

# TECHNICAL DATASHEET



Ver: 20250306

# CEM-ROCK®

EXTREME X4

[www.extreme.cemrock.ie](http://www.extreme.cemrock.ie)

- High Strength
- Fire Resistance
- Water Resistance
- Sound Insulation
- Moisture Resistance
- Eco-Friendly

**Greenspan®**  
System Sales Ireland Ltd.

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Finnoe, Ballyhahill, Co. Limerick, V94 Y2C6, Ireland.  
Tel: 00353 (0) 69 82222, E-mail: [sales@greenspan.ie](mailto:sales@greenspan.ie)  
Website: [www.greenspan.ie](http://www.greenspan.ie)

## Description

Cem-Rock® eXtreme X4 is a new age smooth faced multi-purpose magnesium oxide board which is highly durable non-combustible board for use in applications requiring a combination of moisture and thermal resistance as well as superior performance in fire. The board will not rot and can be used as an alternative to fibre cement board, where greater dimensional stability is required. It is an ideal substrate for exterior walls, interior partitions, tile backing for wet and humid areas, floor underlayment, fire rated door core, internal and external ceiling, soffit, structural insulated panels and exterior finishing systems. Cem Rock extreme x4 is manufactured with a smooth white surface making it easier to finish on internal applications and now suitable for laminating purposes also.

## Characteristics

- Smooth face for fine finish
- 4 layers of high-grade fibre glass mesh for strength and durability
- Non-combustible A1 EN 13501
- Up to 2-hour fire ratings
- High impact and racking strength
- Zero chloride content
- Lighter than fibre cement boards
- Easy to cut, screw and install on steel and timber frames
- Environmentally friendly

## Applications

- Internal Partitions
- Backer Board for the Wet Areas
- External Substrate with EIFS
- External Sheathing Board
- Laminating
- SIP Panel Production

## Colour Appearance

- White / Grey

## Sizes and Packaging

Size (mm)	Thickness (mm)	Horizontal Pallet (Q-ty)	Vertical Pallet (Q-ty)
2400x1200	12	60	75
Special order sizes, not available ex stock			
2400x1200	6	120	150
2400x1200	9	80	100
2400x1200	18	40	50
2700x1200	6	120	150
2700x1200	9	80	100
2700x1200	12	60	75
2700x1200	18	40	50
3050x1200	6	115	145
3050x1200	9	75	95
3050x1200	12	55	75
3050x1200	18	38	48

## Loading and Unloading Boards

Cem-Rock® eXtreme X4 boards are supplied on pallets suitable for forklift unloading by forklift. If off-loading by crane and slings is envisaged, care should be taken to avoid damaging the edges of the boards. All pallets and crates can be safely handled by using a forklift or hoisting equipment and straps. Steel cables or chains should not be used as they will damage both the pallet and the boards.

Where crates are removed from a box container, care should be taken not to subject crates and pallets to any impact shock, as this could result in cracking of the boards. Always drive the delivery vehicle as close as possible to where the boards are to be used. When transporting the boards, it is essential to secure the pallets to prevent sliding. If the boards are subsequently moved around the site, they should be placed on a rigid base suitable for lifting by forklift. Cem-Rock® eXtreme X4 boards should always be stored on a rigid base.

## Storage

All Cem-Rock® eXtreme X4 boards are supplied with a protective plastic sheet wrap. This protection should not be removed until the boards are ready for use. In general, the following steps should be taken to ensure that the boards remain in good condition during storage. All Cem-Rock® eXtreme X4 boards should be stored on covered and dry level ground, away from the working area or mechanical plant.

Pallets should be stored safely on firm level ground. If two or more pallets are stacked, the following guidance as well as local legislation and regulations must be observed. The number of pallets per stack is mainly determined by site conditions such as ground conditions, flatness and load capacity of the ground.

Maximum number of pallets stacked one above the other under warehouse conditions: All boards – maximum 5 pallets, recommended <4 pallets. All boards must be protected from inclement weather. Cover protection is essential for stacked boards. All boards must be stored under cover. Complete protection for stacked and covered boards in storage.

## Technical Properties

Property	Testing Standard	Result
Reaction to fire	EN 13501-1	Class A1 (Non-Combustible)
Nominal dimensions (length x width x thickness)		1200mm x 2400mm x 12mm *
Tolerance on length and width	EN 12467:2012	Length Tolerance: 5mm Width Tolerance: 0.3% Comply with Level I
Tolerance on thickness	EN 12467:2012	Thickness tolerance: 10% Complies with Level I
Straightness of edges	EN 12467:2012	Max.: 0.01% Complies with Level I
Squareness of edges	EN 12467:2012	Max.: 0.2mm/m Complies with Level I
Apparent density	EN 12467:2012	935 kg/m <sup>3</sup> *
Moisture movement	EN 12467:2012	Length direction: 0.11% Width direction: 0.13%
Bending strength (MOR)	EN 12467:2012	Wet condition: Average 16.8 MPa Min. 15.5 MPa Class 3 *
Water impermeability	EN 12467:2012	No formation of drops of water *
Water vapour permeability	EN ISO 12572, Condition C	Water vapour resistance value $\mu$ : 19.8 *
Thermal conductivity	EN 12664:2001	0.163 W/(mK)
Freeze-thaw	EN 12467:2012	Pass (Category B, Ratio RL: 0.95)
Heat-rain	EN 12467:2012	Pass (No visible cracks, delamination, warping and bowing or other defects.)
Soak-dry	EN 12467:2012	Pass (Category B, Ratio RL: 0.86)
Release of dangerous substances	EN 12467:2012	Meet the requirement of EU REACH Regulation SVHC exceeds 0.1% (w/w)
Asbestos Content	NIOSH 9002:1994	Negative
Total water absorption	EN 520:2004+A1:2009 section 5.9.2	10.9% (Mean value) *
Tensile strength perpendicular to the board	EN 319	0.61 N/mm <sup>2</sup> *
Bending radius	EN 12647	2.2 m *
Water vapour diffusion coefficient	EN ISO 12572	51 $\mu$ *
Average Nail head pull-out	ASTM D1037	0.9 kN *
Average Screw pull out	BS EN 14566: 2008 & A1: 2009	1,774 N (Mean) *
Average Screw pull through	BS EN 14566: 2008 & A1: 2009	2,702 N (Mean) *
Moisture content (at 90 $\pm$ 2°C)	EN 318 / ASTM C 1185 Section 10	8.5%
Chloride ion determination	ASTM C 871-11	0.019%
Smoke development index (SDI)	ASTM E84-18, UL 723-10	25 (CLASS A)
Flame development index (FDI)	ASTM E84-18, UL 723-10	0 (CLASS A)
Crying test - BBA	BS EN T164176	Pass (170 days at Temp 30°C Humidity 94%)
Mould growth	MOAT 33	Zero growth in 42 days incubation
Maximum weight of tiling per m <sup>2</sup>	EN 12647	100 kg/m <sup>2</sup> *
Fire Resistance (Performance)	EN 13501-2:2016	EI 60 (60 minutes Inside - Outside) *
Fire Resistance (Performance)	EN 13501-2:2016	EI 90 (90 minutes Outside - Inside) *

\* - measured for 12mm thick sheets

## Installation

Applications for 6, 9, 12 mm thick boards

<u>Substrate</u>	<u>Steel stud</u>	
<b>Grade</b>	0.5-2.5 mm	1.2-4.0 mm
<b>Internal</b>	Evolution WHX32	Evolution TSTF4.8-38-3
<b>Semi-exposed</b>	Evolution BMDW4832	Evolution BMWD4.8-38-3
<b>Grade</b>	1.0 – 4.0 mm	
<b>Internal</b>	Rawlplug R-CWT-48038-LG	
<b>Semi-exposed</b>	Rawlplug R-CWTS-48038-LG	
<u>Substrate</u>	<u>Timber stud</u>	
<b>Grade</b>	C16 min.	
<b>Internal</b>	Evolution WHX42 Rawlplug R-CBS-45042	
<b>Semi-exposed</b>	Evolution BMDW4842 Rawlplug R-CBS-45042-A2 Aquapanel SN40	

All fixings subject to Engineer's approval. On-site testing to be conducted to confirm the fixing is suitable for the application.