



DECLARATION OF PERFORMANCE No. 1/MW/ALA

1. Unique identification code of product-type:

Sandwich panel SPA E, SPA E ENERGY, SPA F, SPA F ENERGY, SPA S, SPA S ENERGY, SPA I, SPA E LIFE, SPA E LIFE ENERGY, SPA EE, SPA EE ENERGY with mineral wool core

SPA80E	SPA80S	SPA150E LIFE
SPA100E	SPA100S	SPA200E LIFE
SPA125E	SPA125S	SPA230E LIFE
SPA150E	SPA150S	SPA150E LIFE ENERGY
SPA175E	SPA175S	SPA200E LIFE ENERGY
SPA200E	SPA200S	SPA230E LIFE ENERGY
SPA230E	SPA230S	SPA200+EE
SPA150E ENERGY	SPA150S ENERGY	SPA200+EE ENERGY
SPA175E ENERGY	SPA200S ENERGY	
SPA200E ENERGY	SPA230S ENERGY	
SPA230E ENERGY	SPA80I	
SPA80F	SPA100I	
SPA100F	SPA125I	
SPA125F	SPA150I	
SPA150F	SPA175I	
SPA175F	SPA200I	
SPA200F	SPA230I	
SPA230F		
SPA150F ENERGY		
SPA200F ENERGY		
SPA230F ENERGY		

2. Intended use: Self-supporting metal faced insulating panels for use in buildings; external walls, internal walls, roofs and ceilings.
- Detailed intended use refers to the sandwich panel type – information in attachments to this declaration.
3. Manufacturer: Ruukki Construction Oy.
Mäkeläntie 9
FI-62900 Alajärvi
Finland
4. Authorized representative: Not applicable

5. AVCP level: reaction to fire: 1, 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: Eurofins Expert Services Oy (0809)
Certificate of Conformity 0809-CPR-1137
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/b2b/support/certificates-and-declarations/sandwich-panel-certificates-and-approvals>

Signed for and on behalf of the manufacturer by:



Adam Korol
Senior Vice President
Building Components

Helsinki, 25.03.2020

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

ENERGY PANELS:

SPA E ENERGY	Page 4
SPA F ENERGY	Page 5
SPA S ENERGY	Page 6
SPA E LIFE ENERGY	Page 7
SPA EE ENERGY.....	Page 8

OTHER PANELS:

SPA E	Page 9
SPA F	Page 10
SPA S	Page 11
SPA I	Page 12
SPA E LIFE	Page 13
SPA EE.....	Page 14

Attachment 1 to Declaration of Performance 1/MW/ALA

Panel type:	SPA E ENERGY				
Reference to harmonized standard:	EN 14509:2013				
Year when CE-marking was affixed:	10				
Intended use:	External walls (single spans)				
Panel thickness:	150	175	200	230	Reference
Thickness of external facing:	0.50; 0.60; 0.70				mm (EN 10143)
External facing - steel grade:	S280GD+Z				(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70				mm (EN 10143)
Internal facing - steel grade:	S280GD+Z				(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Core material:	MW				
Density of core material:	110				kg/m ³
Nominal panel thickness:	152	174	198	232	mm
Mass:	27,4	29,8	32,5	36,2	kg/m ²
Mechanical resistance:					
Tensile strength:	0,086	0,086	0,086	0,086	MPa
Shear strength:	0,045	0,045	0,045	0,045	MPa
Reduced long term shear strength:	NPD (not applicable)				MPa
Shear modulus (core):	3,7	3,7	3,7	3,7	MPa
Compressive strength:	0,060	0,060	0,060	0,060	MPa
Creep coefficient t=2000h:	NPD (not applicable)				
Creep coefficient t=100000h:	NPD (not applicable)				
Wrinkling strength (external face):					
- in span:	105	105	105	105	MPa
- in span, elevated temperature:	105	105	105	105	MPa
Wrinkling strength (internal face):					
- in span:	105	105	105	105	MPa
- in span, elevated temperature:	105	105	105	105	MPa
Resistance to point load:	NPD (not applicable)				
Repeated access load:	NPD (not applicable)				
Other properties:					
Thermal transmittance, U _{d,s} :	0,26	0,23	0,20	0,17	W/m ² K
Thermal conductivity of the core; λ_{Design} :	0,041				W/mK
Reaction to fire:	A2-s1,d0				Class (EN 13501-1)
Fire resistance (wall):	EI 180				Class (EN 13501-2)
Water permeability:	A				Class (EN 12865)
Air permeability:	C: 0.0232, n: 0.6115				(EN 12114)
Water vapour permeability:	Impermeable				
Airborne sound insulation; R _w (C;C _{tr}):	30 (-2;-4)	31 (-2;-4)	31 (-2;-3)		dB (EN ISO 717-1)
Sound absorption; α_w :	0,1				(EN ISO 11654)
Durability; DUR2:	Pass				

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

Attachment 2 to Declaration of Performance 1/MW/ALA

Panel type:	SPA F ENERGY				
Reference to harmonized standard:	EN 14509:2013				
Year when CE-marking was affixed:	10				
Intended use:	External walls (single spans)				
Panel thickness:	150	200	230	Reference	
Thickness of external facing:	0.50; 0.60; 0.70			mm	(EN 10143)
External facing - steel grade:	S280GD+Z				(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70			mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z				(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Core material:	MW				
Density of core material:	115			kg/m ³	
Nominal panel thickness:	152	198	232	mm	
Mass:	28,2	33,5	37,4	kg/m ²	
Mechanical resistance:					
Tensile strength:	0,15	0,15	0,15	MPa	
Shear strength:	0,054	0,054	0,054	MPa	
Reduced long term shear strength:	NPD (not applicable)			MPa	
Shear modulus (core):	2,5	2,5	2,5	MPa	
Compressive strength:	0,095	0,095	0,095	MPa	
Creep coefficient t=2000h:	NPD (not applicable)				
Creep coefficient t=100000h:	NPD (not applicable)				
Wrinkling strength (external face):					
- in span:	130	130	130	MPa	
- in span, elevated temperature:	130	130	130	MPa	
Wrinkling strength (internal face):					
- in span:	130	130	130	MPa	
- in span, elevated temperature:	130	130	130	MPa	
Resistance to point load:	NPD (not applicable)				
Repeated access load:	NPD (not applicable)				
Other properties:					
Thermal transmittance, U _{d,s} :	0,29	0,22	0,19	W/m ² K	
Thermal conductivity of the core; λ_{Design} :	0,045			W/mK	
Reaction to fire:	A2-s1,d0			Class	(EN 13501-1)
Fire resistance (wall):	EI 240			Class	(EN 13501-2)
Water permeability:	A			Class	(EN 12865)
Air permeability:	C: 0.0232, n: 0.6115				(EN 12114)
Water vapour permeability:	Impermeable				
Airborne sound insulation; R _w (C;C _{tr}):	31 (-4;-4)			dB	(EN ISO 717-1)
Sound absorption; α_w :	0,1				(EN ISO 11654)
Durability; DUR2:	Pass				

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

Attachment 3 to Declaration of Performance 1/MW/ALA

Panel type:	SPA S ENERGY				
Reference to harmonized standard:	EN 14509:2013				
Year when CE-marking was affixed:	10				
Intended use:	External walls (single spans)				
Panel thickness:	150	200	230	Reference	
Thickness of external facing:	0.50; 0.60; 0.70			mm	(EN 10143)
External facing - steel grade:	S280GD+Z				(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70			mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z				(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Core material:	MW				
Density of core material:	120			kg/m ³	
Nominal panel thickness:	152	198	232	mm	
Mass:	28,9	34,5	38,5	kg/m ²	
Mechanical resistance:					
Tensile strength:	0,15	0,15	0,15	MPa	
Shear strength:	0,085	0,076	0,071	MPa	
Reduced long term shear strength:	NPD (not applicable)			MPa	
Shear modulus (core):	6,8	6,8	6,8	MPa	
Compressive strength:	0,115	0,115	0,115	MPa	
Creep coefficient t=2000h:	NPD (not applicable)				
Creep coefficient t=100000h:	NPD (not applicable)				
Wrinkling strength (external face):					
- in span:	165	165	165	MPa	
- in span, elevated temperature:	165	165	165	MPa	
Wrinkling strength (internal face):					
- in span:	165	165	165	MPa	
- in span, elevated temperature:	165	165	165	MPa	
Resistance to point load:	NPD (not applicable)				
Repeated access load:	NPD (not applicable)				
Other properties:					
Thermal transmittance, U _{d,s} :	0,29	0,22	0,19	W/m ² K	
Thermal conductivity of the core; λ_{Design} :	0,045			W/mK	
Reaction to fire:	A2-s1,d0			Class	(EN 13501-1)
Fire resistance (wall):	EI 240			Class	(EN 13501-2)
Water permeability:	A			Class	(EN 12865)
Air permeability:	C: 0.0232, n: 0.6115				(EN 12114)
Water vapour permeability:	Impermeable				
Airborne sound insulation; R _w (C;C _{tr}):	31 (-2;-4)			dB	(EN ISO 717-1)
Sound absorption; α_w :	0,1				(EN ISO 11654)
Durability; DUR2:	Pass				

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

Attachment 4 to Declaration of Performance 1/MW/ALA

Panel type:	SPA E LIFE ENERGY				
Reference to harmonized standard:	EN 14509:2013				
Year when CE-marking was affixed:	12				
Intended use:	External walls (single spans)				
Panel thickness:	150	200	230	Reference	
Thickness of external facing:	0.50; 0.60; 0.70			mm	(EN 10143)
External facing - steel grade:	S280GD+Z				(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70			mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z				(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Core material:	MW				
Density of core material:	58			kg/m ³	
Nominal panel thickness:	152	198	232	mm	
Mass:	19,5	22,2	24,2	kg/m ²	
Mechanical resistance:					
Tensile strength:	0,10	0,10	0,095	MPa	
Shear strength:	0.045	0,040	0,036	MPa	
Reduced long term shear strength:	NPD (not applicable)			MPa	
Shear modulus (core):	2,5	2,5	2,5	MPa	
Compressive strength:	0,056	0,054	0,056	MPa	
Creep coefficient t=2000h:	NPD (not applicable)				
Creep coefficient t=100000h:	NPD (not applicable)				
Wrinkling strength (external face):					
- in span:	105	105	105	MPa	
- in span, elevated temperature:	105	105	105	MPa	
Wrinkling strength (internal face):					
- in span:	105	105	105	MPa	
- in span, elevated temperature:	105	105	105	MPa	
Resistance to point load:	NPD (not applicable)				
Repeated access load:	NPD (not applicable)				
Other properties:					
Thermal transmittance, U _{d,s} :	0,25	0,19	0,16	W/m ² K	
Thermal conductivity of the core; λ_{Design} :	0,039			W/mK	
Reaction to fire:	A2-s1,d0			Class	(EN 13501-1)
Fire resistance (wall):	EI 60			Class	(EN 13501-2)
Water permeability:	A			Class	(EN 12865)
Air permeability:	C: 0.0232, n: 0.6115				(EN 12114)
Water vapour permeability:	Impermeable				
Airborne sound insulation; R _w (C;C _{tr}):	29 (-2;-3)	29 (-2;-4)		dB	(EN ISO 717-1)
Sound absorption; α_w :	0,1				(EN ISO 11654)
Durability; DUR2:	Pass				

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Attachment 5 to Declaration of Performance 1/MW/ALA

Panel type:	SPA EE ENERGY		
Reference to harmonized standard:	EN 14509:2013		
Year when CE-marking was affixed:	20		
Intended use:	External walls (single spans)		
Panel thickness:	200+	Reference	
Thickness of external facing:	0.50; 0.60; 0.70	mm	(EN 10143)
External facing - steel grade:	S280GD+Z		(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with $PCS \leq 4,0 \text{ MJ/m}^2$		(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70	mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z		(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with $PCS \leq 4,0 \text{ MJ/m}^2$		(EN 10169)
Core material:	MW		
Density of core material:	70	kg/m ³	
Nominal panel thickness:	202	mm	
Mass:	24,8	kg/m ²	
Mechanical resistance:			
Tensile strength:	0,100	MPa	
Shear strength:	0,042	MPa	
Reduced long term shear strength:	NPD (not applicable)	MPa	
Shear modulus (core):	2,8	MPa	
Compressive strength:	0,045	MPa	
Creep coefficient t=2000h:	NPD (not applicable)		
Creep coefficient t=100000h:	NPD (not applicable)		
Wrinkling strength (external face):			
- in span:	90	MPa	
- in span, elevated temperature:	90	MPa	
Wrinkling strength (internal face):			
- in span:	90	MPa	
- in span, elevated temperature:	90	MPa	
Resistance to point load:	NPD (not applicable)		
Repeated access load:	NPD (not applicable)		
Other properties:			
Thermal transmittance, $U_{d,s}$:	0,18	W/m ² K	
Thermal conductivity of the core; λ_{Design} :	0,038	W/mK	
Reaction to fire:	A2-s1,d0	Class	(EN 13501-1)
Fire resistance (wall):	E1180	Class	(EN 13501-2)
Water permeability:	A	Class	(EN 12865)
Air permeability:	C: 0.0232, n: 0.6115		(EN 12114)
Water vapour permeability:	Impermeable		
Airborne sound insulation; $R_w(C;C_{tr})$:	28 (-2;-4)	dB	(EN ISO 717-1)
Sound absorption; α_w :	0,1		(EN ISO 11654)
Durability; DUR2:	Pass		

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Attachment 6 to Declaration of Performance 1/MW/ALA

Panel type:	SPA E								
Reference to harmonized standard:	EN 14509:2013								
Year when CE-marking was affixed:	10								
Intended use:	External walls (single spans)								
Panel thickness:	100	125	150	175	200	230	Reference		
Thickness of external facing:	0.50; 0.60; 0.70						mm	(EN 10143)	
External facing - steel grade:	S280GD+Z							(EN 10346)	
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²							(EN 10169)	
Thickness of internal facing:	0.50; 0.60; 0.70						mm	(EN 10143)	
Internal facing - steel grade:	S280GD+Z							(EN 10346)	
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²							(EN 10169)	
Core material:	MW								
Density of core material:	110						kg/m ³		
Nominal panel thickness:	97	125	152	174	198	232	mm		
Mass:	21,4	24,5	27,4	29,8	32,5	36,2	kg/m ²		
Mechanical resistance:									
Tensile strength:	0,086	0,086	0,086	0,086	0,086	0,086	MPa		
Shear strength:	0,045	0,045	0,045	0,045	0,045	0,045	MPa		
Reduced long term shear strength:	NPD (not applicable)						MPa		
Shear modulus (core):	3,7	3,7	3,7	3,7	3,7	3,7	MPa		
Compressive strength:	0,060	0,060	0,060	0,060	0,060	0,060	MPa		
Creep coefficient t=2000h:	NPD (not applicable)								
Creep coefficient t=100000h:	NPD (not applicable)								
Wrinkling strength (external face):									
- in span:	105	105	105	105	105	105	MPa		
- in span, elevated temperature:	105	105	105	105	105	105	MPa		
Wrinkling strength (internal face):									
- in span:	105	105	105	105	105	105	MPa		
- in span, elevated temperature:	105	105	105	105	105	105	MPa		
Resistance to point load:	NPD (not applicable)								
Repeated access load:	NPD (not applicable)								
Other properties:									
Thermal transmittance, U _{d,s} :	0,41	0,32	0,26	0,23	0,20	0,17	W/m ² K		
Thermal conductivity of the core; λ_{Design} :	0,041						W/mK		
Reaction to fire:	A2-s1,d0						Class	(EN 13501-1)	
Fire resistance (wall):	EI 90	EI 120	EI 180				Class	(EN 13501-2)	
Water permeability:	A						Class	(EN 12865)	
Air permeability:	C: 0.29, n: 0.0048							(EN 12114)	
Water vapour permeability:	Impermeable								
Airborne sound insulation; R _w (C;C _{tr}):	29 (-2;-4)	30 (-2;-4)		31 (-2;-4)	31 (-2;-3)		dB	(EN ISO 717-1)	
Sound absorption; α_w :	0,1							(EN ISO 11654)	
Durability; DUR2:	Pass								

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Attachment 7 to Declaration of Performance 1/MW/ALA

Panel type:	SPA F								
Reference to harmonized standard:	EN 14509:2013								
Year when CE-marking was affixed:	10								
Intended use:	External walls, Internal walls (single spans)								
Panel thickness:	80	100	125	150	175	200	230	Reference	
Thickness of external facing:	0.50; 0.60; 0.70							mm	(EN 10143)
External facing - steel grade:	S280GD+Z								(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²								(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70							mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z								(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²								(EN 10169)
Core material:	MW								
Density of core material:	115	120	115					kg/m ³	
Nominal panel thickness:	80	97	125	152	174	198	232	mm	
Mass:	19,7	22,3	25,1	28,2	30,7	33,5	37,4	kg/m ²	
Mechanical resistance:									
Tensile strength:	0,15	0,15	0,15	0,15	0,15	0,15	0,15	MPa	
Shear strength:	0,054	0,054	0,054	0,054	0,054	0,054	0,054	MPa	
Reduced long term shear strength:	NPD (not applicable)							MPa	
Shear modulus (core):	2,5	2,5	2,5	2,5	2,5	2,5	2,5	MPa	
Compressive strength:	0,095	0,095	0,095	0,095	0,095	0,095	0,095	MPa	
Creep coefficient t=2000h:	NPD (not applicable)								
Creep coefficient t=100000h:	NPD (not applicable)								
Wrinkling strength (external face):									
- in span:	130	130	130	130	130	130	130	MPa	
- in span, elevated temperature:	130	130	130	130	130	130	130	MPa	
Wrinkling strength (internal face):									
- in span:	130	130	130	130	130	130	130	MPa	
- in span, elevated temperature:	130	130	130	130	130	130	130	MPa	
Resistance to point load:	NPD (not applicable)								
Repeated access load:	NPD (not applicable)								
Other properties:									
Thermal transmittance, U _{d,s} :	0,54	0,45	0,35	0,29	0,25	0,22	0,19	W/m ² K	
Thermal conductivity of the core; λ_{Design} :	0,045							W/mK	
Reaction to fire:	A2-s1,d0							Class	(EN 13501-1)
Fire resistance (wall):	EI 60	EI 120	EI 180	EI 240			Class	(EN 13501-2)	
Water permeability:	A							Class	(EN 12865)
Air permeability:	C: 0.29, n: 0.0048								(EN 12114)
Water vapour permeability:	Impermeable								
Airborne sound insulation; R _w (C:C _{tr}):	29 (-2;-4)	30 (-3;-3)	31 (-3;-3)	31 (-4;-4)			dB	(EN ISO 717-1)	
Sound absorption; α_w :	0,1								(EN ISO 11654)
Durability; DUR2:	Pass								

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

Attachment 8 to Declaration of Performance 1/MW/ALA

Panel type:	SPA S								
Reference to harmonized standard:	EN 14509:2013								
Year when CE-marking was affixed:	10								
Intended use:	External walls, Ceilings (single spans)								
Panel thickness:	80	100	125	150	175	200	230	Reference	
Thickness of external facing:	0.50; 0.60; 0.70							mm	(EN 10143)
External facing - steel grade:	S280GD+Z								(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²								(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70							mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z								(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²								(EN 10169)
Core material:	MW								
Density of core material:	120							kg/m ³	
Nominal panel thickness:	80	97	125	152	174	198	232	mm	
Mass:	20,1	22,3	25,7	28,9	31,6	34,5	38,5	kg/m ²	
Mechanical resistance:									
Tensile strength:	0,150	0,150	0,150	0,150	0,150	0,150	0,150	MPa	
Shear strength:	0,100	0,100	0,100	0,085	0,081	0,076	0,071	MPa	
Reduced long term shear strength:	0,070	0,070	0,070	0,059	0,056	0,053	0,049	MPa	
Shear modulus (core):	6,8	6,8	6,8	6,8	6,8	6,8	6,8	MPa	
Compressive strength:	0,115	0,115	0,115	0,115	0,115	0,115	0,115	MPa	
Creep coefficient t=2000h:	0,40								
Creep coefficient t=100000h:	0,45								
Wrinkling strength (external face):									
- in span:	165	165	165	165	165	165	165	MPa	
- in span, elevated temperature:	165	165	165	165	165	165	165	MPa	
Wrinkling strength (internal face):									
- in span:	165	165	165	165	165	165	165	MPa	
- in span, elevated temperature:	165	165	165	165	165	165	165	MPa	
Resistance to point load:	1.2 kN 5,7 m								
Repeated access load:	Unsuitable for repeated loads without additional protection								
Other properties:									
Thermal transmittance, U _{d,s} :	0,54	0,45	0,35	0,29	0,25	0,22	0,19	W/m ² K	
Thermal conductivity of the core; λ_{Design} :	0,045							W/mK	
Reaction to fire:	A2-s1,d0							Class	(EN 13501-1)
Fire resistance (wall):	EI 60	EI 120	EI 180	EI 240				Class	(EN 13501-2)
Fire resistance (ceiling):	NPD	EI 120							
Water permeability:	A							Class	(EN 12865)
Air permeability:	C: 0.29, n: 0.0048								(EN 12114)
Water vapour permeability:	Impermeable								
Airborne sound insulation; R _w (C:C _{tr}):	29 (-2;-4)	30 (-3;-3)	31 (-2;-3)					dB	(EN ISO 717-1)
Sound absorption; α_w :	0,1								(EN ISO 11654)
Durability; DUR2:	Pass								

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Attachment 9 to Declaration of Performance 1/MW/ALA

Panel type:	SPA I								
Reference to harmonized standard:	EN 14509:2013								
Year when CE-marking was affixed:	10								
Intended use:	Internal walls (single spans)								
Panel thickness:	100	125	150	175	200	230	Reference		
Thickness of external facing:	0.50; 0.60; 0.70						mm	(EN 10143)	
External facing - steel grade:	S280GD+Z							(EN 10346)	
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²							(EN 10169)	
Thickness of internal facing:	0.50; 0.60; 0.70						mm	(EN 10143)	
Internal facing - steel grade:	S280GD+Z							(EN 10346)	
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²							(EN 10169)	
Core material:	MW								
Density of core material:	110						kg/m ³		
Nominal panel thickness:	97	125	152	174	198	232	mm		
Mass:	21,4	24,5	27,4	29,8	32,5	36,2	kg/m ²		
Mechanical resistance:									
Tensile strength:	0,086	0,086	0,086	0,086	0,086	0,086	MPa		
Shear strength:	0,045	0,045	0,045	0,045	0,045	0,045	MPa		
Reduced long term shear strength:	NPD (not applicable)						MPa		
Shear modulus (core):	3,7	3,7	3,7	3,7	3,7	3,7	MPa		
Compressive strength:	0,060	0,060	0,060	0,060	0,060	0,060	MPa		
Creep coefficient t=2000h:	NPD (not applicable)								
Creep coefficient t=100000h:	NPD (not applicable)								
Wrinkling strength (external face):									
- in span:	105	105	105	105	105	105	MPa		
- in span, elevated temperature:	105	105	105	105	105	105	MPa		
Wrinkling strength (internal face):									
- in span:	105	105	105	105	105	105	MPa		
- in span, elevated temperature:	105	105	105	105	105	105	MPa		
Resistance to point load:	NPD (not applicable)								
Repeated access load:	NPD (not applicable)								
Other properties:									
Thermal transmittance, U _{d,s} :	0,41	0,32	0,26	0,23	0,20	0,17	W/m ² K		
Thermal conductivity of the core; λ_{Design} :	0,041						W/mK		
Reaction to fire:	A2-s1,d0						Class	(EN 13501-1)	
Fire resistance (wall):	EI 90	EI 120	EI 180				Class	(EN 13501-2)	
Water permeability:	A						Class	(EN 12865)	
Air permeability:	C: 0.29, n: 0.0048							(EN 12114)	
Water vapour permeability:	Impermeable								
Airborne sound insulation; R _w (C;C _{tr}):	29 (-2;-4)	30 (-2;-4)		31 (-2;-4)	31 (-2;-3)		dB	(EN ISO 717-1)	
Sound absorption; α_w :	0,1							(EN ISO 11654)	
Durability; DUR2:	Pass								

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Attachment 10 to Declaration of Performance 1/MW/ALA

Panel type:	SPA E LIFE				
Reference to harmonized standard:	EN 14509:2013				
Year when CE-marking was affixed:	12				
Intended use:	External walls (single spans)				
Panel thickness:	150	200	230	Reference	
Thickness of external facing:	0.50; 0.60; 0.70			mm	(EN 10143)
External facing - steel grade:	S280GD+Z				(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70			mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z				(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with PCS \leq 4,0 MJ/m ²				(EN 10169)
Core material:	MW				
Density of core material:	58			kg/m ³	
Nominal panel thickness:	152	198	232	mm	
Mass:	19,5	22,2	24,2	kg/m ²	
Mechanical resistance:					
Tensile strength:	0,10	0,10	0,095	MPa	
Shear strength:	0.045	0,040	0,036	MPa	
Reduced long term shear strength:	NPD (not applicable)			MPa	
Shear modulus (core):	2,5	2,5	2,5	MPa	
Compressive strength:	0,056	0,054	0,056	MPa	
Creep coefficient t=2000h:	NPD (not applicable)				
Creep coefficient t=100000h:	NPD (not applicable)				
Wrinkling strength (external face):					
- in span:	105	105	105	MPa	
- in span, elevated temperature:	105	105	105	MPa	
Wrinkling strength (internal face):					
- in span:	105	105	105	MPa	
- in span, elevated temperature:	105	105	105	MPa	
Resistance to point load:	NPD (not applicable)				
Repeated access load:	NPD (not applicable)				
Other properties:					
Thermal transmittance, U _{d,s} :	0,25	0,19	0,16	W/m ² K	
Thermal conductivity of the core; λ_{Design} :	0,039			W/mK	
Reaction to fire:	A2-s1,d0			Class	(EN 13501-1)
Fire resistance (wall):	EI 60	EI 60	EI 60	Class	(EN 13501-2)
Water permeability:	A			Class	(EN 12865)
Air permeability:	C: 0.29, n: 0.0048				(EN 12114)
Water vapour permeability:	Impermeable				
Airborne sound insulation; R _w (C;C _{tr}):	29 (-2;-3)	29 (-2;-4)		dB	(EN ISO 717-1)
Sound absorption; α_w :	0,1				(EN ISO 11654)
Durability; DUR2:	Pass				

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Attachment 11 to Declaration of Performance 1/MW/ALA

Panel type:	SPA EE		
Reference to harmonized standard:	EN 14509:2013		
Year when CE-marking was affixed:	20		
Intended use:	External walls (single spans)		
Panel thickness:	200+	Reference	
Thickness of external facing:	0.50; 0.60; 0.70	mm	(EN 10143)
External facing - steel grade:	S280GD+Z		(EN 10346)
Coating on external facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with $PCS \leq 4,0 \text{ MJ/m}^2$		(EN 10169)
Thickness of internal facing:	0.50; 0.60; 0.70	mm	(EN 10143)
Internal facing - steel grade:	S280GD+Z		(EN 10346)
Coating on internal facing:	Hiarc, Hiarc matt, Hiarc max, Polyester, Pural or other colour coating with $PCS \leq 4,0 \text{ MJ/m}^2$		(EN 10169)
Core material:	MW		
Density of core material:	70	kg/m ³	
Nominal panel thickness:	202	mm	
Mass:	24,8	kg/m ²	
Mechanical resistance:			
Tensile strength:	0,100	MPa	
Shear strength:	0,042	MPa	
Reduced long term shear strength:	NPD (not applicable)	MPa	
Shear modulus (core):	2,8	MPa	
Compressive strength:	0,045	MPa	
Creep coefficient t=2000h:	NPD (not applicable)		
Creep coefficient t=100000h:	NPD (not applicable)		
Wrinkling strength (external face):			
- in span:	90	MPa	
- in span, elevated temperature:	90	MPa	
Wrinkling strength (internal face):			
- in span:	90	MPa	
- in span, elevated temperature:	90	MPa	
Resistance to point load:	NPD (not applicable)		
Repeated access load:	NPD (not applicable)		
Other properties:			
Thermal transmittance, $U_{d,s}$:	0,18	W/m ² K	
Thermal conductivity of the core; λ_{Design} :	0,038	W/mK	
Reaction to fire:	A2-s1,d0	Class	(EN 13501-1)
Fire resistance (wall):	E1180	Class	(EN 13501-2)
Water permeability:	A	Class	(EN 12865)
Air permeability:	C: 0.29, n: 0.0048		(EN 12114)
Water vapour permeability:	Impermeable		
Airborne sound insulation; $R_w(C;C_{tr})$:	28 (-2;-4)	dB	(EN ISO 717-1)
Sound absorption; α_w :	0,1		(EN ISO 11654)
Durability; DUR2:	Pass		

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