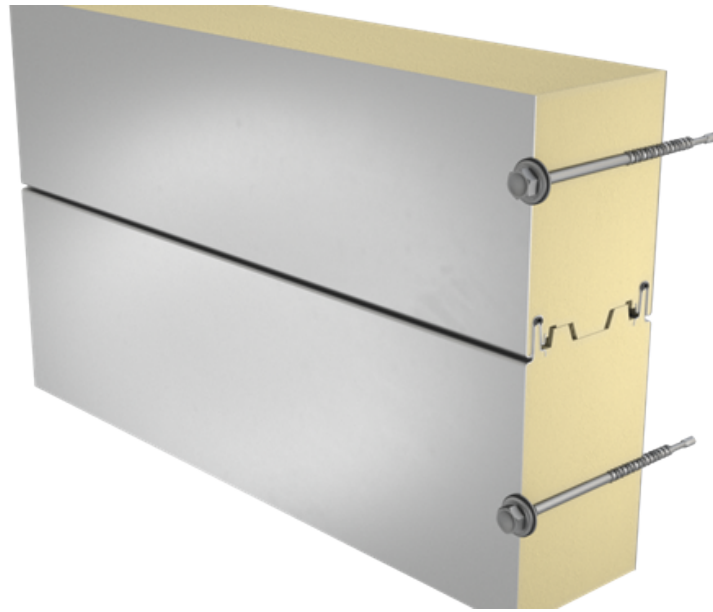


## SANDWICH PANEL SP2E X-PIR



Sandwich panel **SP2E X-PIR** is available in thicknesses 120 - 200 mm.

**Low U-value** and proper joint design together with wide thickness range make this sandwich panel an ideal solution for **cold storage** buildings. The panel's excellent quality ensures **very good fire resistance properties**, thus increasing fire safety of buildings.

The core of this sandwich panel is made of rigid, HCFC-free, self-extinguishing and sustainable polyisocyanurate foam (PIR). Its **excellent thermal insulation properties** allow for the decrease of panel thickness which transfers directly to lower transportation and assembly costs, as well as **significant savings** of building's life cycle costs.

### Applications:

- External walls
- Internal walls
- Ceilings
- Cold storage

The information on our website is accurate to the best of our knowledge and understanding. Although every effort has been made to ensure accuracy, the company cannot accept any responsibility for any direct or indirect damages resulting from possible errors or incorrect application of the information of this publication. We reserve the right to make changes.

# PROPERTIES

## Model name

Sandwich panel SP2E X-PIR

## Standard module width

1100 mm

## Optional module width (B)

1000 (D=120 mm)

## Minimum length

2000 mm

## Maximum Length

18500 mm

## External facing thickness

0.50 mm

## Internal facing thickness

0.50 mm

## PROPERTIES BY PANEL THICKNESS

Thickness D (mm)	120	140	160	180	200
Weight (kg/m <sup>2</sup> )	13.1	13.9	14.6	15.4	16.2
U-value (W/m <sup>2</sup> K)	0.18	0.16	0.14	0.12	0.11
Sound insulation Rw (dB)	25	25	25	25	25
Reaction to fire	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0

### Wall fire resistance values & max span horizontal / vertical orientation (m):

EI 15	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5
EI 15 (stainless steel)	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5
EI 30	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5	7.5 / 7.5
EI 30 (stainless steel)	- / 7.5	- / 7.5	- / 7.5	- / 7.5	- / 7.5
EI 60	-	-	-	-	6.0 / 4.0

### Ceiling fire resistance values & maximum span lengths (m): stitched joint on upper facing

Thickness D (mm)	120	140	160	180	200
EI 15 (inside)	2.8	2.8	2.8	2.8	-
EI 30 (inside)	2.0	2.0	2.0	2.0	-

Detailed information regarding the application of fire resistance ratings can be obtained from Ruukki's sales representatives.

All properties are declared in accordance with EN 14509 and related standards.

#### Changes to sandwich panel fire resistance standards (wall applications)

## COATINGS AND COLOURS MATERIALS

Facing	Coating	Corrosivity category	UV resistance	Colours
External	GreenCoat HIARC MAX	C4	Ruv4	RAL7035, RAL9006 (RR40), RAL9007 (RR41)
External	Polyester	C3	Ruv2-3	RAL1015, RAL3013, RAL5005, RAL6011, RAL7015 (RR23), RAL7016 (RR288), RAL7035, RAL9002, RAL9006, RAL9007, RAL9010
Internal	Polyester	C3	-	RAL9002, RAL9010
Internal	PVC laminate *	C4	-	White

Facing	Corrosivity category
External	Stainless steel* C5-M
Internal	Stainless steel* C5-M

\*) optional material

UV resistance describes how well the coating is able to keep its original colour and gloss levels in accordance with EN10169. The higher the class, the better the resistance.

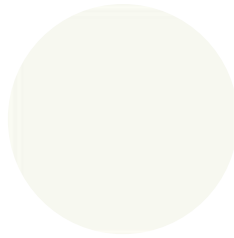
*Corrosivity categories describe the outdoor climate conditions in accordance with EN12944. The higher the category, the more corrosive environment.*

*Read more about UV-resistance and corrosivity categories.*

## **COLOURS**



RAL 7015 SLATE GREY



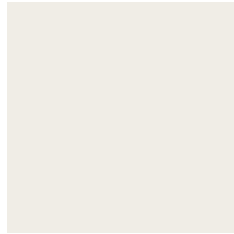
RAL9010 WHITE



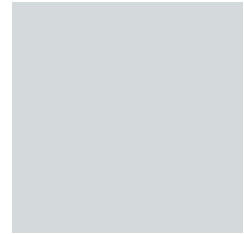
RAL9007 GREY ALUMINIUM



RAL9006 WHITE ALUMINIUM



RAL9002 GREY WHITE



RAL7035 LIGHT GREY



RAL3013 TOMATO RED



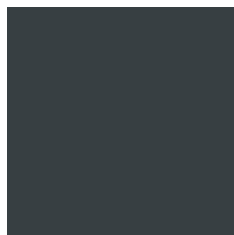
RAL5005 SIGNAL BLUE



RAL1015 LIGHT IVORY



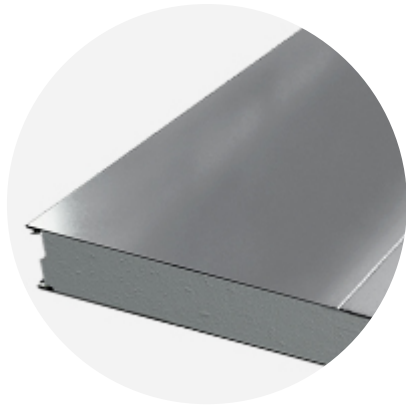
RAL6011 RESEDA GREEN



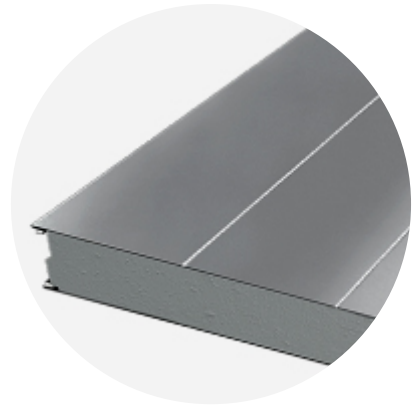
RAL7016 ANTHRACITE GREY

For external facings of 1000 mm module width only the following colors are available: RAL1015, RAL5005, RAL7015, RAL7035, RAL9002, RAL9006, RAL9007, RAL9010.

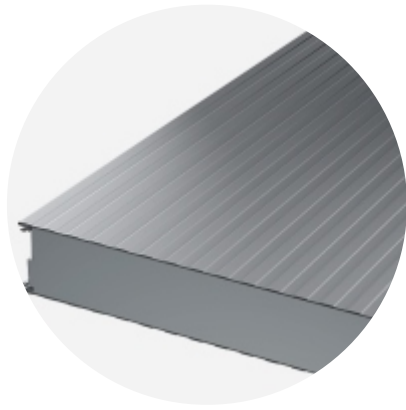
## PROFILE OPTIONS



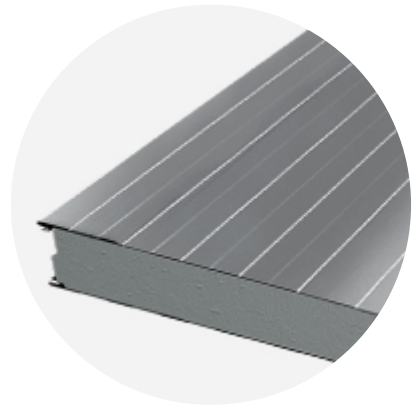
RIBBED R550



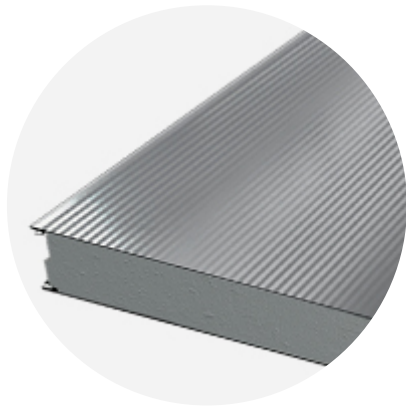
RIBBED R275



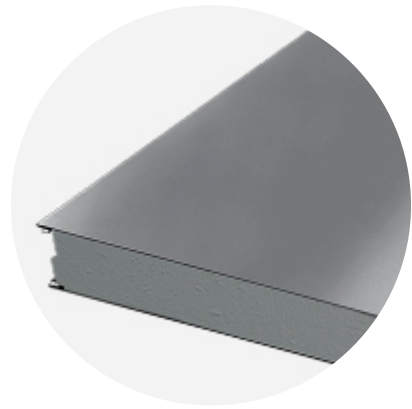
LINEAR L25



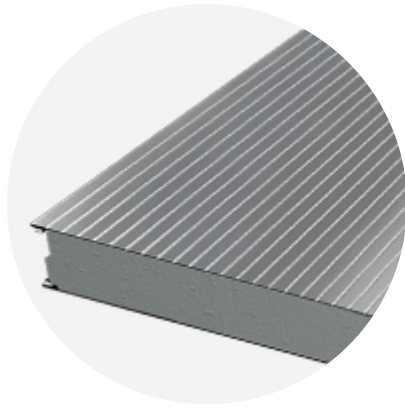
LINEAR L



MICRO M



FLAT F



RIBBED R28

Modular width	Facing	Profile options
1100mm	External	L, L25, M, R28, R275, R550, F
	Internal	L, L25, F
1000mm	External	L, L25, M
	Internal	L, L25

L25 available only for panel thicknesses 120,140,160 mm.

For stainless steel only L profiling is available.

## DESIGN TOOLS

To make both architectural and structural design work easier, with accurate product information in 3D form, we offer a selection of CAD / BIM -objects and software tools, which can be downloaded from the Software Toolbox portal.

### READY MODELLED BIM OBJECTS

[Download objects for ArchiCAD](#)

[Download objects for Revit](#)

### SOFTWARE TOOL TRAYPAN FOR CHOOSING THE OPTIMAL PANEL TYPE

User-friendly TrayPan software takes into account load, temperature, span, U-value, fire resistance and acoustics.

TrayPan contains two user interfaces:

- Optimisation tool for quick and easy pre-selection
- Designer version for detailed structural analysis.

[Download Traypan](#)

### DETAIL DRAWING (.DWG)



**05 MAY, 2016**

Ruukki-Detail-drawings-SP2E-PIR\_dwg\_en  
ZIP, 3.78 MB



**05 MAY, 2016**

Ruukki-Detail\_drawings\_SP2B\_SP2C\_SP2D\_PIR\_en  
ZIP, 1.06 MB



**05 MAY, 2016**

Ruukki-Detail\_drawings\_SPB\_SPC\_SP2D\_W\_en  
ZIP, 875.03 KB

## LOAD & SPAN TABLES FOR DIMENSIONING PANELS AGAINST LOADS



**05 MAY, 2016**

Ruukki-sandwich-panels-span-tables-agripro-panels  
PDF, 387.17 KB



**05 MAY, 2016**

Ruukki-load-tables-WE-ENG3  
PDF, 295.41 KB



**05 MAY, 2016**

Ruukki-load-tables-W-ENG3  
PDF, 315.97 KB



**05 MAY, 2016**

Ruukki-load-tables-PIR-ENG5  
PDF, 385.87 KB

## ACCESSORIES

Accessories for sandwich panels include flashings, fasteners, gaskets, and sealing flanges.

These accessories ensure fast assembly, fastening reliability, joint tightness, and aesthetic improvement. They are suitable for external and internal wall surface construction, as well as roofs - for construction works of various sizes at any destination.



**05 JUL, 2016**

Ruukki accessories for sandwich panels 09.07.2015B  
PDF, 3.46 MB

## INSTRUCTIONS

### ASSEMBLY INSTRUCTIONS

Assembly instructions document includes information about:



- Packing
- Transportation and unloading
- Storing
- Assembling



**14 JUL, 2016**

Ruukki-INOX-guidelines-for-PIR-sandwich-panels  
PDF, 315.45 KB



**05 MAY, 2016**

Ruukki-Sandwich-panels-General\_instructions\_for\_cold\_storage\_facilities  
PDF, 1.58 MB



**05 MAY, 2016**

Ruukki-Assembly-instruction-for-sandwich-panels-CEE  
PDF, 1.10 MB

## MAINTENANCE INSTRUCTIONS

Maintenance instructions document contains information about:

- Washing
- Painting



**06 MAY, 2016**

Ruukki colour coated steel - Maintenance instructions  
PDF, 600.37 KB



**06 MAY, 2016**

Ruukki powder coated facade claddings - Maintenance instructions  
PDF, 602.18 KB

## FACADE CLADDING INSTRUCTIONS

Ruukki Forma design instructions explain how to design façade cladding systems on top of Ruukki sandwich panels.



**01 JUN, 2016**

Ruukki Forma design instructions  
PDF, 1012.64 KB

## CERTIFICATES & APPROVALS

### DECLARATION OF PERFORMANCE



**13 JAN, 2020**

Declaration of Performance 54/MW/OBO - Oborniki mineral wool cored panels (W, WF, WS)  
PDF, 175.13 KB



**13 JAN, 2020**



Declaration of Performance 53/MW/OBO - Oborniki mineral wool cored panels (WEE, WE, WEF)  
PDF, 336.94 KB



**06 JUN, 2019**

Declaration of Performance 29/E-PIR/OBO - Oborniki panels with PIR core (E-PIR, AgriPro)  
PDF, 1.10 MB



**06 JUN, 2019**

Declaration of Performance 30/X-PIR/OBO - Oborniki panels with PIR core (X-PIR)  
PDF, 903.75 KB



**07 DEC, 2017**

Declaration of Performance 37/X-PIR/OBO - SP2B X-PIR and SP2E X-PIR sandwich panels in stainless steel facing  
PDF, 86.79 KB

## ENVIRONMENTAL PRODUCT DECLARATION



**05 MAY, 2016**

Ruukki-Light-weight-sandwich-element-system  
PDF, 5.97 MB