

TECHNICAL DATASHEET

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CEM-ROCK® EXTREME X4

www.cemrock.ie



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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 fiber 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 fiber 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 fiber 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

Available Colors

- White / Grey

Sizes and Packaging

Size (mm)	Thickness (mm)	Horizontal Pallet (no. of boards)	Vertical Pallet (no. of boards)	20ft Container (no. of boards)
1200x2400	06	120	150	1080
1200x2400	09	80	100	720
1200x2400	12	60	75	540
1200x2400	18	40	50	360
1200x2700	06	120	150	1080
1200x2700	09	80	100	720
1200x2700	12	60	75	540
1200x2700	18	40	50	360
1200x3050	06	115	145	520
1200x3050	09	75	95	340
1200x3050	12	55	75	260
1200x3050	18	38	48	172

Loading and Unloading Boards

Cem-Rock® Extreme x4 boards are supplied on pallets suitable for fork lift unloading by fork lift. 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 fork lift 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)
Dimensions (length x width x thickness)		1200mm x 2400mm x 12mm
Tolerance on length and width	EN 12467:2012	Length Tolerance: 0mm Width Tolerance: 0.03mm Complied with Level I
Tolerance on thickness	EN 12467:2012	Thickness: Average: 12.04mm Tolerance: 0.04mm Max. Deviation within one sheet: 0.33%
Straightness of edges	EN 12467:2012	Max.: 0.03% Complied with Level I
Squareness of edges	EN 12467:2012	Max.: 0.21mm/m Complied with Level I
Apparent density	EN 12467:2012	935 kg/m ³
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 μ : 19.8
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 ²
Bending radius	EN 12647	2.2 m
Water vapour diffusion coefficient	EN ISO 12572	51 μ
Average Nail head pull-out	ASTM D1037	0.9 kN
Average Screw pull out	BS EN 14566: 2008 & A1: 2009	1580 N
Average Screw pull through	BS EN 14566: 2008 & A1: 2009	2173 N

Technical properties

Property	Testing Standard	Result
Moisture content (at 90±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 m2	EN 12647	100 kg/m2
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)