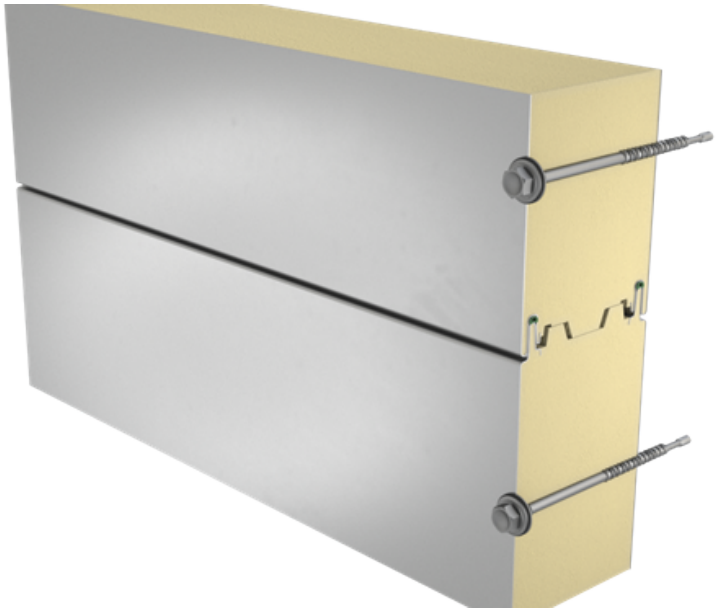
SANDWICH PANEL SP2E E-PIR ENERGY



Sandwich panel **SP2E E-PIR Energy** is available in thicknesses 120 - 200 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.

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)

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.

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PROPERTIES

Model name	Sandwich panel SP2E E-PIR Energy
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
Air Tightness n50 (1/h)	0.6 (Premium), 0.9 (Plus)

PROPERTIES BY PANEL THICKNESS

Thickness D (mm)	**120**	**140**	**160**	**180**	**200**
Weight (kg/m^2)	13.4	14.3	15.2	16	16.8
U-value (W/m^{2}K)	0.18	0.16	0.14	0.12	0.11
Sound insulation Rw (dB)	25	25	25	25	25
Reaction to fire	B-s2, d0	B-s2, d0	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	7.5 / 7.5	7.5 / 7.5
EI 30	4.0 / 4.0	4.0 / 4.0	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	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

RAL 7015 SLATE GREY

RAL9007 GREY ALUMINIUM

RAL9010 WHITE

RAL9006 WHITE ALUMINIUM

RAL9002 GREY WHITE

RAL1015 LIGHT IVORY

RAL7035 LIGHT GREY

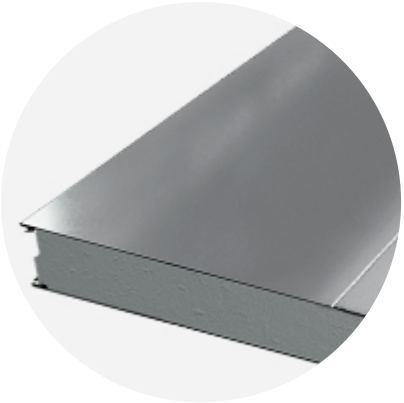
RAL5005 SIGNAL BLUE

RAL7016 ANTHRACITE GREY

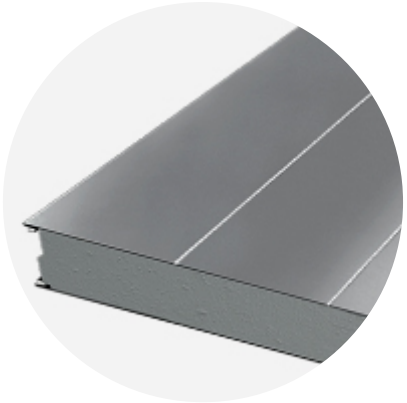
RAL3013 TOMATO RED

RAL6011 RESEDA GREEN

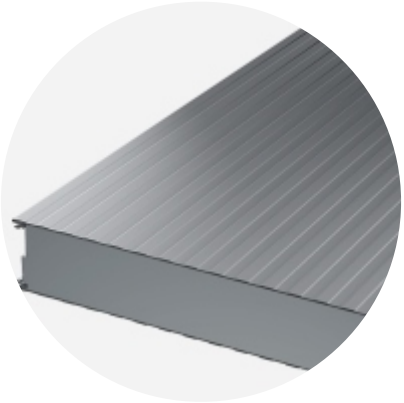
PROFILE OPTIONS



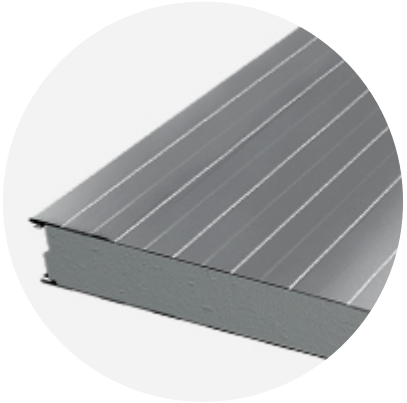
RIB 550



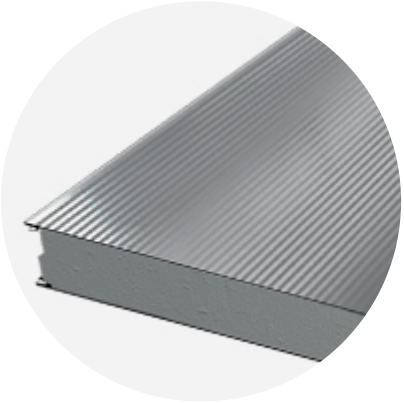
RIB 275



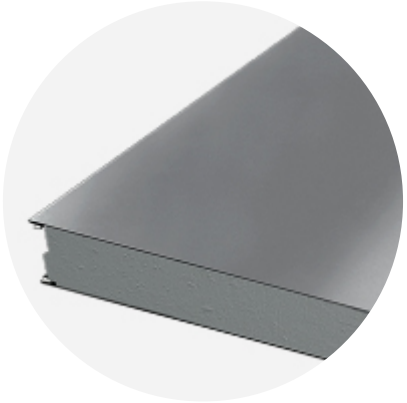
LINEAR L25



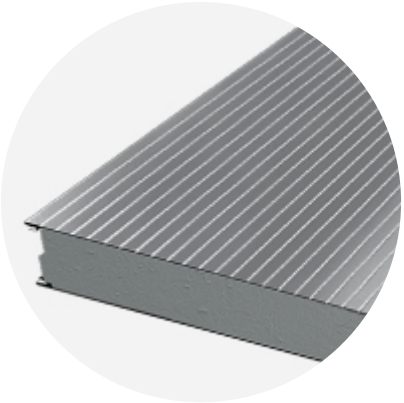
LINEAR



MICRO



FLAT



RIB 28

Notes:
1) L25 profiling type is available only in sandwich panel thicknesses 120, 140 and 160 mm.
2) For internal facings, only L, L25 and F profiling options are 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

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

18 JUL, 2018

Declaration of Performance 41/MW/OBO - Oborniki mineral wool cored panels
PDF, 209.45 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