

# Sandwich panel SP2E E-PIR

Sandwich panel **SP2E E-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 core of this sandwich panel is made of rigid, HCFC-free, self-extinguishing and sustainable polyisocyanurate foam (PIR). Its **excellent thermal insulation properties** enable 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.

The gaskets integrated in the joint provide reliable airtightness of the panel as a standard. For maximum performance of the wall as a whole upgrade to the full Ruukki Airtightness package including dedicated details and accessories.

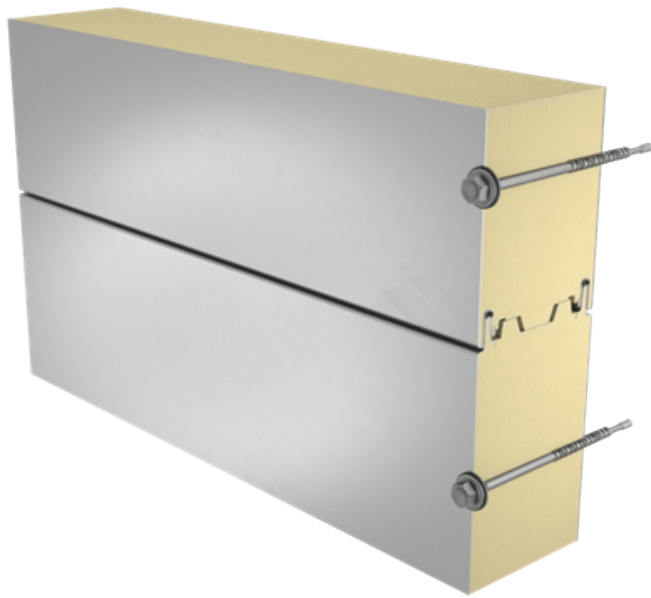
[Read more on airtightness package.](#)

## Applications:

- External walls
- Internal walls
- Ceilings

## This product is optionally available with following sustainable features:

- Steel facings made of recycled steel (SSAB Zero) for significantly lower CO2 emissions and high circularity - available as Ruukki LowCarbon
- Ruukki Airtightness package for lower CO2 emissions during the use phase of the building



**SEND CONTACT REQUEST**

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# Properties

|                           |                                                          |
|---------------------------|----------------------------------------------------------|
| Model name                | Sandwich panel SP2E E-PIR                                |
| Standard module width     | 1100 mm                                                  |
| Optional module width (B) | 1000 (D = 120 mm, 140 mm)                                |
| Minimum length            | 2000 mm                                                  |
| Maximum Length            | 18500 mm                                                 |
| External facing thickness | 0.5 mm                                                   |
| Internal facing thickness | 0.4 mm                                                   |
| External Fire Exposure    | NRO                                                      |
| Air Tightness             | q50=0,01 m3/hm2 (pressure) and q50=0,07 m3/hm2 (suction) |

| Thickness D (mm)                                                              | 120      | 140      | 160      | 180      | 200      |
|-------------------------------------------------------------------------------|----------|----------|----------|----------|----------|
| Weight (kg/m <sup>2</sup> )                                                   | 13       | 13.7     | 14.5     | 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)                                                      | 24       | 24       | 24       | 25       | 25       |
| Reaction to fire                                                              | B-s2, d0 | B-s2, d0 | B-s2, d0 | B-s2, d0 | B-s2, d0 |
| GWP-total, A1-A3 (kg CO <sub>2</sub> ◇/m <sup>2</sup> )                       | 32,6     | 34,2     | 35,8     | 37,3     | 38,9     |
| GWP-total, A1-A3 (kg CO <sub>2</sub> e/m <sup>2</sup> ) for Ruukki® LowCarbon | -        | -        | -        | -        | -        |

| Wall fire resistance values & max span horizontal / vertical orientation (m): | 120       | 140       | 160       | 180       | 200       |
|-------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|
| 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   |
| EI 30                                                                         | 4.0 / 3.0 | 6.0 / 3.0 | 6.0 / 3.0 | 6.0 / 3.0 | 6.0 / 3.0 |

|                         |           |           |           |           |           |
|-------------------------|-----------|-----------|-----------|-----------|-----------|
| EI 30 (stainless steel) | - / 4.0   | - / 4.0   | - / 4.0   | - / 4.0   | - / 4.0   |
| EW 30                   | 7.5 / 7.5 | 7.5 / 7.5 | 7.5 / 7.5 | 7.5 / 7.5 | 7.5 / 7.5 |
| EW 30 (stainless steel) | - / 7.5   | - / 7.5   | - / 7.5   | - / 7.5   | - / 7.5   |
| EW 45                   | - / 3.0   | - / 3.0   | - / 3.0   | - / 3.0   | - / 3.0   |

| Ceiling fire resistance values & maximum span lengths (m): | 120 | 140 | 160 | 180 | 200 |
|------------------------------------------------------------|-----|-----|-----|-----|-----|
| EI 15 (fire from below)                                    | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| EI 30 (fire from below)                                    | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |

Detailed information regarding the application of fire resistance ratings can be obtained from Ruukki Sales.

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

## Coatings and colors

### Materials

| Facing   | Coating                     | Gloss level (GU) | Corrosion class | UV resistance | Colours                                                                                                                                                                                                                                                                                                                              |
|----------|-----------------------------|------------------|-----------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External | GreenCoat Pural BT Satin    | 20               | C4              | Ruv4-5        | RAL9010 (RR126)                                                                                                                                                                                                                                                                                                                      |
| External | GreenCoat Pural BT Metallic | 40               | C4              | Ruv4          | RAL9006 (RR40), RAL9007 (RR41)                                                                                                                                                                                                                                                                                                       |
| External | Polyester                   | 35               | C3              | Ruv2-3        | RAL1015 (RR807), RAL1021, RAL2003, RAL3000 (RR770), RAL3009 (RR29), RAL3013 (RR774), RAL5003 (RR4F8), RAL5005 (RR4A8), RAL5012 (RR408), RAL6011 (RR526), RAL6018 (RR5G8), RAL7015 (RR23), RAL7016 (RR288), RAL7035 (RR2B1), RAL7040 (RR287), RAL9002 (RR1G6), RAL9003 (RR106), RAL9006 (RR946), RAL9007, RAL9010 (RR1G5), Golden Oak |
| Internal | Polyester                   | 35               | C3              | -             | RAL9002 (RR1G6), RAL9010 (RR1G5)                                                                                                                                                                                                                                                                                                     |
| Internal | PVC laminate *              |                  | C4**            | -             | White                                                                                                                                                                                                                                                                                                                                |

| Facing   | Coating         | Corrosivity category |
|----------|-----------------|----------------------|
| External | Stainless steel | C4**                 |
| Internal | Stainless steel | C4**                 |

*\*) optional material*

*\*\*\*) in case of corrosivity category above C3, please contact Ruukki Sales Department.*

*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.*

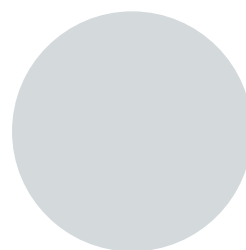
### Primary colors



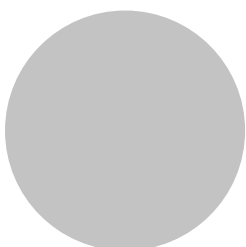
RAL9010 Pure white RR1G5



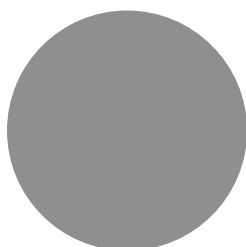
RAL9002 Grey white RR1G6



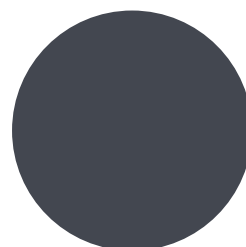
RAL7035 Light grey RR2B1



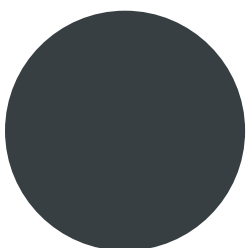
RAL9006 White aluminium RR946



RAL9007 Grey aluminium



RAL7015 Slate grey RR23

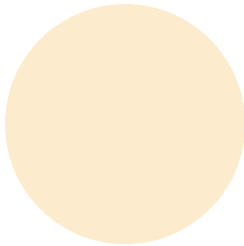


RAL7016 Anthracite grey RR288

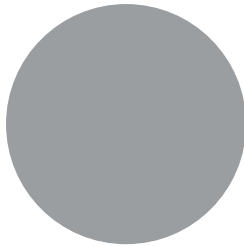
**Complementary colors**



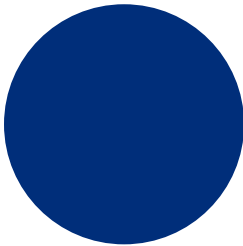
RAL9003 Signal white RR106



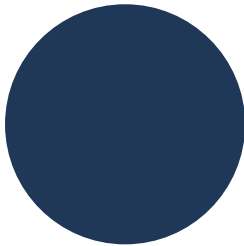
RAL1015 Light ivory RR807



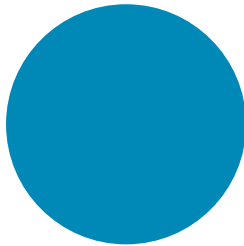
RAL7040 Window grey RR287



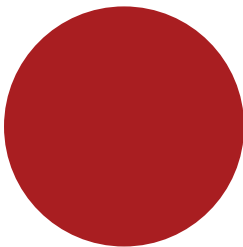
RAL5005 Signal blue



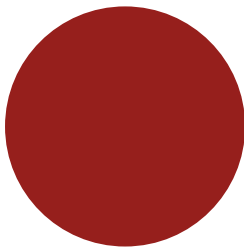
RAL5003 Sapphire blue RR4F8



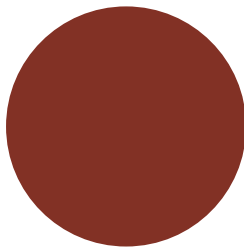
RAL 5012 Light blue RR408



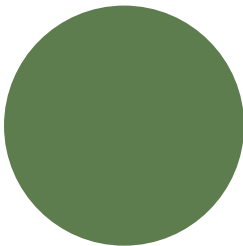
RAL3000 Flame Red RR770



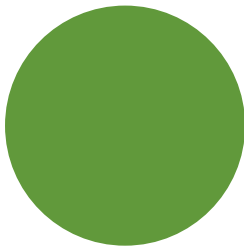
RAL3013 Tomato red RR774



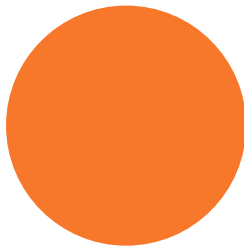
RAL3009 Oxide red RR29



RAL6011 Reseda green RR526



RAL 6018 Yellow green RR5G8



RAL2003 Pastel orange



RAL1021 Colza yellow



Golden oak

## Profile options



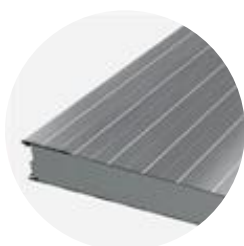
Ribbed R550



Ribbed R275



Linear L25



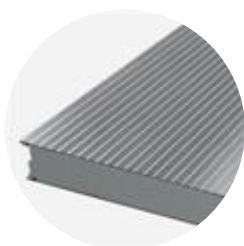
Linear L



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, R28, F             |
|               | Internal | L, L25, F                     |

For stainless steel only L profiling is available.

## Design tools



### Traypan® software for designing sandwich panels

With TrayPan®, you can design metal faced sandwich panels made by Ruukki. A panel structure can be designed as a single- or multi-span construction. You can easily give, with a few parameters, both suction and pressure loads caused by the wind. The application also calculates the necessary fasteners.

[Go to Traypan®](#)



### Download BIM objects to your desktop

ProdLib brings Ruukki products as BIM models directly to your desktop in 3D form for design programs AutoCAD, Autodesk Revit, Archicad and Tekla Structures. Product libraries compile all necessary design models and detailed drawings in one place. Library updates are automatically notified, so as a user you can be sure that your product information is constantly up to date. ProdLib can also be used as a standalone desktop application.

[Go to BIM library](#)

## Technical documents

### Cold storage sandwich panel specific documents



#### Sandwich panel SP2E cold store EN details

PDF, 0.8 MB



#### Sandwich panel SP2E cold store EN details

DWG, 0.9 MB

Here you can find all technical documents related to Ruukki's sandwich panels. Documents are organised by document type. Click to enter document library.

Product descriptions

>

Accessory documents

>

Load tables

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Installation instructions

>

Maintenance instructions

>

Sound insulation values

>

Detail drawings

>

## Certificates and approvals

Here you can find all certificates and approvals related to Ruukki's sandwich panels. Documents are organised by document type. Click to enter document library.

Declaration of performance

>

Environmental product declaration

>

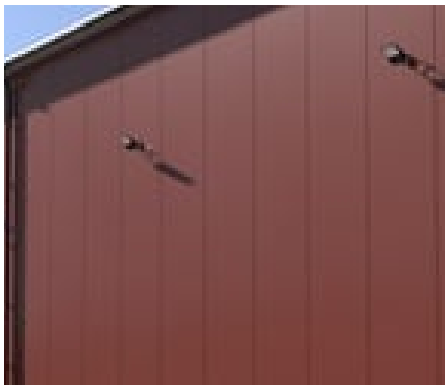
Intruder resistance certificate

>

M1 Emission Classification

>

## Visualization tool



### Get inspired with our Sandwich Panel visualization tool

With our interactive Visualization tool for Ruukki sandwich panels, you can easily explore and customize the perfect combination for your building project.

[Go to visualization tool](#)