$ mm																			
Exterior face S250 GD+Z180, Interior face S220GD+Z100		Panel with one span																			
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
Allowed distance between supports [m]																					
I	8.05	7.96	6.81	6.00	5.04	4.32	3.76	3.29	2.90	2.58	2.30	2.08	1.89	1.73	1.61	1.50	1.41	1.33	1.26	1.20	1.15
II	8.05	7.96	6.81	6.00	5.04	4.32	3.76	3.29	2.90	2.58	2.30	2.08	1.89	1.73	1.61	1.50	1.41	1.33	1.26	1.20	1.15
III	8.05	7.96	6.81	6.00	5.04	4.32	3.76	3.29	2.90	2.58	2.30	2.08	1.89	1.73	1.61	1.50	1.41	1.33	1.26	1.20	1.15
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
Allowed distance between supports [m]																					
I	8.05	8.05	8.05	6.84	5.84	5.18	4.71	4.35	4.06	3.83	3.63	3.46	3.32	3.19	3.08	2.98	2.83	2.69	2.55	2.43	2.31
II	8.05	8.05	8.05	6.84	5.84	5.18	4.71	4.35	4.06	3.83	3.63	3.46	3.32	3.19	3.08	2.98	2.83	2.69	2.55	2.43	2.31
III	8.05	8.05	6.98	6.23	5.73	5.18	4.71	4.35	4.06	3.83	3.63	3.46	3.32	3.19	3.08	2.98	2.83	2.69	2.55	2.43	2.31
Color group	Computing values, snow load [kN/m <sup>2</sup> ]																				
	0.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.13	7.50
Allowed distance between supports [m]																					
I	12.63	7.52	5.28	4.18	3.51	3.06	2.74	2.49	2.29	2.13	2.00	1.89	1.80	1.71	1.61	1.50	1.41	1.33	1.26	1.20	1.15
II	12.63	7.52	5.28	4.18	3.51	3.06	2.74	2.49	2.29	2.13	2.00	1.89	1.80	1.71	1.61	1.50	1.41	1.33	1.26	1.20	1.15
III	12.63	7.52	5.28	4.18	3.51	3.06	2.74	2.49	2.29	2.13	2.00	1.89	1.80	1.71	1.61	1.50	1.41	1.33	1.26	1.20	1.15
Color group	Computing values, wind load under suction [kN/m <sup>2</sup> ]																				
	0.00	-0.38	-0.75	-1.13	-1.50	-1.88	-2.25	-2.63	-3.00	-3.38	-3.75	-4.13	-4.50	-4.88	-5.25	-5.63	-6.00	-6.38	-6.75	-7.13	-7.50
Allowed distance between supports [m]																					
I	12.63	12.63	7.35	5.10	4.03	3.39	2.96	2.65	2.41	2.22	2.06	1.93	1.82	1.72	1.64	1.57	1.50	1.44	1.39	1.34	1.30
II	12.63	12.63	6.78	4.71	3.74	3.16	2.78	2.49	2.28	2.11	1.96	1.84	1.74	1.66	1.58	1.51	1.45	1.40	1.35	1.30	1.26
III	12.63	12.63	5.72	3.88	3.21	2.83	2.52	2.28	2.10	1.95	1.83	1.73	1.64	1.56	1.50	1.44	1.38	1.33	1.29	1.25	1.21

- Note:  
 1. Panel's orientation is with its ribs upward, the exterior ribbed face is made of steel sheet S250 GD+Z180-0.45 mm, interior face with stands on wedges is made of steel sheet S220 GD +Z100-0.40 mm  
 2. Computing values include safety factor  $\gamma_Q=1.50$   
 3. The arrow condition, under which the permissible limit spans were determined, is according to EN 14509:2013. L/200 for short term loading and L/100 long term loading



The tables are informative and do not replace the structural analysis required for the design of the building - according to EN 1993-1-3.

## Chapter 03

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# **TECHNICAL DETAILS OF PANELS ASSEMBLY**

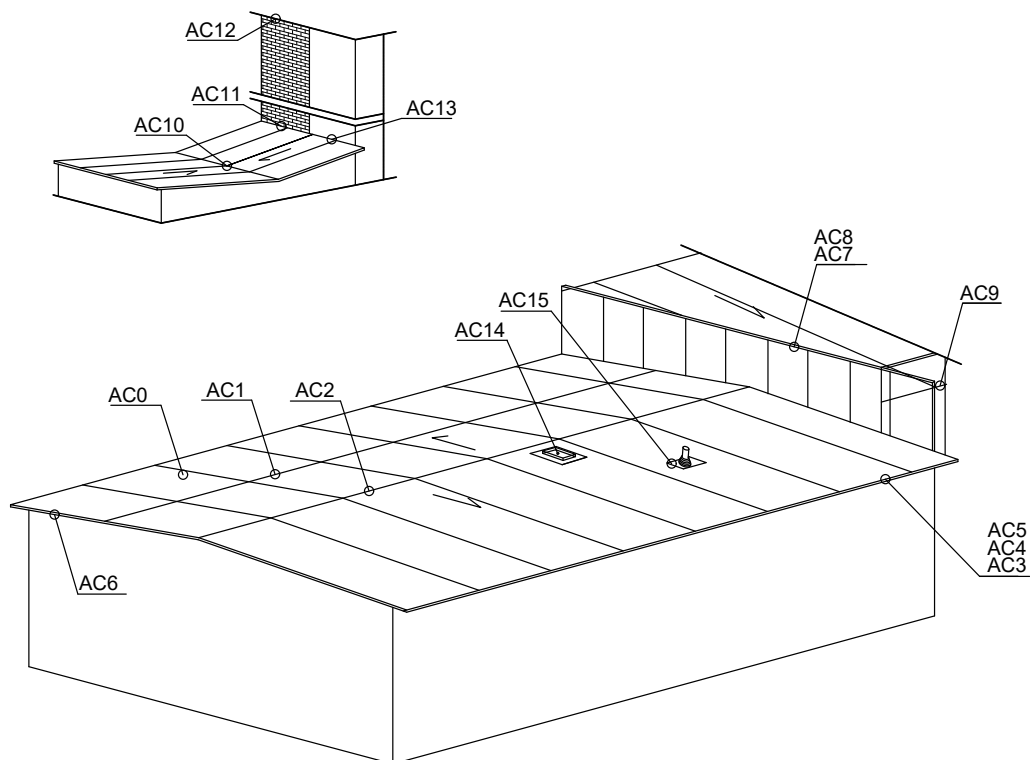
# 1. Technical details roof panels

ISOAC 3 / ISOAC 5

1.1	3D View	Presentation of details	Page 22
1.2	Detail AC0	Fixing details - ISOAC	Page 23
1.3	Detail AC1	Detail - overlapping thermal insulating panels	Page 24
1.4	Detail AC2	Detail - crest - version 1 and version 2	Page 25
1.5	Detail AC3	Detail - overhanging eaves	Page 29
1.6	Detail AC4	Detail - eaves	Page 32
1.7	Detail AC5	Detail - eaves with self-supporting gutter	Page 34
1.8	Detail AC6	Detail - fascia board	Page 36
1.9	Detail AC7	Detail - attic with no secondary structure	Page 40
1.10	Detail AC8	Detail - attic with secondary structure - version 1 and 2	Page 42
1.11	Detail AC9	Detail - interior gutter made of thermal insulating panels	Page 46
1.12	Detail AC10	Detail - roof valley gutter made of thermal insulating panels	Page 47
1.13	Detail AC11	Detail - joint of ISOAC3 / ISOAC5 to brick wall	Page 49
1.14	Detail AC12	Detail - fire resistant wall 180°	Page 51
1.15	Detail AC13	Detail - joint of roof to high ISOPER wall	Page 54
1.16	Detail AC14	Detail - ISOAC assembly - smoke evacuation trapdoor	Page 56
1.17	Detail AC15	Detail - assembly of fluids extractor	Page 61

# 3D View

ISOAC 3 / ISOAC 5



## KEY

- AC0 Fixing details - ISOAC
- AC1 Detail - overlapping thermal insulating panels
- AC2 Detail - crest - version 1 and version 2
- AC3 Detail - overhanging eaves
- AC4 Detail - eaves
- AC5 Detail - eaves with self-supporting gutter
- AC6 Detail - fascia board
- AC7 Detail - attic with no secondary structure
- AC8 Detail - attic with secondary structure - version 1 and 2
- AC9 Detail - interior gutter made of thermal insulating panels
- AC10 Detail - roof valley gutter made of thermal insulating panels
- AC11 Detail - joint of ISOAC3 / ISOAC5 to brick wall
- AC12 Detail - fire resistant wall 180°
- AC13 Detail - joint of roof to high ISOPER wall
- AC14 Detail - ISOAC assembly of smoke evacuation trapdoor
- AC15 Detail - assembly of fluids extractor

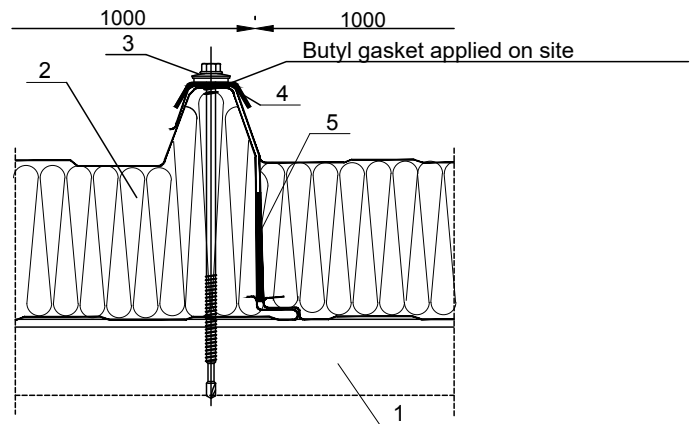


# Detail ACO / Details fixing ISOAC

ACO

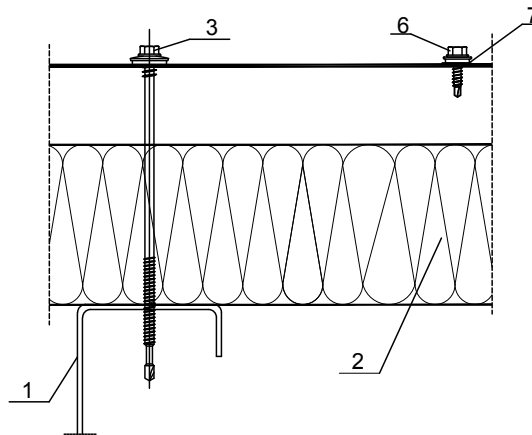
## SECTION A-A

A. Cross section parallel with crest  
(detail for fixing panels to wedge)



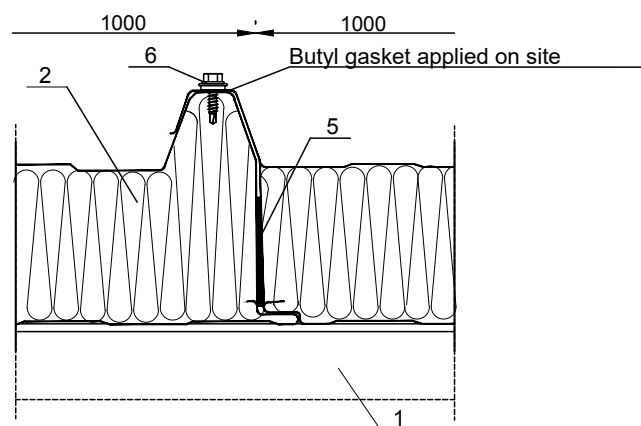
## SECTION B-B

B. Section perpendicular to crest  
(along the slope)



## SECTION C-C

C. Detail for stitching thermal insulating panels



## KEY

1. Support structure/wedge for thermal insulating panel
2. ISOAC3 / ISOAC5 thermal insulating roof panel
3. Screw for fixing the thermal insulating panel on the support structure
4. Metal cap with gasket
5. Sealing gasket
6. Screw for panel stitching - shall be fixed onto the free rib of the panel, 300mm spaced apart
7. Self-adhesive sealing tape PE 2x20

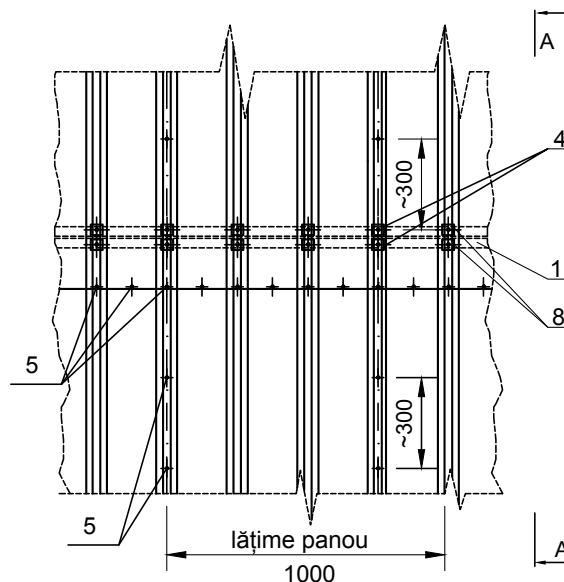
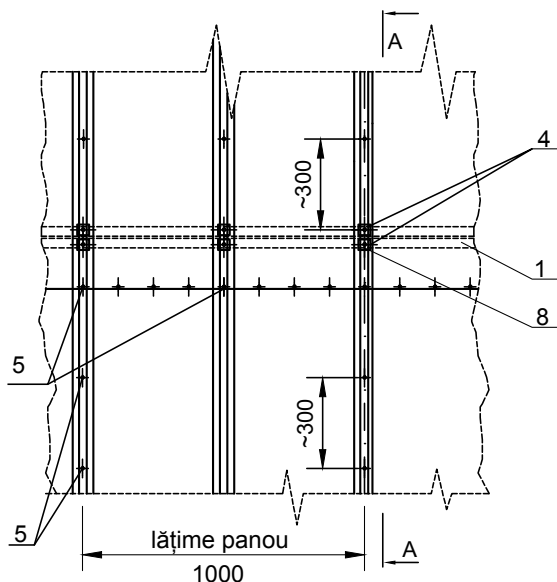
# Detail AC1

AC1

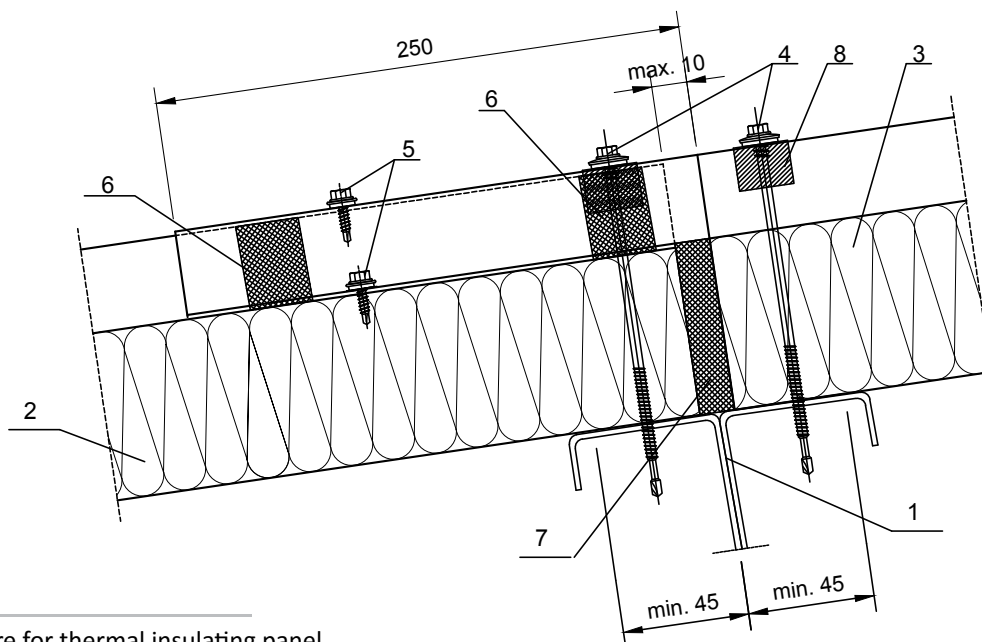
## Detail for overlapping thermal insulating panels

ISOAC 3

ISOAC 5



### SECTION A-A



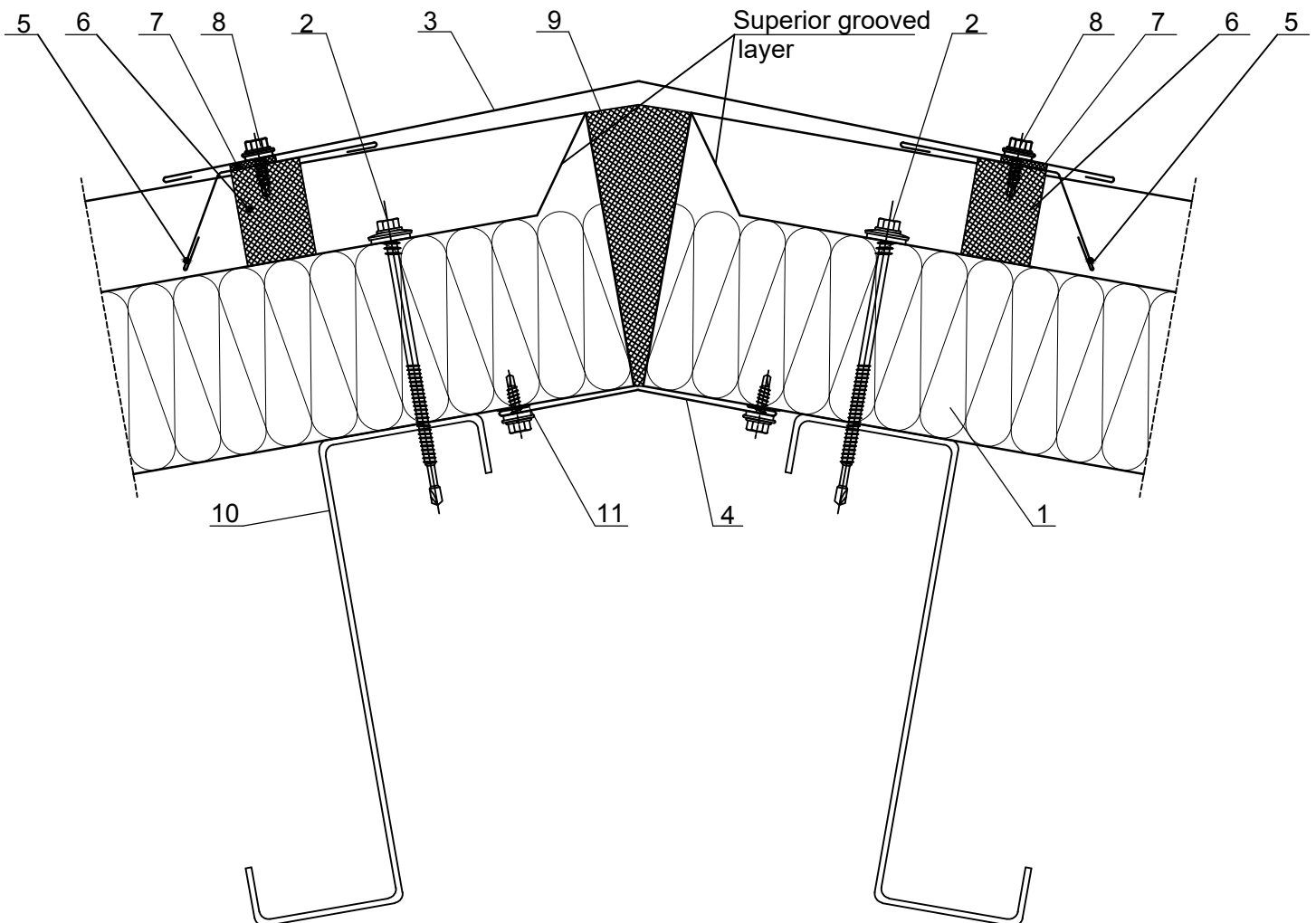
### KEY

1. Support structure for thermal insulating panel
2. ISOAC3 / ISOAC5 - thermal insulating roof panel
3. ISOAC3 / ISOAC5 - thermal insulating roof panel whose core and interior face shall be trimmed off over a distance of 250mm
4. Screw for fixing the thermal insulating panel to the support structure
5. Screw for panel stitching
6. Self-adhesive sealing tape PU 4x20
7. Polyurethane foam
8. Metal cap with gasket

## Detail AC2

AC2 - 1

### Detail crest - VERSION 1



#### KEY

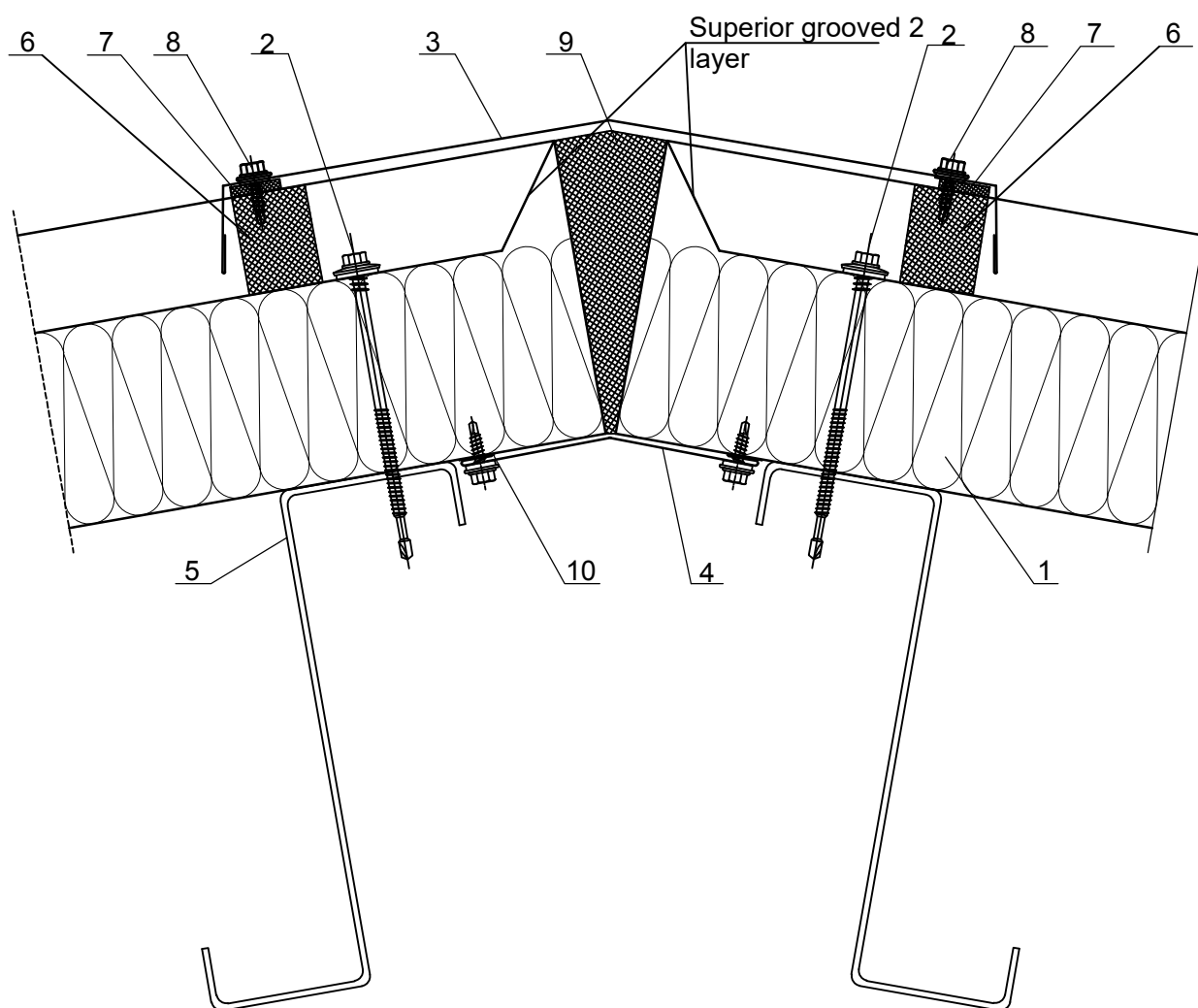
1. ISOAC3 / ISOAC5 - thermal insulating roof panel
2. Screw for fixing the thermal insulating panel to the support structure
3. Flashing - for exterior concealing of the crest, 01ac
4. Flashing - for interior concealing of the crest, 02ac
5. Flashing - for sealing the crest, 04ac/05ac
6. Sealing sponge following the panel's rib
7. Self-adhesive sealing tape PU 3x15
8. Screw for fixing the concealing flashing
9. Polyurethane foam - insulation to be applied on site
10. Support structure for thermal insulating panel
11. Self-adhesive sealing tape PE 2x20

Note: Topping the top layer will be done on site.

## Detail AC2

AC2 - 2

### Detail crest - VERSION 2



#### KEY

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. Screw for fixing the thermal insulating panel to the support structure
3. Flashing - for exterior concealing of the crest, 03ac
4. Flashing - for interior concealing of the crest, 02ac
5. Support structure for thermal insulating panel
6. Sealing sponge following the panel's rib
7. Self-adhesive sealing tape PU 3x15
8. Screw for fixing the concealing flashing
9. Polyurethane foam
10. Self-adhesive sealing tape PE 2x20

Note: Topping the top layer will be done on site.

## Detail AC2 / Flashings

AC2 - 3

### 01ac - flashing - exterior concealing of the crest

Material: Prepainted galvanized steel sheet

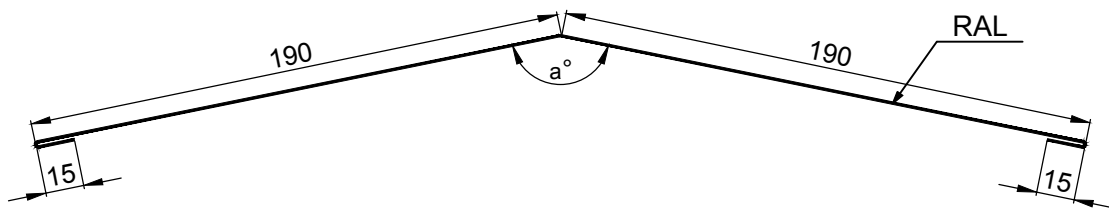
Thickness: 0.50mm

Length: 2000-6000mm

Unfolded width: 410mm

$a^\circ$  = shall be determined based on roof slope ( $180^\circ - 2 * p^\circ$ )

$p^\circ$  = roof slope



### 02ac - flashing - interior concealing of the crest

Material: Prepainted galvanized steel sheet

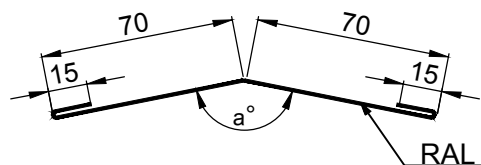
Thickness: 0.50mm

Length: 2000-6000mm

Unfolded width: 170mm

$a^\circ$  = shall be determined based on roof slope ( $180^\circ - 2 * p^\circ$ )

$p^\circ$  = roof slope



### 03ac - flashing - exterior concealing of the crest

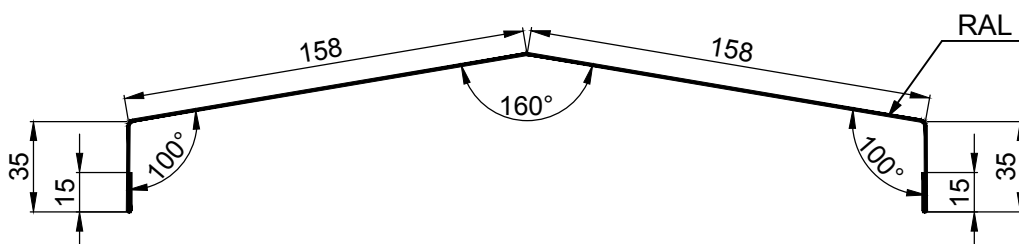
Material: Prepainted galvanized steel sheet ]

Thickness: 0.50mm

Length: 2000-6000mm

Unfolded width: 416mm

Note: The flashing follows the panel's rib and shall be trimmed off on site

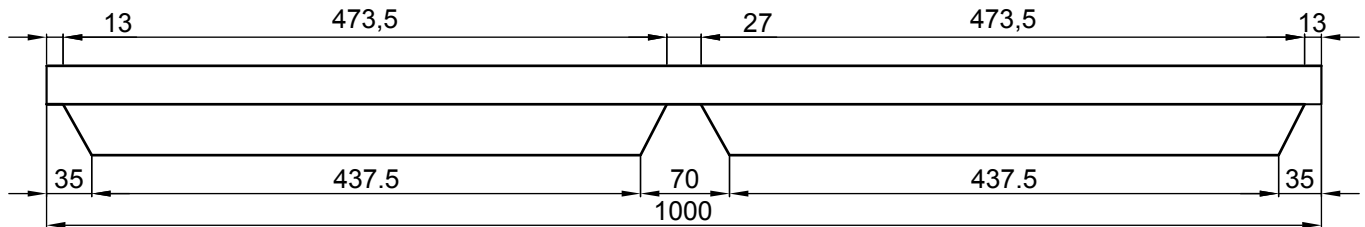
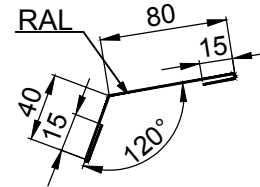


# Detail AC2 / Flashings

AC2 - 4

## 04ac - flashing - for sealing the crest - ISOAC3

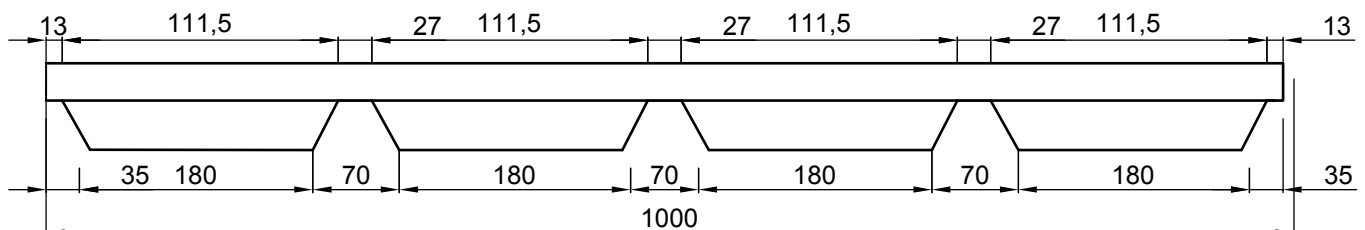
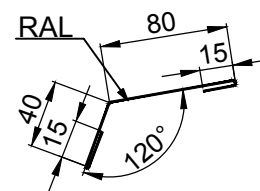
Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 1000mm  
 Unfolded width: 150mm  
 $a^\circ = 120^\circ$



Note: The flashing follows the panel's rib and shall be trimmed off on site.

## 05ac - flashing - for sealing the crest - ISOAC5

Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 1000mm  
 Unfolded width: 150mm  
 $a^\circ = 120^\circ$

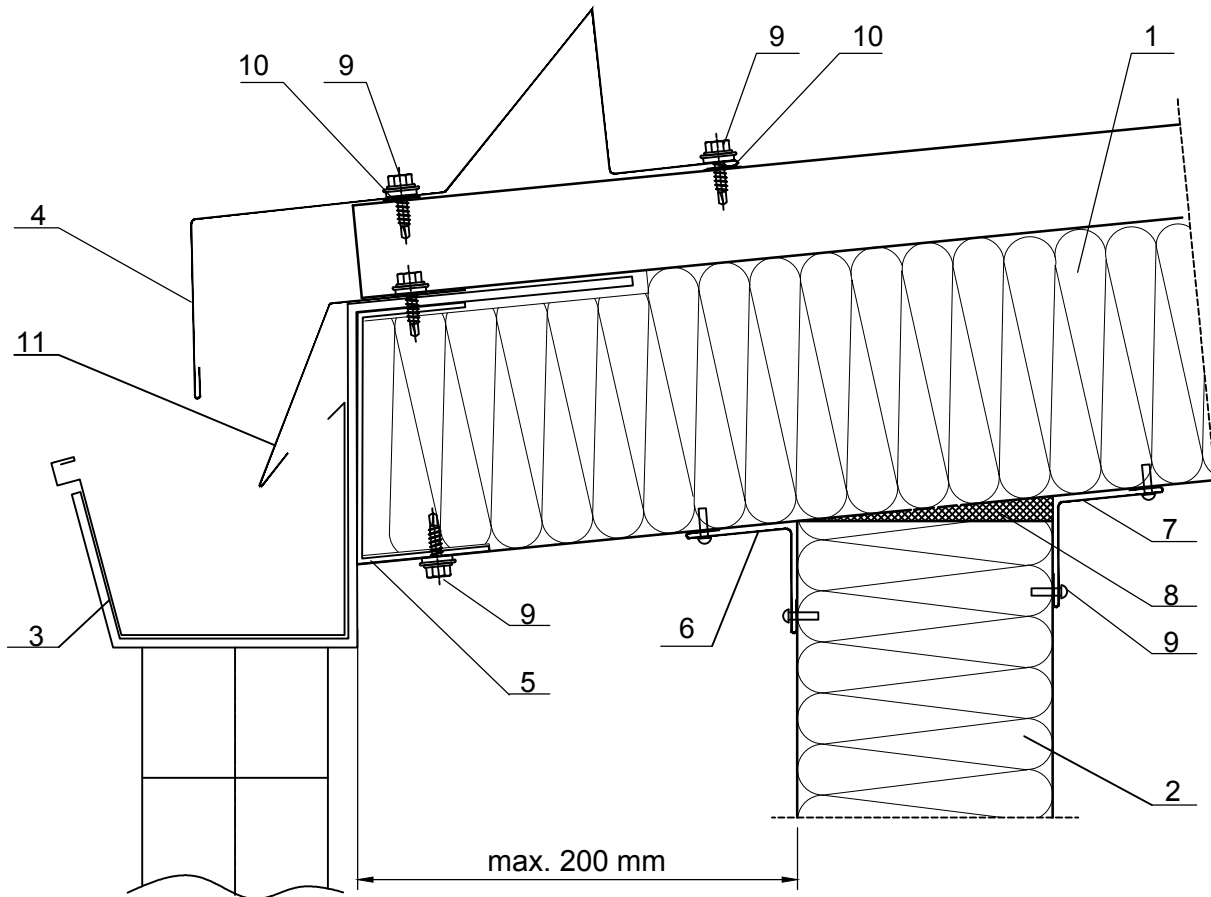


Note: The flashing follows the panel's rib and shall be trimmed off on site.

## Detail AC3

AC3 -1

### Detail - overhanging eaves



#### KEY

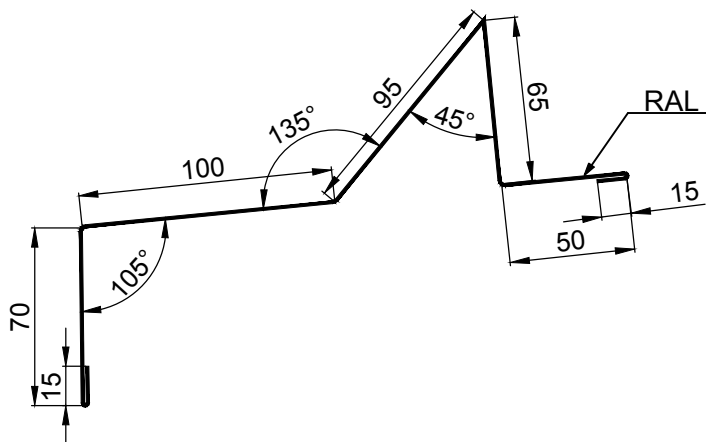
1. ISOAC3 / ISOAC5 - thermal insulating roof panel
2. ISOPER - thermal insulating wall panel
- 3 Rainwater system
4. Flashing - gutter dripper, 06ac
5. Flashing - bordering the thermal insulating panel, 07ac
6. Flashing - for concealing the exterior joint ISOAC-ISOPER, 08ac
7. Flashing - for concealing the interior gap, joint ISOAC-ISOPER 09ac
8. Polyurethane foam
9. Screw for fixing the concealing flashing
10. Self-adhesive sealing tape PE 2x20
11. Flashing - gutter dripper, 10ac

# Detail AC3 / Flashings

AC3 - 2

## 06ac - flashing - gutter dripper

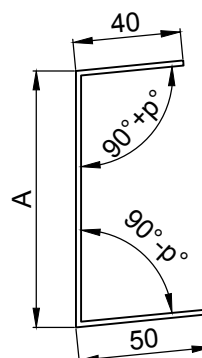
Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm  
 Unfolded width: 410mm



## 07ac - flashing - bordering thermal insulating panel

Material: Galvanized steel sheet  
 Thickness: 1.50mm  
 $p^\circ$  = roof slope

Panel thickness A (mm)	Unfolded width (mm)
30	115
40	125
50	135
60	145
80	165
100	185
120	205



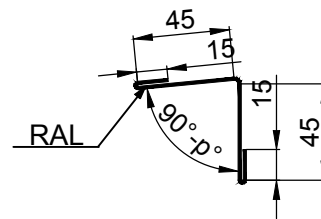


## Detail AC3 / Flashings

AC3 - 3

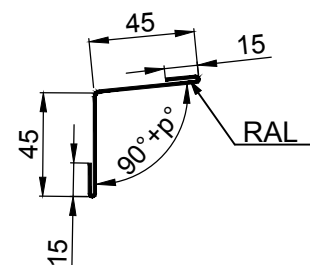
### 08ac - flashing - for concealing the exterior joint ISOAC-ISOPER

Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm  
 Unfolded width: 120mm  
 $p^\circ$  = roof slope



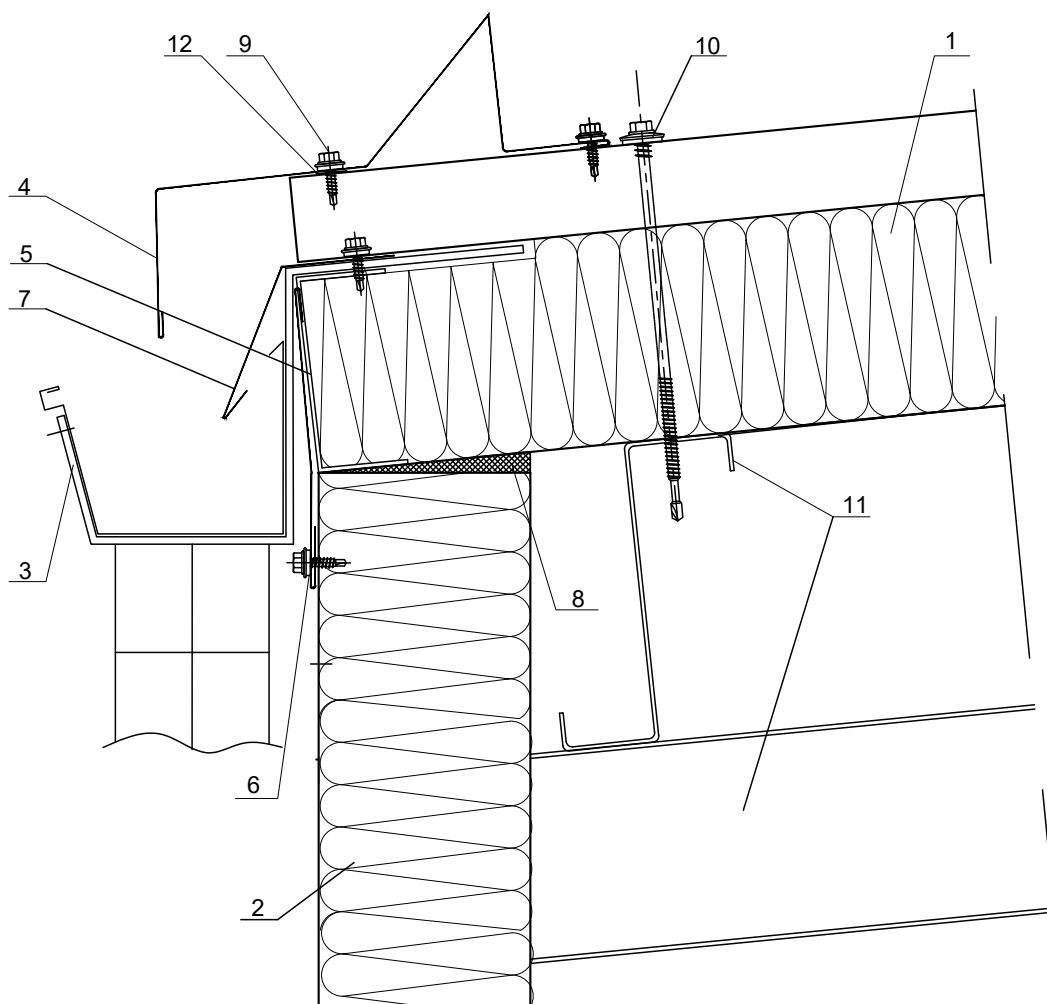
### 09ac - flashing - for concealing the interior gap, joint ISOAC-ISOPER

Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm  
 Unfolded width: 120mm  
 $p^\circ$  = roof slope



## Detail AC4 / Detail eaves

AC4 - 1



### KEY

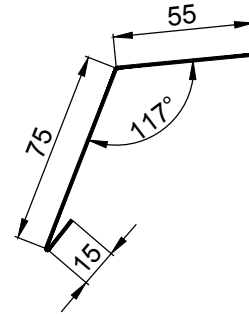
1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. ISOPER - thermal insulating wall panel
3. Rainwater system
4. Flashing - gutter pitcher, 06ac-see AC3-2
5. Flashing - bordering the thermal insulating panel, 07ac
6. Flashing - for concealing the bordering, 11ac
7. Flashing - gutter dripper, 10ac
8. Polyurethane foam
9. Screw for fixing the concealing flashing
10. Screw for fixing the panel to the support structure
11. Support structure
12. Self-adhesive sealing tape PE 2x20

# Detail AC4 / Flashings

AC4 - 2

## 10ac - flashing - gutter dripper

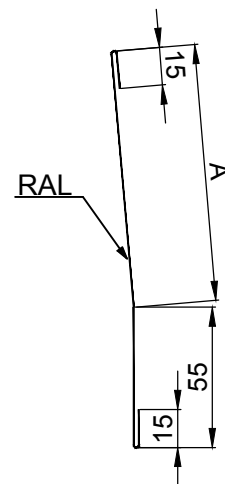
Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm  
 Unfolded width: 145mm



## 11ac - flashing - concealing the bordering of thermal insulating panels

Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm

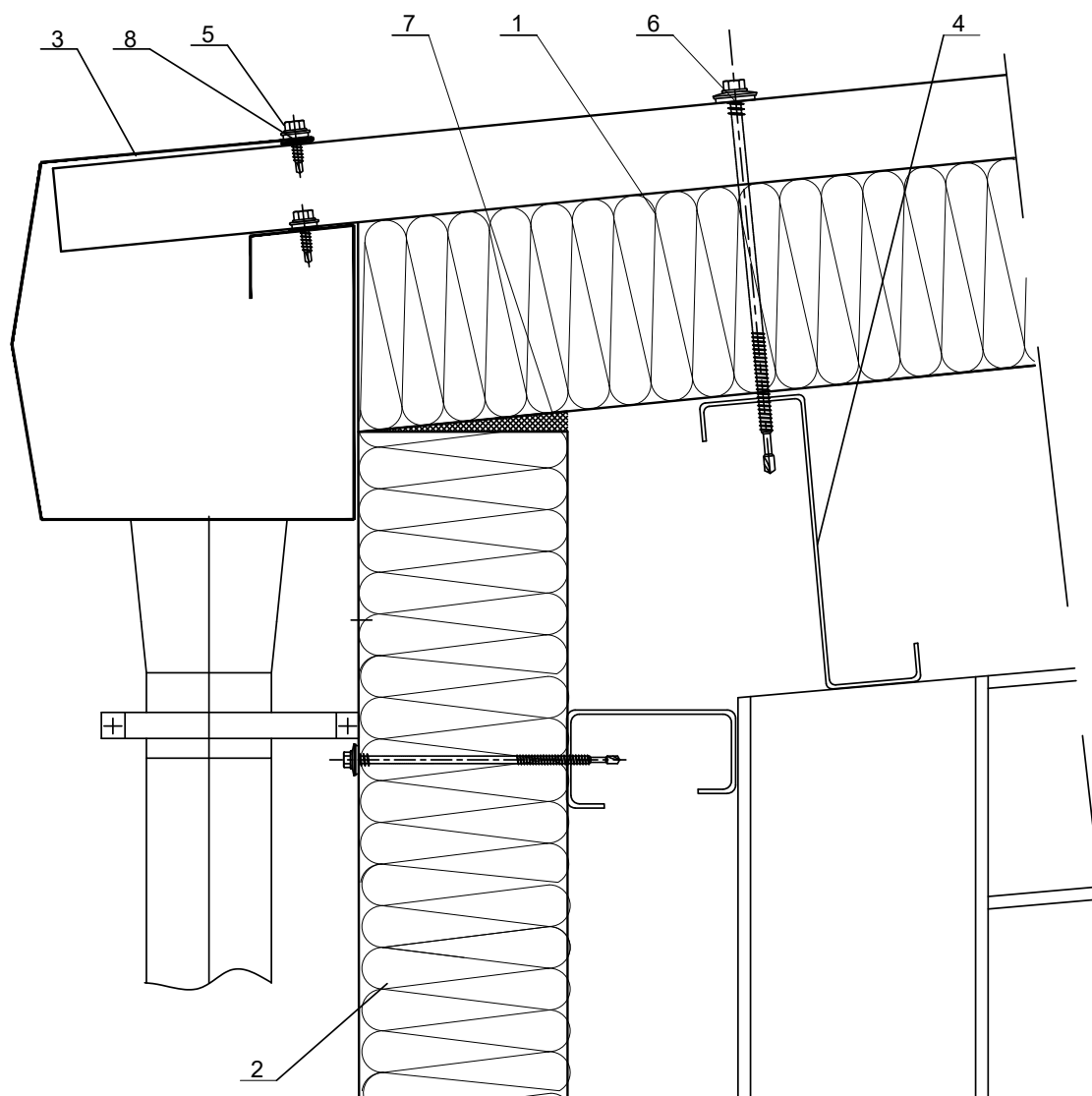
Panel thickness (mm)	A (mm)	Unfolded width (mm)
30	30	115
40	40	125
50	50	135
60	60	145
80	80	165
100	100	185
120	120	205



## Detail AC5

AC5 - 1

### Detail eaves with self-supporting gutter



#### KEY

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. ISOPER - thermal insulating wall panel
3. Rainwater system - self-supporting rectangular gutter, 12ac
4. Support structure
5. Screw for fixing the concealing flashing
6. Screw for fixing the panel to the support structure
7. Polyurethane foam
8. Self-adhesive sealing tape PE 2x20

## Detail AC5 / Flashings

AC5 - 2

### 12ac - Self-supporting rectangular gutter

Material: Prepainted galvanized steel sheet

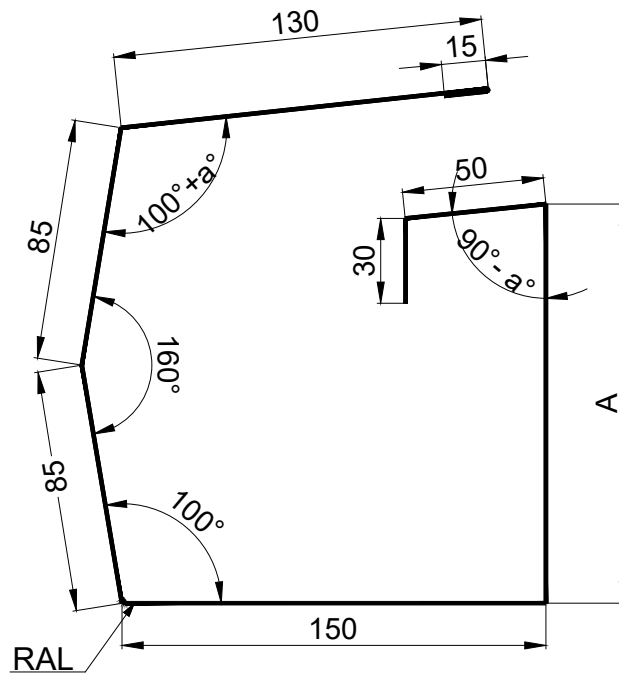
Thickness: 0.50mm

Length: 2000-6000mm

Unfolded width: 545 + A mm

Note:

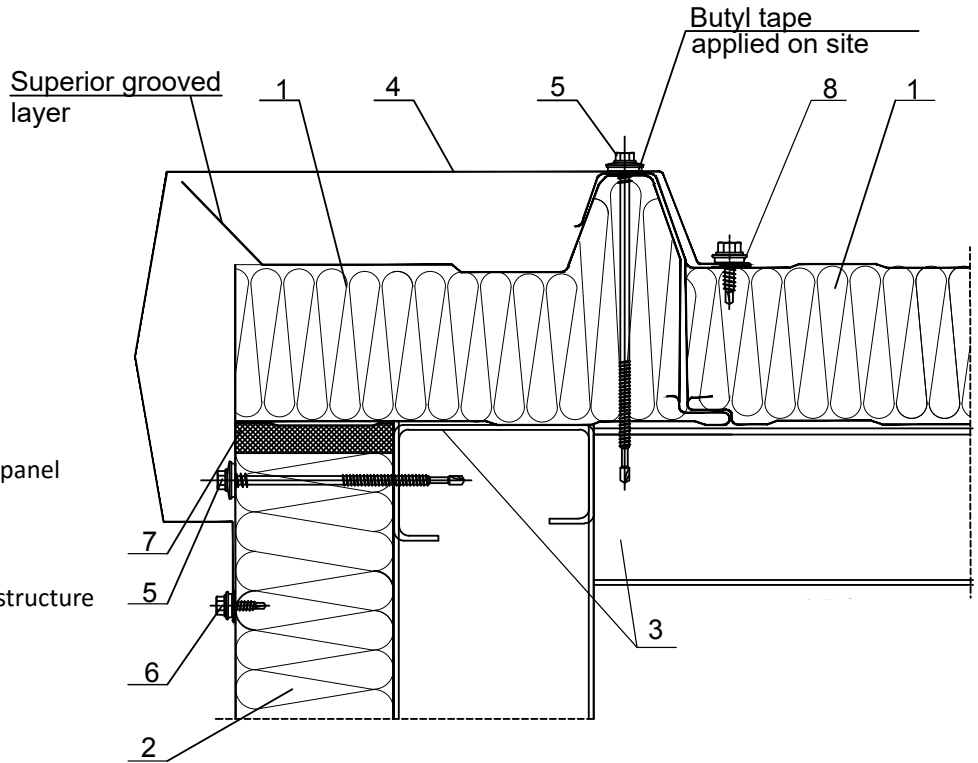
1.  $a^\circ$  = roof slope
2. Dimension of A shall be settled by measurements depending on roof slope,  $a^\circ$



# Detail AC6 / Detail of fascia board

AC6 - 1

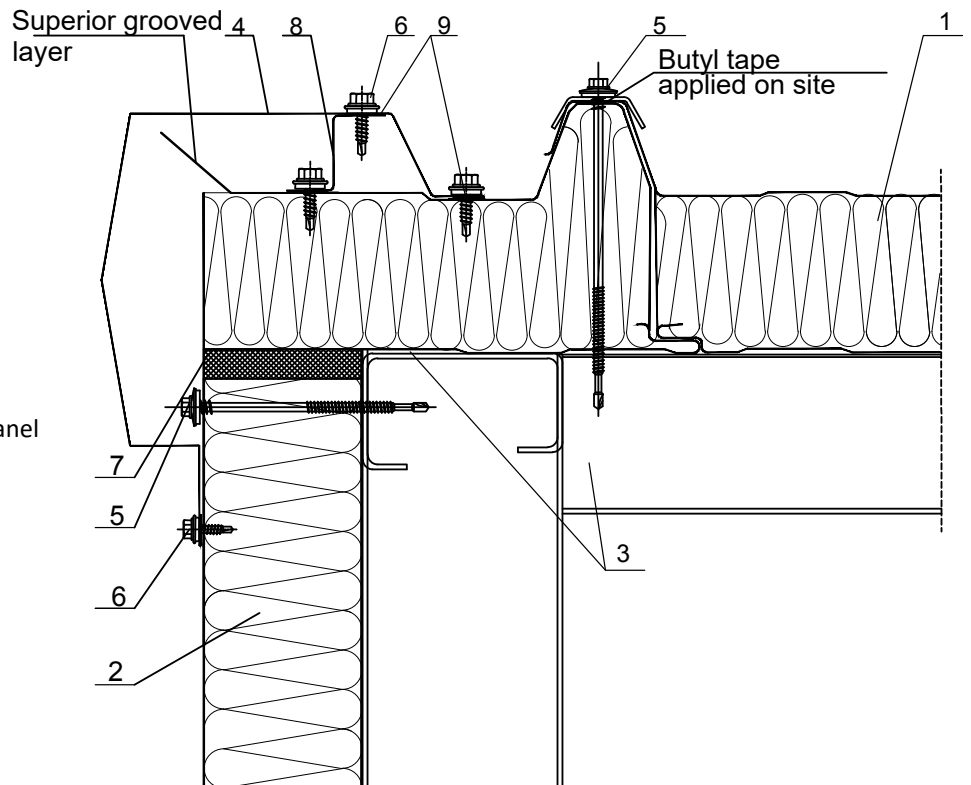
## Version 1



### KEY

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. ISOPER - thermal insulating wall panel
3. Support structure
4. Flashing - concealing the gable, 13ac
5. Screw for fixing the panel to the support structure
6. Screw for fixing the concealing flashing
7. Polyurethane foam
8. Butyl tape 2 x 8

## Version 2



### KEY

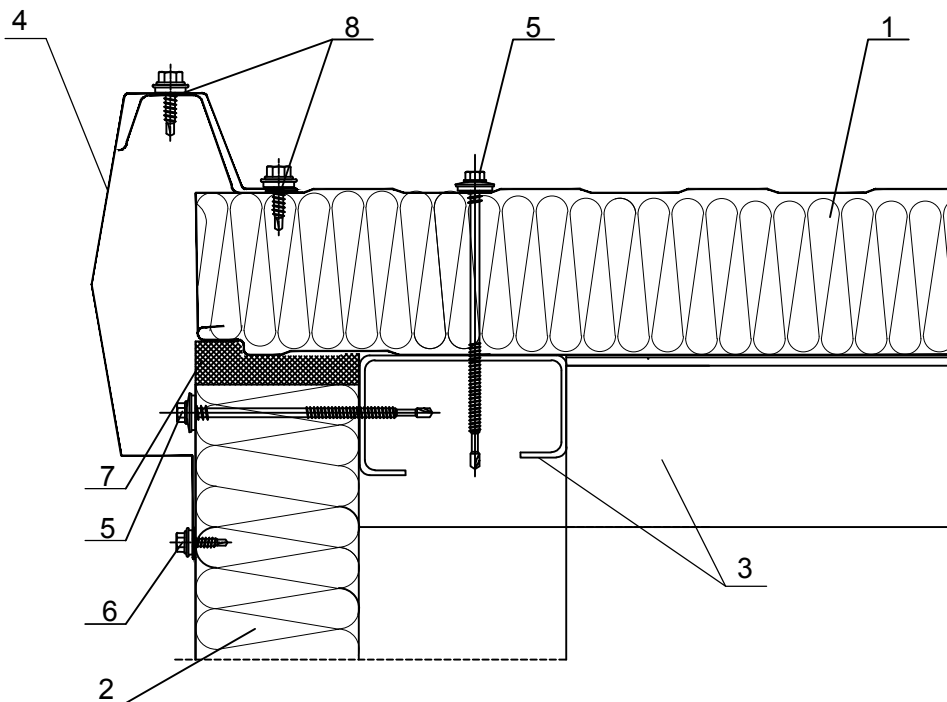
1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. ISOPER - thermal insulating wall panel
3. Support structure
4. Flashing - concealing the gable, 14a6c
5. Screw for fixing the panel to the support structure and metal cap with sealing gasket
6. Screw for fixing the concealing flashing
7. Polyurethane foam
8. Flashing - Z type support, 15ac
9. Butyl tape 2 x 8

Note: Topping the top layer will be done on site

## Detail AC6 / Detail of fascia board

AC6 - 2

Version 3



### KEY

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. ISOPER - thermal insulating wall panel
3. Support structure
4. Flashing - concealing the gable, 16ac
5. Screw for fixing the panel to the support structure
6. Screw for fixing the concealing flashing
7. Polyurethane foam
8. Butyl tape 2 x 8

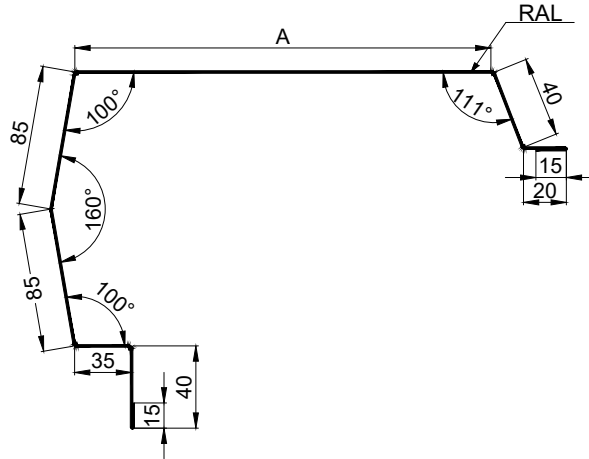
# Detail AC6 / Flashings

AC6 - 3

## 13ac - Flashing - concealing the gable

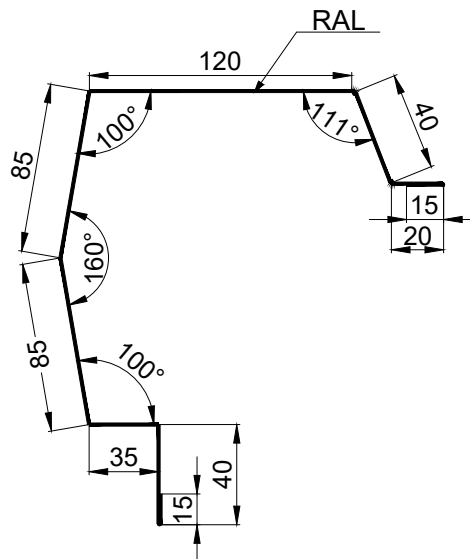
Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm  
 Unfolded width: 335 + A mm

Note:  
 Dimension of A shall be settled by measurements on site



## 14ac - Flashing - concealing the gable

Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm  
 Unfolded width: 455 mm



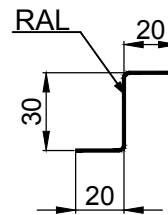


## Detail AC6 / Flashings

AC6 - 4

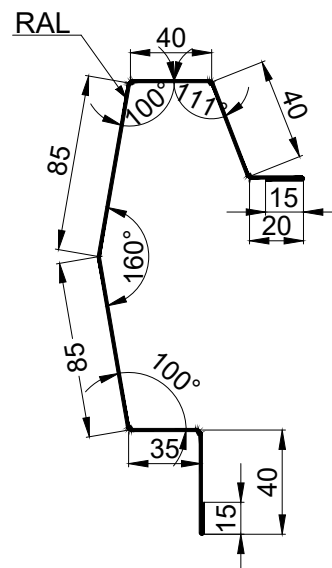
### 15ac - Flashing - Z type support

Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm  
 Unfolded width: 70 mm



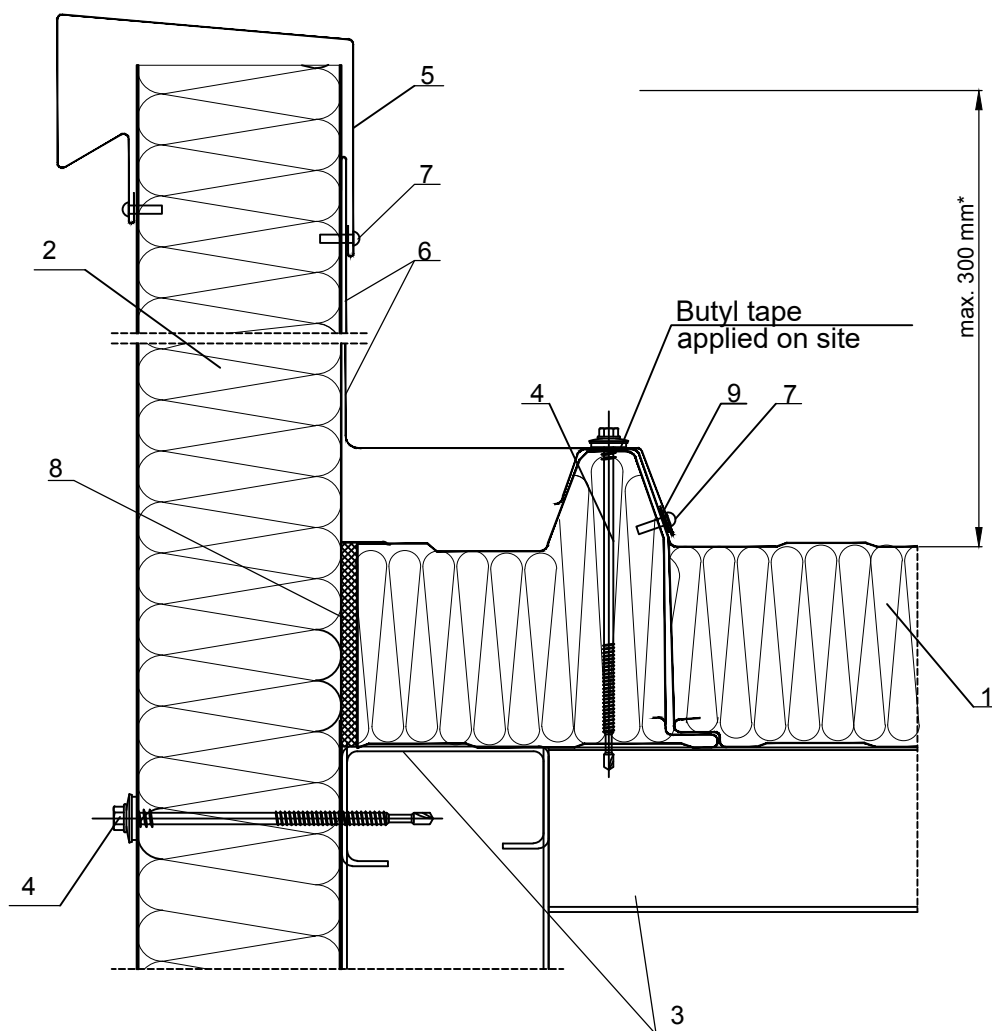
### 16ac - Flashing - concealing the gable

Material: Prepainted galvanized steel sheet  
 Thickness: 0.50mm  
 Length: 2000-6000mm  
 Unfolded width: 375 mm



**Detail AC7**

AC7 - 1

**Detail of attic with no secondary structure****KEY**

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. ISOPER - thermal insulating wall panel
3. Support structure
4. Screw for fixing the panel to the support structure and metal cap with sealing gasket
5. Flashing - concealing the cover of attic,17ac
6. Flashing - concealing the gap between ISOAC-ISOPER 18ac
7. Screw / rivet for fixing the concealing flashing
8. Polyurethane foam
9. Self-adhesive sealing tape type PE 2x20

\*for structures where the height of attic is < 300mm

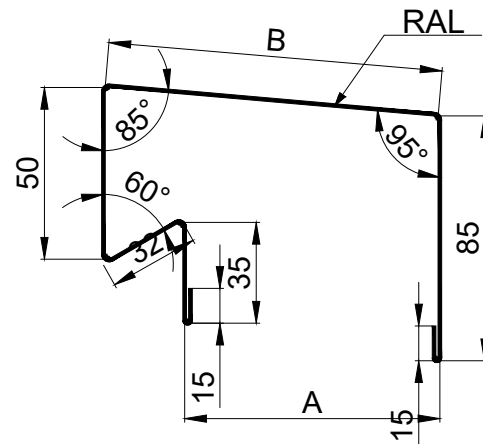
# Detail AC7 / Flashings

AC7 - 2

## 17ac - Flashing - concealing the cover of attic

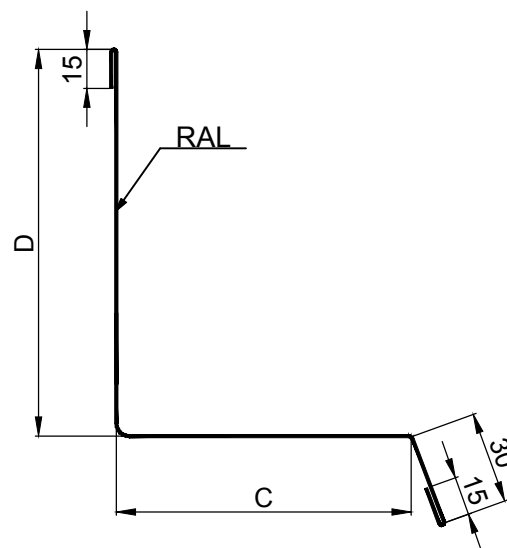
Material: Prepainted galvanized steel sheet  
Thickness: 0.50mm

Panel thickness A (mm)	B (mm)	Unfolded width (mm)
30	62	262
40	72	272
50	82	282
60	92	292
80	112	312
100	132	332
120	152	352



## 18ac - Flashing - concealing the gap between ISOAC-ISOPER

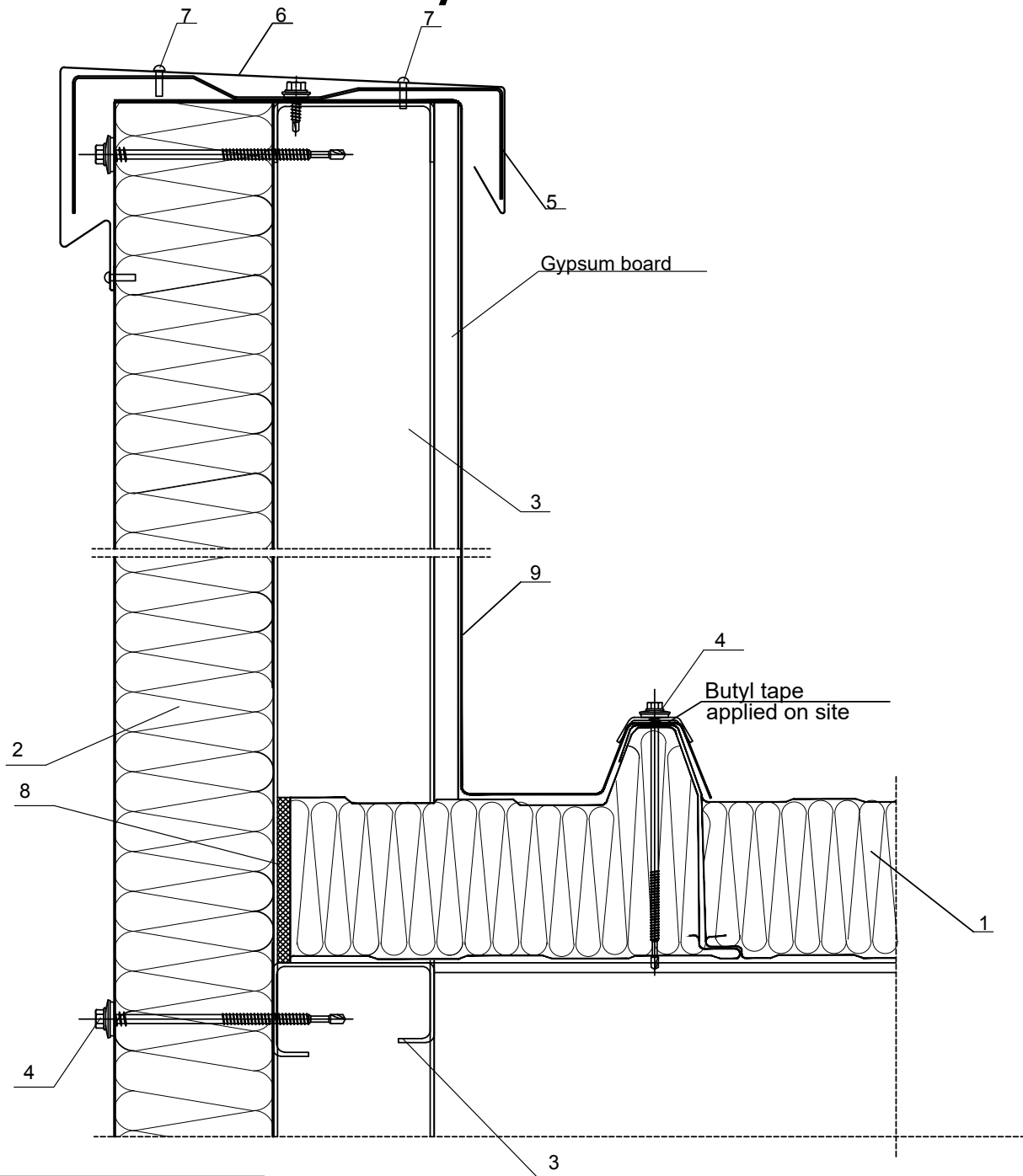
Material: Prepainted galvanized steel sheet  
Thickness: 0.50mm  
Length: 2000-6000mm  
Unfolded width: shall be settled by measurements on site



# Detail AC8

AC8 - 1

## Detail of attic with secondary structure - VERSION 1



**KEY**

- 1. ISOAC3 / ISOAC5 thermal insulating roof panel
- 2. ISOPER - thermal insulating wall panel
- 3. Support structure
- 4. Screw for fixing the panel to the support structure and metal cap with sealing gasket
- 5. Flashing - clamping the cover of the attic, 20ac
- 6. Flashing - concealing the cover of attic, 19ac
- 7. Screw / rivet for fixing the concealing flashing
- 8. Polyurethane foam
- 9. PVC Membrane

\* for structures where the height of attic is > 300mm

## Detail AC8 / Flashings

AC8 - 2

### 19ac - Flashing - concealing the cover of attic

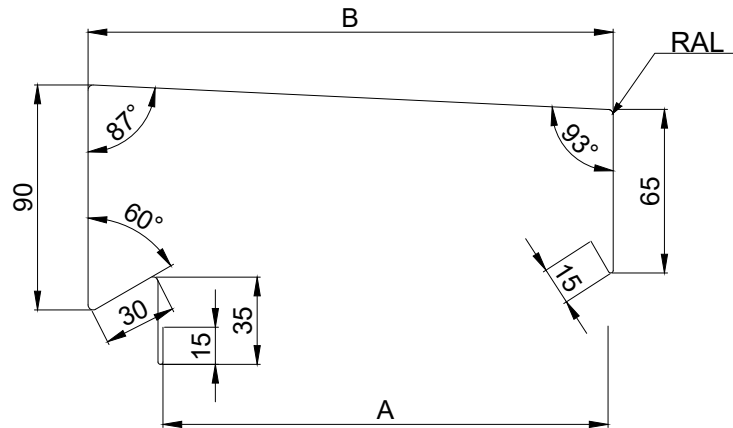
Material: Prepainted galvanized steel sheet

Length: 2000-6000mm

Thickness: 0.50mm

Unfolded width:  $B+250\text{mm}$

Note: Dimension of B shall be measured on site



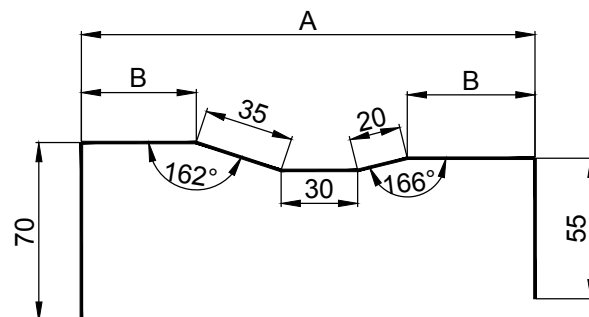
### 20ac - Flashing - clamping the cover of the attic

Material: Galvanized steel sheet Length: 3000mm

Thickness: 1.50mm-2.50 mm

Unfolded width:  $2 \times B + 210\text{ mm}$

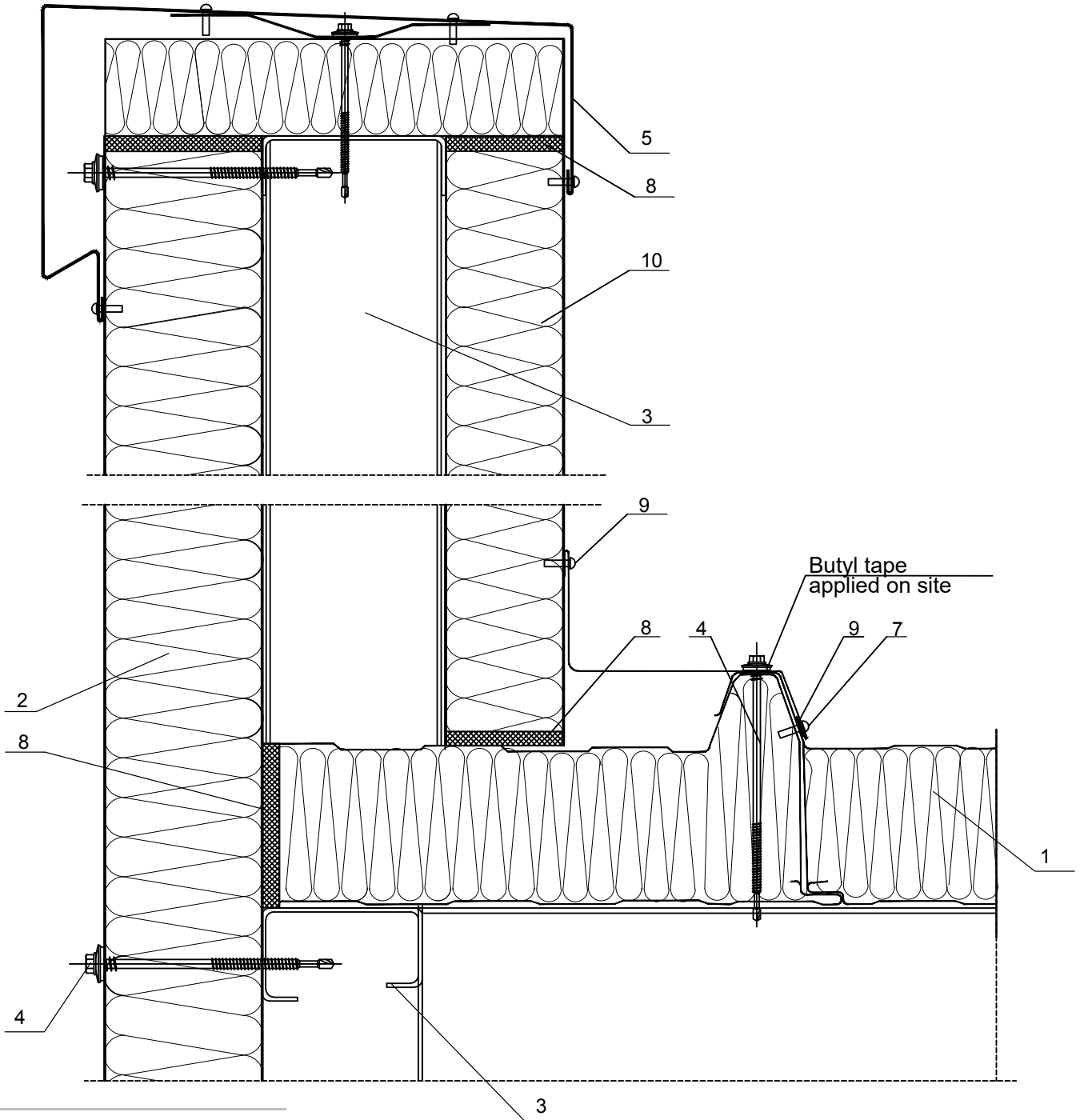
Note: Dimension of A shall be measured on site



# Detail AC8

AC8 - 3

## Detail of attic with secondary structure - VERSION 2



**KEY**

- 1. ISOAC3 / ISOAC5 thermal insulating roof panel
- 2. ISOPER - thermal insulating wall panel
- 3. Support structure
- 4. Screw for fixing the panel to the support structure and metal cap with sealing gasket
- 5. Flashing - concealing the cover of attic, 19'ac
- 6. Flashing - clamping the cover of the attic, 20'ac
- 7. Screw / rivet for fixing the concealing flashing
- 8. Polyurethane foam
- 9. Flashing - concealing the gap between ISOAC-ISOPER, 18ac
- 10. Thermal insulating panel for insulation of the attic

\* for structures where the height of attic is > 300mm

## Detail AC8 / Flashings

AC8 - 4

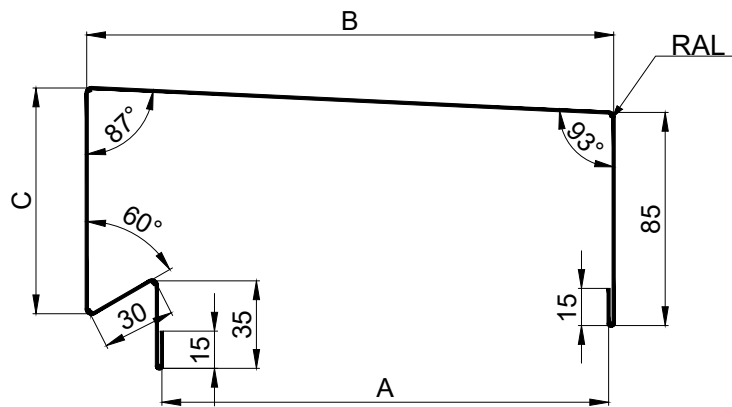
### 19'ac - Flashing - concealing the cover of attic

Material: Prepainted galvanized steel sheet

Length: 2000-6000mm

Thickness: 0.50mm

Note: Dimension of B, C shall be measured on site



### 20'ac - Flashing - clamping the cover of the attic

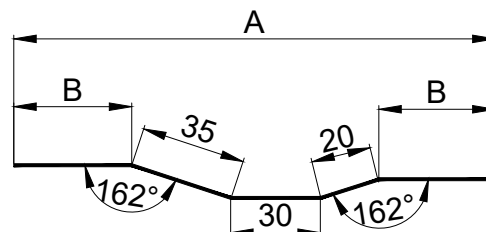
Material: Galvanized steel sheet

Length: 3000mm

Thickness: 1.50mm-2.50 mm

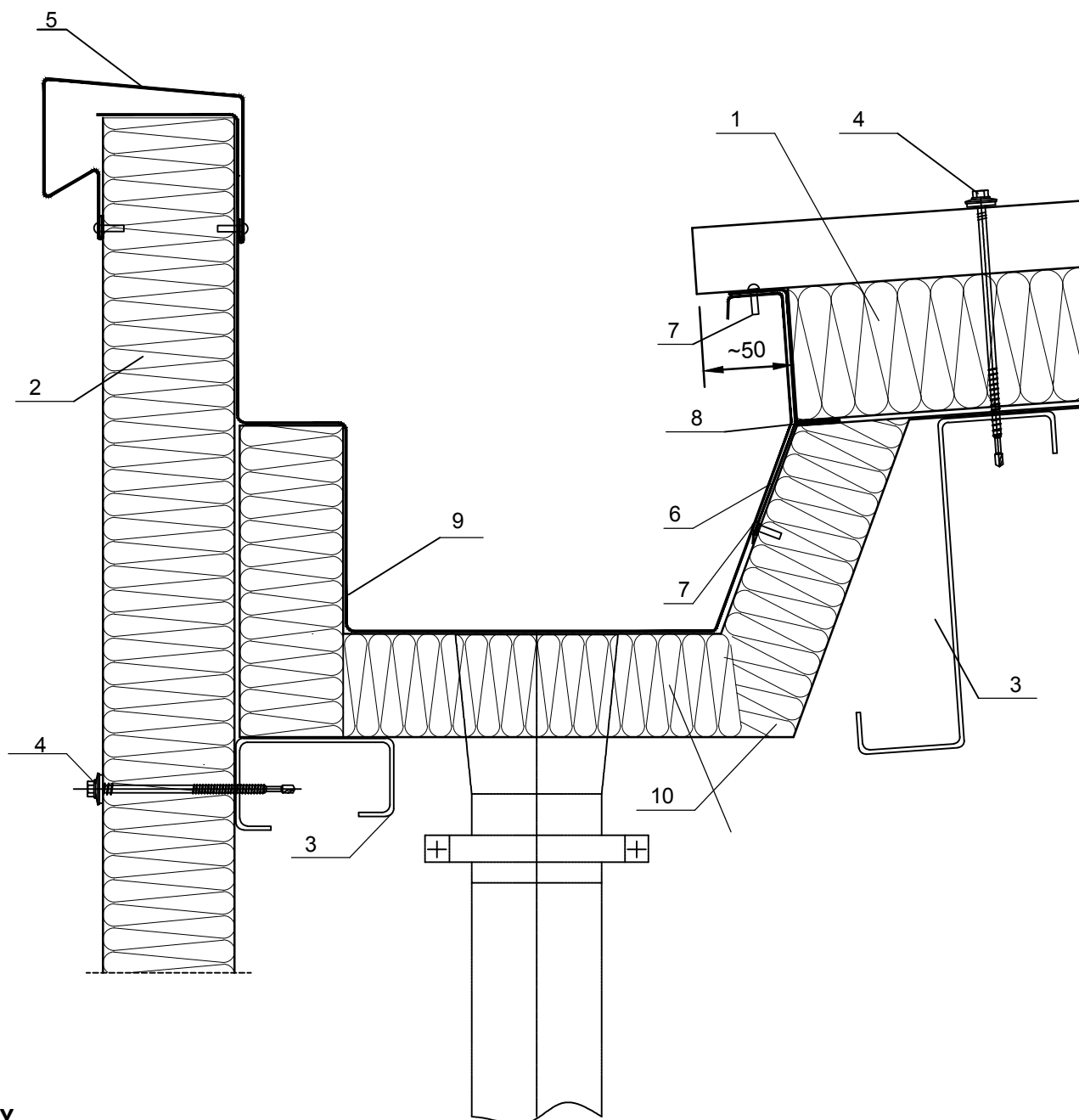
Unfolded width:  $2 \times B + 85$  mm

Note: Dimension of A shall be measured on site



## Detail AC9

### Detail of interior gutter made of thermal insulating panels



#### KEY

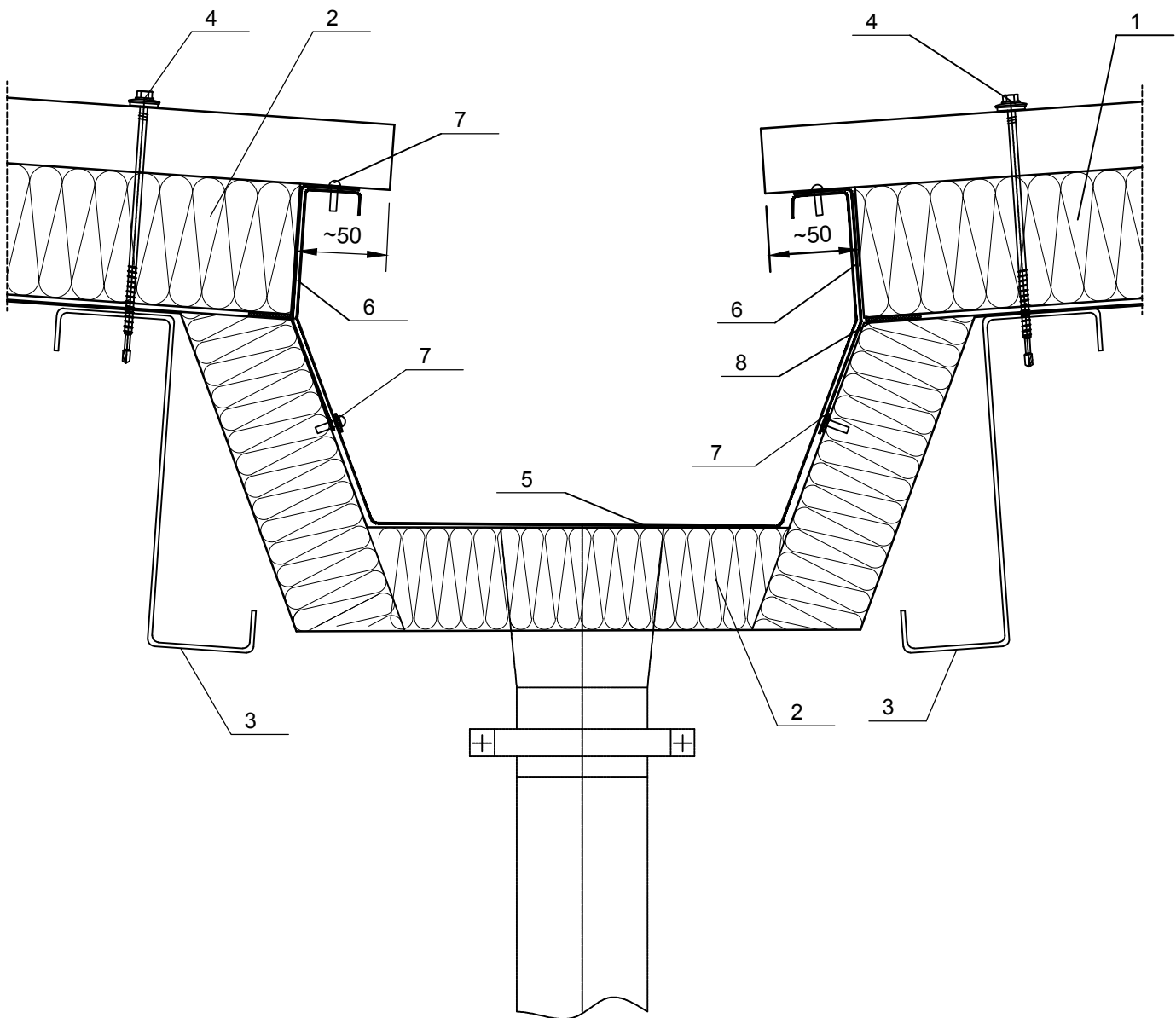
1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. ISOPER - thermal insulating wall panel
3. Support structure
4. Screw for fixing the panel to the support structure
5. Flashing - concealing the cover of attic, 19ac
6. Flashing - bordering ISOAC, 21ac
7. Screw / rivet for fixing the concealing flashing
8. Butyl mastic
9. PVC Membrane
10. Interior gutter made of thermal insulating panels type ISOPER



## Detail AC10

AC10 - 1

### Detail of roof valley gutter made of thermal insulating panels



#### KEY

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. Roof valley gutter made of thermal insulating panels type ISOPER
3. Support structure
4. Screw for fixing the panel to the support structure
5. PVC Membrane
6. Flashing - bordering the ISOAC, 21ac
7. Screw / rivet for fixing the concealing flashing
8. Butyl mastic

## Detail AC10/Flashings

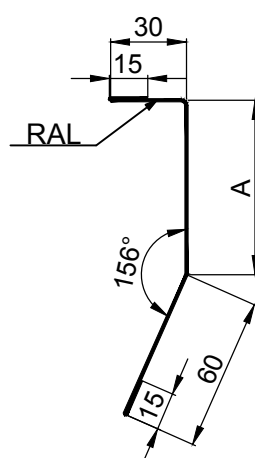
AC10 - 2

### 21ac - Flashing - bordering the panel

Material: Prepainted galvanized steel sheet

Length: 2000-6000mm

Thickness: 0.50mm

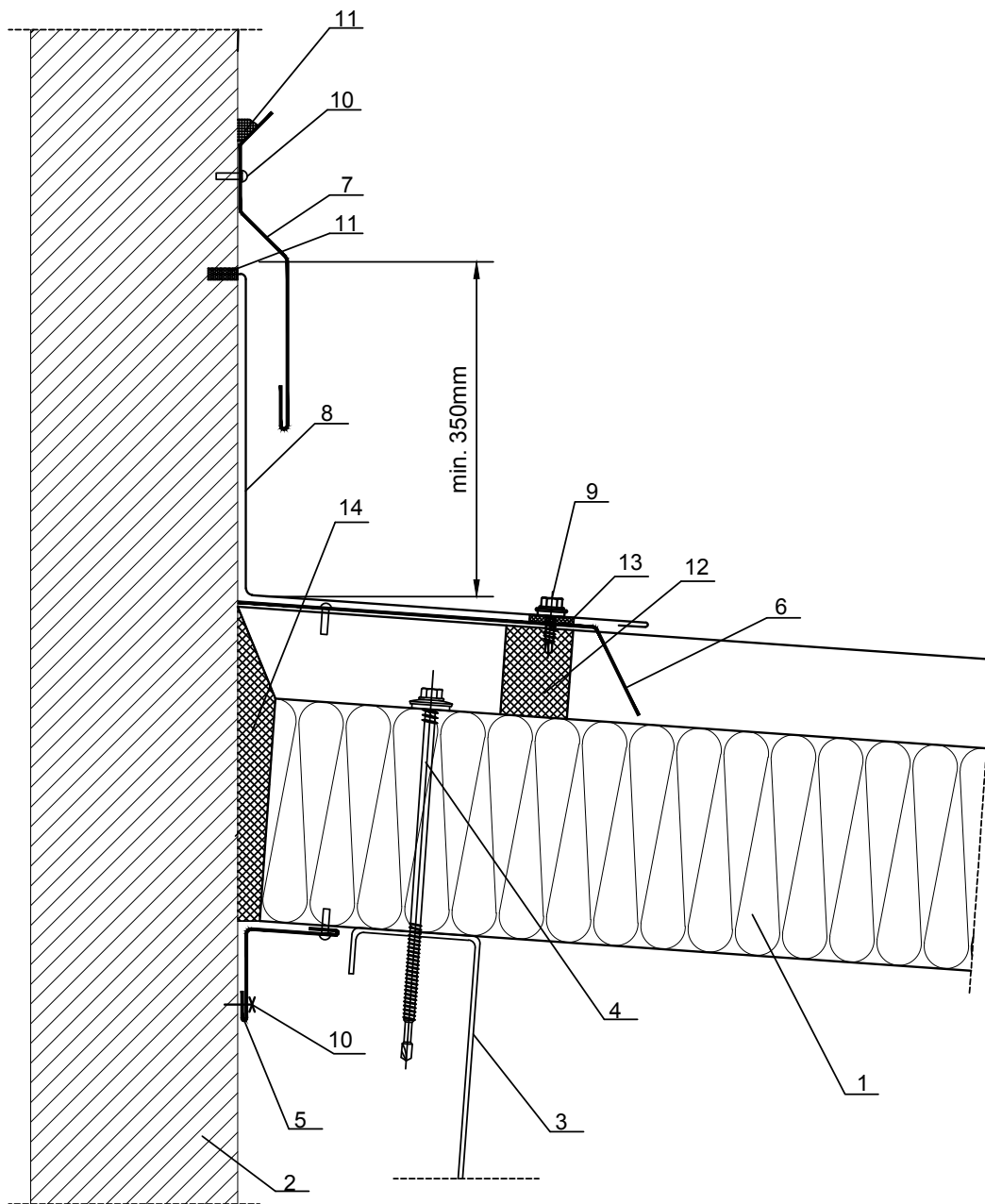


Panel thickness A (mm)	Unfolded width (mm)
30	150
40	160
50	170
60	180
80	200
100	220
120	240

## Detail AC11

AC11 - 1

### Detail of joining ISOAC3 / ISOAC5 roof to the brick wall



#### KEY

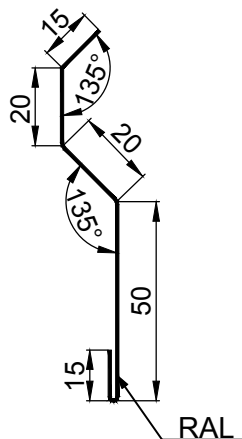
1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. Brick wall
3. Support structure
4. Screw for fixing the panel to the support structure
5. Flashing - for concealing the interior joint, 09ac
6. Flashing - for sealing the crest, 04ac/05ac
7. Flashing - dripper, 22ac
8. Flashing - for concealing the exterior joint gap, 23ac
9. Screw / rivet for fixing the concealing flashing (shall be fixed on each rib)
10. Screw for fixing the concealing flashing to concrete
11. Butyl mastic
12. Sealing sponge following the panel rib
13. Self-adhesive sealing tape 3x15 PU
14. Polyurethane foam

# Detail AC11 / Flashings

AC11 - 2

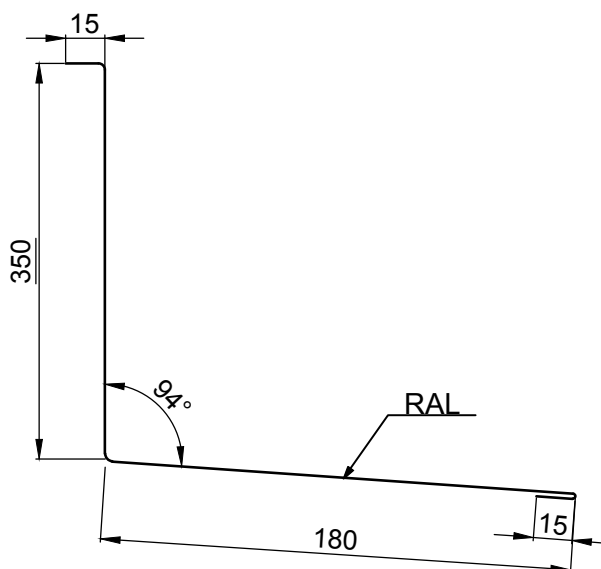
## 22ac - Flashing - dripper for thermal insulating panel

Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width: 120mm



## 23ac - Flashing - for concealing the exterior joint gap between ISOAC panel and brick wall

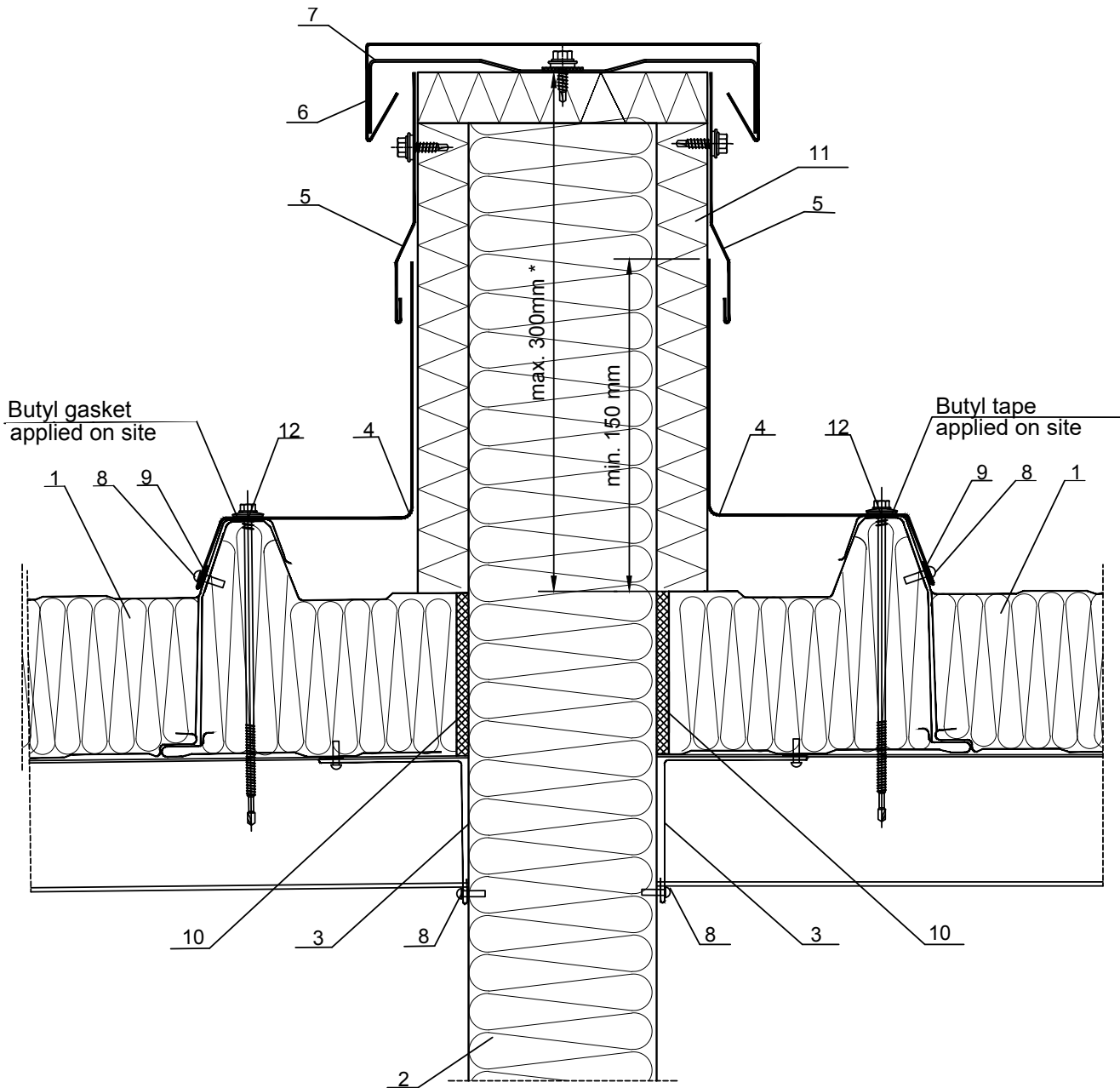
Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width: 560mm



## Detail AC12

AC12 - 1

### Detail of 180' fire resistant wall



#### KEY

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. Thermal insulating panel / brick wall - 180' fire resistant
3. Flashing - concealing the interior corner of the roof - fire resistance wall, 24ac
4. Flashing - concealing the exterior corner of the roof - fire resistance wall, 25ac
5. Flashing - concealing the dripper, 26ac
6. Flashing - concealing the cover of attic, 27ac
7. Flashing - supporting (clamping) the cover of attic, 28ac
8. Screw / rivet for fixing the concealing flashing
9. Self-adhesive sealing tape type PE 2x20
10. Polyurethane foam
11. Thermal insulating wall panel or drywall boards
12. Screw for fixing the panel to the support structure

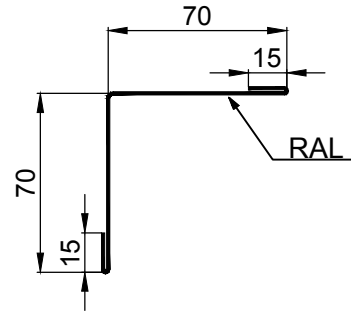
\* for structures where the height of attic made of fire resistant wall is < 300mm

# Detail AC12 / Flashings

AC12 - 2

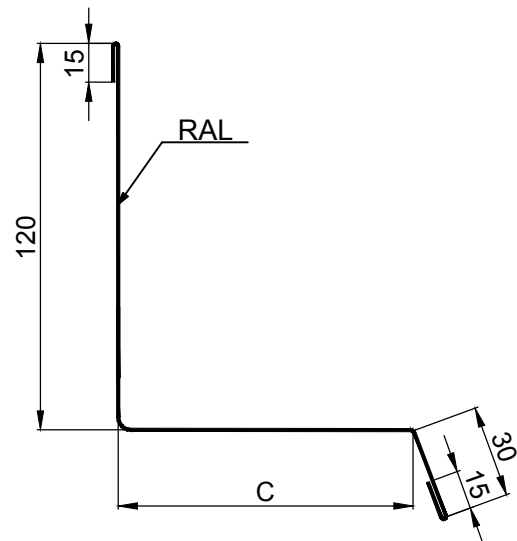
## 24ac - Flashing - concealing the interior corner of the roof panel - fire resistant wall panel

Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width: 170mm



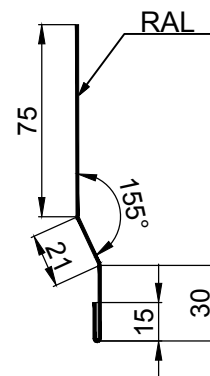
## 25ac - Flashing - concealing the exterior corner of the roof panel - fire resistant wall panel

Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width: shall be settled by measurements on site



## 26ac - Flashing - concealing the dripper

Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width: 141 mm



## Detail AC12 / Flashings

AC12 - 3

### 27ac - Flashing - covering the attic of thermal insulating panel

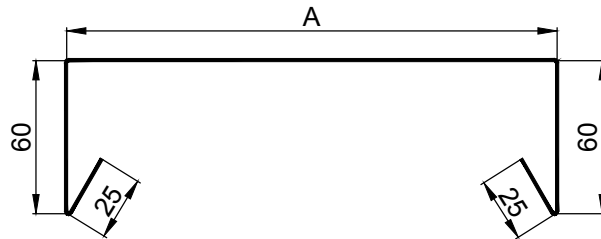
Material: Prepainted galvanized steel sheet

Length: 2000-6000mm

Thickness: 0.50mm

Unfolded width:  $A + 170$  mm

Note: Dimension of A shall be settled by measurements on site

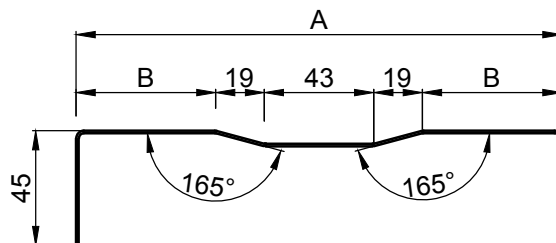


### 28ac - Flashing - supporting (clamping) the cover of attic

Material: Galvanized steel sheet

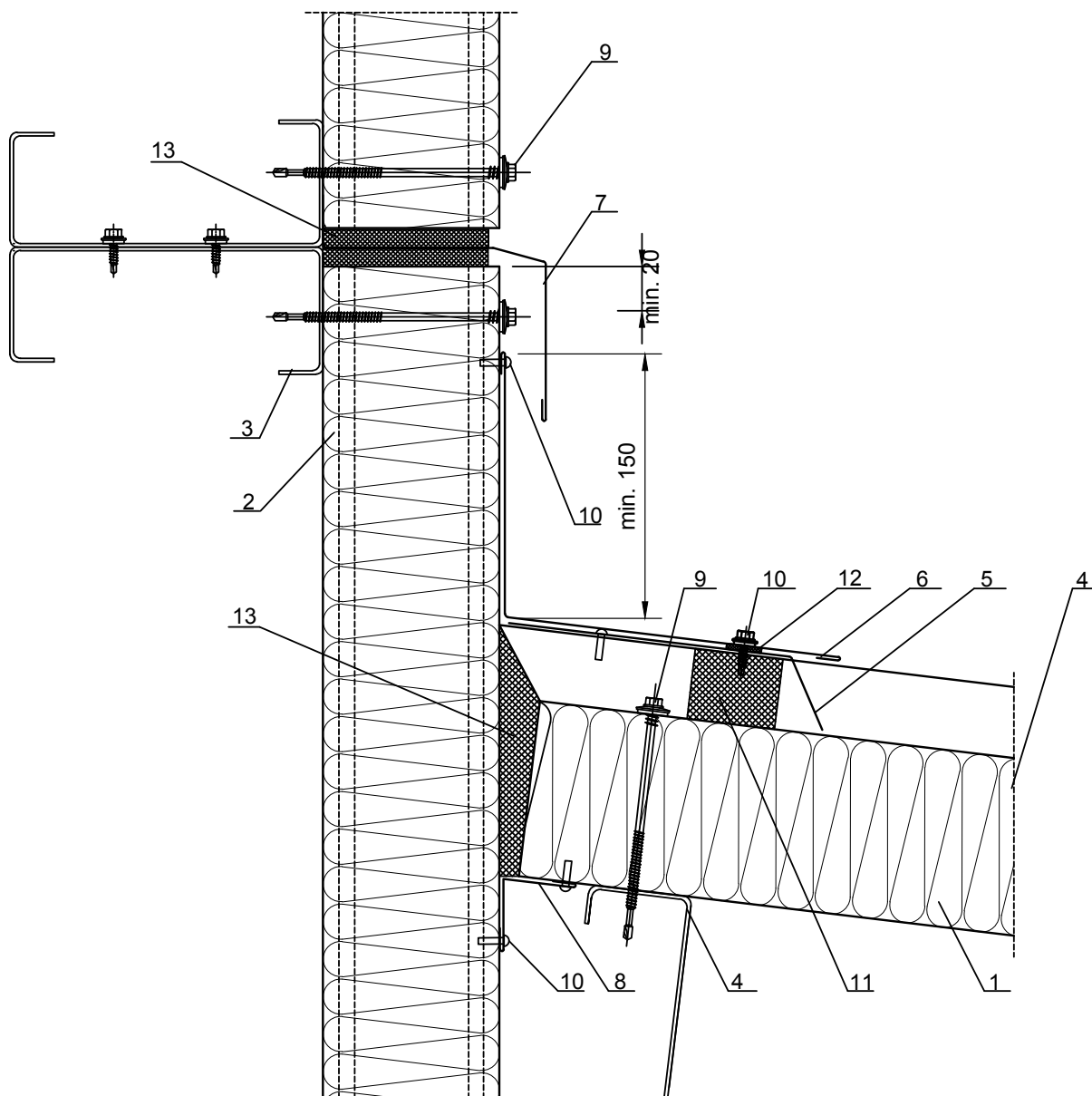
Thickness: 1.50mm - 2.50mm

Note: Dimension of A shall be measured on site



## Detail AC13

### Detail of joining roof-high wall type isoper



#### KEY

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. ISOPER - Thermal insulating wall panel
3. Support structure for thermal insulating panel - rulers type C Terasteel
4. Support structure for thermal insulating panel - wedges type Z Terasteel
5. Flashing - for sealing the crest, 04ac/05ac
6. Flashing -concealing the exterior corner wall- roof, 29ac
7. Flashing -concealing the dripper, 30ac
8. Flashing -concealing the interior corner wall- roof, 31ac
9. Screw for fixing the panel to the support structure
10. Screw / rivet for fixing the concealing flashing
11. Sealing sponge following the panel rib
12. Self-adhesive sealing tape type PE 2x20
13. Polyurethane foam

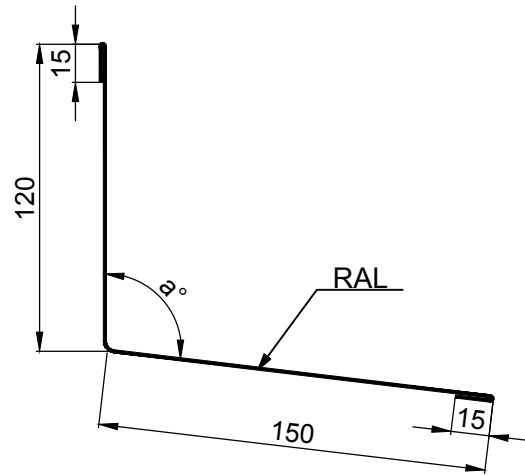


# Detail AC13 / Flashings

AC13 - 2

## 29ac - Flashing - concealing the exterior corner wall- roof

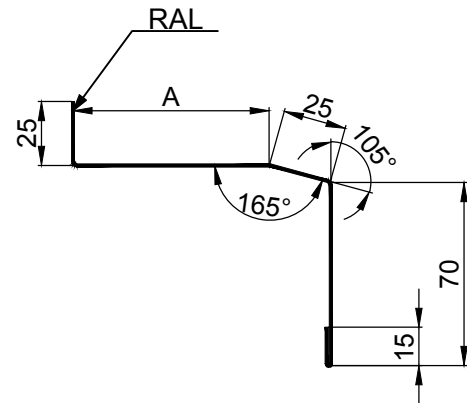
Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width: 300 mm  
 Angle  $a^\circ$  shall be determined based on the roof slope



## 30ac - Flashing - concealing the dripper of thermal insulating panel

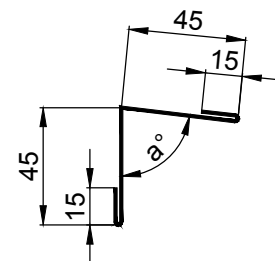
Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width: according to table

Panel thickness (mm)	A (mm)	Unfolded width (mm)
30	25	160
40	35	170
50	45	180
60	55	190
80	75	210
100	95	230
120	115	250



## 31ac - Flashing - concealing the interior corner wall- roof

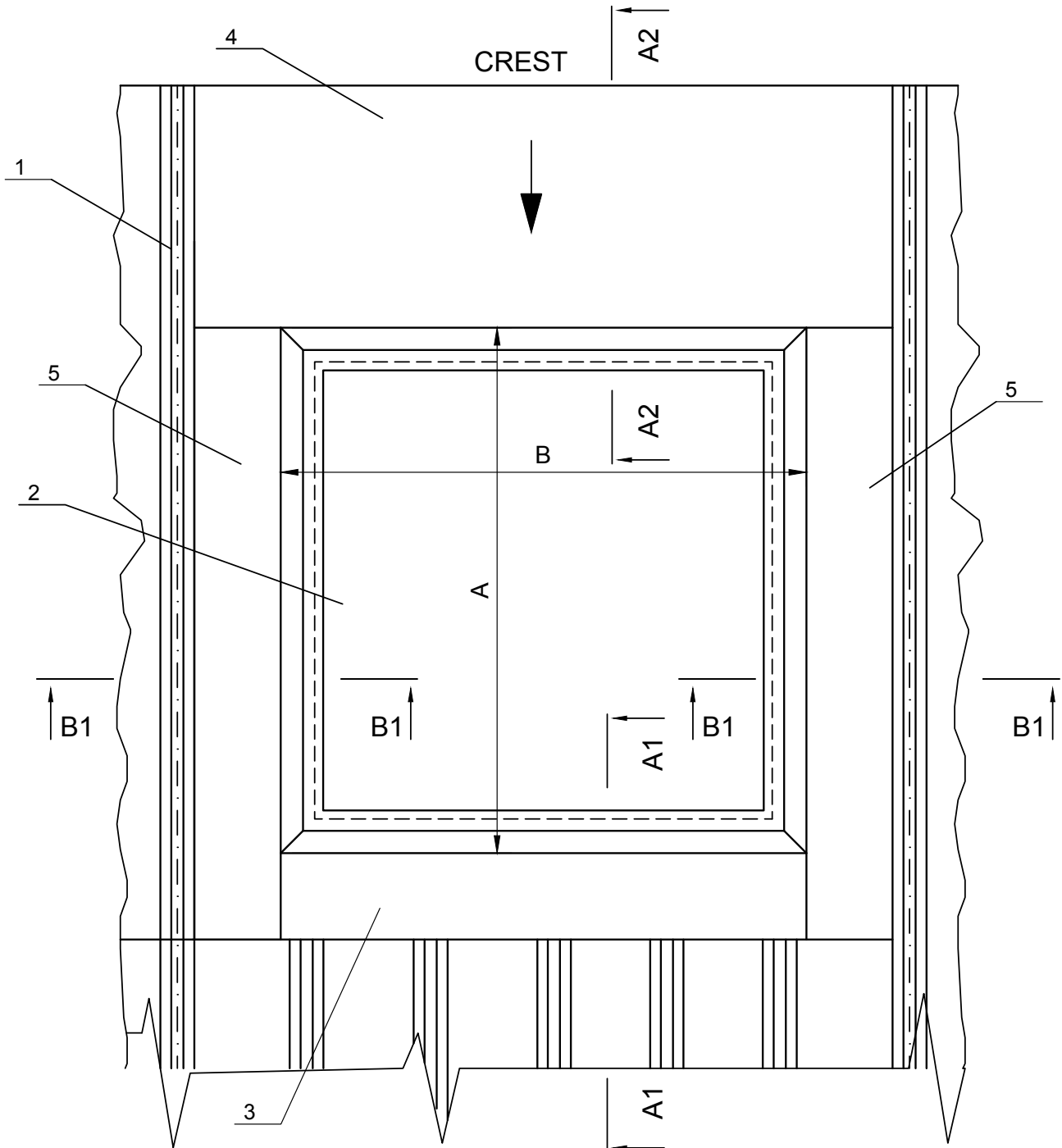
Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width: 120 mm  
 Angle  $a^\circ$  shall be determined based on the roof slope



# Detail AC14

AC14 - 1

## Detail of joining ISOAC smoke evacuation trapdoor



### KEY

1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. Smoke evacuation trapdoor having the dimensions A x B
3. Flashing - concealing the socle of smoke evacuation trapdoor, 32ac
4. Flashing - concealing the socle of smoke evacuation trapdoor, 33ac
5. Flashing - concealing the socle of smoke evacuation trapdoor, 34ac

### NOTE:

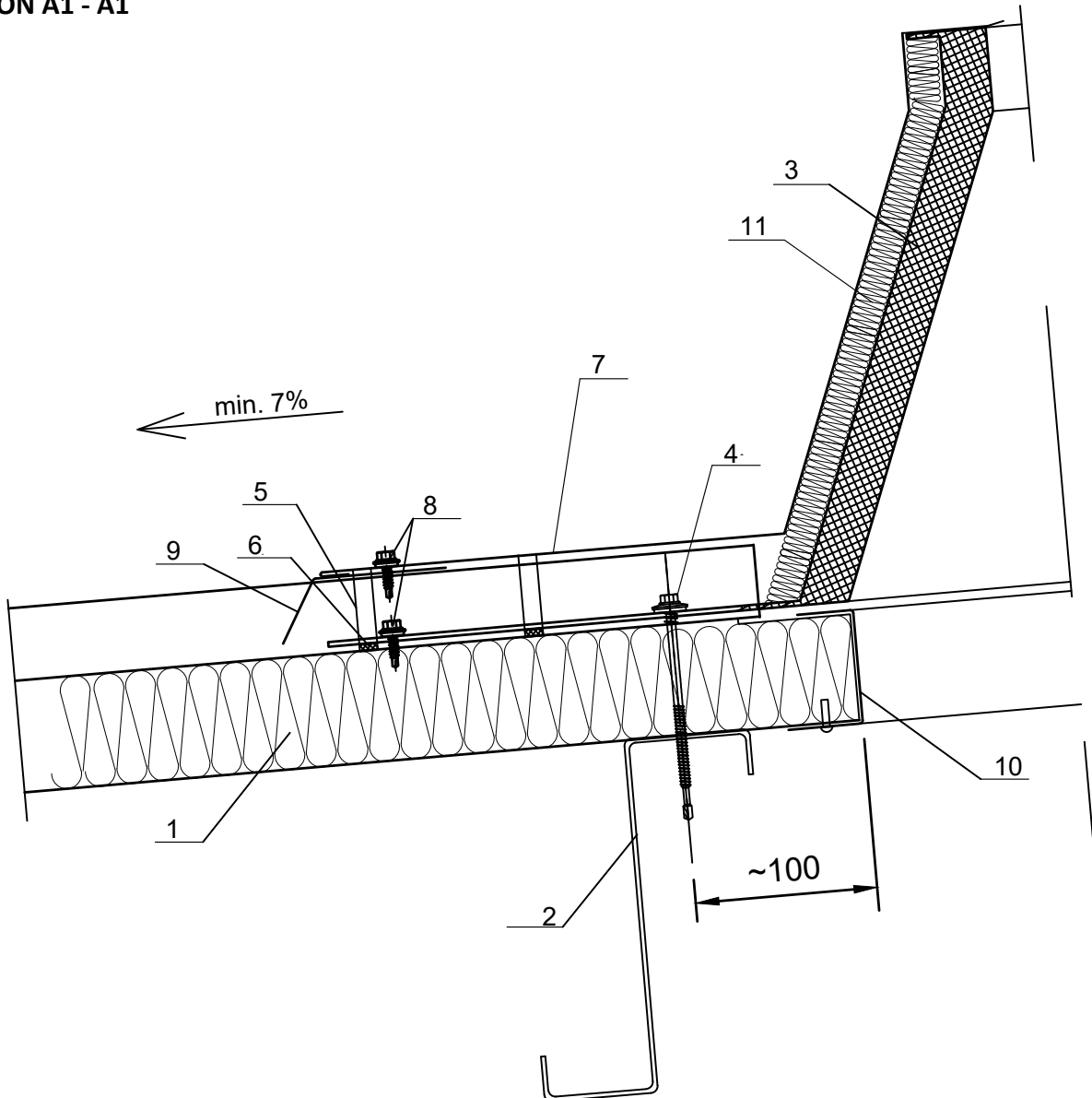
For smoke evacuation trapdoors with automatic opening, to avoid its damage when opening, it is recommended that the height of the socle of smoke evacuation trapdoor to be at least 300mm above the roof.

# Detail AC14

AC14 - 2

## SECTION A1-A1

### SECTION A1 - A1



#### KEY

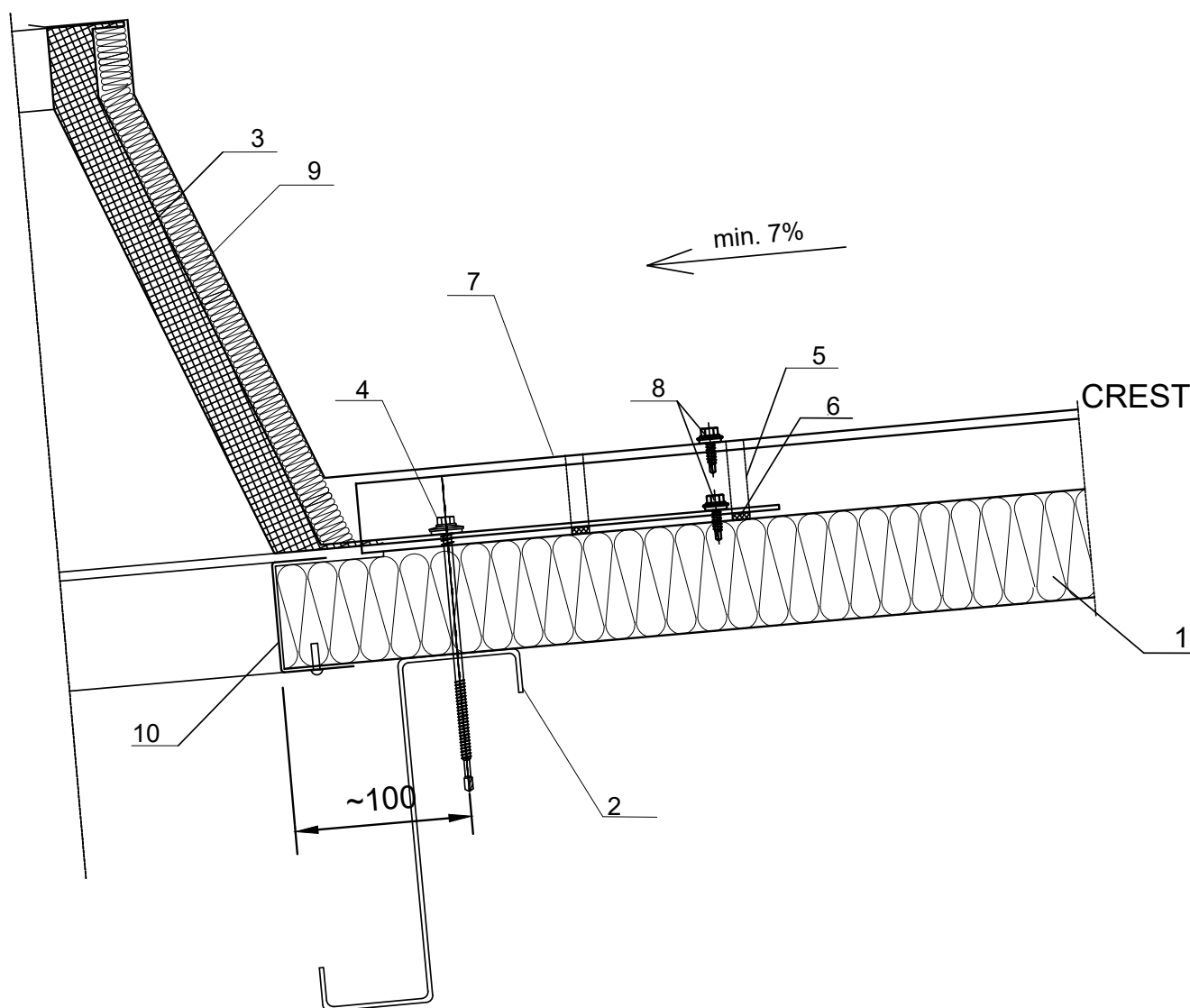
1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. Support structure for thermal insulating panel
3. Smoke evacuation trapdoor
4. Screw for fixing the panel to the support structure
5. Self-adhesive sealing tape type 4x20 PU
6. Butyl mastic
7. Flashing -concealing the socle of smoke evacuation trapdoor, 32ac
8. Screw / rivet for fixing the concealing flashing
9. Flashing - for sealing the crest, 04ac/05ac
10. Flashing - for bordering the gap of smoke evacuation trapdoor, 35ac
11. Mineral wool - for insulating the socle of smoke evacuation trapdoor

**Detail AC14**

AC14 - 3

**SECTION A2-A2**

SECTION A2 - A2

**KEY**

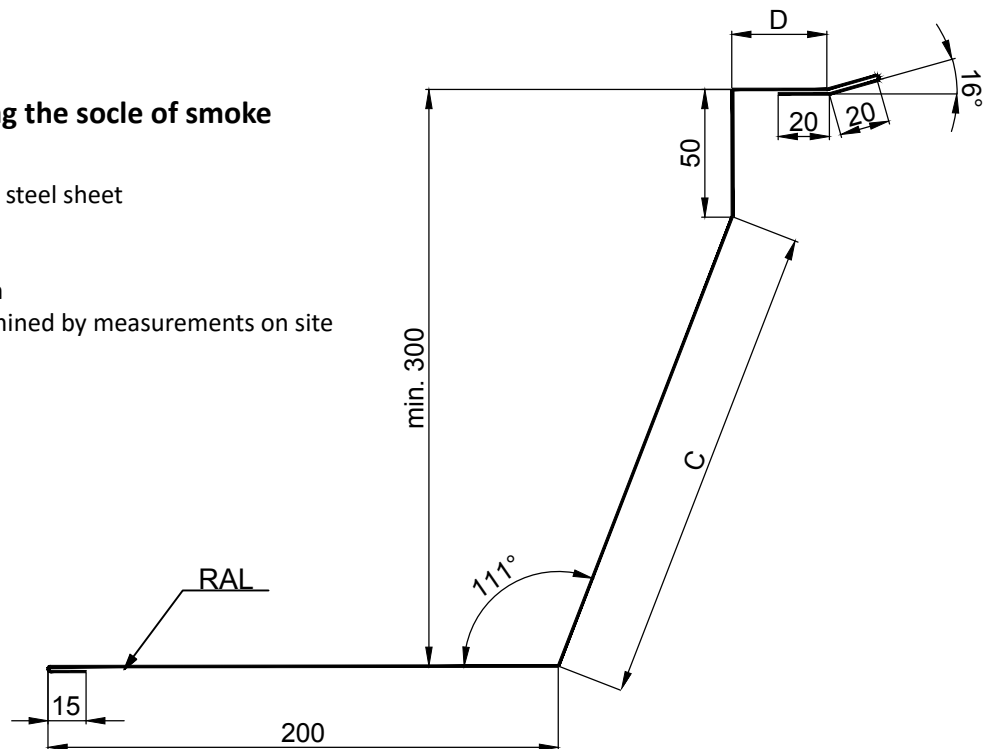
1. ISOAC3 / ISOAC5 thermal insulating roof panel
2. Support structure for thermal insulating panel
3. Smoke evacuation trapdoor
4. Screw for fixing the panel to the support structure
5. Self-adhesive sealing tape type 4x20 PU
6. Butyl mastic
7. Flashing -concealing the socle of smoke evacuation trapdoor, 33ac
8. Screw / rivet for fixing the concealing flashing
9. Mineral wool - for insulating the socle of smoke evacuation trapdoor
10. Flashing - for bordering the gap of smoke evacuation trapdoor, 35ac

## Detail AC14 / Flashings

AC14 - 4

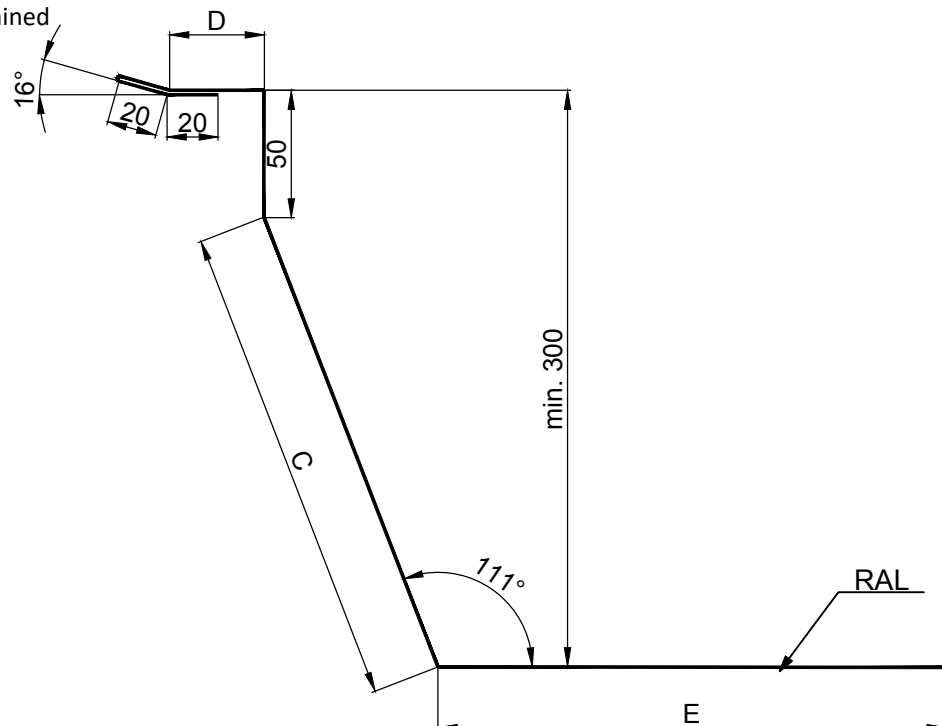
### 32ac - Flashing - concealing the socle of smoke evacuation trapdoor

Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width:  $C + D + 325$  mm  
 Dimensions C, D shall be determined by measurements on site



### 33ac - Flashing - concealing the socle of smoke evacuation trapdoor

Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width:  $C + D + E + 110$  mm  
 Dimensions C, D, E shall be determined by measurements on site

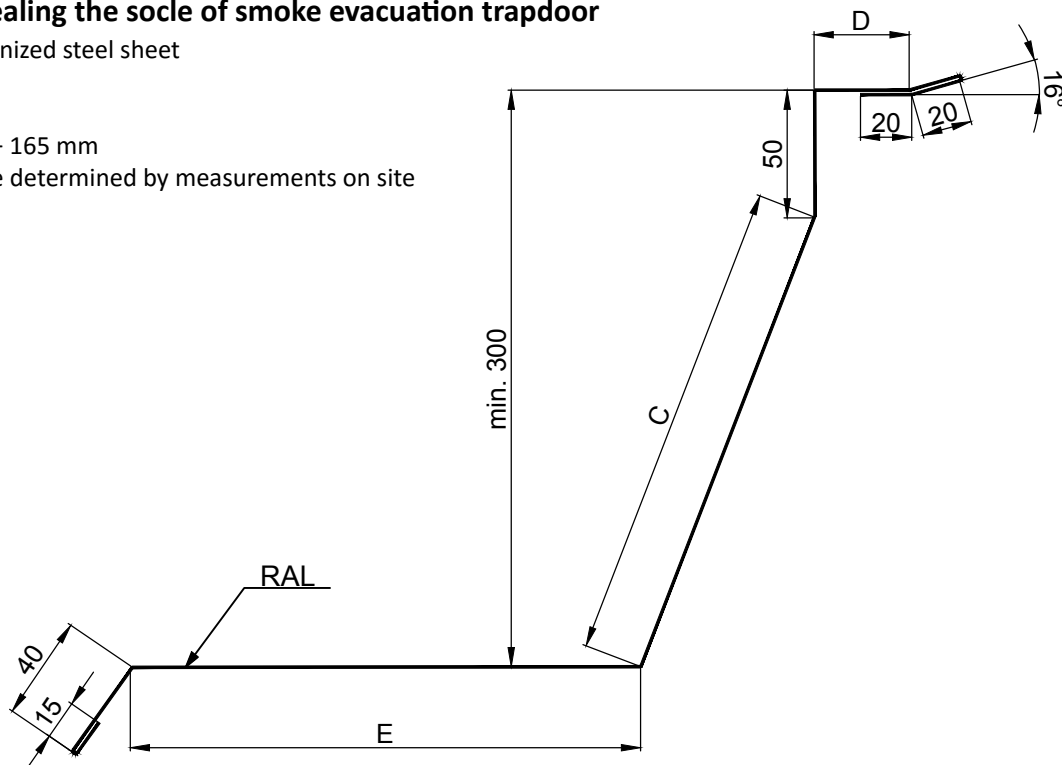


# Detail AC14 / Flashings

AC14 - 5

## 34ac - Flashing -concealing the socle of smoke evacuation trapdoor

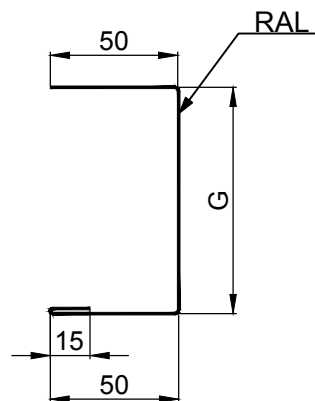
Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm  
 Unfolded width:  $C + D + E + 165$  mm  
 Dimensions C, D, E shall be determined by measurements on site



## 35ac - Flashing - for bordering the gap of smoke evacuation trapdoor

Material: Prepainted galvanized steel sheet  
 Length: 2000-6000mm  
 Thickness: 0.50mm

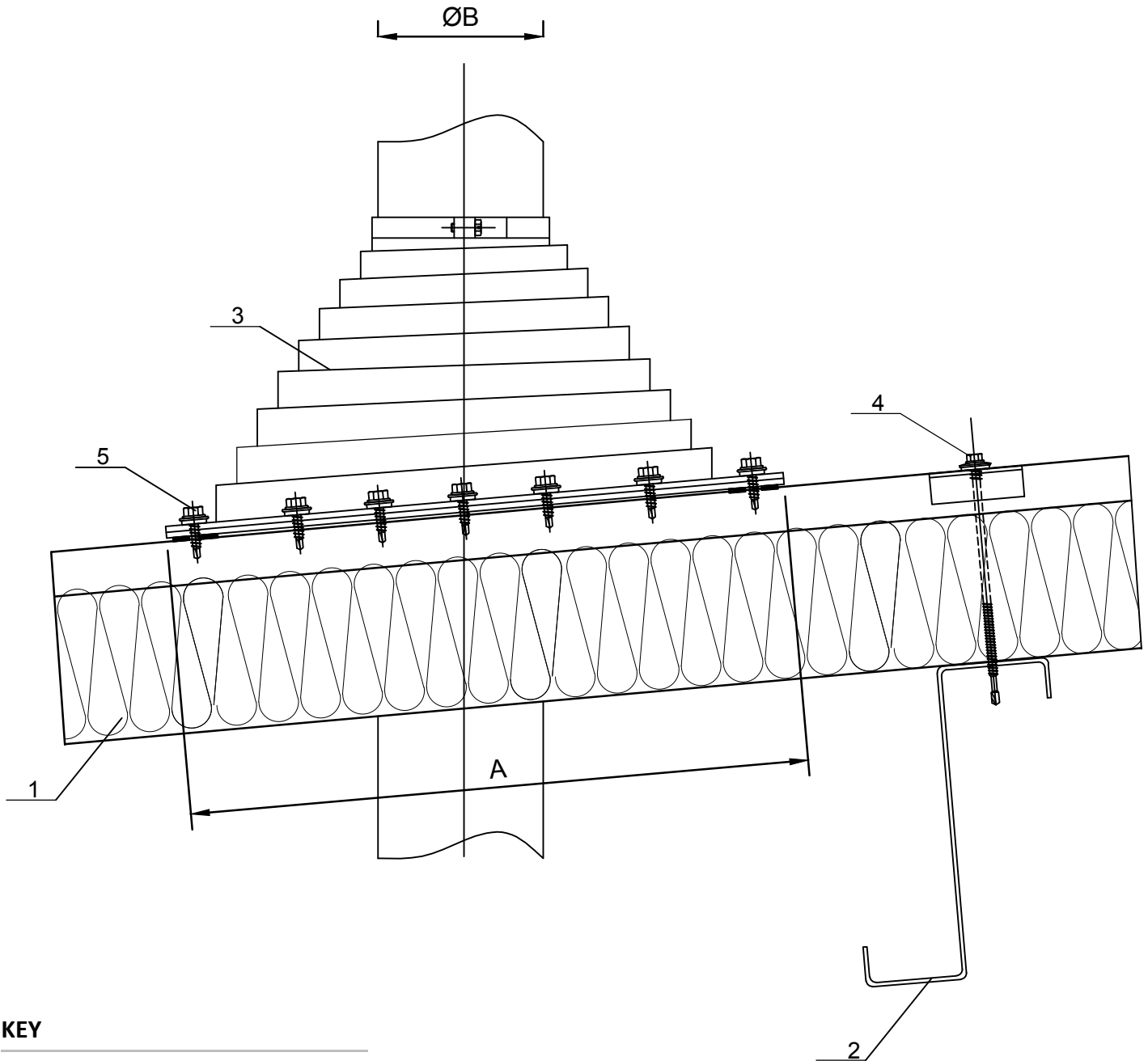
Panel thickness G (mm)	Unfolded width (mm)
30	150
40	160
50	170
60	180
80	200
100	220
120	240



## Detail AC15

AC15

### Detail - assembly of fluids extractor



#### KEY

1. ISOAC3 / ISOAC5 - thermal insulating roof panel
2. Support structure for thermal insulating panel
3. Fluids extractor
4. Screw for fixing the panel to the support structure
5. Self-drilling screw for fixing the securing sleeves of the fluids extractor

#### Note:

For installing the extractor we need sealant, the tube that pierces the panel.  
For the optimal choice of sleeves, please contact the technical department.







**TOGETHER** WE  
**BUILD BETTER**

