



DECLARATION OF PERFORMANCE

No. 53/MW/OBO

1. Unique identification code of product type:

Sandwich panel SPB WEE, SPB WEEB, SPB WEE ENERGY, SPB WEEB ENERGY with mineral wool core

SPB160WEE	SPB160WEEB	SPB160WEE ENERGY	SPB160WEEB ENERGY
SPB170WEE	SPB170WEEB	SPB170WEE ENERGY	SPB170WEEB ENERGY
SPB180WEE	SPB180WEEB	SPB180WEE ENERGY	SPB180WEEB ENERGY
SPB200WEE	SPB200WEEB	SPB200WEE ENERGY	SPB200WEEB ENERGY
SPB210WEE	SPB210WEEB	SPB210WEE ENERGY	SPB210WEEB ENERGY
SPB230WEE	SPB230WEEB	SPB230WEE ENERGY	SPB230WEEB ENERGY

Sandwich panel SPB WE, SPB WEB, SPB WE ENERGY, SPB WEB ENERGY, SP2D WE with mineral wool core

SPB80WE	SPB80WE ENERGY	SP2D100WE
SPB100WE	SPB100WE ENERGY	SP2D120WE
SPB120WE	SPB120WE ENERGY	SP2D140WE
SPB140WE	SPB140WE ENERGY	SP2D150WE
SPB150WE	SPB150WE ENERGY	SP2D160WE
SPB160WE	SPB160WE ENERGY	SP2D170WE
SPB170WE	SPB170WE ENERGY	SP2D180WE
SPB180WE	SPB180WE ENERGY	SP2D200WE
SPB200WE	SPB200WE ENERGY	SP2D230WE
SPB210WE	SPB210WE ENERGY	
SPB230WE	SPB230WE ENERGY	
SPB80WEB	SPB80WEB ENERGY	
SPB100WEB	SPB100WEB ENERGY	
SPB120WEB	SPB120WEB ENERGY	
SPB140WEB	SPB140WEB ENERGY	
SPB150WEB	SPB150WEB ENERGY	
SPB160WEB	SPB160WEB ENERGY	
SPB170WEB	SPB170WEB ENERGY	
SPB180WEB	SPB180WEB ENERGY	
SPB200WEB	SPB200WEB ENERGY	
SPB210WEB	SPB210WEB ENERGY	
SPB230WEB	SPB230WEB ENERGY	

Sandwich panel SPB WEF, SPB WEFB, SPB WEF ENERGY, SPB WEFB ENERGY with mineral wool core

SPB150WEF	SPB150WEFB	SPB150WEF ENERGY	SPB150WEFB ENERGY
SPB160WEF	SPB160WEFB	SPB160WEF ENERGY	SPB160WEFB ENERGY
SPB170WEF	SPB170WEFB	SPB170WEF ENERGY	SPB170WEFB ENERGY
SPB180WEF	SPB180WEFB	SPB180WEF ENERGY	SPB180WEFB ENERGY
SPB200WEF	SPB200WEFB	SPB200WEF ENERGY	SPB200WEFB ENERGY
SPB210WEF	SPB210WEFB	SPB210WEF ENERGY	SPB210WEFB ENERGY
SPB230WEF	SPB230WEFB	SPB230WEF ENERGY	SPB230WEFB 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)
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, 17.01.2022

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

ENERGY PANELS:

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OTHER PANELS:

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SP2D WE	Page 10

Attachment 1 to Declaration of Performance 53/MW/OBO

Panel type:	SPB WEE ENERGY, SPB WEEB ENERGY							
Reference to harmonized standard:	EN 14509:2013							
Intended use:	Internal or external walls							
Panel name:	SPB160WEE ENERGY SPB160WEEB ENERGY	SPB170WEE ENERGY SPB170WEEB ENERGY	SPB180WEE ENERGY SPB180WEEB ENERGY	SPB200WEE ENERGY SPB200WEEB ENERGY	SPB210WEE ENERGY SPB210WEEB ENERGY	SPB230WEE ENERGY SPB230WEEB ENERGY	Reference	
Year when CE mark was affixed:	15				22	15		
Thickness of external facing:	0,50 - 0,70						mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120 S280GD+ZA255							(EN 10346)
Coating on external facing:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²							(EN 10169)
External facing profile (module 1100 mm):	L, M, R275, R550, F							
External facing profile (module 1000 mm):	L, M, R28, R250, R500, F							
Internal facing - steel grade:	0,50 - 0,70						mm	(EN 10143)
Coating of internal facing:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100 S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095							(EN 10346)
Internal facing - steel grade:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²							(EN 10169)
Internal facing profile:	L25, L, F							
Core material:	MW							
Density of core material:	70						kg/m ³	
Nominal panel thickness:	160	170	183	203	210	230	mm	
Mass (module 1100 mm):	21.6	22.3	23.0	24.4	25.1	26.5	kg/m ²	
Mass (module 1000 mm):	21.7	22.4	23.1	24.5	25.2	26.6	kg/m ²	
Mechanical resistance:								
Tensile strength:	0.055	0.055	0.055	0.055	0.055	0.055	MPa	
Shear strength:	0.035	0.035	0.035	0.035	0.031	0.031	MPa	
Reduced long term shear strength:	-	-	-	-	-	-	MPa	
Shear modulus (core):	1.05	1.05	1.05	1.05	1.05	1.05	MPa	
Compressive strength (core):	0.04	0.04	0.04	0.04	0.04	0.04	MPa	
Creep coefficient t=2000h:	-	-	-	-	-	-		
Creep coefficient t=100000h:	-	-	-	-	-	-		
Wrinkling strength (external face):								
- in span	75	75	75	75	68	68	MPa	
- in span, elevated temperature	65	65	65	65	58	58	MPa	
- at central support	-	-	-	-	-	-	MPa	
- at central support, elevated temperature	-	-	-	-	-	-	MPa	
Wrinkling strength (internal face):								
- in span	75	75	75	75	68	68	MPa	
- at internal support	-	-	-	-	-	-	MPa	
Other properties:								
Thermal transmittance, U _{g,s} ˚	0.23	0.22	0.20	0.18	0.18	0.16	W/m ² K	
Thermal conductivity of the core, λ _{Declared} ˚	0.038						W/mK	
Reaction to fire:	A2-s1, d0						Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 60						Class	(EN 13501-2)
Fire resistance (wall, vertical):	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 _{tr}):	29 (-4; -6)						dB	(EN ISO 717-1)
Sound absorption, α _{av} ˚	0.1							(EN ISO 11654)
Durability:	Pass - all colours							

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

Attachment 2 to Declaration of Performance 53/MW/OBO

Panel type:	SPB WE ENERGY, SPB WEB ENERGY												
Reference to harmonized standard:	EN 14509:2013												
Intended use:	Internal or external walls, ceilings												
Panel name:	SPB80WE ENERGY SPB80WEB ENERGY	SPB100WE ENERGY SPB100WEB ENERGY	SPB120WE ENERGY SPB120WEB ENERGY	SPB140WE ENERGY SPB140WEB ENERGY	SPB150WE ENERGY SPB150WEB ENERGY	SPB160WE ENERGY SPB160WEB ENERGY	SPB170WE ENERGY SPB170WEB ENERGY	SPB180WE ENERGY SPB180WEB ENERGY	SPB200WE ENERGY SPB200WEB ENERGY	SPB210WE ENERGY SPB210WEB ENERGY	SPB230WE ENERGY SPB230WEB ENERGY	Reference	
Year when CE mark was affixed:	15									21	15		
Thickness of external facing:	0,50 - 0,70											mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120 S280GD+ZA255												(EN 10346)
Coating on external facing:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²												(EN 10169)
External facing profile (module 1100 mm):	L, M, R275, R550, F												
External facing profile (module 1000 mm):	L, M, R28, R250, R500, F												
Internal facing - steel grade:	0,50 - 0,70											mm	(EN 10143)
Coating of internal facing:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095												(EN 10346)
Internal facing - steel grade:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²												(EN 10169)
Internal facing profile:	L25, L, F												
Core material:	MW												
Density of core material:	115	85										kg/m ³	
Nominal panel thickness:	80	100	120	140	150	160	170	180	203	208	230	mm	
Mass (module 1100 mm):	20.0	19.4	21.2	23.0	23.9	24.8	25.7	26.6	28.4	29.2	31.1	kg/m ²	
Mass (module 1000 mm):	20.1	19.5	21.3	23.1	24.0	24.9	25.8	26.7	28.5	29.2	31.2	kg/m ²	
Mechanical resistance:													
Tensile strength:	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	MPa	
Shear strength:	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.055	0.050	0.050	MPa	
Reduced long term shear strength:	0.035	0.035	0.035	0.035	0.035	0.035	0.03	0.03	0.028	0.025	0.025	MPa	
Shear modulus (core):	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	MPa	
Compressive strength (core):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	MPa	
Creep coefficient t=2000h:	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37		
Creep coefficient t=100000h:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45		
Wrinkling strength (external face):													
- in span	110	110	110	110	110	110	110	110	110	105	105	MPa	
- in span, elevated temperature	104	104	104	104	104	104	104	104	104	99	99	MPa	
- at central support	85	85	85	85	85	85	85	85	85	80	80	MPa	
- at central support, elevated temperature	76	76	76	76	76	76	76	76	76	70	70	MPa	
Wrinkling strength (internal face):													
- in span	110	110	110	110	110	110	110	110	110	105	105	MPa	
- at internal support	63	63	63	63	63	63	63	63	63	58	58	MPa	
Other properties:													
Thermal transmittance, U _{0,s} :	0.54	0.38	0.32	0.28	0.26	0.24	0.23	0.22	0.19	0.19	0.17	W/m ² K	
Thermal conductivity of the core, λ _{declared} :	0.043	0.040										W/mK	
Reaction to fire:	A2-s1, d0												Class (EN 13501-1)
Fire resistance (wall, horizontal):	NPD	EI 30	EI 60									Class (EN 13501-2)	
Fire resistance (wall, vertical):	NPD	EI 30	EI 60									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):	29 (-2; -3)	29 (-2; -4)										dB (EN ISO 717-1)	
Sound absorption, α _w :	0.1												(EN ISO 11654)
Durability:	Pass - all colours												

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

Attachment 3 to Declaration of Performance 53/MW/OBO

Panel type:	SPB WEF ENERGY, SPB WEFB ENERGY							
Reference to harmonized standard:	EN 14509:2013							
Intended use:	Internal or external walls, ceilings							
Panel name:	SPB150WEF ENERGY SPB150WEFB ENERGY	SPB160WEF ENERGY SPB160WEFB ENERGY	SPB170WEF ENERGY SPB170WEFB ENERGY	SPB180WEF ENERGY SPB180WEFB ENERGY	SPB200WEF ENERGY SPB200WEFB ENERGY	SPB210WEF ENERGY SPB210WEFB ENERGY	SPB210WEF ENERGY SPB210WEFB ENERGY	Reference
Year when CE mark was affixed:	17					22	17	
Thickness of external facing:	0,50 - 0,70							mm (EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120 S280GD+ZA255							(EN 10346)
Coating on external facing:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS $\leq 4,0 \text{ MJ/m}^2$							(EN 10169)
External facing profile (module 1100 mm):	L, M, R275, R550, F							
External facing profile (module 1000 mm):	L, M, R28, R250, R500, F							
Internal facing - steel grade:	0,50 - 0,70							mm (EN 10143)
Coating of internal facing:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100 S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095							(EN 10346)
Internal facing - steel grade:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS $\leq 4,0 \text{ MJ/m}^2$							(EN 10169)
Internal facing profile:	L25, L, F							
Core material:	MW							
Density of core material:	85							kg/m ³
Nominal panel thickness:	150	160	170	180	203	210	230	mm
Mass (module 1100 mm):	23.9	24.8	25.7	26.6	28.4	29.3	31.1	kg/m ²
Mass (module 1000 mm):	24.0	24.9	25.8	26.7	28.5	29.4	31.2	kg/m ²
Mechanical resistance:								
Tensile strength:	0.08	0.08	0.08	0.08	0.07	0.07	0.07	MPa
Shear strength:	0.06	0.06	0.06	0.06	0.055	0.050	0.050	MPa
Reduced long term shear strength:	0.03	0.03	0.03	0.03	0.028	0.025	0.025	MPa
Shear modulus (core):	2.5	2.5	2.5	2.5	2.5	2.5	2.5	MPa
Compressive strength (core):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	MPa
Creep coefficient t=2000h:	0.37	0.37	0.37	0.37	0.37	0.37	0.37	
Creep coefficient t=10000h:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
Wrinkling strength (external face):								
- in span	110	110	110	110	110	105	105	MPa
- in span, elevated temperature	104	104	104	104	104	99	99	MPa
- at central support	85	85	85	85	85	80	80	MPa
- at central support, elevated temperature	76	76	76	76	76	70	70	MPa
Wrinkling strength (internal face):								
- in span	110	110	110	110	110	105	105	MPa
- at internal support	63	63	63	63	63	58	58	MPa
Other properties:								
Thermal transmittance, $U_{d,s}$:	0.26	0.24	0.23	0.22	0.19	0.19	0.17	W/m ² K
Thermal conductivity of the core, $\lambda_{\text{Declared}}$:	0.040							W/mK
Reaction to fire:	A2-s1, d0							Class (EN 13501-1)
Fire resistance (wall, horizontal):	EI 180							Class (EN 13501-2)
Fire resistance (wall, vertical):	EI 180							Class (EN 13501-2)
Fire resistance (ceiling):	EI 120							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 _{tr}):	29 (-2; -4)							dB (EN ISO 717-1)
Sound absorption, α_w :	0.1							(EN ISO 11654)
Durability:	Pass - all colours							

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

Attachment 4 to Declaration of Performance 53/MW/OBO

Panel type:	SPB WEE, SPB WEEB							
Reference to harmonized standard:	EN 14509:2013							
Intended use:	Internal or external walls							
Panel name:	SPB160WEE SPB150WEEB	SPB170WEE SPB170WEEB	SPB180WEE SPB180WEEB	SPB200WEE SPB200WEEB	SPB210WEE SPB210WEEB	SPB230WEE SPB230WEEB	Reference	
Year when CE mark was affixed:	15				22	15		
Thickness of external facing:	0,50 - 0,70						mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120 S280GD+ZA255							(EN 10346)
Coating on external facing:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²							(EN 10169)
External facing profile (module 1100 mm):	L, M, R275, R550, F							
External facing profile (module 1000 mm):	L, M, R28, R250, R500, F							
Internal facing - steel grade:	0,50 - 0,70						mm	(EN 10143)
Coating of internal facing:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100 S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095							(EN 10346)
Internal facing - steel grade:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²							(EN 10169)
Internal facing profile:	L25, L, F							
Core material:	MW							
Density of core material:	70						kg/m ³	
Nominal panel thickness:	160	170	183	203	210	230	mm	
Mass (module 1100 mm):	21.6	22.3	23.0	24.4	25.1	26.5	kg/m ²	
Mass (module 1000 mm):	21.7	22.4	23.1	24.5	25.2	26.6	kg/m ²	
Mechanical resistance:								
Tensile strength:	0.055	0.055	0.055	0.055	0.055	0.055	MPa	
Shear strength:	0.035	0.035	0.035	0.035	0.031	0.031	MPa	
Reduced long term shear strength:	-	-	-	-	-	-	MPa	
Shear modulus (core):	1.05	1.05	1.05	1.05	1.05	1.05	MPa	
Compressive strength (core):	0.04	0.04	0.04	0.04	0.04	0.04	MPa	
Creep coefficient t=2000h:	-	-	-	-	-	-		
Creep coefficient t=100000h:	-	-	-	-	-	-		
Wrinkling strength (external face):								
- in span	75	75	75	75	68	68	MPa	
- in span, elevated temperature	65	65	65	65	58	58	MPa	
- at central support	-	-	-	-	-	-	MPa	
- at central support, elevated temperature	-	-	-	-	-	-	MPa	
Wrinkling strength (internal face):								
- in span	75	75	75	75	68	68	MPa	
- at internal support	-	-	-	-	-	-	MPa	
Other properties:								
Thermal transmittance, U _{d,s} :	0.23	0.22	0.20	0.18	0.18	0.16	W/m ² K	
Thermal conductivity of the core, λ _{Declared} :	0.038						W/mK	
Reaction to fire:	A2-s1, d0						Class	(EN 13501-1)
Fire resistance (wall, horizontal):	EI 60						Class	(EN 13501-2)
Fire resistance (wall, vertical):	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 _{tr}):	29 (-4; -6)						dB	(EN ISO 717-1)
Sound absorption, α _w :	0.1							(EN ISO 11654)
Durability:	Pass - all colours							

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

Attachment 5 to Declaration of Performance 53/MW/OBO

Panel type:	SPB WE, SPB WEB												
Reference to harmonized standard:	EN 14509:2013												
Intended use:	Internal or external walls, ceilings												
Panel name:	SPB80WE SPB80WEB	SPB100WE SPB100WEB	SPB120WE SPB120WEB	SPB140WE SPB140WEB	SPB150WE SPB150WEB	SPB160WE SPB160WEB	SPB170WE SPB170WEB	SPB180WE SPB180WEB	SPB200WE SPB200WEB	SPB210WE SPB210WEB	SPB230WE SPB230WEB	Reference	
Year when CE mark was affixed:	15									21	15		
Thickness of external facing:	0,50 - 0,70											mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120 S280GD+ZA255												(EN 10346)
Coating on external facing:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²												(EN 10169)
External facing profile (module 1100 mm):	L, M, R275, R550, F												
External facing profile (module 1000 mm):	L, M, R28, R250, R500, F												
Internal facing - steel grade:	0,50 - 0,70											mm	(EN 10143)
Coating of internal facing:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095												(EN 10346)
Internal facing - steel grade:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²												(EN 10169)
Internal facing profile:	L25, L, F												
Core material:	MW												
Density of core material:	115	85										kg/m ³	
Nominal panel thickness:	80	100	120	140	150	160	170	180	203	208	230	mm	
Mass (module 1100 mm):	20.0	19.4	21.2	23.0	23.9	24.8	25.7	26.6	28.4	29.2	31.1	kg/m ²	
Mass (module 1000 mm):	20.1	19.5	21.3	23.1	24.0	24.9	25.8	26.7	28.5	29.2	31.2	kg/m ²	
Mechanical resistance:													
Tensile strength:	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	MPa	
Shear strength:	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.055	0.050	0.050	MPa	
Reduced long term shear strength:	0.035	0.035	0.035	0.035	0.035	0.035	0.03	0.03	0.028	0.025	0.025	MPa	
Shear modulus (core):	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	MPa	
Compressive strength (core):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	MPa	
Creep coefficient t=2000h:	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37		
Creep coefficient t=100000h:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45		
Wrinkling strength (external face):													
- in span	110	110	110	110	110	110	110	110	110	105	105	MPa	
- in span, elevated temperature	104	104	104	104	104	104	104	104	104	99	99	MPa	
- at central support	85	85	85	85	85	85	85	85	85	80	80	MPa	
- at central support, elevated temperature	76	76	76	76	76	76	76	76	76	70	70	MPa	
Wrinkling strength (internal face):													
- in span	110	110	110	110	110	110	110	110	110	105	105	MPa	
- at internal support	63	63	63	63	63	63	63	63	63	58	58	MPa	
Other properties:													
Thermal transmittance, U _{a,s} :	0.54	0.38	0.32	0.28	0.26	0.24	0.23	0.22	0.19	0.19	0.17	W/m ² K	
Thermal conductivity of the core, λ _{Declared} :	0.043	0.040									W/mK		
Reaction to fire:	A2-s1, d0											Class	(EN 13501-1)
Fire resistance (wall, horizontal):	NPD	EI 30	EI 60							Class	(EN 13501-2)		
Fire resistance (wall, vertical):	NPD	EI 30	EI 60							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 _a (C; C _b):	29 (-2; -3)	29 (-2; -4)									dB	(EN ISO 717-1)	
Sound absorption, α _w :	0.1												(EN ISO 11654)
Durability:	Pass - all colours												

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

Attachment 6 to Declaration of Performance 53/MW/OBO

Panel type:	SPB WEF, SPB WEFB									
Reference to harmonized standard:	EN 14509:2013									
Intended use:	Internal or external walls, ceilings									
Panel name:	SPB150WEF SPB150WEFB	SPB160WEF SPB160WEFB	SPB170WEF SPB170WEFB	SPB180WEF SPB180WEFB	SPB200WEF SPB200WEFB	SPB210WEF SPB210WEFB	SPB230WEF SPB230WEFB	Reference		
Year when CE mark was affixed:	17					22		17		
Thickness of external facing:	0,50 - 0,70							mm	(EN 10143)	
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120 S280GD+ZA255								(EN 10346)	
Coating on external facing:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m²								(EN 10169)	
External facing profile (module 1100 mm):	L, M, R275, R550, F									
External facing profile (module 1000 mm):	L, M, R28, R250, R500, F									
Internal facing - steel grade:	0,50 - 0,70							mm	(EN 10143)	
Coating of internal facing:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100 S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095								(EN 10346)	
Internal facing - steel grade:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m²								(EN 10169)	
Internal facing profile:	L25, L, F									
Core material:	MW									
Density of core material:	85							kg/m³		
Nominal panel thickness:	150	160	170	180	203	210	230	mm		
Mass (module 1100 mm):	23.9	24.8	25.7	26.6	28.4	29.3	31.1	kg/m²		
Mass (module 1000 mm):	24.0	24.9	25.8	26.7	28.5	29.4	31.2	kg/m²		
Mechanical resistance:										
Tensile strength:	0.08	0.08	0.08	0.08	0.07	0.07	0.07	MPa		
Shear strength:	0.06	0.06	0.06	0.06	0.055	0.050	0.050	MPa		
Reduced long term shear strength:	0.03	0.03	0.03	0.03	0.028	0.025	0.025	MPa		
Shear modulus (core):	2.5	2.5	2.5	2.5	2.5	2.5	2.5	MPa		
Compressive strength (core):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	MPa		
Creep coefficient t=2000h:	0.37	0.37	0.37	0.37	0.37	0.37	0.37			
Creep coefficient t=100000h:	0.45	0.45	0.45	0.45	0.45	0.45	0.45			
Wrinkling strength (external face):										
- in span	110	110	110	110	110	105	105	MPa		
- in span, elevated temperature	104	104	104	104	104	99	99	MPa		
- at central support	85	85	85	85	85	80	80	MPa		
- at central support, elevated temperature	76	76	76	76	76	70	70	MPa		
Wrinkling strength (internal face):										
- in span	110	110	110	110	110	105	105	MPa		
- at internal support	63	63	63	63	63	58	58	MPa		
Other properties:										
Thermal transmittance, U _{d,s} :	0.26	0.24	0.23	0.22	0.19	0.19	0.17	W/m²K		
Thermal conductivity of the core, λ _{Declared} :	0.040							W/mK		
Reaction to fire:	A2-s1, d0							Class	(EN 13501-1)	
Fire resistance (wall, horizontal):	EI 180							Class	(EN 13501-2)	
Fire resistance (wall, vertical):	EI 180							Class	(EN 13501-2)	
Fire resistance (ceiling):	EI 120							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 _p):	29 (-2; -4)							dB	(EN ISO 717-1)	
Sound absorption, α _w :	0.1								(EN ISO 11654)	
Durability:	Pass - all colours									

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

Attachment 7 to Declaration of Performance 53/MW/OBO

Panel type:	SP2D WE											
Reference to harmonized standard:	EN 14509:2013											
Intended use:	Internal or external walls											
Panel name:	SP2D100WE	SP2D120WE	SP2D140WE	SP2D150WE	SP2D160WE	SP2D170WE	SP2D180WE	SP2D200WE	SP2D230WE	Reference		
Year when CE mark was affixed:	15											
Thickness of external facing:	0,50 - 0,70										mm	(EN 10143)
External facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZM140, S280GD+ZM120 S280GD+ZA255											(EN 10346)
Coating of external facing:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²											(EN 10169)
External facing profile:	L, M, R250, R500, F											
Thickness of internal facing:	0,50 - 0,70										mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z275, S280GD+Z190, S280GD+ZA255, S280GD+Z100, S280GD+ZM140, S280GD+ZM120, S280GD+ZM100, S280GD+ZA095											(EN 10346)
Coating of internal facing:	Polyester, Hiarc, Hiarc max, PVC, Csafe or other colour coating with PCS ≤ 4,0 MJ/m ²											(EN 10169)
Internal facing profile:	L, F											
Core material:	MW											
Density of core material:	85										kg/m ³	
Nominal panel thickness:	100	120	140	150	160	170	180	200	230	mm		
Mass:	20.0	21.8	23.6	24.5	25.4	26.3	27.2	29.0	31.7	kg/m ²		
Mechanical resistance:												
Tensile strength:	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	MPa		
Shear strength:	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.055	0.050	MPa		
Reduced long term shear strength:	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.028	0.025	MPa		
Shear modulus (core):	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	MPa		
Compressive strength (core):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	MPa		
Creep coefficient t=2000h:	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37			
Creep coefficient t=100000h:	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45			
Wrinkling strength (external face):												
- in span	110	110	110	110	110	110	110	110	105	MPa		
- in span, elevated temperature	104	104	104	104	104	104	104	104	99	MPa		
- at central support	85	85	85	85	85	85	85	85	80	MPa		
- at central support, elevated temperature	76	76	76	76	76	76	76	76	70	MPa		
Wrinkling strength (internal face):												
- in span	110	110	110	110	110	110	110	110	105	MPa		
- at internal support	63	63	63	63	63	63	63	63	58	MPa		
Other properties:												
Thermal transmittance, U _{g,s} :	0.39	0.32	0.28	0.27	0.24	0.23	0.22	0.20	0.17	W/m ² K		
Thermal conductivity of the core, λ _{Declared} :	0.040										W/mK	
Reaction to fire:	A2-s1, d0										Class	(EN 13501-1)
Fire resistance (wall, horizontal):	NPD						EI 60 (i→o) EI 120 (o→i)				Class	(EN 13501-2)
Fire resistance (wall, vertical):	EI 30 (i→o) EI 30 (o→i)		EI 60 (i→o) EI 60 (o→i)		EI 60 (i→o) EI 90 (o→i)		EI 60 (i→o) EI 120 (o→i)				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 _{tr}):	29 (-2; -4)										dB	(EN ISO 717-1)
Sound absorption, α _w :	0.1											(EN ISO 11654)
Durability:	Pass - all colours											

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