

# Glasroc X 12,5

## DECLARATION OF PERFORMANCE

Number: Glasroc X 12,5 PV - 95/2023

1. Unique identification code of the product-type:  
**Glasroc X 12,5 - Gypsum board with mat reinforcement**  
**Type GM-FH1 (EN 15283-1:2008+A1:2009)**
2. Intended use/uses:  
**Gypsum board with mat reinforcement intended to be used in building construction**
3. Manufacturer:  
**Saint-Gobain Construction Products CZ a.s.,**  
**Division Rigips**  
**Smrčkova 2485/4, 180 00 PRAHA 8 – Libeň,**  
**Czech Republic**  
**[www.rigips.cz](http://www.rigips.cz)**
4. System of AVCP:  
**System 3**
5. Harmonised standard:  
**EN 15283-1:2008+A1:2009.**  
**Notified body No. 1390, Centrum stavebního inženýrství, a.s., Pražská 16/810, 102 21 Praha 10**

6. Declared performances:

Essential characteristics	Performance	Harmonized technical specification
Shear strength ( $\uparrow\downarrow$ )	NPD	EN 15283-1:2008+A1:2009
Reaction to fire (R2F)	A1	EN 15283-1:2008+A1:2009
Water vapour permeability ( $\mu$ )	18,2	EN 15283-1:2008+A1:2009
Thermal resistance (as conductivity) ( $\lambda$ )	0,1865 W/m*K	EN 15283-1:2008+A1:2009
Longitudinal flexural strength (F)	$\geq 540$ N	EN 15283-1:2008+A1:2009
Transverse flexural strength (F)	$\geq 210$ N	EN 15283-1:2008+A1:2009
Airborne sound insulation* (R) Acoustic absorption* ( $\alpha$ ) Impact resistance* ( $\rightarrow I$ )	See the manufacturer's documentation	EN 15283-1:2008+A1:2009

<sup>\*)</sup> These characteristics are system dependent and will be provided in manufacturer's documentation based upon intended use.

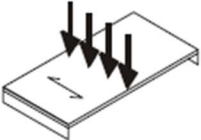
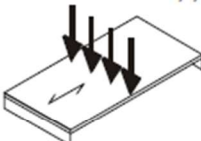
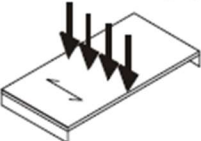
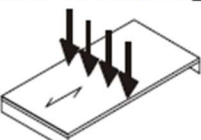
The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

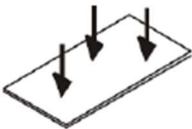
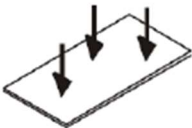
Prague, on 12.06.2023

  
 Saint-Gobain Construction Products CZ a.s.  
 Divize Rigips  
 Smrčkova 2485/4  
 180 00 Praha 8  
 Ing. Milan Daněk  
 Product Manager  
 Rigips Division

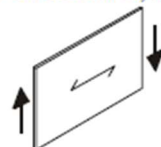
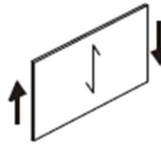
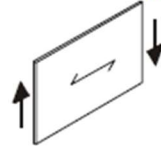
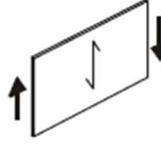
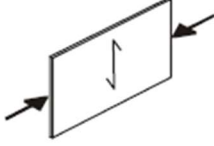
**Glasroc X 12,5 - Performances declared by the manufacturer based on document ETA-21/0179  
(Issuing Technical Assessment Body - Österreichische Institut für Bautechnik OIB):**

BWR	Essential characteristic	Assessment method	Level / Class / Description
1	<b>Mechanical resistance and stability</b>		
	<b>1. Mechanical actions perpendicular to the gypsum plasterboard</b>		
	Thickness		12.5 mm
	Bending strength – in cross direction $f_{m,90,k}$	EAD 070001-02-0504, 2.2.1	4.9 N/mm <sup>2</sup>
			
	– in machine direction $f_{m,0,k}$	EAD 070001-02-0504, 2.2.1	6.8 N/mm <sup>2</sup>
			
Bending modulus of elasticity – in cross direction $E_{m,90,mean}$	EAD 070001-02-0504, 2.2.1	2 600 N/mm <sup>2</sup>	
			
– in machine direction $E_{m,0,mean}$	EAD 070001-02-0504, 2.2.1	2 300 N/mm <sup>2</sup>	
			
Reduction factors for bending – humid conditions $k_{red,hum}$	EAD 070001-02-0504, 2.2.1	0.9	
– immersed conditions $k_{red,imm}$	EAD 070001-02-0504, 2.2.1	0.7	

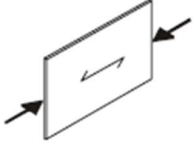
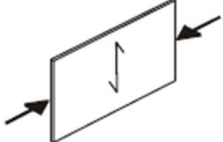
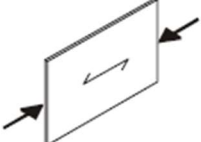
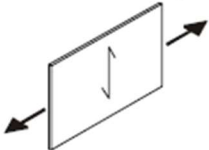
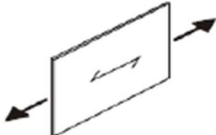
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BWR	Essential characteristic	Assessment method	Level / Class / Description
	Thickness		12.5 mm
	Compressive strength – perpendicular to the board $f_{c,\perp}$ 	EAD 070001-02-0504, 2.2.3	6.3 N/mm <sup>2</sup>
	Compression modulus of elasticity – perpendicular to the board $E_{c,mean}$ 	EAD 070001-02-0504, 2.2.3	300 N/mm <sup>2</sup>
	Reduction factors for compression – humid conditions $k_{red,hum}$ – immersed conditions $k_{red,imm}$	EAD 070001-02-0504, 2.2.3 EAD 070001-02-0504, 2.2.3	0.6 0.3

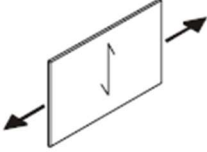
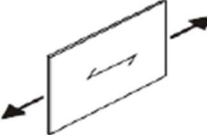
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BWR	Essential characteristic	Assessment method	Level / Class / Description
	<b>2. Mechanical actions in plane of the gypsum plasterboard</b>		
	Thickness		12.5 mm
	Shear strength – in cross direction $f_{r,90,k}$ 	EAD 070001-02-0504, 2.2.2	2.8 N/mm <sup>2</sup>
	– in machine direction $f_{r,0,k}$ 	EAD 070001-02-0504, 2.2.2	2.3 N/mm <sup>2</sup>
	Shear modulus – in cross direction $G_{r,90,mean}$ 	EAD 070001-02-0504, 2.2.2	1 900 N/mm <sup>2</sup>
	– in machine direction $G_{r,0,mean}$ 	EAD 070001-02-0504, 2.2.2	1 400 N/mm <sup>2</sup>
	Compression strength – in cross direction $f_{c,90,k}$ 	EAD 070001-02-0504, 2.2.3	6.3 N/mm <sup>2</sup>

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	Thickness		12.5 mm
	Compression strength – in machine direction $f_{c,0,k}$ 	EAD 070001-02-0504, 2.2.3	6.6 N/mm <sup>2</sup>
	Compression modulus of elasticity – in cross direction $E_{c,90,mean}$  – in machine direction $E_{c,0,mean}$ 	EAD 070001-02-0504, 2.2.3	4 100 N/mm <sup>2</sup>
	Tensile strength – in cross direction $f_{t,90,k}$  – in machine direction $f_{t,0,k}$ 	EAD 070001-02-0504, 2.2.4	1.3 N/mm <sup>2</sup>
		EAD 070001-02-0504, 2.2.4	2.0 N/mm <sup>2</sup>

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	Thickness		12.5 mm
	Tensile modulus of elasticity – in cross direction $E_{t,90, mean}$ 	EAD 070001-02-0504, 2.2.4	5 500 N/mm <sup>2</sup>
	– in machine direction $E_{t,0, mean}$ 	EAD 070001-02-0504, 2.2.4	6 300 N/mm <sup>2</sup>



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BWR	Essential characteristic	Assessment method	Level / Class / Description				
	<b>3. Other mechanical actions</b>						
	Racking strength and stiffness	EN 594	Calculation acc. to EN 1995-1-1				
	Embedding strength $f_{e,k}$ - Ambient condition - Immersed condition	EAD 070001-02-0504, 2.2.6	35.8 – 4.9 d N/mm <sup>2</sup> <sup>1)</sup> 18.5 – 2.5 d N/mm <sup>2</sup> <sup>1)</sup>				
	Head pull-through resistance $f_{head}$  - Ambient condition  - Reduction factor for immersed condition	EAD 070001-02-0504, 2.2.7	Screws EN 14566 or EN 14592: $d_h = 7.7$ mm 7.2 N/mm <sup>2</sup>				
Staples EN 14592: $a = 11.2$ mm $d_h = 1.62$ mm 18.4 N/mm <sup>2</sup>							
0.4							
	Creep and duration of load	EAD 070001-02-0504, 2.2.8	See table 1 and table 2				
	Structure of the cohesion of the core at high temperature	EN 520	Pass for board type F				
	Dimensions	EN 520	b: +0/-4 mm l: +0/-5 mm t: ± 0.5 mm squareness: ≤ 2.5 mm/m				
	Dimensional changes	EAD 070001-02-0504, 2.2.9	Absorption				
			$\Delta I_{30-65}$		$\Delta I_{65-85}$		
			MD <sup>2)</sup>	CD <sup>3)</sup>	MD <sup>2)</sup>	CD <sup>3)</sup>	
			0.05 mm/m		0.07 mm/m		
			Desorption				
			$\Delta I_{65-30}$		$\Delta I_{65-65}$		
		MD <sup>2)</sup>	CD <sup>3)</sup>	MD <sup>2)</sup>	CD <sup>3)</sup>		
		-0.08 mm/m		-0.06 mm/m			

<sup>1)</sup> With d as the diameter of the fastener and for 1.5 mm ≤ d ≤ 3.5 mm

<sup>2)</sup> machine direction

<sup>3)</sup> cross direction

Table 1

K <sub>def</sub>			
Service class			
1	2	3*	
		machine direction	cross direction
3.0	4.0	18.2	33.6

\*service class 3: for a maximum erection span of 3 months

Table 2

Service class	K <sub>mod</sub>				
	Load duration class				
	Permanent action	Long action	Medium action	Short action	Very short action
1	0.2	0.4	0.6	0.8	1.1
2	0.15	0.3	0.45	0.6	0.8
3*	–	–	0.3	0.6	1.0

\*service class 3: for a maximum erection span of 3 months



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BWR	Essential characteristic	Assessment method	Level / Class / Description			
	Mass changes	EAD 070001-02-0504, 2.2.9	Absorption			
			$\Delta m_{30-65}$		$\Delta m_{65-85}$	
			MD <sup>2)</sup>	CD <sup>3)</sup>	MD <sup>2)</sup>	CD <sup>3)</sup>
			0.06 %		0.3 %	
			Desorption			
			$\Delta m_{65-30}$		$\Delta m_{85-65}$	
	MD <sup>2)</sup>	CD <sup>3)</sup>	MD <sup>2)</sup>	CD <sup>3)</sup>		
	-0.12 %		-0.09 %			
	Dimensional stability	EAD 070001-02-0504, Annex E	Dimensional changes			
			MD <sup>2)</sup>		CD <sup>3)</sup>	
-0.17 mm/m			0.17 mm/m			
Mass changes						
7.16 %						
Density	EN 520	$\rho_{\text{mean}} = 885 \text{ kg/m}^3$				
Surface hardness	EAD 070001-02-0504, 2.2.10	Pass for board type I in dry conditions Mean diameter of indentation is 15.5 mm in humid conditions. Mean diameter of indentation is 16.5 mm in immersed conditions.				

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2	Reaction to fire		
	Gypsum plasterboards for load-bearing applications	EN 13501-1	Euroclass A1
3	Hygiene, health and environment		
	Vapour permeability, $\mu$	EN ISO 12572	18.2
	Water absorption of board surface	EN 520	$\leq 180 \text{ g/m}^2$
	Water penetration	EN 13111	none
	Total water absorption	EN 520	$\leq 5 \%$
	Moisture absorption	EAD 070001-02-0504, 2.2.12	0.47 %
	Hard body impact IR	EN 1128	19.7 mm/mm
6	Energy economy and heat retention		
	Thermal conductivity, $\lambda$	EN 12664	0.1865 W/(m·K)
	Additional assessment		
	Mould resistance		
	– Mould growth	ASTM D3273	10 (no growth)

Signed for and on behalf of the manufacturer by:

Prague, on 12.06.2023

  
 Saint-Gobain Construction Products CZ a.s.  
 Ing. Milan Daněk  
 Smrčkova 2485/4  
 Product Manager  
 Rigips Division