

## DECLARATION OF PERFORMANCE

No MW FIRE/2023/1

1. **Unique identification code of the product-type:** MW FIRE sandwich panel (MW FIRE  $d_N t_{Ne}/t_{Ni}$ )
2. **Intended use/es:** external walls and wall cladding, walls (including partitions) and ceilings within the building envelope
3. **Manufacturer:** BALEX METAL Sp. z o.o., ul. Wejherowska 12C, 84-239 Bolszewo
4. **System/s of Assessment and Verification of Constancy of Performance:** 3
5. **Harmonised standard:** EN 14509:2013
6. **Notified body/ies:** Instytut Techniki Budowlanej (No 1488), Fires s.r.o (No 1396), Fire-Lab Sp. z o.o. (No 2904)
7. **Declared performances:** Table 1, Table 2, Table 3, Table 4, Table 5, Table 6, Table 7, Table 8, Table 9

Steel facing profiling designations:

M – micro-profile; L – lined; R – grooving; G – plain; 1L – clearline; 2L – double clearline;

Other designations:

$d_N$  – nominal thickness of the sandwich panel [mm]

$t_{Ne}/t_{Ni}$  – nominal facing thickness (external/internal) [mm]

NPD – No Performance Determined

\* - valid under the conditions specified in the classification report

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.

Signed for and on behalf of the manufacturer by:

Chief Executive Officer



Marek Dzikiewicz

Bolszewo, 04.04.2023

BALEX METAL Sp. z o.o.  
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P-191112216

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**DECLARATION OF PERFORMANCE**

**No MW FIRE/2023/1**

**Table 1:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
t<sub>Ne</sub>/t<sub>Ni</sub> = 0,5/0,5)

Nominal thickness d <sub>N</sub> [mm]		100	120	150	175	200	240	
<b>Essential characteristics</b>		<b>Performances</b>						
Mechanical resistance	Compressive strength σ <sub>m</sub> [MPa]	0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength f <sub>ct</sub> [MPa]	0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength f <sub>cv</sub> [MPa]	0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus G <sub>c</sub> [MPa]	3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient φ <sub>t</sub> (ceilings)	4,0 for t = 100 000 h						
	Shear strength f <sub>cv</sub> long-term [MPa] (ceilings)	0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress σ <sub>w</sub> [MPa] positive	M	142	139	134	123	112	94
		L	124	127	130	130	130	101
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress σ <sub>w</sub> [MPa] positive elevated temperature	M	142	139	134	123	112	94
		L	124	127	130	130	130	101
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress σ <sub>w</sub> [MPa] negative	L	150	141	128	120	112	98
		G	115	111	106	104	102	98
	Wrinkling stress σ <sub>w</sub> over support [MPa] negative	M	136	128	116	109	103	93
		L	104	108	114	108	103	93
		G, R, 1L, 2L	100	96	89	86	84	80
	Wrinkling stress σ <sub>w</sub> over support [MPa] negative elevated temperature	M	136	128	116	109	103	93
L		104	108	114	108	103	93	
G, R, 1L, 2L		100	96	89	86	84	80	
Wrinkling stress σ <sub>w</sub> over support [MPa] positive	L	128	124	120	114	108	98	
	G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient U <sub>d,s</sub> [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17	
	Thermal conductivity coefficient λ <sub>p</sub> [W/(mK)]	0,041						
Reaction to fire; classification*		A2-s1,d0						
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240	
Flexural tensile strength (ceilings)		NPD						
Water permeability; classification		NPD						
Air permeability; values n and C		NPD						
Water vapour permeability; coefficient μ		Pass						
Airborne sound insulation; ratings R <sub>w</sub> (C, C <sub>tr</sub> ) [dB]		NPD						
Sound absorption; rating α <sub>w</sub>		NPD						
Durability	DUR2	Pass						
	Resistance to point loads and access loads (ceilings)	NPD						
Dangerous substances		NPD						

**DECLARATION OF PERFORMANCE**

**No MW FIRE/2023/1**

**Table 2:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
t<sub>Ne</sub>/t<sub>Ni</sub> = 0,5/0,6)

Nominal thickness d <sub>N</sub> [mm]		100	120	150	175	200	240	
Mechanical resistance	<b>Essential characteristics</b>	<b>Performances</b>						
	Compressive strength $\sigma_m$ [MPa]	0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength $f_{ct}$ [MPa]	0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength $f_{cv}$ [MPa]	0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus $G_c$ [MPa]	3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient $\phi_t$ (ceilings)	4,0 for t = 100 000 h						
	Shear strength $f_{cv}$ long-term [MPa] (ceilings)	0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress $\sigma_w$ [MPa] positive	M	142	139	134	123	112	94
		L	124	127	130	130	130	101
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] positive elevated temperature	M	142	139	134	123	112	94
		L	124	127	130	130	130	101
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] negative	L	130	122	111	104	97	85
		G	115	111	106	104	102	98
	Wrinkling stress $\sigma_w$ over support [MPa] negative	M	136	128	116	109	103	93
		L	104	108	114	108	103	93
		G, R, 1L, 2L	100	96	89	86	84	80
	Wrinkling stress $\sigma_w$ over support [MPa] negative elevated temperature	M	136	128	116	109	103	93
		L	104	108	114	108	103	93
G, R, 1L, 2L		100	96	89	86	84	80	
Wrinkling stress $\sigma_w$ over support [MPa] positive	L	111	107	104	99	93	85	
	G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient $U_{d,s}$ [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17	
	Thermal conductivity coefficient $\lambda_D$ [W/(mK)]	0,041						
Reaction to fire; classification*		A2-s1,d0						
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240	
Flexural tensile strength (ceilings)		NPD						
Water permeability; classification		NPD						
Air permeability; values n and C		NPD						
Water vapour permeability; coefficient $\mu$		Pass						
Airborne sound insulation; ratings $R_w$ (C, C <sub>tr</sub> ) [dB]		NPD						
Sound absorption; rating $\alpha_w$		NPD						
Durability	DUR2	Pass						
	Resistance to point loads and access loads (ceilings)	NPD						
Dangerous substances		NPD						

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**Table 3:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
t<sub>Ne</sub>/t<sub>Ni</sub> = 0,5/0,7)

Nominal thickness d <sub>N</sub> [mm]		100	120	150	175	200	240	
<b>Essential characteristics</b>		<b>Performances</b>						
Mechanical resistance	Compressive strength $\sigma_m$ [MPa]	0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength $f_{ct}$ [MPa]	0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength $f_{cv}$ [MPa]	0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus $G_c$ [MPa]	3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient $\varphi_t$ (ceilings)	4,0 for t = 100 000 h						
	Shear strength $f_{cv}$ long-term [MPa] (ceilings)	0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress $\sigma_w$ [MPa] positive	M	142	139	134	123	112	94
		L	124	127	130	130	130	101
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] positive elevated temperature	M	142	139	134	123	112	94
		L	124	127	130	130	130	101
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] negative	L	116	109	99	93	87	76
		G	115	111	106	104	102	98
	Wrinkling stress $\sigma_w$ over support [MPa] negative	M	136	128	116	109	103	93
		L	104	108	114	108	103	93
		G, R, 1L, 2L	100	96	89	86	84	80
	Wrinkling stress $\sigma_w$ over support [MPa] negative elevated temperature	M	136	128	116	109	103	93
L		104	108	114	108	103	93	
G, R, 1L, 2L		100	96	89	86	84	80	
Wrinkling stress $\sigma_w$ over support [MPa] positive	L	99	96	93	88	83	76	
	G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient U <sub>d,s</sub> [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17	
	Thermal conductivity coefficient $\lambda_D$ [W/(mK)]	0,041						
Reaction to fire; classification*		A2-s1,d0						
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240	
Flexural tensile strength (ceilings)		NPD						
Water permeability; classification		NPD						
Air permeability; values n and C		NPD						
Water vapour permeability; coefficient $\mu$		Pass						
Airborne sound insulation; ratings R <sub>w</sub> (C, C <sub>tr</sub> ) [dB]		NPD						
Sound absorption; rating $\alpha_w$		NPD						
Durability	DUR2	Pass						
	Resistance to point loads and access loads (ceilings)	NPD						
Dangerous substances		NPD						

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**Table 4:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
t<sub>Ne</sub>/t<sub>Ni</sub> = 0,6/0,5)

Nominal thickness d <sub>N</sub> [mm]		100	120	150	175	200	240		
Mechanical resistance	<b>Essential characteristics</b>		<b>Performances</b>						
	Compressive strength $\bar{\sigma}_m$ [MPa]		0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength f <sub>ct</sub> [MPa]		0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength f <sub>cv</sub> [MPa]		0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus G <sub>C</sub> [MPa]		3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient $\varphi_t$ (ceilings)		4,0 for t = 100 000 h						
	Shear strength f <sub>cv</sub> long-term [MPa] (ceilings)		0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress $\bar{\sigma}_w$ [MPa] positive		M	123	120	116	106	97	81
			L	107	110	112	112	112	87
			G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\bar{\sigma}_w$ [MPa] positive elevated temperature		M	123	120	116	106	97	81
			L	107	110	112	112	112	87
			G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\bar{\sigma}_w$ [MPa] negative		L	150	141	128	120	112	98
			G	115	111	106	104	102	98
	Wrinkling stress $\bar{\sigma}_w$ over support [MPa] negative		M	118	111	100	94	89	80
			L	90	93	99	93	89	80
			G, R, 1L, 2L	100	96	89	86	84	80
	Wrinkling stress $\bar{\sigma}_w$ over support [MPa] negative elevated temperature		M	118	111	100	94	89	80
			L	90	93	99	93	89	80
G, R, 1L, 2L			100	96	89	86	84	80	
Wrinkling stress $\bar{\sigma}_w$ over support [MPa] positive		L	128	124	120	114	108	98	
		G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient U <sub>d,s</sub> [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17		
	Thermal conductivity coefficient $\lambda_D$ [W/(mK)]	0,041							
Reaction to fire; classification*		A2-s1,d0							
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240		
Flexural tensile strength (ceilings)		NPD							
Water permeability; classification		NPD							
Air permeability; values n and C		NPD							
Water vapour permeability; coefficient $\mu$		Pass							
Airborne sound insulation; ratings R <sub>w</sub> (C, C <sub>tr</sub> ) [dB]		NPD							
Sound absorption; rating $\alpha_w$		NPD							
Durability	DUR2	Pass							
	Resistance to point loads and access loads (ceilings)	NPD							
Dangerous substances		NPD							

## DECLARATION OF PERFORMANCE

No MW FIRE/2023/1

**Table 5:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
t<sub>Ne</sub>/t<sub>Ni</sub> = 0,6/0,6)

Nominal thickness d <sub>N</sub> [mm]		100	120	150	175	200	240	
<b>Essential characteristics</b>		<b>Performances</b>						
<b>Mechanical resistance</b>	Compressive strength $\sigma_m$ [MPa]	0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength $f_{ct}$ [MPa]	0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength $f_{cv}$ [MPa]	0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus $G_c$ [MPa]	3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient $\phi_t$ (ceilings)	4,0 for t = 100 000 h						
	Shear strength $f_{cv}$ long-term [MPa] (ceilings)	0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress $\sigma_w$ [MPa] positive	M	123	120	116	106	97	81
		L	107	110	112	112	112	87
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] positive elevated temperature	M	123	120	116	106	97	81
		L	107	110	112	112	112	87
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] negative	L	130	122	111	104	97	85
		G	115	111	106	104	102	98
	Wrinkling stress $\sigma_w$ over support [MPa] negative	M	118	111	100	94	89	80
		L	90	93	99	93	89	80
		G, R, 1L, 2L	100	96	89	86	84	80
	Wrinkling stress $\sigma_w$ over support [MPa] negative elevated temperature	M	118	111	100	94	89	80
L		90	93	99	93	89	80	
G, R, 1L, 2L		100	96	89	86	84	80	
Wrinkling stress $\sigma_w$ over support [MPa] positive	L	111	107	104	99	93	85	
	G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient $U_{d,s}$ [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17	
	Thermal conductivity coefficient $\lambda_D$ [W/(mK)]	0,041						
Reaction to fire; classification*		A2-s1,d0						
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240	
Flexural tensile strength (ceilings)		NPD						
Water permeability; classification		NPD						
Air permeability; values n and C		NPD						
Water vapour permeability; coefficient $\mu$		Pass						
Airborne sound insulation; ratings $R_w$ (C, C <sub>tr</sub> ) [dB]		NPD						
Sound absorption; rating $\alpha_w$		NPD						
Durability	DUR2	Pass						
	Resistance to point loads and access loads (ceilings)	NPD						
Dangerous substances		NPD						

## DECLARATION OF PERFORMANCE

No MW FIRE/2023/1

**Table 6:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
t<sub>Ne</sub>/t<sub>Ni</sub> = 0,6/0,7)

Nominal thickness d <sub>N</sub> [mm]		100	120	150	175	200	240	
<b>Essential characteristics</b>		<b>Performances</b>						
<b>Mechanical resistance</b>	Compressive strength $\bar{\sigma}_m$ [MPa]	0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength f <sub>ct</sub> [MPa]	0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength f <sub>cv</sub> [MPa]	0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus G <sub>C</sub> [MPa]	3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient $\varphi_t$ (ceilings)	4,0 for t = 100 000 h						
	Shear strength f <sub>cv</sub> long-term [MPa] (ceilings)	0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress $\bar{\sigma}_w$ [MPa] positive	M	123	120	116	106	97	81
		L	107	110	112	112	112	87
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\bar{\sigma}_w$ [MPa] positive elevated temperature	M	123	120	116	106	97	81
		L	107	110	112	112	112	87
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\bar{\sigma}_w$ [MPa] negative	L	116	109	99	93	87	76
		G	115	111	106	104	102	98
	Wrinkling stress $\bar{\sigma}_w$ over support [MPa] negative	M	118	111	100	94	89	80
		L	90	93	99	93	89	80
		G, R, 1L, 2L	100	96	89	86	84	80
	Wrinkling stress $\bar{\sigma}_w$ over support [MPa] negative elevated temperature	M	118	111	100	94	89	80
L		90	93	99	93	89	80	
G, R, 1L, 2L		100	96	89	86	84	80	
Wrinkling stress $\bar{\sigma}_w$ over support [MPa] positive	L	99	96	93	88	83	76	
	G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient U <sub>d,s</sub> [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17	
	Thermal conductivity coefficient $\lambda_D$ [W/(mK)]	0,041						
Reaction to fire; classification*		A2-s1,d0						
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240	
Flexural tensile strength (ceilings)		NPD						
Water permeability; classification		NPD						
Air permeability; values n and C		NPD						
Water vapour permeability; coefficient $\mu$		Pass						
Airborne sound insulation; ratings R <sub>w</sub> (C, C <sub>tr</sub> ) [dB]		NPD						
Sound absorption; rating $\alpha_w$		NPD						
Durability	DUR2	Pass						
	Resistance to point loads and access loads (ceilings)	NPD						
Dangerous substances		NPD						

## DECLARATION OF PERFORMANCE

No MW FIRE/2023/1

**Table 7:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
 $t_{Ne}/t_{Ni} = 0,7/0,5$ )

Nominal thickness $d_N$ [mm]		100	120	150	175	200	240	
<b>Essential characteristics</b>		<b>Performances</b>						
Mechanical resistance	Compressive strength $\sigma_m$ [MPa]	0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength $f_{ct}$ [MPa]	0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength $f_{cv}$ [MPa]	0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus $G_c$ [MPa]	3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient $\phi_t$ (ceilings)	4,0 for $t = 100\ 000$ h						
	Shear strength $f_{cv}$ long-term [MPa] (ceilings)	0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress $\sigma_w$ [MPa] positive	M	110	108	104	95	87	73
		L	96	98	101	101	101	78
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] positive elevated temperature	M	110	108	104	95	87	73
		L	96	98	101	101	101	78
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] negative	L	150	141	128	120	112	98
		G	115	111	106	104	102	98
	Wrinkling stress $\sigma_w$ over support [MPa] negative	M	105	99	90	84	80	72
		L	80	83	88	83	80	72
		G, R, 1L, 2L	100	96	89	86	84	80
	Wrinkling stress $\sigma_w$ over support [MPa] negative elevated temperature	M	105	99	90	84	80	72
		L	80	83	88	83	80	72
		G, R, 1L, 2L	100	96	89	86	84	80
Wrinkling stress $\sigma_w$ over support [MPa] positive	L	128	124	120	114	108	98	
	G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient $U_{d,s}$ [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17	
	Thermal conductivity coefficient $\lambda_D$ [W/(mK)]	0,041						
Reaction to fire; classification*		A2-s1,d0						
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240	
Flexural tensile strength (ceilings)		NPD						
Water permeability; classification		NPD						
Air permeability; values $n$ and $C$		NPD						
Water vapour permeability; coefficient $\mu$		Pass						
Airborne sound insulation; ratings $R_w$ ( $C$ , $C_{tr}$ ) [dB]		NPD						
Sound absorption; rating $\alpha_w$		NPD						
Durability	DUR2	Pass						
	Resistance to point loads and access loads (ceilings)	NPD						
Dangerous substances		NPD						



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**Table 8:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
t<sub>Ne</sub>/t<sub>Ni</sub> = 0,7/0,6)

Nominal thickness d <sub>N</sub> [mm]		100	120	150	175	200	240	
Mechanical resistance	<b>Essential characteristics</b>	<b>Performances</b>						
	Compressive strength $\sigma_m$ [MPa]	0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength f <sub>ct</sub> [MPa]	0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength f <sub>cv</sub> [MPa]	0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus G <sub>c</sub> [MPa]	3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient $\varphi_t$ (ceilings)	4,0 for t = 100 000 h						
	Shear strength f <sub>cv</sub> long-term [MPa] (ceilings)	0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress $\sigma_w$ [MPa] positive	M	110	108	104	95	87	73
		L	96	98	101	101	101	78
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] positive elevated temperature	M	110	108	104	95	87	73
		L	96	98	101	101	101	78
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress $\sigma_w$ [MPa] negative	L	130	122	111	104	97	85
		G	115	111	106	104	102	98
	Wrinkling stress $\sigma_w$ over support [MPa] negative	M	105	99	90	84	80	72
		L	80	83	88	83	80	72
		G, R, 1L, 2L	100	96	89	86	84	80
	Wrinkling stress $\sigma_w$ over support [MPa] negative elevated temperature	M	105	99	90	84	80	72
		L	80	83	88	83	80	72
G, R, 1L, 2L		100	96	89	86	84	80	
Wrinkling stress $\sigma_w$ over support [MPa] positive	L	111	107	104	99	93	85	
	G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient U <sub>d,s</sub> [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17	
	Thermal conductivity coefficient $\lambda_D$ [W/(mK)]	0,041						
Reaction to fire; classification*		A2-s1,d0						
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240	
Flexural tensile strength (ceilings)		NPD						
Water permeability; classification		NPD						
Air permeability; values n and C		NPD						
Water vapour permeability; coefficient $\mu$		Pass						
Airborne sound insulation; ratings R <sub>w</sub> (C, C <sub>tr</sub> ) [dB]		NPD						
Sound absorption; rating $\alpha_w$		NPD						
Durability	DUR2	Pass						
	Resistance to point loads and access loads (ceilings)	NPD						
Dangerous substances		NPD						

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**Table 9:** Performances (mineral wool 110 kg/m<sup>3</sup>, S250GD + SP15, SP25, SP35, Cesar55, PVC(F) 120, Aluzinc + Easyfilm;  
t<sub>Ne</sub>/t<sub>Ni</sub> = 0,7/0,7)

Nominal thickness d <sub>N</sub> [mm]		100	120	150	175	200	240	
<b>Essential characteristics</b>		<b>Performances</b>						
Mechanical resistance	Compressive strength σ <sub>m</sub> [MPa]	0,100	0,100	0,100	0,100	0,092	0,092	
	Tensile strength f <sub>ct</sub> [MPa]	0,100	0,100	0,100	0,100	0,100	0,100	
	Shear strength f <sub>cv</sub> [MPa]	0,062	0,062	0,062	0,062	0,062	0,062	
	Shear modulus G <sub>C</sub> [MPa]	3,2	3,5	3,5	3,5	3,5	3,5	
	Creep coefficient φ <sub>t</sub> (ceilings)	4,0 for t = 100 000 h						
	Shear strength f <sub>cv</sub> long-term [MPa] (ceilings)	0,024	0,024	0,024	0,024	0,024	0,024	
	Wrinkling stress σ <sub>w</sub> [MPa] positive	M	110	108	104	95	87	73
		L	96	98	101	101	101	78
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress σ <sub>w</sub> [MPa] positive elevated temperature	M	110	108	104	95	87	73
		L	96	98	101	101	101	78
		G, R, 1L, 2L	103	101	96	95	95	93
	Wrinkling stress σ <sub>w</sub> [MPa] negative	L	116	109	99	93	87	76
		G	115	111	106	104	102	98
	Wrinkling stress σ <sub>w</sub> over support [MPa] negative	M	105	99	90	84	80	72
		L	80	83	88	83	80	72
		G, R, 1L, 2L	100	96	89	86	84	80
Wrinkling stress σ <sub>w</sub> over support [MPa] negative elevated temperature	M	105	99	90	84	80	72	
	L	80	83	88	83	80	72	
	G, R, 1L, 2L	100	96	89	86	84	80	
Wrinkling stress σ <sub>w</sub> over support [MPa] positive	L	99	96	93	88	83	76	
	G	110	103	94	97	101	98	
Thermal transmittance	Thermal transmittance coefficient U <sub>d,s</sub> [W/(m <sup>2</sup> K)]	0,40	0,34	0,28	0,24	0,20	0,17	
	Thermal conductivity coefficient λ <sub>D</sub> [W/(mK)]	0,041						
Reaction to fire; classification*		A2-s1,d0						
Fire resistance of walls; classification*		EI 90	EI 120	EI 180	EI 180	EI 240	EI 240	
Flexural tensile strength (ceilings)		NPD						
Water permeability; classification		NPD						
Air permeability; values n and C		NPD						
Water vapour permeability; coefficient μ		Pass						
Airborne sound insulation; ratings R <sub>w</sub> (C, C <sub>tr</sub> ) [dB]		NPD						
Sound absorption; rating α <sub>w</sub>		NPD						
Durability	DUR2	Pass						
	Resistance to point loads and access loads (ceilings)	NPD						
Dangerous substances		NPD						