

STYLE. QUALITY. FUNCTION.

ARPANEL

Sandwich panels system



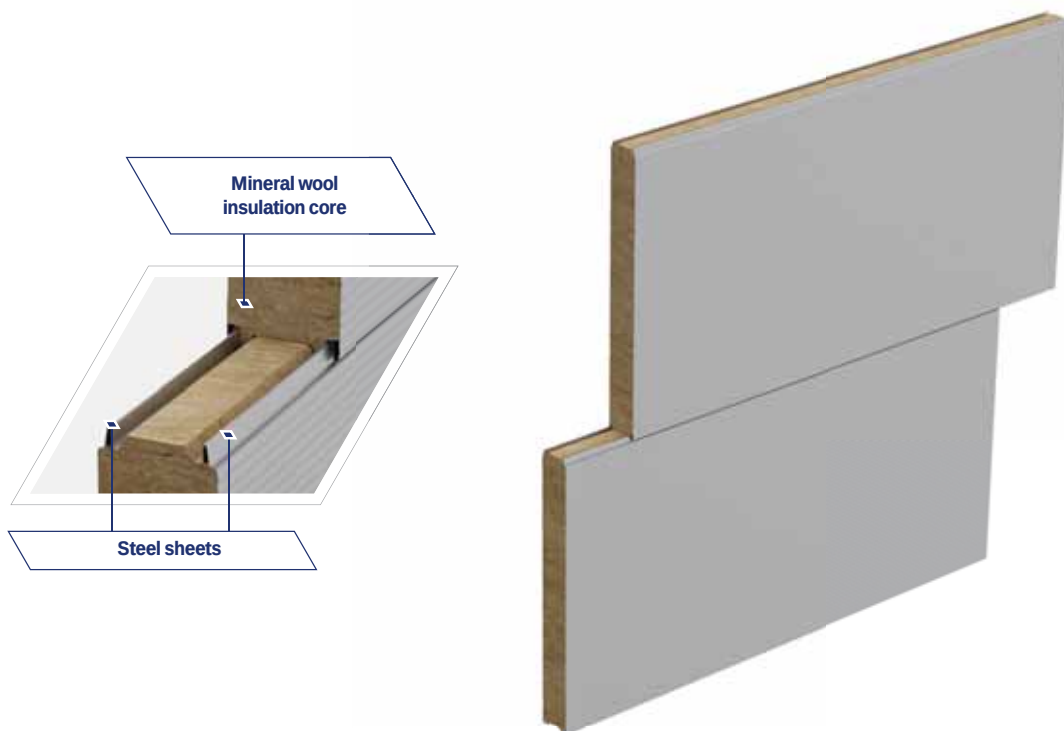
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Wall sandwich panel

ARPANEL S MiWo

- standard fastening system



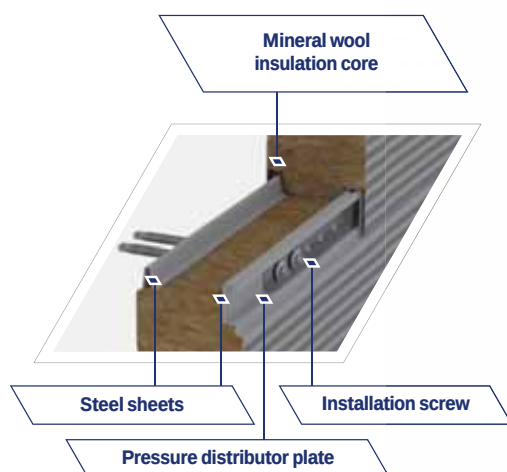
Core density $105 \pm 10\%$ [kg/m³]

Parameters	
Name	ARPANEL S MiWo
Type of panel	wall
Insulation core	mineral wool
Fastening system	standard
Thickness [mm]	80 100 120 150 160 180 200 220* 242*
Module width [mm]	1000 1100 1150
Length [mm]	2 000 - 14 500
Standard colors of external facings	standard RAL palette

*The 220 mm and 242 mm thicknesses are produced by special order after consultation with the manufacturer.



Wall sandwich panel **ARPANEL SU MiWo** - hidden fastening system



Parameters	
Name	ARPANEL SU MiWo
Type of panel	wall
Insulation core	mineral wool
Fastening system	hidden
Thickness [mm]	100 120 150 200 242*
Module width [mm]	1000
Length [mm]	2 000 - 14 500
Standard colors of external facings	standard RAL palette

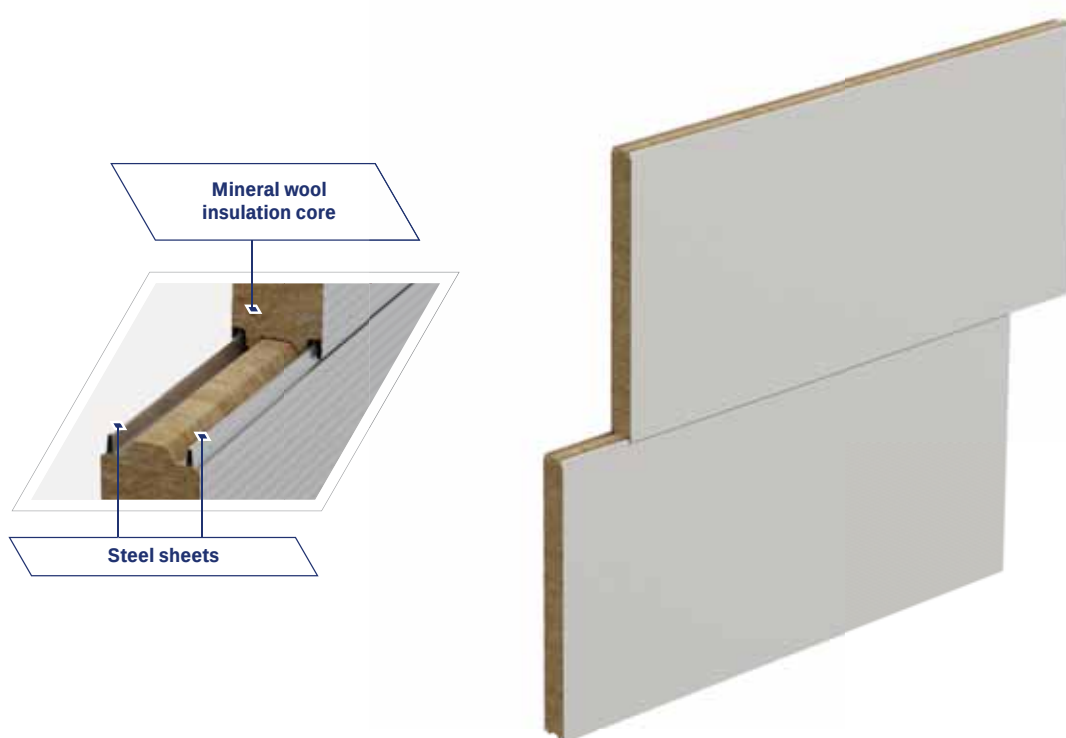
*The 242 mm thickness is produced by special order after consultation with the manufacturer.



Wall sandwich panel with increased load-bearing capacity

ARPANEL S MiWo MXL

- standard fastening system



Core density $113 \pm 10\%$ [kg/m³]

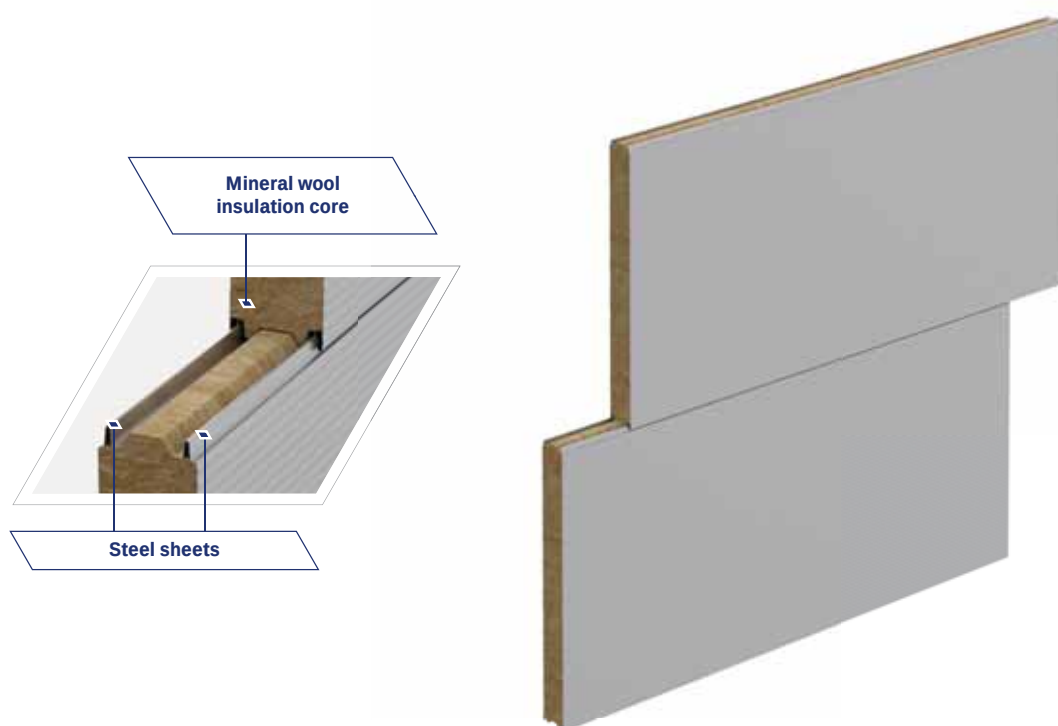
Parameters	
Name	ARPANEL S MiWo MXL
Type of panel	wall
Insulation core	mineral wool
Fastening system	standard
Thickness [mm]	100 120 150 160 180 200
Module width [mm]	1000 1100 1150
Length [mm]	2 000 - 14 500
Standard colors of external facings	standard RAL palette



Wall sandwich panel with increased thermal insulation properties

ARPANEL S MiWo Lt

- standard fastening system



Core density $85 \pm 10\%$ [kg/m³]

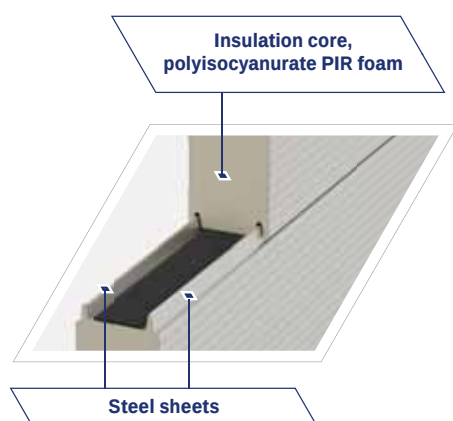
Parameters	
Name	ARPANEL S MiWo Lt
Type of panel	wall
Insulation core	mineral wool
Fastening system	standard
Thickness [mm]	80 100 120 150 160 180 200
Module width [mm]	1000 1100 1150
Length [mm]	2 000 - 14 500
Standard colors of external facings	standard RAL palette



Wall sandwich panel

ARPANEL S PIR

- standard fastening system



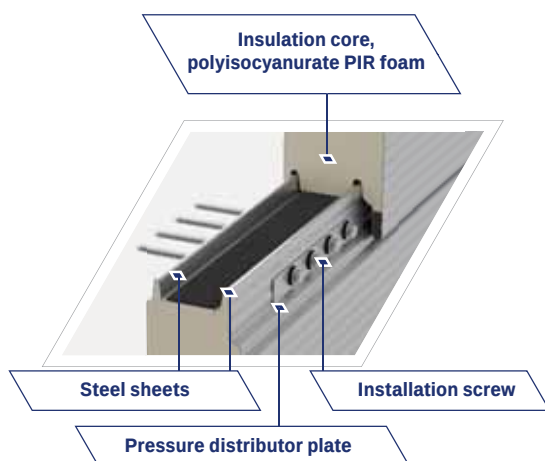
Parameters	
Name	ARPANEL S PIR
Type of panel	wall
Insulation core	polyisocyanurate foam
Fastening system	standard
Thickness [mm]	60 80 100
Module width [mm]	1000 1100 1150
Length [mm]	2 000 - 18 500
Standard colors of external facings	standard RAL palette



Wall sandwich panel

ARPANEL SU PIR

- hidden fastening system

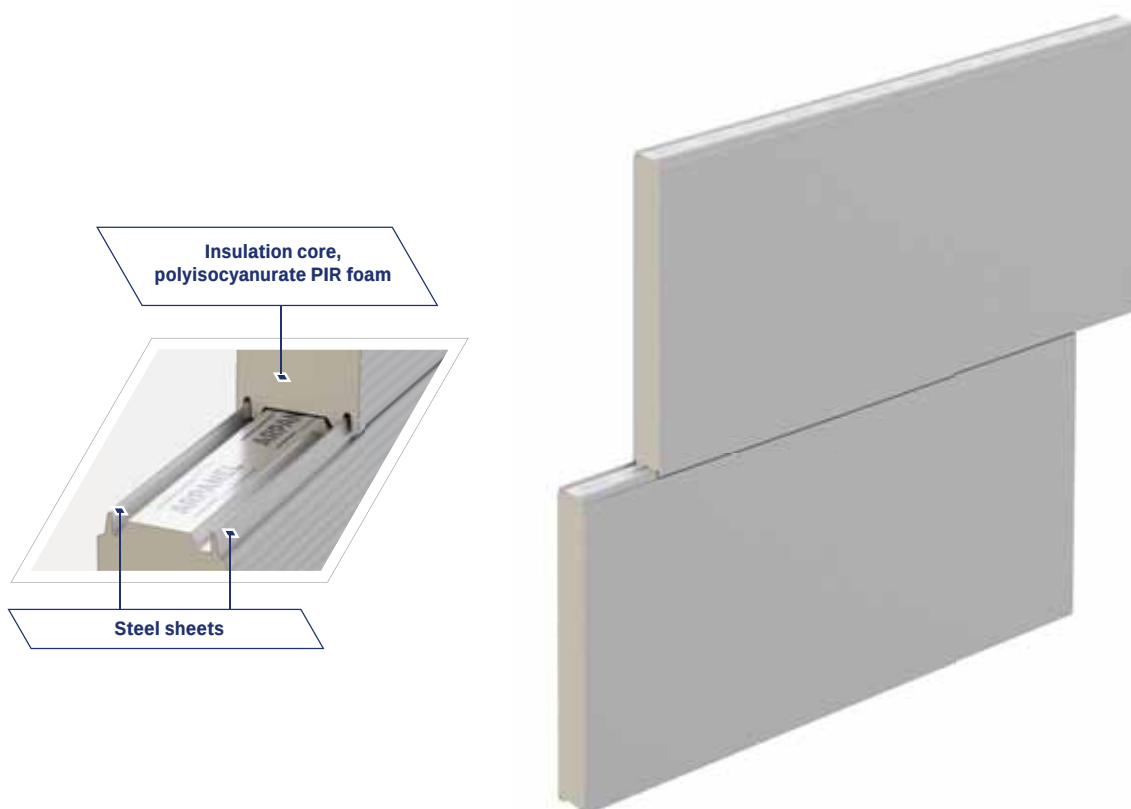


Parameters	
Name	ARPANEL SU PIR
Type of panel	wall
Insulation core	polyisocyanurate foam
Fastening system	hidden
Thickness [mm]	60 80 100 120
Module width [mm]	1000
Length [mm]	2 000 - 18 500
Standard colors of external facings	standard RAL palette



Wall/Cold Store Sandwich Panel

ARPANEL CH PIR

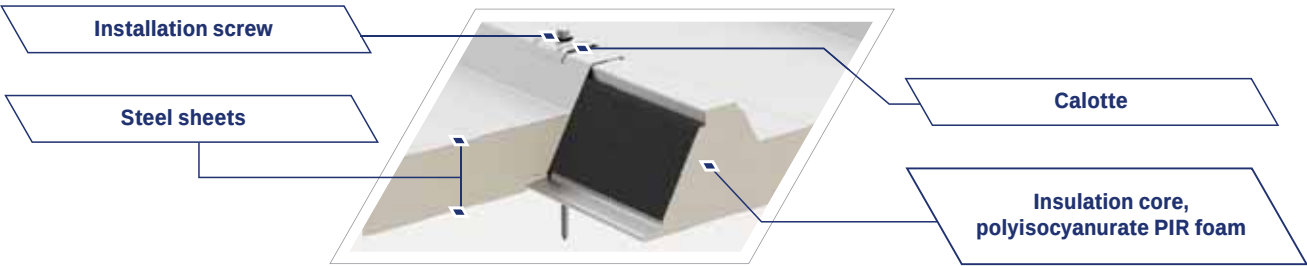
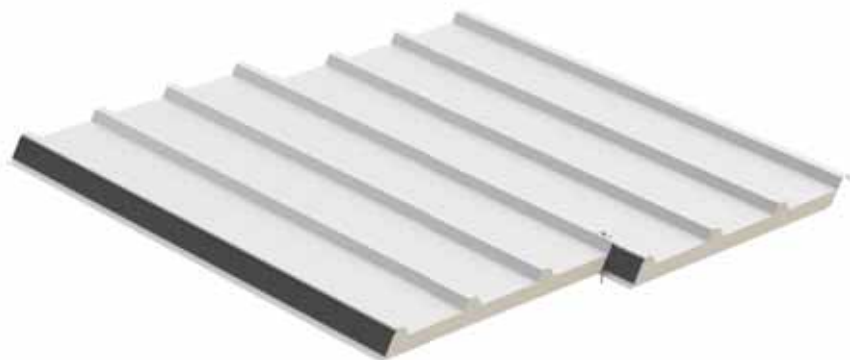


Parameters	
Name	ARPANEL CH PIR
Type of panel	wall
Insulation core	polyisocyanurate foam
Fastening system	standard
Thickness [mm]	120 140 160 200
Module width [mm]	1000 1100 1150
Length [mm]	2 000 - 18 500
Standard colors of external facings	standard RAL palette

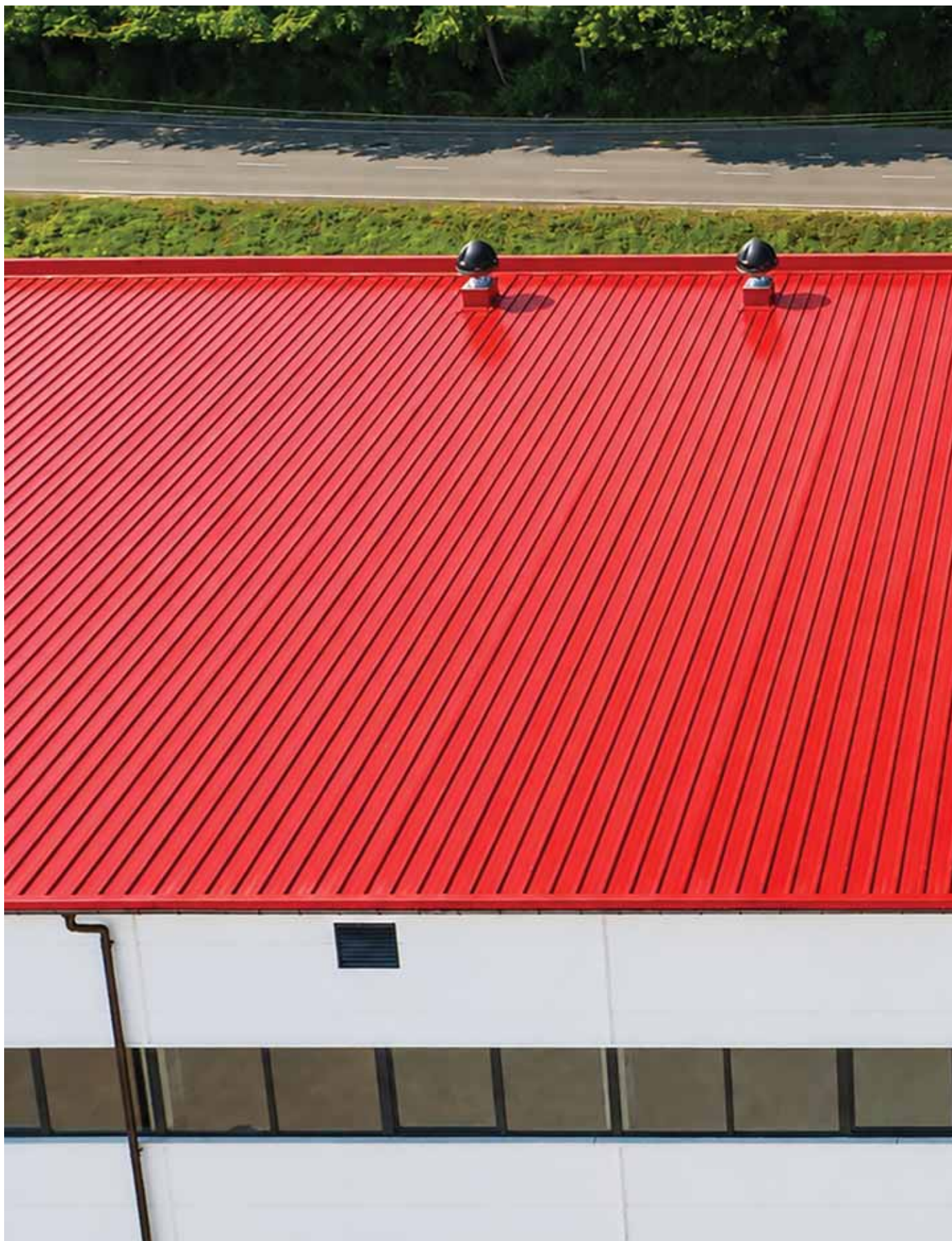


Roof sandwich panel

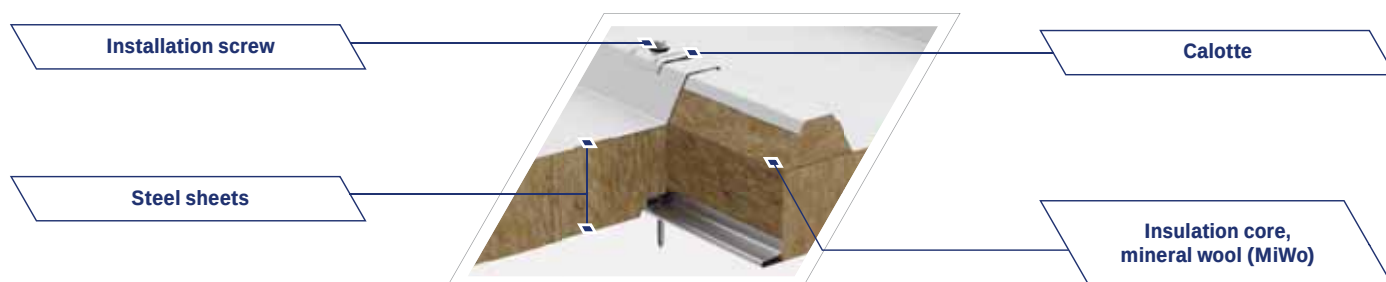
ARPANEL D PIR



Parameters	
Name	ARPANEL D PIR
Type of panel	roof
Insulation core	polyisocyanurate foam
Fastening system	standard
Thickness [mm]	60 80 100 120 160
Module width [mm]	1000
Length [mm]	2 000 - 18 500
Standard colors of external facings	standard RAL palette



Roof sandwich panel ARPANEL D MiWo

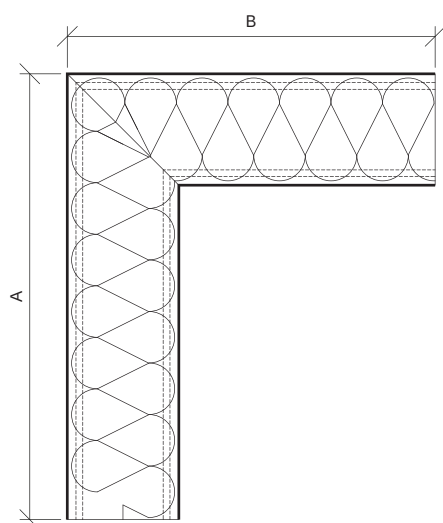


Parameters	
Name	ARPANEL D MiWo
Type of panel	roof
Insulation core	mineral wool
Fastening system	standard
Thickness [mm]	80 100 120 150 160 180 200 220* 250*
Module width [mm]	1005
Length [mm]	2 000 - 14 500
Standard colors of external facings	standard RAL palette

*The 220 mm and 250 mm thicknesses are produced by special order after consultation with the manufacturer.



Corner sandwich panel **ARPANEL**



Type of panel	Thickness [mm]	Dimension A+B [mm]	Dimension A or B [mm]
ARPANEL S MiWo	80 100	min. 800 / max. 3000	min. 400
	120 150	min. 800 / max. 2500	
	160 180 200	min. 800 / max. 2000	
ARPANEL SU MiWo	100	min. 800 / max. 3000	
	120 150	min. 800 / max. 2500	
	200	min. 800 / max. 2000	
ARPANEL S PIR	60 80 100	min. 800 / max. 4000	
ARPANEL SU PIR	60 80 100	min. 800 / max. 4000	
	120	min. 800 / max. 3000	
ARPANEL CH PIR	120 140 160 200	min. 800 / max. 3000	

When selecting anti-corrosion protective measures for ARPANEL sandwich panels, it is very important to adjust them to the environment/type of the weather where panels are installed. It is necessary to properly recognize and to determine the environment aggressiveness class, the outdoor one (from C2 to C5-M) and the indoor (from A1 to A6).

According to EN ISO 12944, depending on the aggressiveness level, the weather conditions (e.g. salinity, humidity, sulfur dioxide) were divided into classes, from C1 to C5M in case of the outdoor environment and from A1 to A6 for the indoor environments. For environments C1-C3, so called neutral ones, all coats type PE25 are applied, while in such locations as meat processing factories, fish processing factories, fertilizers factories, the designer cooperating with a user stipulates weather conditions on the basis of which the manufacturer can choose proper coatings.

Corrosivity category		
	Outside	Inside
C1		A1 Heated buildings, with a clean atmosphere, e.g. offices, stores, schools and hotels.
C2	Low pollution rate environments. Mainly rural areas.	A2 Non-heated buildings, where condensation may occur, e.g. warehouses, sports halls.
C3	Mid pollution rate environments. Mainly urban and industrial areas and near-coastal areas characterized by low salinity.	A3 Production rooms with high humidity and certain air pollution, e.g. foodstuffs plants, laundries, breweries, dairies.
C4	Mid salinity environments. Mainly industrial areas. 10 < 20 km from sea	A4 Chemicals factories, swimming pools, shipyards.
C5	High humidity rate environments and with aggressive atmosphere. Mainly industrial areas. 0 < 10 km from sea	A5 Buildings or areas with nearly continuous condensation and high pollution rate e.g. steel mills, incineration plants, slaughterhouses, mushroom cultivation, smokehouses, drying rooms.
C5M	Near-coastal and sea areas with large salinity.	A6 Buildings or areas with nearly continuous condensation and high pollution rate e.g. workrooms for dairy and cheese production, processing and preparation of seafood.

External UV ultraviolet radiation is determined in accordance with EN10169, and in compliance with Ruv1- Ruv4 category. The UV resistance category defines how well a coating retains its original color and gloss when exposed to external conditions. Coatings in the Ruv1 category demonstrate very low resistance, and should only be used indoors, while coatings in the Ruv4 category are highly resistant to UV radiation, and therefore recommended for outdoor use.

UV resistance category		
	UV resistance	
Ruv1	Very low	-
Ruv2	Low	High level of the color change, acceptable change of the color. Significant loss of gloss.
Ruv3	Average	Moderate color change and loss of the color are acceptable. Loss of the gloss at mid pace.
Ruv4	High	Minimal color change and loss of the color are acceptable. Loss of gloss at very low level.

In the following table the exemplary anti-corrosion protection of steel sheets for particular environments is determined.

Type of protection against corrosion			Polyester	Polyester	Polyuretan	PVC+F
Anti-corrosion classification [DIN 55928-8]			II	III	III	III
General organic density [EN 13523-1]			15	25	50	120-200
Category of corrosion resistance**	Outdoors - EN 10169-2		-	RC3	RC5	-
	Indoors - EN 10169-3		CPI2	CPI3	CPI5	CPI5
Types of outdoor atmosphere / corrosivity category EN 10169-2	Rural - normal	C2				
	Urban and industrial	C3 i C4				
	Sea	0 < 10 km from sea				
		10 < 20 km from sea				
	Heavy industrial	C5-I				
	Non-corrosive atmosphere Routine conservation – normal Low humidity	Ai1 -40°C → 25°C 0% - 40%*				
Types of indoor atmosphere / corrosivity category EN 10169-3	Non-corrosive atmosphere Routine conservation – normal Average humidity	Ai2 0°C → 25°C 40% - 60%*				
	Non-corrosive atmosphere Delicate cleaning High humidity	Ai3 0°C → 25°C 60% - 80%*				
	Slightly corrosive atmosphere Delicate cleaning Humid (condensation risk)	Ai4 0°C → 30°C 60% - 80%*				
	Corrosive atmosphere Intensive cleaning Very humid (frequent condensation risk)	Ai5 0°C → 35°C 80% - 90%*				
	Strongly corrosive atmosphere Very intensive cleaning Saturated (constant condensation risk)	Ai6 0°C → 40°C 90% - 100%*				
	Flexibility					
Resistance to dirt						
Temperature resistance (°C)			+70	+80	+110	+70
UV resistance category (ultraviolet radiation) EN 13523-10			-	Ruv2	Ruv4	-

Legend:

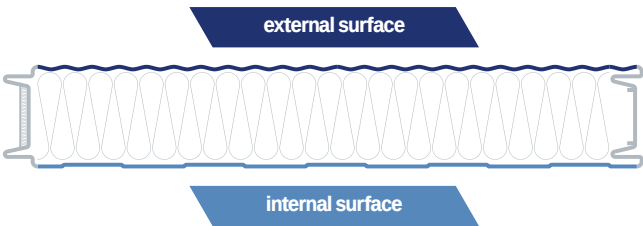
Unsuitable
 Good with exceptions
 Good
 Very good
 Very good with no exceptions

* During cleaning process, the temperature cannot drop below the condensation point. Detailed information is provided in the table: temperature of the condensation point concerns a particular ambient temperature and the relative humidity. In case of cooling, the working temperature must be at least 3°C higher than the condensation point.

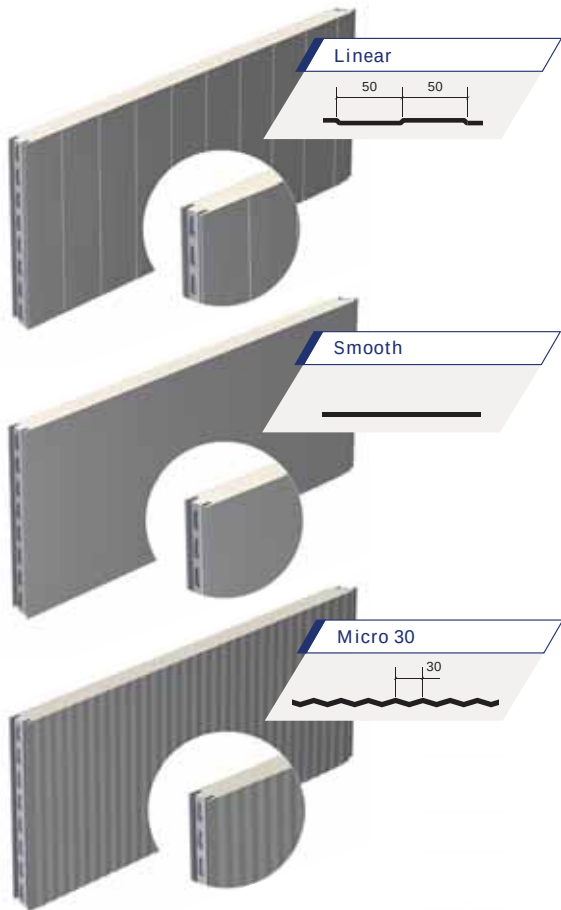
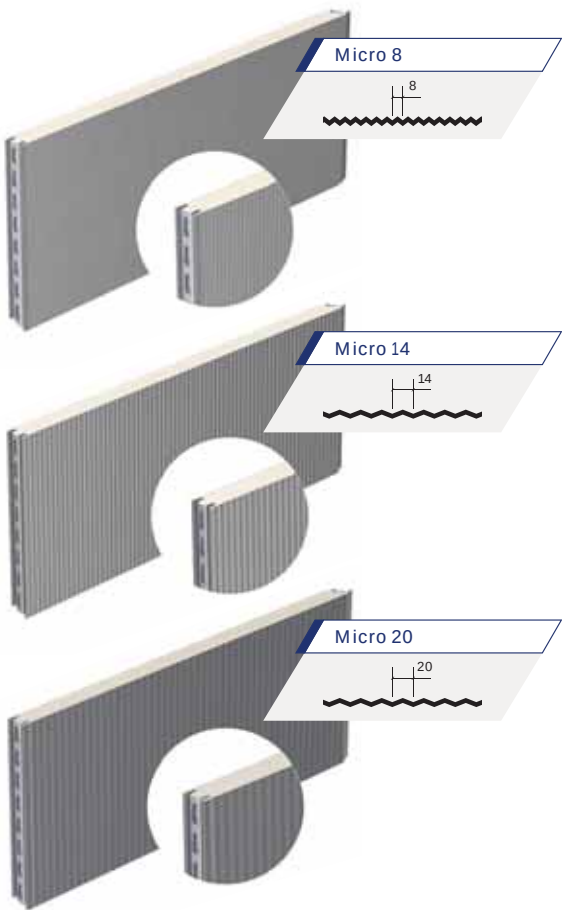
** The categories of corrosiveness depend on climate conditions inside and outside the building. Standard external climate conditions: C1, C2, C3, C4, C5-M and C5-I. Example: C3 external atmosphere – choose the steel metal sheet with RC3 or RC4 category of corrosiveness.

*** Recommended for use north of the 48th parallel and at a max. temp. of 70°C.

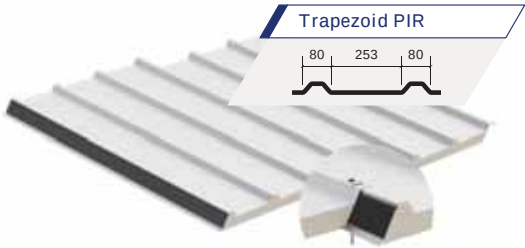




Profilation	External surface	Internal surface
Linear	YES	YES
Smooth	YES	YES
Micro 14	YES	NO
Micro 8	YES	NO
Micro 20	NO	YES
Micro 30	YES	NO



Roof profile



Wall sandwich panel ARPANEL S PIR

Modular width: 1000, 1100, 1150 mm



Fastening system:
standard



Available lengths:
2-18,5 m



Thickness of facings:
0,5/0,5 mm



Density of core material:
40 ± 3 kg/m³



Core thickness	Mass	Thermal transmittance	Fire resistance				Acoustic insulation	Sound absorption
[mm]	[kg/m²]	Ud, S = W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2	PN-EN 13501-2:2016 – Ceiling	Rw [dB]	αw
60	10,4	0,37	NRO	B-s1,d0	E15/EI15	E15(a-b)	25(-2,-4)	0,15
80	11,2	0,27			E30/EI30/EW30	E130(a-b)		
100	11,9	0,22						

Wall / cold store sandwich panel ARPANEL CH PIR

Modular width: 1000, 1100, 1150 mm



Fastening system:
standard



Available lengths:
2-18,5 m



Thickness of facings:
0,5/0,5 mm



Density of core material:
40 ± 3 kg/m³



Core thickness	Mass	Thermal transmittance		Fire resistance				Acoustic insulation	Sound absorption
[mm]	[kg/m²]	Ud, S = W/[m² x K] for 0°C	Ud, S = W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2	PN-EN 13501-2:2016 – Ceiling	Rw [dB]	αw
120	12,6	0,17	0,18	NRO	B-s1,d0	E30/EI30	EI30(a-b)	24(-2,-4)	0,15
140	13,4	0,15	0,16						
160	14,2	0,13	0,14						
200	15,7	0,10	0,11			E60/EI45/EW60			

Wall sandwich panel ARPANEL SU PIR

Modular width: 1000 mm



Fastening system:
hidden



Available lengths:
2-18,5 m



Thickness of facings:
0,5/0,5 mm



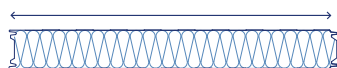
Density of core material:
40 ± 3 kg/m³



Core thickness	Mass	Thermal transmittance	Fire resistance				Acoustic insulation	Sound absorption
[mm]	[kg/m²]	Ud, S = W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2		Rw [dB]	αw
60	10,8	0,40	NRO	B-s1,d0	NPD		25(-2,-4)	0,15
80	11,6	0,29						
100	12,4	0,23			E30/EI20/EW30			
120	13,2	0,19			E30/EI30/EW30			

Wall sandwich panel ARPANEL S MiWo

Modular width: 1000, 1100, 1150 mm



Fastening system:
standard



Available lengths:
2-14,5 m



Thickness
of facings:
0,6/0,5 mm



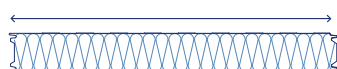
Density
of core material:
105 ± 10% kg/m³



Core thickness	Mass	Thermal transmittance	Fire resistance				Acoustic insulation	Sound absorption
[mm]	[kg/m²]	Ud.S = W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2	PN-EN 13501-2:2016 – Ceiling	Rw [dB]	αw
80	17,5	0,48	NRO	A2-s1,d0	EI60/E60	NPD	30(-1,-2)	0,15
100	19,6	0,39			EI60/E120	EI30(a←b)	32(-1,-3)	
120	21,8	0,32			EI120/E120	EI120(a←b)	32(-2,-4)	
150	25,0	0,26			EI240/E240		32(-3,-5)	
160	26,1	0,24					31(-1,-3)	
180	28,3	0,22						
200	30,4	0,20						
220	32,6	0,18						
242	35,0	0,16						

Wall sandwich panel ARPANEL S MiWo MXL

Modular width: 1000, 1100, 1150 mm



Fastening system:
standard



Available lengths:
2-14,5 m



Thickness
of facings:
0,6/0,5 mm



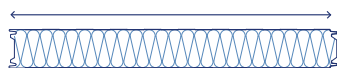
Density
of core material:
113 ± 10% kg/m³



Core thickness	Mass	Thermal transmittance	Fire resistance			Acoustic insulation	Sound absorption
[mm]	[kg/m²]	Ud,S = W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2	Rw [dB]	αw
100	20,3	0,40	NRO	A2-s1,d0	EI60/E120	31(-1,-3)	0,15
120	22,6	0,33			EI120/E120	31(-2,-3)	
150	26,1	0,27			EI240/E240		
160	27,2	0,25					
180	29,5	0,22					
200	31,8	0,20					

Wall sandwich panel ARPANEL S MiWo Lt

Modular width: 1000, 1100, 1150 mm



Fastening system:
standard



Available lengths:
2-14,5 m



Thickness
of facings:
0,6/0,5 mm



Density
of core material:
85 ± 10% kg/m³

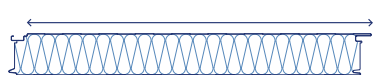


Core thickness	Mass	Thermal transmittance	Fire resistance				Acoustic insulation	Sound absorption
[mm]	[kg/m²]	Ud.S = W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2	PN-EN 13501-2*	Rw [dB]	αw
80	16,1	0,46	NRO	A2-s1,d0	NPD	NPD	30(-2,-3)	0,15
100	17,8	0,37			EI45/E45	EI90/E120		
120	19,5	0,31				EI120/E120		
150	22,0	0,25				EI120/E180		
160	22,9	0,23				EI180/E180		
180	24,6	0,21				EI120/E180	EI240/E240	
200	26,3	0,19			31(-3,-4)			

* The stated fire resistance classification is achieved when a fire protection tape is used.

Wall sandwich panel ARPANEL SU MiWo

Modular width: 1000 mm



Fastening system:
hidden



Available lengths:
2-14,5 m



Thickness of facings:
0,6/0,5 mm



Density of core material:
105 ± 10% kg/m³



Core thickness	Mass	Thermal transmittance	Fire resistance			Acoustic insulation	Sound absorption
[mm]	[kg/m²]	Ud,S = W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2	Rw [dB]	αw
100	20,5	0,39	NRO	A2-s1,d0	EI30/E30	31(-2,-3)	0,35
120	22,6	0,32			EI45/E45	30(-2,-4)	
150	25,9	0,26			EI60/E60	31(-2,-3)	
200	31,3	0,20			EI90/E90	30(-2,-4)	
242	35,8	0,16			EI120/E120		

Roof sandwich panel ARPANEL D PIR

Modular width: 1000 mm



Fastening system:
standard



Available lengths:
2-18,5 m



Thickness of facings:
0,5/0,5 mm



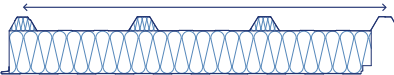
Density of core material:
40 ± 3 kg/m³



Core thickness	Mass	Thermal transmittance	Fire resistance			Acoustic insulation	Sound absorption	
[mm]	[kg/m²]	Ud,S= W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2	Rw [dB]	αw	
60/100	10,6	0,33	B-s2,d0	REI15/RE20	BROOF(t _f)	25(-1,-4)	0,15	
80/120	11,3	0,26						
100/140	12,1	0,21		REI30/RE30	BROOF(t _f),(t _g)	26(-2,-4)		
120/160	12,9	0,18						
160/200	14,4	0,13			BROOF(t _f)			

Roof sandwich panel ARPANEL D MiWo

Modular width: 1005 mm



Fastening system:
standard



Available lengths:
2-14,5 m



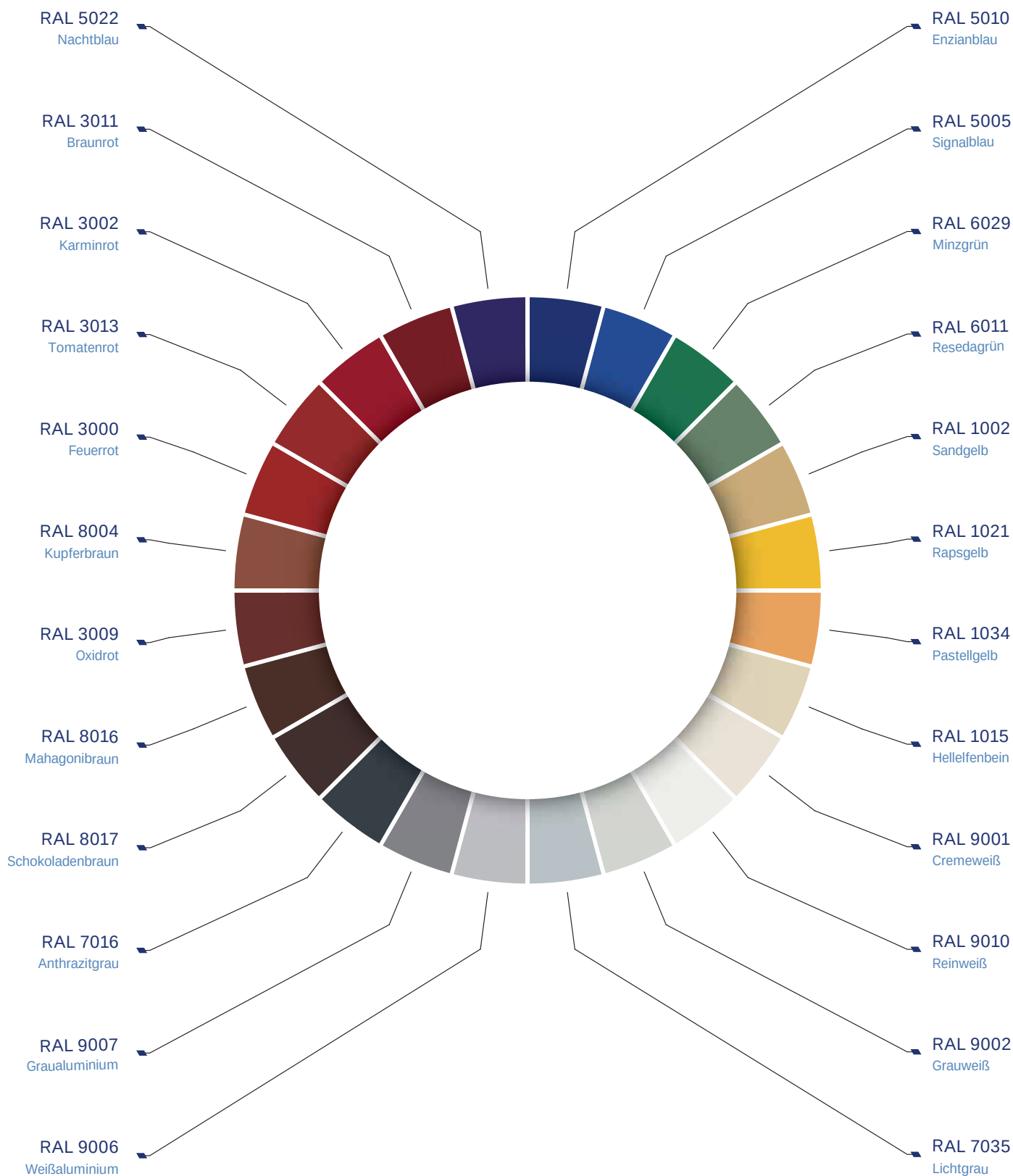
Thickness of facings:
0,6/0,5 mm



Density of core material:
105 ± 10% kg/m³



Core thickness	Mass	Thermal transmittance	Fire resistance			Acoustic insulation	Sound absorption
[mm]	[kg/m²]	Ud,S = W/[m² x K]	WG PN-B-02867	PN-EN 13501-1	PN-EN 13501-2	Rw [dB]	αw
80/120	18,7	0,48	A2-s1,d0	NPD	BROOF(t _f)	30(-1;-3)	0,2
100/140	20,9	0,39		RE120/REI90			
120/160	23,1	0,32			BROOF(t _f),(t _g)	31(-1;-3)	
150/190	26,3	0,26			BROOF(t _f)		
160/200	27,4	0,24			BROOF(t _f),(t _g)		
180/220	29,6	0,22			BROOF(t _f)		
200/240	31,8	0,20					
220/260	33,9	0,18					
250/290	37,2	0,15					



The presented groups of RAL colors are demonstrative material only and may differ in shades from real colors.

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