

# 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.

With excellent reaction to fire and fire resistance values, this panel ensures the highest level of fire safety for buildings and their users.

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.

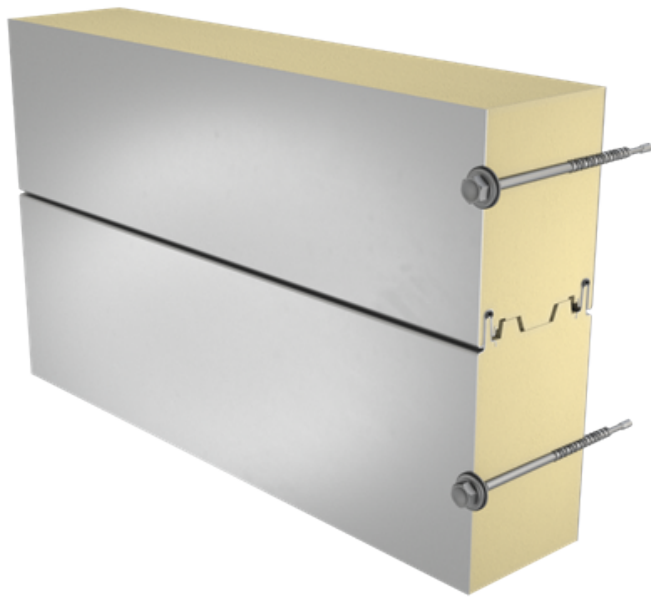
Optionally, on request, **SP2E X-PIR** sandwich panel can be delivered as FM Approved product with a certificate granted by the world-biggest insurance company FM Global. The global certificate received based on 4880 and 4881 standards confirms that a building's envelope made of these sandwich panels from Ruukki ensures the highest safety level in case of fire or hurricane.

For all needed information about FM Approved panels, please contact Ruukki Sales.



## Applications:

- External walls
- Internal walls
- Ceilings



**SEND CONTACT REQUEST**

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, 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

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	0.15	0.14	0.12	0.11
Sound insulation Rw (dB)	24	24	24	25	25
Reaction to fire	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, 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*	7.5 / 3.0*	7.5 / 3.0*	7.5 / 3.0*	7.5 / 3.0*
EI 30 (stainless steel)	- / 7.5	- / 7.5	- / 7.5	- / 7.5	- / 7.5
EI 60	-	-	-	-	- / 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
EW 45 (stainless steel)	- / 3.0	- / 3.0	- / 3.0	- / 3.0	- / 3.0

\*Span length for EI30 of FM approved panels is 7.5 (vertical)

\*\* Result valid only for FM approved panels. The result requires stitched joints on both side and fire resistant silicone applied to female joint. Fire rating EI 60 is not relevant for standard SP2E X-PIR panels.

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

Ceiling fire resistance ratings are not available for FM approved panels.

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)	Corrosivity category	UV resistance	Colours
External	GreenCoat Pural BT Satin	20	C4	Ruv4-5	RAL7035 (RR292), 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		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.*

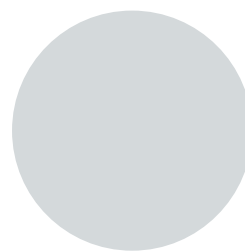
## Primary colors



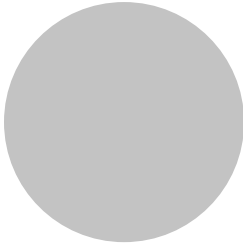
RAL9010 Pure white RR1G5



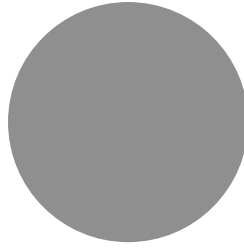
RAL9002 Grey white RR1G6



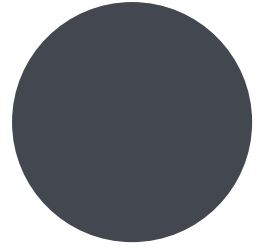
RAL7035 Light grey RR2B1



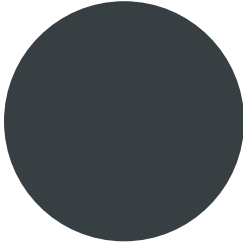
RAL9006 White aluminium RR946



RAL9007 Grey aluminium



RAL7015 Slate grey RR23

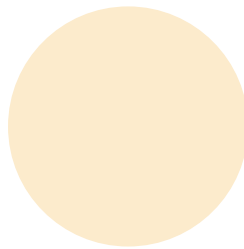


RAL7016 Anthracite grey RR288

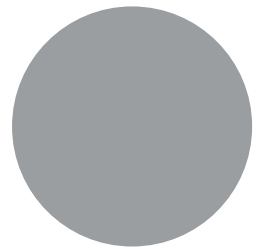
### Complementary colors



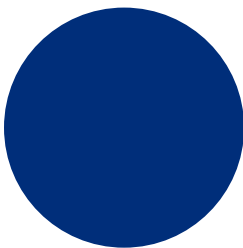
RAL9003 Signal white RR106



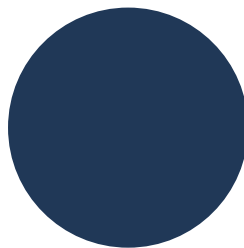
RAL1015 Light ivory RR807



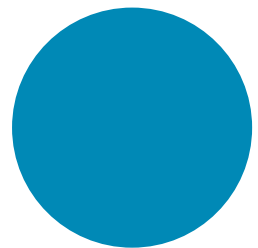
RAL7040 Window grey RR287



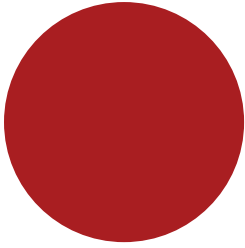
RAL5005 Signal blue



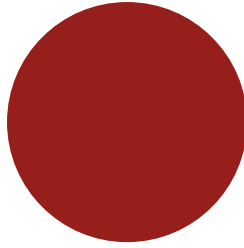
RAL5003 Sapphire blue RR4F8



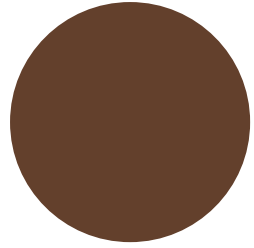
RAL 5012 Light blue RR408



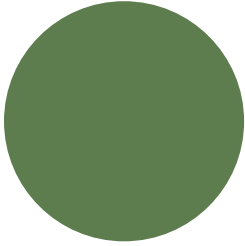
RAL3000 Flame Red RR770



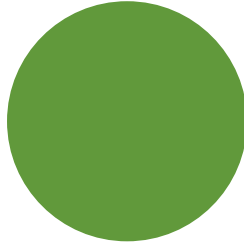
RAL3013 Tomato red RR774



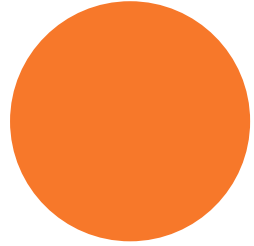
RAL3009 Oxide red RR29



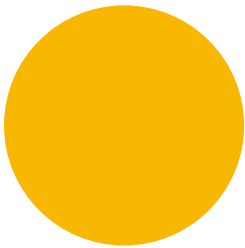
RAL6011 Reseda green RR526



RAL 6018 Yellow green RR5G8



RAL2003 Pastel orange

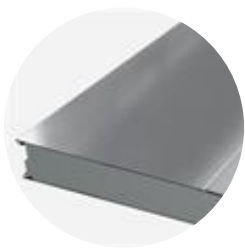


RAL1021 Colza yellow



Golden oak

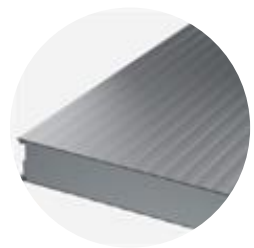
## Profile options



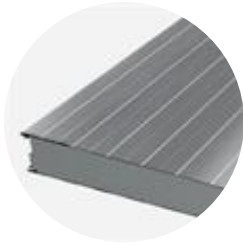
Ribbed R550



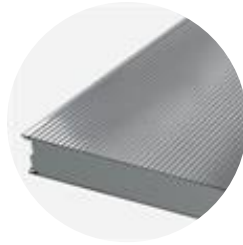
Ribbed R275



Linear L25



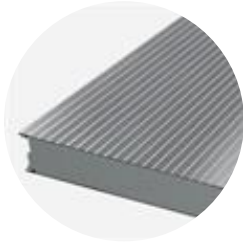
Linear L



Micro M



Flat F



Ribbed R28

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



**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**

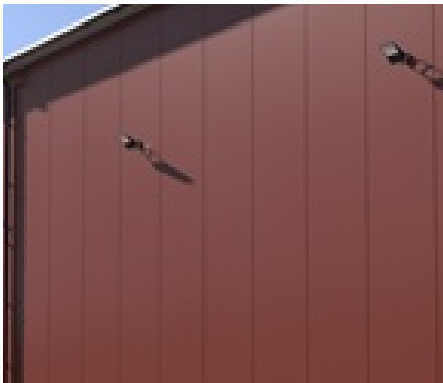


**Intruder  
resistance  
certificate**



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## 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](#)