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ProGuard



INTRODUCTION

Mada ProGuard Glass Mat Sheathing Board is a noncombustible, mold-, delamination-, and moisture-resistant sheathing board designed to meet the demanding requirements of exterior substrates.

It serves as a durable base under Exterior Insulation Finish Systems (EIFS), brick or stone veneers, marble cladding, siding systems, porcelain tiles, stucco, or direct render finishes.

The reinforced treated gypsum core, enclosed between coated fiberglass mats on both sides, delivers superior strength, fire resistance, and dimensional stability, minimizing warping, buckling, or sagging even under harsh environmental conditions.

Panels are installed vertically using standard mechanical fasteners, providing rigidity and the required fire rating for wall and ceiling systems.



PROGUARD CHARACTERISTICS



Fire resistance Class A to ASTM E84



Mold & Moisture Resistance



Limitless Design Options



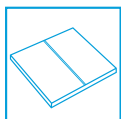
Improved Insulation (U-Values) and Energy Efficient



Lightweight



Ease of Installation



Score & Snap



Cost Saving Solution



Excellent Weather Exposure - 12 months warranty



10-year System Warranty



Warranted Performance



Mada ProGuard Glass Mat Sheathing offers robust warranty protection:

- 5-year coverage for manufacturing integrity.
- 12-month protection against weather-related impact.
- 10-year System Warranty when installed as part of a complete Mada System using EIFS or render finishes.

PROGUARD SPECIFICATIONS

Manufacturing Standard

ASTM C1177 / C1177M – Type X
ASTM E84 – Surface Burning Characteristics
ASTM C1658 – Glass Mat Gypsum Panels
ASTM E119 – Fire Resistance Tests (as part of Mada System)



Tested and Certified as part of complete Mada System to ASTM E119 for Fire Rated Systems

Typical Applications

- EIFS (Exterior Insulation Finish Systems).
- Brick / Stone Veneer Finishes.
- Wood / Vinyl / Composite Siding Systems.
- Stucco and Render Applications.
- Interior areas requiring enhanced fire and moisture resistance.

Limitations

- Not to be used as a nail base for exterior cladding systems.
- Maximum stud spacing: 600 mm on center.
- Not designed for constant or prolonged water exposure.
- Do not laminate to masonry; use framing or furring for attachment.
- Not a finished surface — requires final cladding.
- Extreme exposure conditions may require treated joints or a weather-resistant barrier.

Product Dimensions



Length

standard lengths: 2400mm & 3000mm
Special lengths: 1800mm to 4500mm



Width

1200 mm



Edge detail

Square



Thickness

12.5 mm & 16mm



Color

Light blue on face and light blue/white on back side



Fire rating

(Using Mada System application) Tested in accordance with ASTM E119



PROGUARD PROPERTIES

Property	Unit	12.5 mm	16 mm	Standard
Weight	kg / m ²	10.6	13.3	ASTM C1177
Board Density	kg / m ³	832	819	EN 15283-1
Flexural Strength (Longitudonal)	N	≥ 445	≥ 623	ASTM C1177
Flexural Strength (Transverse)	N	≥ 537.5	≥ 688	ASTM C1177
Nail Pull Resistance	N	≥ 356	≥ 445	ASTM C1177
Water Absorption	%	≤ 5	≤ 5	EN 15283-1 (H1)
Flame Spread Index	-	≤ 25	≤ 25	ASTM E84
Smoke Developed Index	-	≤ 450	≤ 450	ASTM E84



PROGUARD INSTRUCTIONS

Installation and Fastening

Mada ProGuard Glass Mat Sheathing Board must be installed in accordance with this brochure's guidelines and ASTM C1280. Panels may be fixed either perpendicular or parallel to the framing system, depending on the fire-rated or shear wall assembly specified by the project design authority.

Ensure framing components are straight, aligned, and dimensionally consistent:

Framing and Panel Parameters: Framing members shall not vary more than 3 mm from the face plane of adjacent studs.

Framing Spacing: Maximum 600 mm on center (reduce to 400 mm or 300 mm for EIFS or when racking strength is required).

Fastener Spacing (Metal Framing): Subject to layers. As per Mada Project Proposal.

Panel Orientation: May be installed parallel or perpendicular to framing subject to application. As per Mada Project Proposal.

Fasteners: Mada Procem fasteners should be used. Bugle head, fine thread drill point, anti-corrosion drywall screw, 25–35 mm (single layer) or 35–45 mm (double layer).

Fastener Application: Drive screws flush with the board surface, without countersinking or breaking the fiberglass mat.

Maintain a minimum 10 mm edge and end distance, and stagger joints between successive rows.

Perimeter Detailing and Protection

- Offset joints at least 100 mm from the edges of door and window openings to reduce stress cracking.
- Flash all openings, heads, sills, and roof/wall intersections in accordance with the project's weather-resistive barrier or cladding manufacturer's instructions.
- Maintain a 6 mm gap between the board and any masonry or water-retaining surface to prevent wicking.
- Install panels at least 200 mm above finished grade in weather-protected cladding systems and ventilated crawl spaces.
- Where panels meet horizontal surfaces (slabs, foundations, or roof assemblies), leave a 6–12.7 mm gap and fill it with an approved Mada sealant to prevent moisture ingress.

Installation Procedure

1. Install boards with staggered joints, fitting ends and edges tightly without forcing panels together.
2. Whenever possible, align board joints with the edges of openings and properly flash all perimeters.
3. Begin fastening from the center of the board outward toward the edges to prevent distortion.
4. For enhanced performance, panel adhesives may be used to strengthen the bond and compensate for minor framing irregularities. Adhesive use does not reduce the number of fasteners required.
5. Ensure framing elements are clean, dry, and free of oil or debris before applying adhesive.
6. Cutting and Openings:
 - Panels may be cut by scoring and snapping, or by sawing using a cordless low-RPM saw to minimize airborne dust.
 - Cut openings for pipes, conduits, or devices by scoring or sawing from the panel face.
 - Trim all cuts neatly to ensure a close fit upon installation.

Recommendations

1. Cladding Application: Installed Mada ProGuard Glass Mat Sheathing Boards must be covered by the exterior cladding system within 12 months of installation to ensure full performance and warranty compliance.

2. Weather Resistance: Mada ProGuard is moisture and water-resistant, but not designed for prolonged or continuous exposure to rainfall. It should always be protected by an appropriate cladding or weather-resistant barrier after installation.

3. Moisture Management: During construction, avoid conditions that can cause excessive moisture accumulation within the building. Activities such as forced-air heating, concrete pouring, or masonry work release large amounts of water vapor that can condense inside unfinished wall cavities. Employ proper ventilation or dehumidification to keep humidity levels below the dew point. Mada Gypsum is not responsible for any damage resulting from improper moisture control during construction.

4. Safe Handling and Storage: Mada ProGuard panels are heavy and must be handled with care. Always store panels flat on a stable surface unless otherwise directed by the site manager to prevent tripping hazards or overloading of floor structures. Panels should be kept dry, level, and properly supported to prevent damage or personal injury.

PROGUARD INSTRUCTIONS

Limitations

- Not to be used as a nail base for exterior cladding systems.
- Maximum stud spacing: 600 mm on center.
- Not designed for constant or prolonged water exposure.
- Do not laminate to masonry; use framing or furring for attachment.
- Not a finished surface; requires final cladding.
- Extreme exposure conditions may require treated joints or a weather-resistant barrier.

Handling and Storage

- Store flat on a firm, dry, and level base using pallets.
- Maximum stacking height: 4 pallets.
- Protect from direct sunlight, rain, and wind.
- Do not store other materials atop Mada ProGuard.
- When cutting, minimize dust; use low-RPM cordless saws.
- Always handle panels vertically with proper lifting technique.



DESIGN CONSIDERATIONS

Façade Performance

Although façades are a defining architectural element, their design has often been approached primarily from an aesthetic or functional point of view. Traditionally, façades were expected to provide visual identity, basic weather protection, and a platform for signage.

Today, they are an essential component of the building envelope, where form must meet performance. A well-engineered façade not only defines the appearance of a structure but also influences its sustainability, comfort, and safety.

A high-performance façade must consider three core factors:

- Acoustic performance.
- Fire-resistance requirements.
- Thermal performance.
- These aspects directly affect energy efficiency, occupant comfort, and long-term operational costs, presenting an important design challenge for modern architects and engineers.

Steel Frame External Wall System

Mada's Steel Frame External Wall System integrates lightweight steel framing, thermal insulation, and Mada ProGuard Glass Mat Sheathing Boards to provide a tested, certified, and cost-effective envelope solution for all project types.

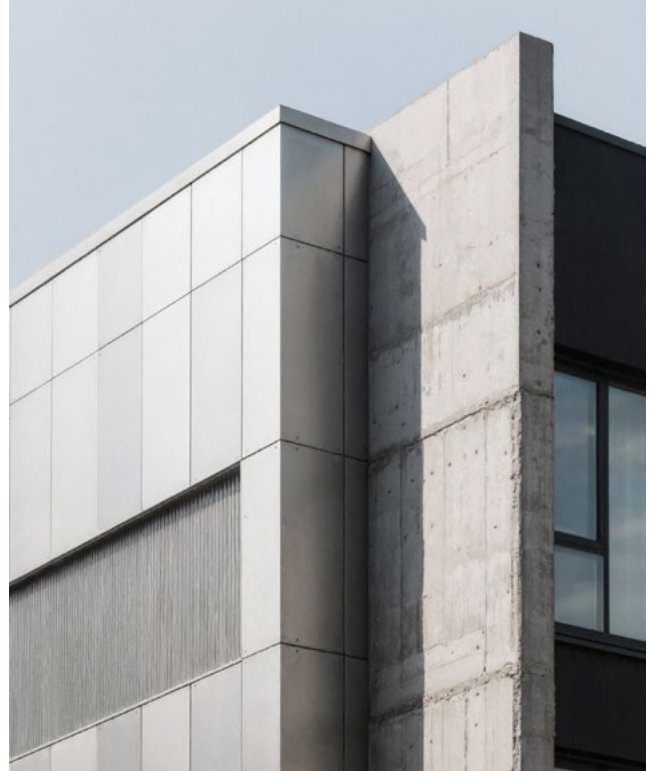
This system achieves fire-resistance ratings of up to two hours, offering safety, durability, and thermal efficiency across commercial, residential, and institutional buildings.

Lightweight Construction

Lightweight Construction refers to non-load-bearing and structural assemblies fabricated from materials with significantly lower mass than traditional masonry.

These assemblies deliver:

- Faster installation and easier handling.
- Reduced structural load and foundation requirements.
- Improved thermal and acoustic control.
- Enhanced design flexibility and sustainability.



External Thermal Insulation

External Thermal Insulation is now a cornerstone of energy-efficient design. As walls and roofs are responsible for over 50% of energy loss in enclosed living spaces, their transmission load can account for up to 60% of total air-conditioning demand. Properly applied external insulation minimizes these losses and maximizes comfort and efficiency.

Key benefits of an effective External Thermal Insulation System include:

- Improved insulation values (U-values) using high-performance materials such as rockwool.
- Reduced operation of HVAC and heating systems, lowering energy consumption.
- Decreased capacity requirements for temperature control units.
- Continuous thermal envelope that stabilizes indoor temperature against external fluctuations.
- Elimination of thermal bridging, reducing energy leakage points.
- Reduced thermal stress on building components, extending façade durability.

DESIGN CONSIDERATIONS

Typical U-values Limits in GCC

Country / Region	Building Type / Scope	U-value Limit (W/m ² K)	Source / Reference
Saudi Arabia – Zone 1 (Residential)	Low-rise residential buildings	0.34	"Thermal Performance Requirements for Residential Buildings in Saudi Arabia," MDPI Journal, 2022. Available at: https://www.mdpi.com/1996-1944/15/24/9079
Saudi Arabia – Zone 2 (Residential)	Low-rise residential buildings	0.4	Estimate aligned with SASO 2856/2014 climate-zone progression. Verify with local authority.
Saudi Arabia – Zone 3 (Residential)	Low-rise residential buildings	0.45	Estimate aligned with SASO 2856/2014 climate-zone progression. Verify with local authority.
Saudi Arabia – Commercial / Non-Residential	Buildings except low-rise residential (all zones)	0.53	"Saudi Energy Conservation Code – Commercial Buildings (SBC 601-CR)," unlocked document available at: https://pdfcoffee.com/saudi-energy-conservation-code-commercial-sbc-601-unlocked-pdf-free.html
United Arab Emirates – Dubai	Exterior wall (general)	0.57	"Dubai Green Building Regulations and Specifications," Government of Dubai, 2018. Available at: https://www.dm.gov.ae/wp-content/uploads/2018/01/05_ENG_DCL_LawsLegislation_EngineeringSection_GreenBuildingRegulation.pdf
United Arab Emirates – Abu Dhabi (Commercial)	Exterior wall (commercial buildings)	0.32	"Comparative Study of Building Regulations in UAE," WIT Transactions on Ecology and the Environment, 2020. Available at: https://www.witpress.com/Secure/elibrary/papers/SC20/SC20008FU1.pdf
United Arab Emirates – Ras Al Khaimah	Exterior wall (general)	0.48	Same comparative study as above. Available at: https://www.witpress.com/Secure/elibrary/papers/SC20/SC20008FU1.pdf
Qatar – Kahramaa Standard	General external wall	0.74 (estimated)	No publicly accessible national table located; estimated based on average GCC climate equivalency. Verify with Qatar General Electricity & Water Corporation (Kahramaa).
Kuwait	General external wall	0.37 (estimated)	No published national U-value tables found; estimation aligned with regional energy standards. Confirm with the Kuwait Municipality Energy Code.
Oman – Muscat Region	General external wall	0.43 (estimated)	No official code publication available online; estimation based on regional climate performance equivalence. Confirm with Oman Ministry of Housing & Urban Planning.

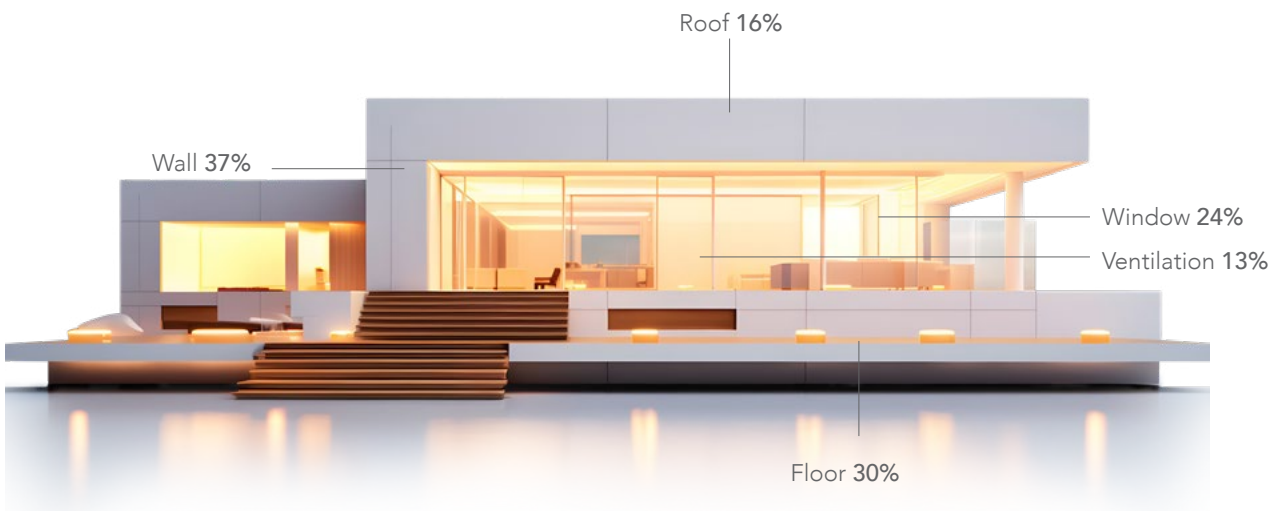
DESIGN CONSIDERATIONS

Typical Energy Loss Distribution

In an average building, the estimated heat and energy loss distribution is as follows:

Component	Approximate Contribution to Energy Loss
Walls	37%
Roof	16%
Floor	30%
Windows	24%
Ventilation	13%

NOTE: Percentages represent average values based on typical regional climatic conditions; actual results may vary according to design and insulation type.



Typical energy loss

Indicative Thermal and Fire Performance of Mada ProGuard External Wall Systems

			Finish Options			
Indicative Framing & Insulation	Fire Rating	Boarding	Direct Render		Insulated Render (IFS)	
			Thickness (mm)	U-value (W/m²K)	Thickness (mm)	U-value (W/m²K)
100mm Stud with 90mm infill (Density 50kg/m³)	60 min	External: 1x16mm ProGuard Internal: 1x16mm Impact Resistant	132	0.345	182	0.229
	120 min	External: 2x16mm Impact Resistant Internal: 1x12.5mm ProGuard	157		207	
125mm Stud with 100mm infill (Density 50kg/m³)	60 min	External: 1x16mm ProGuard Internal: 1x16mm Impact Resistant	157	0.315	207	0.215
	120 min	External: 2x16mm Impact Resistant Internal: 1x16mm ProGuard	182		232	
150mm Stud with 120mm infill (Density 50kg/m³)	60 min	External: 1x16mm ProGuard Internal: 1x16mm Impact Resistant	182	0.268	232	0.192
	120 min	External: 2x16mm Impact Resistant Internal: 1x12.5mm ProGuard	207		257	

FASTENING AND FRAMING

Thickness	Framing Spacing	Panel Orientation	Fastener Spacing-Metal Framing
12.5mm	600 mm o.c. max ^(a,b)	Parallel	200 mm o.c. along framing
16mm	600 mm o.c. max ^b	Parallel	200 mm o.c. along framing

- a. Only for mechanically attached claddings. When specified behind EIFS, maximum framing spacing for single layer 12.5 mm Mada ProGuard glass mat sheathing is 400 mm o.c.subject to frame design.
- b. For racking strength resistance, apply panel edges parallel with framing spaced a maximum of 400 mm o.c. for both 12.5 mm and 16 mm Mada ProGuard glass mat sheathing subject to frame design.
- c. Fire-rated assemblies may require additional fasteners, see specific assembly details.

Fastener	Description	Application	ProGuard Board		
			12.5mm	16mm	Layers
	Bugle-head fine-thread, corrosion-resistant drill point drywall screw	ProGuard Sheathing to heavy-gauge metal framing (18 gauge or thicker)	25mm	35mm	Single
			35mm	45mm	Double
	Bugle head fine thread, corrosion-resistant sharp point drywall screw	ProGuard Sheathing to light-gauge metal framing furring (20-25 gauge)	25mm	35mm	Single
			35mm	45mm	Double



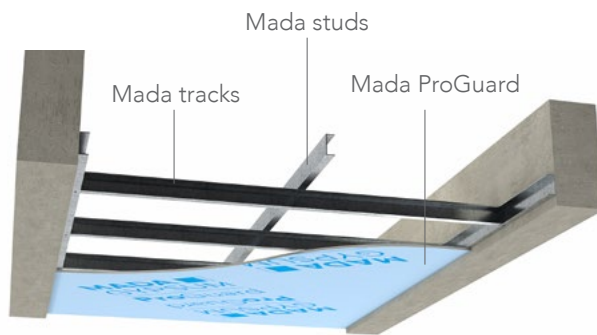
HOW CAN MADA HELP YOUR PROJECT

ARCHITECT						
	PROJECT ENGINEER					
			MAIN CONTRACTOR			
					INSTALLER	
Initial scoping of project	Surveys and brief	Concept design			Final design	Technical realisation of design
This is the stage where we meet the designers to discuss and present the available options	At this stage we gather the performance constraints to allow us to do the concept design	An indicative design is created by our in-house design team. The design is discussed and amended if needed then approved	At this stage the indicative design has been approved and final drawings are produced	Here we work closely with the designers and contractors to get the drawings to construction status A	Here we offer on-site technical support on design and installation	At this stage we can provide the design specification pack and supporting documentation on calculations

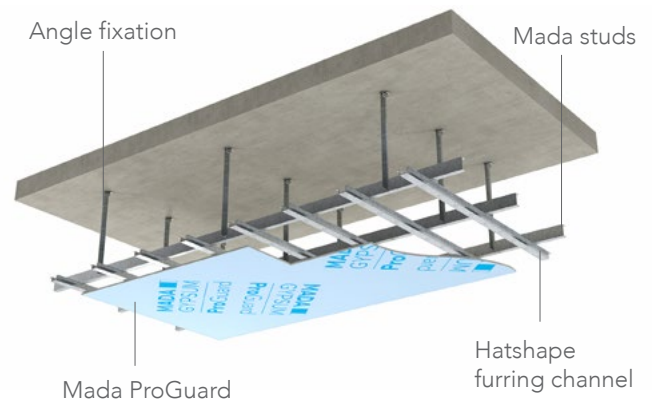


ASSEMBLY OPTIONS

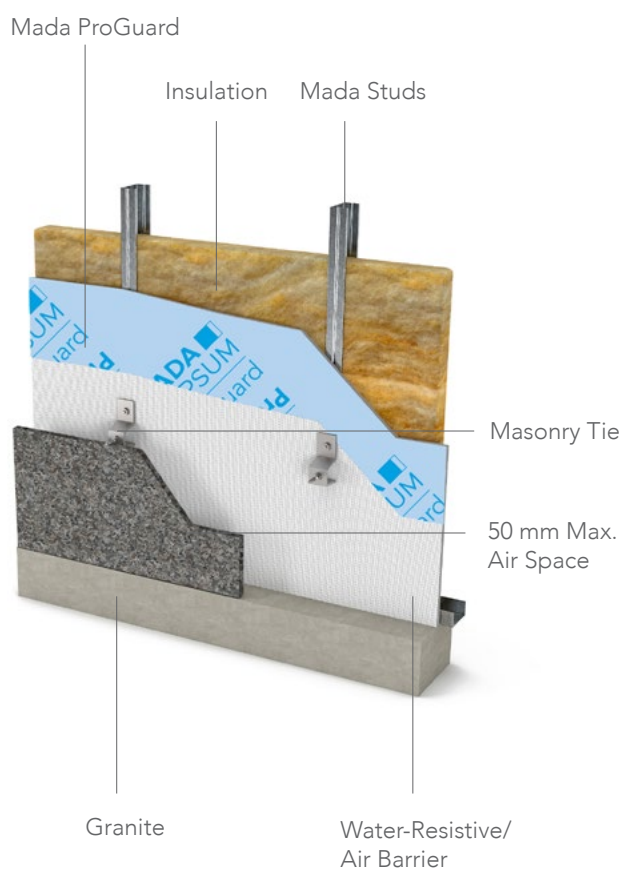
Exterior Ceiling (<3m)



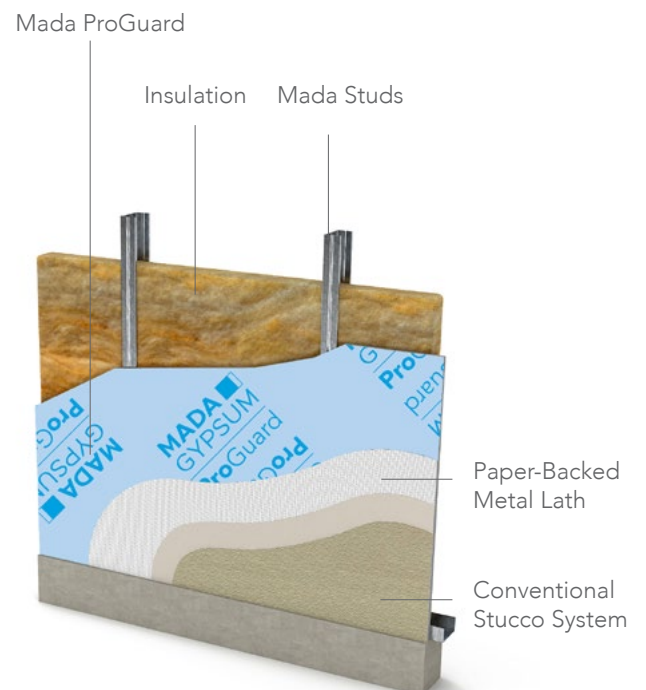
Exterior Ceiling (>3m)



Cladding



Stucco Rendering



PROGUARD ACCESSORIES



Mada Rockwool Insulation

Rockwool is an insulating material manufactured from natural minerals such as basalt, which are melted at very high temperatures and spun using advanced production techniques. The fibers are then bonded with a thermosetting resin binder and special additives. It has good thermal and acoustic properties, is lightweight and strong, and classed as non-combustible when tested to BS:476.



Mada Plus Procem Cement Jointing Compound

Mada PROCESM Cement Jointing Compound is a 2-component high-adhesion, high-flexibility jointing material. A powder based on special cement and a secondary, liquid-based, acrylic polymer element with fibers and special additives. Used for jointing and finishing Mada PLUS PROCESM cement board.



Head Office

P.O.Box 31542
Yanbu Al Sinayah 51000
Kingdom of Saudi Arabia

Tel:

+966 14 325 3253