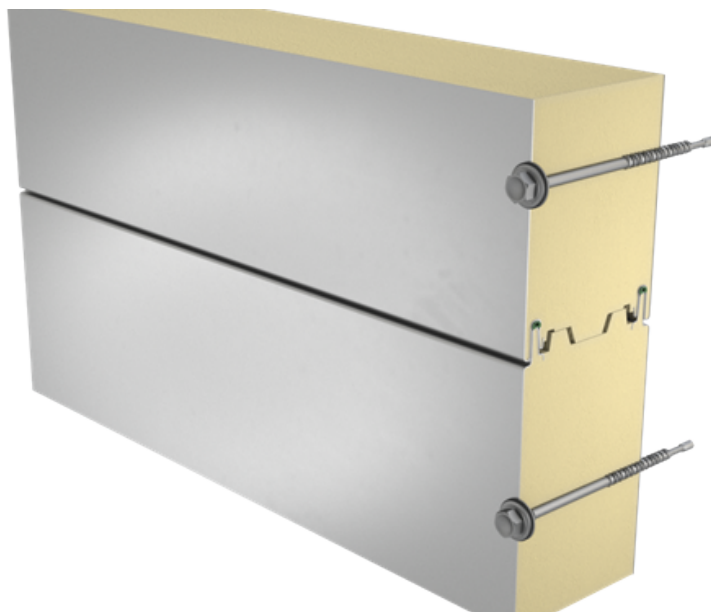


SANDWICH PANEL SP2E E-PIRS ENERGY



Sandwich panel **SP2E E-PIRS Energy** is available in thicknesses 120 - 160 mm.

It ensures **excellent air-tightness** and **energy efficiency**. The application of special solutions with structural details and assembly services provided by skilled and certified contractors enable to **decrease energy costs** of the building and its **CO2 emissions** up to **20%**. Using Ruukki's solutions you can receive more credits in **LEED** and **BREEAM** certification systems.

Low U-value and proper joint design together with wide thickness range make this sandwich panel an ideal solution for **cold storage** buildings. Innovative technology increasing strength parameters of the panel provides for **load-bearing capacity up to 40% higher** comparing to standard solutions.

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.

Application:

- External walls (standard fix)
- 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 E-PIRS Energy
Standard module width	1100 mm
Minimum length	2000 mm
Maximum Length	18500 mm
External facing thickness	0.50 mm
Internal facing thickness	0.50 mm
Air Tightness n50 (1/h)	0.6 (Premium), 0.9 (Plus)

PROPERTIES BY PANEL THICKNESS

Thickness D (mm)	120	140	160
Weight (kg/m ²)	13.4	14.3	15.2
U-value (W/m ² K)	0.18	0.16	0.14
Sound insulation Rw (dB)	25	25	25
Reaction to fire	B-s2,d0	B-s2,d0	B-s2,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
EI 30	4.0 / 4.0	4.0 / 4.0	4.0 / 4.0
EW30	4.0 / 4.0	4.0 / 4.0	4.0 / 4.0

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	Foodsafe laminate *	C4	-	White

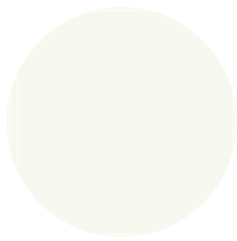
**) no standard colours available, please contact Ruukki for more information.*

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.

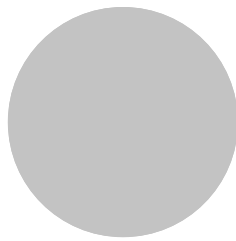
Corrosivity categories describe the outdoor climate conditions in accordance with EN12944. The higher the category, the more corrosive environment.

Read more about UV-resistance and corrosivity categories.

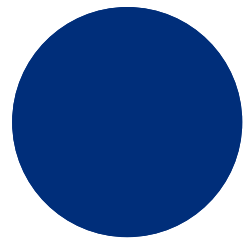
COLOURS



RAL9010 WHITE



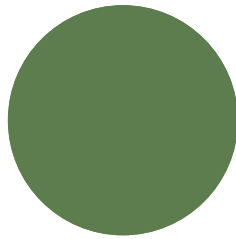
RAL9006 WHITE ALUMINIUM



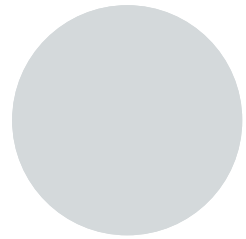
RAL5005 SIGNAL BLUE



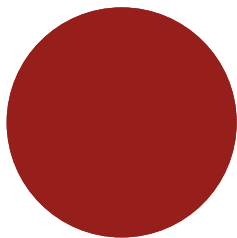
RAL9002 GREY WHITE



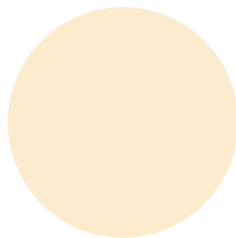
RAL6011 RESEDA GREEN



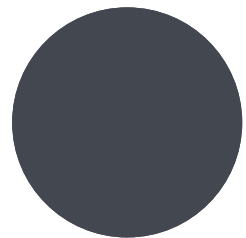
RAL7035 LIGHT GREY



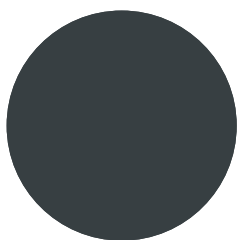
RAL3013 TOMATO RED



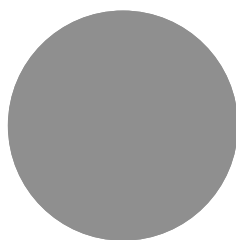
RAL1015 LIGHT IVORY



RAL 7015 SLATE GREY

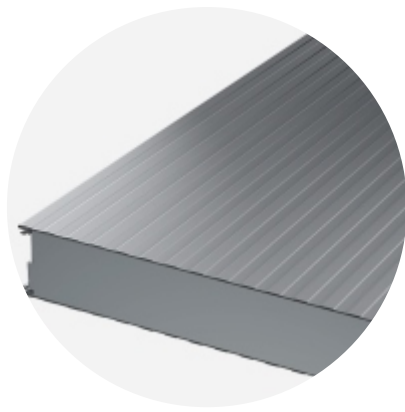


RAL7016 ANTHRACITE GREY

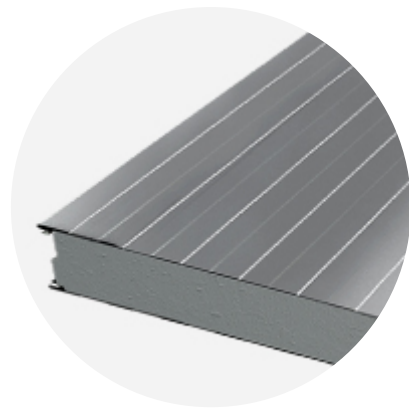


RAL9007 GREY ALUMINIUM

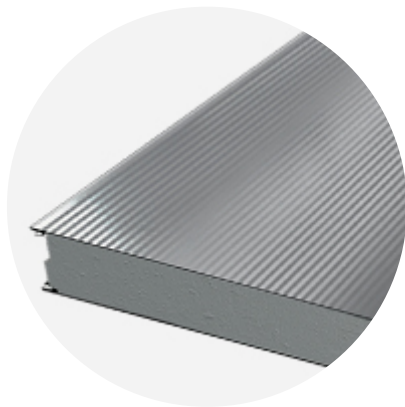
PROFILE OPTIONS



LINEAR L25



LINEAR



MICRO

Notes:

- 1) For external facings, only L and M profiling types are available.
- 2) For internal facings, only L25 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-load-tables-PU-core
PDF, 391.11 KB



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-Sandwich-panels-Span_tables_SPF
PDF, 19.13 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