



DECLARATION OF PERFORMANCE No. 30/X-PIR/OBO

1. Unique identification code of product type:

Sandwich panel with X-PIR polyisocyanurate core

SP2B 100 X-PIR	SP2E 120 X-PIR
SP2B 110 X-PIR	SP2E 140 X-PIR
SP2B 120 X-PIR	SP2E 160 X-PIR
SP2B 150 X-PIR	SP2E 180 X-PIR
SP2B 100 X-PIR B	SP2E 200 X-PIR
SP2B 110 X-PIR B	SP2E 120 X-PIR B
SP2B 120 X-PIR B	SP2E 140 X-PIR B
SP2B 150 X-PIR B	SP2E 160 X-PIR B
SP2B 100 X-PIR ENERGY	SP2E 120 X-PIR ENERGY
SP2B 110 X-PIR ENERGY	SP2E 140 X-PIR ENERGY
SP2B 120 X-PIR ENERGY	SP2E 160 X-PIR ENERGY
SP2B 150 X-PIR ENERGY	SP2E 180 X-PIR ENERGY
SP2B 100 X-PIR B ENERGY	SP2E 200 X-PIR ENERGY
SP2B 110 X-PIR B ENERGY	SP2E 120 X-PIR B ENERGY
SP2B 120 X-PIR B ENERGY	SP2E 140 X-PIR B ENERGY
SP2B 150 X-PIR B ENERGY	SP2E 160 X-PIR B ENERGY

2. Intended use: Self-supporting metal faced insulating panels for use in buildings; external walls, internal walls and ceilings.
- Detailed intended use refers to the sandwich panel type – information in attachments to this declaration.
3. Manufacturer: Ruukki Polska Sp. z o.o.
ul. Jaktorowska 13, 96-300 Żyrardów, Poland
Oborniki branch
ul. Łukowska 7, 64-600 Oborniki, Poland
4. Authorized representative: not applicable
5. AVCP level: reaction to fire, fire resistance: 3; other properties: 4
- 6a. Harmonised standard: EN 14509:2013 "Self-supporting double skin metal faced insulating panels. Factory made products. Specifications"
- Notified body: Instytut Techniki Budowlanej (ITB) (1488)
FIRES S.R.O. (1396)
Eurofins Expert Services Oy (0809)

7. Declared performances: Technical product characteristics of specified product configuration are available in attachments to this Declaration of Performance.

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

This Declaration of Performance is available on Ruukki web page:

<https://www.ruukki.com/building-envelopes/services-support/sandwich-panel-support/declaration-of-performance-for-sandwich-panels>

Signed for and on behalf of the manufacturer by:



Adam Korol
Senior Vice President
Building Envelopes

Helsinki, 17.05.2024

Declared technical characteristics of specified type of sandwich panel are available on the following pages:

ENERGY PANELS:

SP2B X-PIR Energy	Page 4
SP2B X-PIR B Energy	Page 5
SP2E X-PIR Energy	Page 6
SP2E X-PIR B Energy	Page 7

OTHER PANELS:

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SP2E X-PIR	Page 10
SP2E X-PIR B	Page 11

Attachment 1 to Declaration of Performance 30/X-PIR/OBO

Panel type	SP2B X-PIR ENERGY					
Reference to harmonized standard:	EN 14509:2013					
Intended use:	Internal or external walls					
Panel name:	SP2B 100 X-PIR ENERGY	SP2B 110 X-PIR ENERGY	SP2B 120 X-PIR ENERGY	SP2B 150 X-PIR ENERGY	Reference	
Year when CE mark was affixed:	15	20	23	24		
Thickness of external facing:	0,5 - 0,6				mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120, S280GD+ZA255 S250GD+Z275, S250GD+Z190, S250GD+ZM140, S250GD+ZM120, S250GD+ZA255					(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²					(EN 10169)
External facing profile:	L25, L, M, F, R28, R275, R550					
Thickness of internal facing:	0,4* - 0,6				mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095 S250GD+Z275, S250GD+Z190, S250GD+ZA255, S250GD+Z100, S250GD+ZM140, S250GD+ZM120, S250GD+ZM100, S250GD+ZA095					(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²					(EN 10169)
Internal facing profile:	L25, L, F					
Core material:	PIR					
Density of core material:	36				kg/m ³	
Nominal panel thickness:	100	110	120	152.5	mm	
Mass:	12.4	12.7	13.0	14.1	kg/m ²	
Mechanical resistance:						
Tensile strength:	0.10	0.10	0.10	0.10	MPa	
Shear strength:	0.09	0.09	0.09	0.09	MPa	
Reduced long term shear strength:	0.036	0.036	0.036	0.036	MPa	
Shear modulus (core):	3.00	3.00	3.00	2.65	MPa	
Compressive strength (core):	0.09	0.09	0.09	0.10	MPa	
Creep coefficient t=2000h:	NPD					
Creep coefficient t=100000h:	NPD					
Wrinkling strength (external face) at profiling L25:						
- in span	165	165	165	165	MPa	
- in span, elevated temperature	150	150	150	150	MPa	
- at internal support	115	115	115	115	MPa	
- at internal support, elevated temperature	103	103	103	103	MPa	
Wrinkling strength (external face) at profiling L, M:						
- in span	145	145	145	130	MPa	
- in span, elevated temperature	130	130	130	115	MPa	
- at internal support	115	115	115	103	MPa	
- at internal support, elevated temperature	103	103	103	92	MPa	
Wrinkling strength (external face) at profiling F, R28, R275, R550:						
- in span	90	90	90	90	MPa	
- in span, elevated temperature	81	81	81	81	MPa	
- at internal support	90	90	90	90	MPa	
- at internal support, elevated temperature	81	81	81	81	MPa	
Wrinkling strength (internal face) at profiling L25:						
- in span	165	165	165	165	MPa	
- at internal support	115	115	115	115	MPa	
Wrinkling strength (internal face) at profiling L:						
- in span	145	145	145	130	MPa	
- at internal support	115	115	115	103	MPa	
Wrinkling strength (internal face) at profiling F:						
- in span	90	90	90	90	MPa	
- at internal support	90	90	90	90	MPa	
Other properties:						
Thermal transmittance, U _{g,s} :	0.22	0.20	0.18	0.14	W/m ² K	
Thermal conductivity of the core, λ _{declared} :	0.022				W/mK	
Reaction to fire:	B-s1, d0				Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 15				Class	(EN 13501-2)
Fire resistance (wall, vertical):	EI 15				Class	(EN 13501-2)
External fire performance:	Not applicable					
Water permeability:	A				Class	(EN 12865)
Air permeability, pressure (per 1m ³):	n = 0,4812, C = 0,000972					(EN 12114)
Air permeability, suction (per 1m ³):	n = 0,1976, C = 0,00261					(EN 12114)
Water vapour permeability:	Impermeable					
Airborne sound insulation, R _w (C; C ₂):	24 (-2; -4)				dB	(EN ISO 717-1)
Sound absorption, α _w :	0.10					(EN ISO 11654)
Durability:	Pass - all colours					

* 0,4 mm facing is available only in L or L25 profiling

Detailed product/material specification is given on order confirmation or delivery documentation.

Attachment 2 to Declaration of Performance 30/X-PIR/OBO

Panel type	SP2B X-PIR B ENERGY				
Reference to harmonized standard:	EN 14509:2013				
Intended use:	Internal or external walls				
Panel name:	SP2B 100 X-PIR B ENERGY	SP2B 110 X-PIR B ENERGY	SP2B 120 X-PIR B ENERGY	Reference	
Year when CE mark was affixed:	19	20	23		
Thickness of external facing:	0,5 - 0,6			mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120, S280GD+ZA255 S250GD+Z275, S250GD+Z190, S250GD+ZM140, S250GD+ZM120, S250GD+ZA255				(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²				(EN 10169)
External facing profile:	L25, L, M, F				
Thickness of internal facing:	0,4* - 0,6			mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095 S250GD+Z275, S250GD+Z190, S250GD+ZA255, S250GD+ZM140, S250GD+ZM120, S250GD+ZM100, S250GD+ZA095				(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²				(EN 10169)
Internal facing profile:	L25, L, F				
Core material:	PIR				
Density of core material:	36			kg/m ³	
Nominal panel thickness:	100	110	120	mm	
Mass:	12.4	12.7	13.1	kg/m ²	
Mechanical resistance:					
Tensile strength:	0.10	0.10	0.10	MPa	
Shear strength:	0.09	0.09	0.09	MPa	
Reduced long term shear strength:	0.036	0.036	0.036	MPa	
Shear modulus (core):	3.00	3.00	3.00	MPa	
Compressive strength (core):	0.09	0.09	0.09	MPa	
Creep coefficient t=2000h:	NPD				
Creep coefficient t=10000h:	NPD				
Wrinkling strength (external face) at profiling L25:					
- in span	165	165	165	MPa	
- in span, elevated temperature	150	150	150	MPa	
- at internal support	115	115	115	MPa	
- at internal support, elevated temperature	103	103	103	MPa	
Wrinkling strength (external face) at profiling L, M:					
- in span	145	145	145	MPa	
- in span, elevated temperature	130	130	130	MPa	
- at internal support	115	115	115	MPa	
- at internal support, elevated temperature	103	103	103	MPa	
Wrinkling strength (external face) at profiling F:					
- in span	90	90	90	MPa	
- in span, elevated temperature	81	81	81	MPa	
- at internal support	90	90	90	MPa	
- at internal support, elevated temperature	81	81	81	MPa	
Wrinkling strength (internal face) at profiling L25:					
- in span	165	165	165	MPa	
- at internal support	115	115	115	MPa	
Wrinkling strength (internal face) at profiling L:					
- in span	145	145	145	MPa	
- at internal support	115	115	115	MPa	
Wrinkling strength (internal face) at profiling F:					
- in span	90	90	90	MPa	
- at internal support	90	90	90	MPa	
Other properties:					
Thermal transmittance, U _{d,5} :	0.22	0.20	0.18	W/m ² K	
Thermal conductivity of the core, λ _{Declared} :	0.022			W/mK	
Reaction to fire:	B-s1, d0			Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 15			Class	(EN 13501-2)
Fire resistance (wall, vertical):	EI 15			Class	(EN 13501-2)
External fire performance:	Not applicable				
Water permeability:	A			Class	(EN 12865)
Air permeability, pressure (per 1m ³):	n = 0,4812, C = 0,000972				(EN 12114)
Air permeability, suction (per 1m ³):	n = 0,1976, C = 0,00261				(EN 12114)
Water vapour permeability:	Impermeable				
Airborne sound insulation, R _w (C; C ₅₀):	24 (-2; -4)			dB	(EN ISO 717-1)
Sound absorption, α _w :	0.10				(EN ISO 11654)
Durability:	Pass - all colours				

* 0,4 mm facing is available only in L or L25 profiling

Detailed product/material specification is given on order confirmation or delivery documentation.

Attachment 3 to Declaration of Performance 30/X-PIR/OBO

Panel type	SP2E X-PIR ENERGY						
Reference to harmonized standard:	EN 14509:2013						
Intended use:	Internal or external walls						
Panel name:	SP2E 120 X-PIR ENERGY	SP2E 140 X-PIR ENERGY	SP2E 160 X-PIR ENERGY	SP2E 180 X-PIR ENERGY	SP2E 200 X-PIR ENERGY	Reference	
Year when CE mark was affixed:	15						
Thickness of external facing:	0,5 - 0,6					mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120, S280GD+ZA255 S250GD+Z275, S250GD+Z190, S250GD+ZM140, S250GD+ZM120, S250GD+ZA255						(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²						(EN 10169)
External facing profile:	L25, L, M, F, R28, R275, R550						
Thickness of internal facing:	0,4* - 0,6					mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095 S250GD+Z275, S250GD+Z190, S250GD+ZA255, S250GD+Z100, S250GD+ZM140, S250GD+ZM120, S250GD+ZM100, S250GD+ZA095						(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²						(EN 10169)
Internal facing profile:	L25, L, F**						
Core material:	PIR						
Density of core material:	36	37		38		kg/m ³	
Nominal panel thickness:	120	143	160	180	200	mm	
Mass:	13.1	13.9	14.6	15.4	16.2	kg/m ²	
Mechanical resistance:							
Tensile strength:	0.10	0.10	0.10	0.10	0.10	MPa	
Shear strength:	0.09	0.09	0.09	0.09	0.09	MPa	
Reduced long term shear strength:	0.036	0.036	0.036	0.036	0.036	MPa	
Shear modulus (core):	3.00	3.00	2.65	2.47	2.30	MPa	
Compressive strength (core):	0.09	0.10	0.10	0.10	0.10	MPa	
Creep coefficient t=2000h:	NPD						
Creep coefficient t=100000h:	NPD						
Wrinkling strength (external face) at profiling L25:							
- in span	165	165	165	-	-	MPa	
- in span, elevated temperature	150	150	150	-	-	MPa	
- at internal support	115	115	115	-	-	MPa	
- at internal support, elevated temperature	103	103	103	-	-	MPa	
Wrinkling strength (external face) at profiling L, M:							
- in span	145	145	130	130	130	MPa	
- in span, elevated temperature	130	130	115	115	115	MPa	
- at internal support	115	115	103	103	103	MPa	
- at internal support, elevated temperature	103	103	92	92	92	MPa	
Wrinkling strength (external face) at profiling F, R28, R275, R550:							
- in span	90	90	90	90	90	MPa	
- in span, elevated temperature	81	81	81	81	81	MPa	
- at internal support	90	90	90	90	90	MPa	
- at internal support, elevated temperature	81	81	81	81	81	MPa	
Wrinkling strength (internal face) at profiling L25:							
- in span	165	165	165	-	-	MPa	
- at internal support	115	115	115	-	-	MPa	
Wrinkling strength (internal face) at profiling L:							
- in span	145	145	130	130	130	MPa	
- at internal support	115	115	103	103	103	MPa	
Wrinkling strength (internal face) at profiling F:							
- in span	90	90	90	90	90	MPa	
- at internal support	90	90	90	90	90	MPa	
Other properties:							
Thermal transmittance, U _{g,s} :	0.18	0.15	0.14	0.12	0.11	W/m ² K	
Thermal conductivity of the core, λ _{Declared} :	0.022					W/mK	
Reaction to fire:	B-s1, d0					Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 30					Class	(EN 13501-2)
Fire resistance (wall, vertical):	EI 30					Class	(EN 13501-2)
External fire performance:	Not applicable						
Water permeability:	A					Class	(EN 12865)
Air permeability, pressure (per 1m ³):	n = 1,1439, C = 0,000128						(EN 12114)
Air permeability, suction (per 1m ³):	n = 0,5712, C = 0,00775						(EN 12114)
Water vapour permeability:	Impermeable						
Airborne sound insulation, R _w (C; C ₂):	24 (-2; -4)					dB	(EN ISO 717-1)
Sound absorption, α _w :	0.10						(EN ISO 11654)
Durability:	Pass - all colours						

* 0,4 mm facing is available for 120-160 mm thick panels in L or L25 profiling
** Profiling F at thicknesses 180 and 200 mm is available only in 0,6 mm facing

Detailed product/material specification is given on order confirmation or delivery documentation.

Attachment 4 to Declaration of Performance 30/X-PIR/OBO

Panel type	SP2E X-PIR B ENERGY						
Reference to harmonized standard:	EN 14509:2013						
Intended use:	Internal or external walls						
Panel name:	SP2E 120 X-PIR B ENERGY		SP2E 140 X-PIR B ENERGY	SP2E 160 X-PIR B ENERGY	Reference		
Year when CE mark was affixed:	19						
Thickness of external facing:	0,5 - 0,6					mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120, S280GD+ZA255 S250GD+Z275, S250GD+Z190, S250GD+ZM140, S250GD+ZM120, S250GD+ZA255						(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²						(EN 10169)
External facing profile:	L25, L, M, F						
Thickness of internal facing:	0,4* - 0,6					mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095 S250GD+Z275, S280GD+Z190, S250GD+ZA255, S250GD+Z100, S250GD+ZM140, S250GD+ZM120, S250GD+ZM100, S250GD+ZA095						(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²						(EN 10169)
Internal facing profile:	L25, L, F						
Core material:	PIR						
Density of core material:	36		37			kg/m ³	
Nominal panel thickness:	120		143		160	mm	
Mass:	13.2		14.0		14.7	kg/m ²	
Mechanical resistance:							
Tensile strength:	0.10		0.10		0.10	MPa	
Shear strength:	0.09		0.09		0.09	MPa	
Reduced long term shear strength:	0.036		0.036		0.036	MPa	
Shear modulus (core):	3.00		3.00		2.65	MPa	
Compressive strength (core):	0.09		0.10		0.10	MPa	
Creep coefficient t=2000h:			NPD				
Creep coefficient t=100000h:			NPD				
Wrinkling strength (external face) at profiling L25:							
- in span	165		165		165	MPa	
- in span, elevated temperature	150		150		150	MPa	
- at internal support	115		115		115	MPa	
- at internal support, elevated temperature	103		103		103	MPa	
Wrinkling strength (external face) at profiling L, M:							
- in span	145		145		130	MPa	
- in span, elevated temperature	130		130		115	MPa	
- at internal support	115		115		103	MPa	
- at internal support, elevated temperature	103		103		92	MPa	
Wrinkling strength (external face) at profiling F:							
- in span	90		90		90	MPa	
- in span, elevated temperature	81		81		81	MPa	
- at internal support	90		90		90	MPa	
- at internal support, elevated temperature	81		81		81	MPa	
Wrinkling strength (internal face) at profiling L25:							
- in span	165		165		165	MPa	
- at internal support	115		115		115	MPa	
Wrinkling strength (internal face) at profiling L:							
- in span	145		145		130	MPa	
- at internal support	115		115		103	MPa	
Wrinkling strength (internal face) at profiling F:							
- in span	90		90		90	MPa	
- at internal support	90		90		90	MPa	
Other properties:							
Thermal transmittance, U _{0,5} :	0.18		0.15		0.14	W/m ² K	
Thermal conductivity of the core, λ _{declared} :			0.022			W/mK	
Reaction to fire:			B-s1, d0			Class (EN 13501-1)	
Fire resistance (wall, horizontal):			EI 30			Class (EN 13501-2)	
Fire resistance (wall, vertical):			EI 30			Class (EN 13501-2)	
External fire performance:			Not applicable				
Water permeability:			A			Class (EN 12865)	
Air permeability, pressure (per 1m ³):			n = 1,1439, C = 0,000128			(EN 12114)	
Air permeability, suction (per 1m ³):			n = 0,5712, C = 0,00775			(EN 12114)	
Water vapour permeability:			Impermeable				
Airborne sound insulation, R _w (C; C _p):			24 (-2; -4)			dB (EN ISO 717-1)	
Sound absorption, α _w :			0.10			(EN ISO 11654)	
Durability:			Pass - all colours				

* 0,4 mm facing is available only in L or L25 profiling

Detailed product/material specification is given on order confirmation or delivery documentation.

Attachment 5 to Declaration of Performance 30/X-PIR/OBO

Panel type	SP2B X-PIR					
Reference to harmonized standard:	EN 14509:2013					
Intended use:	Internal or external walls, ceilings					
Panel name:	SP2B 100 X-PIR	SP2B 110 X-PIR	SP2B 120 X-PIR	SP2B 150 X-PIR	Reference	
Year when CE mark was affixed:	15	20	23	24		
Thickness of external facing:	0,5 - 0,6				mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120, S280GD+ZA255 S250GD+Z275, S250GD+Z190, S250GD+ZM140, S250GD+ZM120, S250GD+ZA255					(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²					(EN 10169)
External facing profile:	L25, L, M, F, R28, R275, R550					
Thickness of internal facing:	0,4* - 0,6				mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095 S250GD+Z275, S250GD+Z190, S250GD+ZA255, S250GD+Z100, S250GD+ZM140, S250GD+ZM120, S250GD+ZM100, S250GD+ZA095					(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²					(EN 10169)
Internal facing profile:	L25, L, F					
Core material:	PIR					
Density of core material:	36				kg/m ³	
Nominal panel thickness:	100	110	120	152.5	mm	
Mass:	12.4	12.7	13.0	14.1	kg/m ²	
Mechanical resistance:						
Tensile strength:	0.10	0.10	0.10	0.10	MPa	
Shear strength:	0.09	0.09	0.09	0.09	MPa	
Reduced long term shear strength:	0.036	0.036	0.036	0.036	MPa	
Shear modulus (core):	3.00	3.00	3.00	2.65	MPa	
Compressive strength (core):	0.09	0.09	0.09	0.10	MPa	
Creep coefficient t=2000h:	2.4	2.4	2.4	2.4		
Creep coefficient t=100000h:	7.0	7.0	7.0	7.0		
Wrinkling strength (external face) at profiling L25:						
- in span	165	165	165	165	MPa	
- in span, elevated temperature	150	150	150	150	MPa	
- at internal support	115	115	115	115	MPa	
- at internal support, elevated temperature	103	103	103	103	MPa	
Wrinkling strength (external face) at profiling L, M:						
- in span	145	145	145	130	MPa	
- in span, elevated temperature	130	130	130	115	MPa	
- at internal support	115	115	115	103	MPa	
- at internal support, elevated temperature	103	103	103	92	MPa	
Wrinkling strength (external face) at profiling F, R28, R275, R550:						
- in span	90	90	90	90	MPa	
- in span, elevated temperature	81	81	81	81	MPa	
- at internal support	90	90	90	90	MPa	
- at internal support, elevated temperature	81	81	81	81	MPa	
Wrinkling strength (internal face) at profiling L25:						
- in span	165	165	165	165	MPa	
- at internal support	115	115	115	115	MPa	
Wrinkling strength (internal face) at profiling L:						
- in span	145	145	145	130	MPa	
- at internal support	115	115	115	103	MPa	
Wrinkling strength (internal face) at profiling F:						
- in span	90	90	90	90	MPa	
- at internal support	90	90	90	90	MPa	
Resistance to repeated access load:	Not suitable for occasional foot traffic for access or maintenance					
Other properties:						
Thermal transmittance, U _{0,s} :	0.22	0.20	0.18	0.14	W/m ² K	
Thermal conductivity of the core, λ _{declared} :	0.022				W/mK	
Reaction to fire:	B-s1, d0				Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 15				Class	(EN 13501-2)
Fire resistance (wall, vertical):	EI 15				Class	(EN 13501-2)
Fire resistance (ceiling):	NPD					
External fire performance:	Not applicable					
Water permeability:	A				Class	(EN 12865)
Air permeability:	NPD					
Water vapour permeability:	Impermeable					
Airborne sound insulation, R _w (C; C _v):	24 (-2; -4)				dB	(EN ISO 717-1)
Sound absorption, α _w :	0.10					(EN ISO 11654)
Durability:	Pass - all colours					

* 0,4 mm facing is available only in L or L25 profiling

Detailed product/material specification is given on order confirmation or delivery documentation.

Attachment 6 to Declaration of Performance 30/X-PIR/OBO

Panel type	SP2B X-PIR B							
Reference to harmonized standard:	EN 14509:2013							
Intended use:	Internal or external walls, ceilings							
Panel name:	SP2B 100 X-PIR B		SP2B 110 X-PIR B		SP2B 120 X-PIR B		Reference	
Year when CE mark was affixed:	19		20		23			
Thickness of external facing:	0,5 - 0,6						mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120, S280GD+ZA255 S250GD+Z275, S250GD+Z190, S250GD+ZM140, S250GD+ZM120, S250GD+ZA255							(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²							(EN 10169)
External facing profile:	L25, L, M, F							
Thickness of internal facing:	0,4* - 0,6						mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095 S250GD+Z275, S250GD+Z190, S250GD+ZA255, S250GD+Z100, S250GD+ZM140, S250GD+ZM120, S250GD+ZM100, S250GD+ZA095							(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²							(EN 10169)
Internal facing profile:	L25, L, F							
Core material:	PIR							
Density of core material:	36						kg/m ³	
Nominal panel thickness:	100		110		120		mm	
Mass:	12.4		12.7		13.1		kg/m ²	
Mechanical resistance:								
Tensile strength:	0.10		0.10		0.10		MPa	
Shear strength:	0.09		0.09		0.09		MPa	
Reduced long term shear strength:	0.036		0.036		0.036		MPa	
Shear modulus (core):	3.00		3.00		3.00		MPa	
Compressive strength (core):	0.09		0.09		0.09		MPa	
Creep coefficient t=2000h:	2.4		2.4		2.4			
Creep coefficient t=100000h:	7.0		7.0		7.0			
Wrinkling strength (external face) at profiling L25:								
- in span	165		165		165		MPa	
- in span, elevated temperature	150		150		150		MPa	
- at internal support	115		115		115		MPa	
- at internal support, elevated temperature	103		103		103		MPa	
Wrinkling strength (external face) at profiling L, M:								
- in span	145		145		145		MPa	
- in span, elevated temperature	130		130		130		MPa	
- at internal support	115		115		115		MPa	
- at internal support, elevated temperature	103		103		103		MPa	
Wrinkling strength (external face) at profiling F:								
- in span	90		90		90		MPa	
- in span, elevated temperature	81		81		81		MPa	
- at internal support	90		90		90		MPa	
- at internal support, elevated temperature	81		81		81		MPa	
Wrinkling strength (internal face) at profiling L25:								
- in span	165		165		165		MPa	
- at internal support	115		115		115		MPa	
Wrinkling strength (internal face) at profiling L:								
- in span	145		145		145		MPa	
- at internal support	115		115		115		MPa	
Wrinkling strength (internal face) at profiling F:								
- in span	90		90		90		MPa	
- at internal support	90		90		90		MPa	
Resistance to repeated access load:								
Not suitable for occasional foot traffic for access or maintenance								
Other properties:								
Thermal transmittance, U _{0,35} :	0.22		0.20		0.18		W/m ² K	
Thermal conductivity of the core, λ _{Declared} :	0.022						W/mK	
Reaction to fire:	B-s1, d0						Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 15						Class	(EN 13501-2)
Fire resistance (wall, vertical):	EI 15						Class	(EN 13501-2)
Fire resistance (ceiling):	NPD							
External fire performance:	Not applicable							
Water permeability:	A						Class	(EN 12865)
Air permeability:	NPD							
Water vapour permeability:	Impermeable							
Airborne sound insulation, R _w (C; C _p):	24 (-2; -4)						dB	(EN ISO 717-1)
Sound absorption, α _w :	0.10							(EN ISO 11654)
Durability:	Pass - all colours							

* 0,4 mm facing is available only in L or L25 profiling

Detailed product/material specification is given on order confirmation or delivery documentation.

Attachment 7 to Declaration of Performance 30/X-PIR/OBO

Panel type	SP2E X-PIR						
Reference to harmonized standard:	EN 14509:2013						
Intended use:	Internal or external walls, ceilings						
Panel name:	SP2E 120 X-PIR	SP2E 140 X-PIR	SP2E 160 X-PIR	SP2E 180 X-PIR	SP2E 200 X-PIR	Reference	
Year when CE mark was affixed:	15						
Thickness of external facing:	0,5 - 0,6					mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120, S280GD+ZA255 S250GD+Z275, S250GD+Z190, S250GD+ZM140, S250GD+ZM120, S250GD+ZA255						(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²						(EN 10169)
External facing profile:	L25, L, M, F, R28, R275, R550						
Thickness of internal facing:	0,4* - 0,6					mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095 S250GD+Z275, S250GD+Z190, S250GD+ZA255, S250GD+Z100, S250GD+ZM140, S250GD+ZM120, S250GD+ZM100, S250GD+ZA095						(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²						(EN 10169)
Internal facing profile:	L25, L, F**						
Core material:	PIR						
Density of core material:	36	37		38		kg/m ³	
Nominal panel thickness:	120	143	160	180	200	mm	
Mass:	13.1	13.9	14.6	15.4	16.2	kg/m ²	
Mechanical resistance:							
Tensile strength:	0.10	0.10	0.10	0.10	0.10	MPa	
Shear strength:	0.09	0.09	0.09	0.09	0.09	MPa	
Reduced long term shear strength:	0.036	0.036	0.036	0.036	0.036	MPa	
Shear modulus (core):	3.00	3.00	2.65	2.47	2.30	MPa	
Compressive strength (core):	0.09	0.10	0.10	0.10	0.10	MPa	
Creep coefficient t=2000h:	2.4	2.4	2.4	2.4	2.4		
Creep coefficient t=100000h:	7.0	7.0	7.0	7.0	7.0		
Wrinkling strength (external face) at profiling L25:							
- in span	165	165	165	-	-	MPa	
- in span, elevated temperature	150	150	150	-	-	MPa	
- at internal support	115	115	115	-	-	MPa	
- at internal support, elevated temperature	103	103	103	-	-	MPa	
Wrinkling strength (external face) at profiling L, M:							
- in span	145	145	130	130	130	MPa	
- in span, elevated temperature	130	130	115	115	115	MPa	
- at internal support	115	115	103	103	103	MPa	
- at internal support, elevated temperature	103	103	92	92	92	MPa	
Wrinkling strength (external face) at profiling F, R28, R275, R550:							
- in span	90	90	90	90	90	MPa	
- in span, elevated temperature	81	81	81	81	81	MPa	
- at internal support	90	90	90	90	90	MPa	
- at internal support, elevated temperature	81	81	81	81	81	MPa	
Wrinkling strength (internal face) at profiling L25:							
- in span	165	165	165	-	-	MPa	
- at internal support	115	115	115	-	-	MPa	
Wrinkling strength (internal face) at profiling L:							
- in span	145	145	130	130	130	MPa	
- at internal support	115	115	103	103	103	MPa	
Wrinkling strength (internal face) at profiling F:							
- in span	90	90	90	90	90	MPa	
- at internal support	90	90	90	90	90	MPa	
Resistance to repeated access load:	Not suitable for occasional foot traffic for access or maintenance						
Other properties:							
Thermal transmittance, U _{g,s} :	0.18	0.15	0.14	0.12	0.11	W/m ² K	
Thermal conductivity of the core, λ _{Declared} :	0.022					W/mK	
Reaction to fire:	B-s1, d0					Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 30					Class	(EN 13501-2)
Fire resistance (wall, vertical):	EI 30					Class	(EN 13501-2)
Fire resistance (ceiling):	EI 30					Class	(EN 13501-2)
External fire performance:	Not applicable						
Water permeability:	A					Class	(EN 12865)
Air permeability:	NPD						
Water vapour permeability:	Impermeable						
Airborne sound insulation, R _w (C; C _w):	24 (-2; -4)					dB	(EN ISO 717-1)
Sound absorption, α _w :	0.10						(EN ISO 11654)
Durability:	Pass - all colours						

* 0,4 mm facing is available for 120-160 mm thick panels in L or L25 profiling

** Profiling F at thicknesses 180 and 200 mm is available only in 0,6 mm facing

Detailed product/material specification is given on order confirmation or delivery documentation.

Attachment 8 to Declaration of Performance 30/X-PIR/OBO

Panel type	SP2E X-PIR B				
Reference to harmonized standard:	EN 14509:2013				
Intended use:	Internal or external walls, ceilings				
Panel name:	SP2E 120 X-PIR B	SP2E 140 X-PIR B	SP2E 160 X-PIR B	Reference	
Year when CE mark was affixed:	19				
Thickness of external facing:	0,5 - 0,6			mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120, S280GD+ZA255 S250GD+Z275, S250GD+Z190, S250GD+ZM140, S250GD+ZM120, S250GD+ZA255				(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²				(EN 10169)
External facing profile:	L25, L, M, F				
Thickness of internal facing:	0,4* - 0,6			mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095 S250GD+Z275, S250GD+Z190, S250GD+ZA255, S250GD+Z100, S250GD+ZM140, S250GD+ZM120, S250GD+ZM100, S250GD+ZA095				(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, Csafe, PVC or other colour coating with PCS ≤ 4,0 MJ/m ²				(EN 10169)
Internal facing profile:	L25, L, F				
Core material:	PIR				
Density of core material:	36	37		kg/m ³	
Nominal panel thickness:	120	143	160	mm	
Mass:	13.2	14.0	14.7	kg/m ²	
Mechanical resistance:					
Tensile strength:	0.10	0.10	0.10	MPa	
Shear strength:	0.09	0.09	0.09	MPa	
Reduced long term shear strength:	0.036	0.036	0.036	MPa	
Shear modulus (core):	3.00	3.00	2.65	MPa	
Compressive strength (core):	0.09	0.10	0.10	MPa	
Creep coefficient t=2000h:	2.4	2.4	2.4		
Creep coefficient t=100000h:	7.0	7.0	7.0		
Wrinkling strength (external face) at profiling L25:					
- in span	165	165	165	MPa	
- in span, elevated temperature	150	150	150	MPa	
- at internal support	115	115	115	MPa	
- at internal support, elevated temperature	103	103	103	MPa	
Wrinkling strength (external face) at profiling L, M:					
- in span	145	145	130	MPa	
- in span, elevated temperature	130	130	115	MPa	
- at internal support	115	115	103	MPa	
- at internal support, elevated temperature	103	103	92	MPa	
Wrinkling strength (external face) at profiling F:					
- in span	90	90	90	MPa	
- in span, elevated temperature	81	81	81	MPa	
- at internal support	90	90	90	MPa	
- at internal support, elevated temperature	81	81	81	MPa	
Wrinkling strength (internal face) at profiling L25:					
- in span	165	165	165	MPa	
- at internal support	115	115	115	MPa	
Wrinkling strength (internal face) at profiling L:					
- in span	145	145	130	MPa	
- at internal support	115	115	103	MPa	
Wrinkling strength (internal face) at profiling F:					
- in span	90	90	90	MPa	
- at internal support	90	90	90	MPa	
Resistance to repeated access load:	Not suitable for occasional foot traffic for access or maintenance				
Other properties:					
Thermal transmittance, U _{g,s} :	0.18	0.15	0.14	W/m ² K	
Thermal conductivity of the core, λ _{declared} :	0.022			W/mK	
Reaction to fire:	B-s1, d0			Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 30			Class	(EN 13501-2)
Fire resistance (wall, vertical):	EI 30			Class	(EN 13501-2)
Fire resistance (ceiling):	EI 30			Class	(EN 13501-2)
External fire performance:	Not applicable				
Water permeability:	A			Class	(EN 12865)
Air permeability:	NPD				
Water vapour permeability:	Impermeable				
Airborne sound insulation, R _a (C; C _b):	24 (-2; -4)			dB	(EN ISO 717-1)
Sound absorption, α _w :	0.10				(EN ISO 11654)
Durability:	Pass - all colours				

* 0,4 mm facing is available only in L or L25 profiling

Detailed product/material specification is given on order confirmation or delivery documentation.