TECHNICAL DATASHEET

AQUAMAG®

Magnesium (MgO) Groove Board

www.aquamag.ae

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

AQUA BOARDS BUILDING MATERIALS FZ-LLC
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Description

Aquamag® Mgo Grooved Boards 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. Aquamag® Mgo Grooved Boards 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
- Multiple layers of high-grade fiber glass mesh for extra strength and durability
- Non-combustible A1 EN 13501 and ASTM E-84
- Up to 2-hours fire ratings
- High impact and racking strength
- Zero chloride content
- Lighter than fiber cement boards
- Easy to cut, screw and install on steel and timer frames
- Environmentally friendly

Applications

- Internal Partitions
- External Sheathing Board
- External Substrate
- Laminating
- SIP Panel Production

Available Colors

- White / Grey

Loading and Unloading Boards

Aquamag® Mgo Grooved Boards 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. Aquamag® Mgo Grooved Boards boards should always be stored on a rigid base.

Storage

All Aquamag® Mgo Grooved Boards 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 Aquamag® Mgo Grooved Boards 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.

Sizes and Packaging

Size (mm)	Thickness (mm)	Horizontal Pallet (no. of boards)	Vertical Pallet (no. of boards)	20ft Container (no. of boards)
1220 x 2440	12	60	75	540
1220 x 2745	12	60	75	540
1220 x 3050	12	55	75	260

Technical properties of Aquamag Mgo Groove Boards

Property	Testing Standard	Result
Reaction to fire	EN 13501-1 / ASTM E-84-18	Class A1 (Non-Combustible)
Dimensions (length x width x thickness)	EN 12467:2012 / ASTM C1185	Size: 1220 x 2440mm Thickness: 12mm Groove Interval: 145mm Groove Width: 5mm Groove -Depth: 2-3mm Grove Shape: 'V' Sharp / Square. Total 8 Grooves in Each Panel
Tolerance on length and width	EN 12467:2012 / ASTM C1185	Length Tolerance: 0mm Width Tolerance: 0.03mm Complied with Level I
Tolerance on thickness	EN 12467:2012 / ASTM C1185	Thickness: Average: 12.04mm Tolerance: 0.04mm Max. Deviation within one sheet: 0.33%
Straightness of edges	EN 12467:2012 / ASTM C1185	Max.: 0.03% Complied with Level I
Squareness of edges	EN 12467:2012 / ASTM C1185	Max.: 0.21mm/m Complied with Level I
Apparent density	EN 12467:2012 / ASTM C1185	935 kg/m3
Moisture movement	EN 12467:2012	Length direction: 0.11% Width direction: 0.13%
Bending strength (MOR)	EN 12467:2012 / ASTM C1185	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 (100 Cycles)	EN 12467:2012	Category A, Ratio RL: 0.31
Heat-rain (50 Cycles)	EN 12467:2012	Category A, No visible cracks, delamination, warping and bowing or other defects.
Warm water	EN 12467:2012	Category A, Ratio RL: 0.32
Soak-dry	EN 12467:2012	Category A, Ratio RL: 0.29
Release of dangerous substances	EN 12467:2012	Asbestos content: Negative
Total water absorption	EN 520:2004+A1:2009 section 5.9.2	10.9%
Tensile strength perpendicular to the board	EN 319	0.61 N/mm2
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	1171 N
Average Screw pull through	BS EN 14566: 2008 & A1: 2009	2173 N
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