



MgOboard

(Magnesium Oxide Board)

Product Brochure



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About us

Del Groups, with international experience and operating in Azerbaijan since 2018, delivers quality furniture, interiors, and innovative MgOboard solutions.

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MgOboard sheet

MgOboard – the next-generation eco panel: stronger, safer, and more versatile than gypsum or cement boards.

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Key Features & Advantages of MgOboard

MgOboard offers superior fire, water, mold, and impact resistance while remaining lightweight, eco-friendly, and easy to install. With excellent thermal and acoustic insulation, high durability, and pest resistance, it is ideal for diverse interior and exterior applications across residential, commercial, and public buildings.

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Why Use MgOboard?

MgOboard is a next-generation, eco-friendly building material offering fire safety, moisture resistance, durability, and superior insulation. With long-term cost savings, sustainable composition, and suitability for modular construction, it provides a safe, strong, and versatile solution for modern building needs.

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Product Specifications

Technical specifications, applications in construction, storage guidelines, and comparative analysis of MgOboard with similar materials.

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Comparison of MgOboard Features with Similar Materials

Compared to traditional materials like gypsum and cement boards, MgOboard stands out with superior fire resistance, complete water and mold resistance, higher impact strength, and better thermal/acoustic insulation. Unlike conventional boards, it is eco-friendly, recyclable, lightweight, and easier to install, making it a safer, more durable, and sustainable choice for modern construction.

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Applications of MgOboard Panels in Construction

MgOboard panels are durable, fire-resistant, and versatile, suitable for ceilings, partitions, floors, facades, and office furniture. They provide acoustic insulation, structural stability, and ease of installation, making them ideal for schools, hospitals, offices, and prefabricated buildings.

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Other Unique Advantages of MgOboard Panels

MgOboard offers innovative, environmentally friendly solutions with consistent quality. It is non-toxic, lightweight, fire- and moisture-resistant, and easy to work with. Sustainable in production, it consumes less energy, absorbs CO2, is durable, recyclable, and its by-products enrich the soil.

About Us

Del Groups, with a decade of experience in design, decoration, and manufacturing across Canada, Turkey and Italy, launched its focused operations in Azerbaijan in 2018. The goal was to elevate the standards of design, interior fit-out, and quality manufacturing in Azerbaijan - a dynamic, fast-growing market and a gateway to the broader Eurasian region.

At the first stage, by importing various cabinet boards, countertops, and related products, we established our position in the market and earned customer trust. Subsequently, we commissioned a modern factory and began manufacturing high-quality tables and chairs in line with international standards, rapidly gaining recognition in Azerbaijan and neighboring countries.

Responding to market demand and numerous customer requests, we expanded our product range - from kitchens to bedrooms, from tables and chairs to vanities, from TV stands to cabinets, and from executive desks to shelving, among others.

In pursuit of our strategic vision, we decided to increase production capacity and diversify our offerings to meet the needs of residential, office, commercial, and retail sectors. To that end, we upgraded our technical equipment and expanded the factory by establishing new departments, including dedicated chair and furniture production, metalworking, coating and painting, carpentry, service, and interior design units.

To address our own needs and market demand for high-quality building materials, from mid - 2024, and in cooperation with a knowledge-based company - after months of research and development - we succeeded in producing MgOboard sheets with a unique formulation, enhanced safety characteristics, and versatile applications. This development journey continues, with the aim of meeting market needs and moving toward a brighter future.





MgOboard Sheets

MgOboard sheets are magnesium oxide (MgO) panels produced with modern, eco-friendly technology. Alongside their special formulation, they are lightweight, moisture-resistant, fire-resistant, and impact-resistant; they are also anti-bacterial and provide both acoustic and thermal insulation. What distinguishes MgOboard from comparable building products is the practical, application-driven performance of these sheets across different parts of the building.

In appearance and performance, MgOboard is similar to gypsum boards or cement boards, but its manufacturing process produces a strong, durable material suitable for a wide variety of construction uses.

Using complementary components - such as studs, metal accessories, finishing materials, and fasteners - MgOboard can be used to build sandwich panels, partition walls, wall linings, suspended ceilings, ceiling overlays, raised floors, ceiling access panels, doors, interior decor, and even exterior facades. All these factors, combined with ease of use, make the application of these boards attractive and cost-effective.

This product is ideal for individuals sensitive to chemicals: it is free of formaldehyde and asbestos, and does not emit dust or carcinogenic volatile organic vapors. Compared with gypsum boards and cement panels, it offers higher resistance and durability, extends building service life, and is fully recyclable.



Key Features & Advantages of MgOboard

- **Fire resistance:** Non-combustible with high fire performance - ideal for projects where fire safety is a priority.
- **Moisture and mold resistance:** Highly resistant to moisture ingress and mold growth; suitable for humid or high-humidity spaces. MgOboard is also completely resistant to water and retains dimensional stability even under high-humidity conditions. These products do not decompose when exposed to water or freeze-thaw cycles, and they maintain their shape.
- **Strength & durability:** Robust, durable, and resilient under impact; suitable for both interior and exterior applications.
- **Impact resistance:** Thanks to their high strength and resistance properties, MgOboard products are highly resistant to mechanical impacts. This makes MgOboard an ideal choice for use in structures requiring high impact tolerance, such as partition walls in schools, hospitals, recreational centers, and public facilities.
- **Eco-friendly and recyclable:** The production process of MgOboard has a lower carbon footprint compared to cement. In addition, certain types are manufactured using recycled materials, which enhances environmental sustainability, making MgOboard a “green” building material. MgOboard products are also free from toxic substances and asbestos. Their open molecular structure and high vapor permeability prevent the growth of mold and fungi and deter insect infestation. These characteristics make MgOboard an ideal choice for maintaining a healthy and sustainable environment.
- **User-friendly:** easy to install, and fast to execute: MgOboard products can be easily cut, drilled, shaped, and installed using standard tools. Thanks to their light weight, transportation and installation are also very easy and quick. The smooth surface and high adhesion capability greatly simplify the finishing process.
- **High versatility:** MgOboards can be applied in a wide range of uses, including wall cladding, floor underlayment, ceilings, and other structural components.
- **Pest resistance:** MgOboards are not attractive to pests, including termites, which is a significant advantage in certain geographic regions.
- **Superior thermal and acoustic insulation:** MgOboard offers excellent thermal and sound insulation, improving the building’s energy efficiency (thermal conductivity coefficient: $0.213 \text{ W/(m}\cdot\text{K)}$). It also complies with acoustic performance standards - a 10 mm MgOboard panel provides 43 dB of sound insulation.



**WATER
RESISTANT**



**FIRE
RESISTANT**



**MOLD
RESISTANT**



**IMPACT
RESISTANT**



**PEST
RESISTANT**



**GREEN &
HYGIENIC**



**MAINTENANCE
FREE**



**WEAR
RESISTANT**



**MACHINING
FRIENDLY**

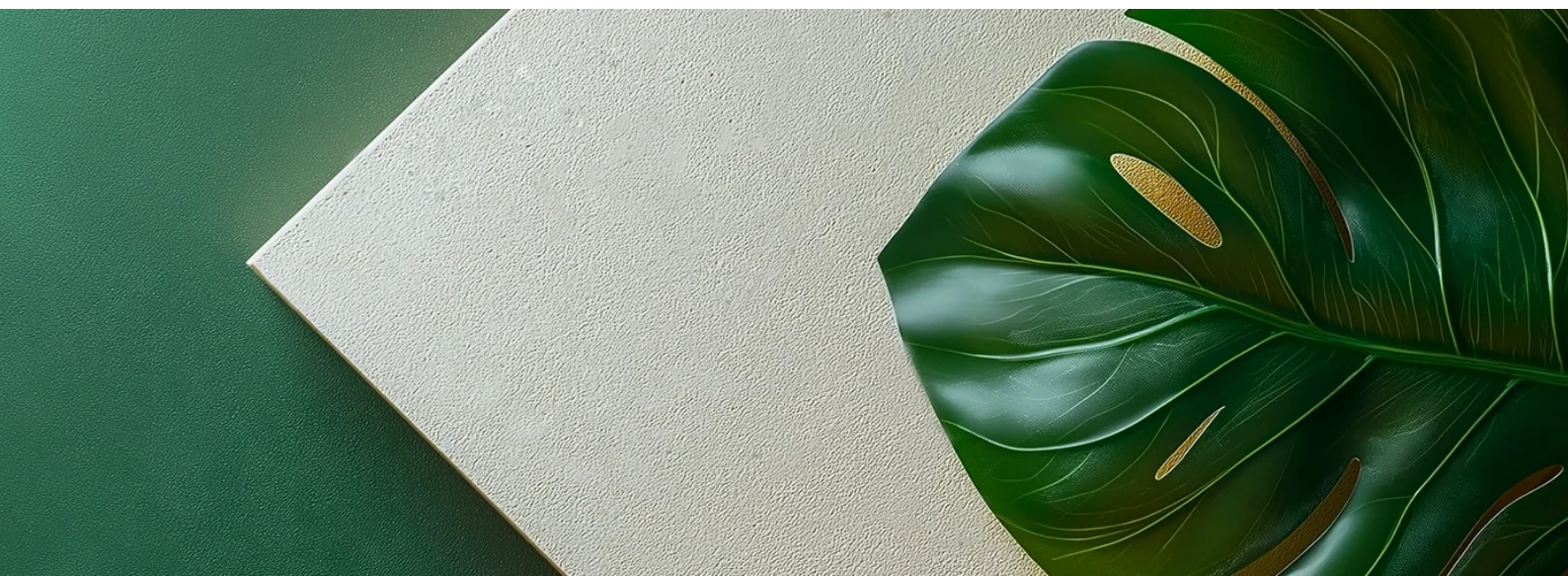


**MULTIPLE
APPLICATIONS**

Why Use MgOboard?

The necessity of using MgOboard arises from its numerous advantages:

- **Enhanced safety of building materials:** Due to its non-combustible nature, incorporating MgOboard in construction can significantly improve a building's fire resistance, minimize fire-related damage, and provide occupants with more time for safe evacuation.
- **High durability in challenging environmental conditions:** In regions with high humidity, frequent rainfall, or potential flooding, MgOboard's moisture resistance and mold prevention, greatly extend the lifespan of building components.
- **Eco-friendly construction:** With rising awareness of the environmental impacts of construction materials, MgOboard has emerged as a sustainable alternative to some conventional materials, fully compatible with green building standards and eco-friendly practices.
- **Long-term cost savings:** While the initial cost of MgOboard may be higher than that of certain other materials, its durability and resistance to fire, moisture, and pests minimize maintenance and replacement costs over the lifetime of the building.
- **Composition and structure:** MgOboard is manufactured using a special formulation consisting of expanded perlite, other additives, and a high-strength alkali-free fiberglass mesh, resulting in reinforced fibers and superior strength.
- **Outstanding technical properties:** Classified as Euroclass A1 in fire safety, MgOboard is recognized as a non-combustible protective panel. It also offers excellent thermal and acoustic insulation, while being lighter and stronger than many comparable protective sheets. Its high compressive and impact resistance allow it to function as a structural component, while water and moisture resistance guarantee broad usability in a wide range of construction and renovation projects.
- **Innovation in modular construction:** As the newest innovation among protective boards, MgOboard has been specifically designed for modular construction using steel or timber frames. This advanced material provides a safe, durable, and long-lasting solution, resistant to moisture absorption and free from steel corrosion risks.



Product Specifications

Flame spread surface class	Class 1
Fire reaction rating	A (Euroclass A1)
Flexural strength	12 MPa
Tensile strength	6 MPa
Water absorption	< 20% by weight
Density	950 – 1200 kg/m ³
Thermal conductivity	0.14 W/MK
Sound insulation	43 dB
Flexibility	Superior to comparable panels used in the construction industry. These panels are environmentally friendly, completely non-toxic, and entirely free from harmful substances and asbestos.

Dimensions & Appearance

Length	2440 mm
Width	1200 – 1220 mm
Thickness	6, 8, 10, 12, 16 mm (18, 20, 25 mm on request)
Raw panel colors	Cream / Ivory (other colors on request)



Weight per square meter of MgOboard sheets at different thicknesses

Thickness (mm)	Weight per square meter (kg)
5 mm	5.6 kg/m ²
6 mm	6.7 kg/m ²
8 mm	8.5 kg/m ²
10 mm	10.5 kg/m ²
12 mm	11.7 kg/m ²
16 mm	16.8 kg/m ²
18 mm	18.9 kg/m ²
20 mm	21 kg/m ²
25 mm	26.4 kg/m ²

Storage conditions before installation:
Store in a dry, covered, and ventilated place on a flat surface.





Substitution and Use of MgOboard Sheets in the Construction Industry

Application Area	Conventional Alternatives
Ceiling	Tile, Gypsum board, Sandwich panel, Fiber cement
Floor	Raised floor, Laminate, Ceramic, Washed concrete (exposed aggregate concrete)
Wall	Facing brick, Fire brick, Concrete block, Sandwich panel, Precast walls
Facade / Cladding	HPL sheets, Dry ceramic, Fiber cement
Decorative	MDF sheets, HDF sheets
Other	Prefabricated houses, Concrete curbs, Three-ply boards, Composite materials with resin and epoxy

Comparison of MgOboard Features with Similar Materials

Product Type / Feature		MgO board	Gypsum Board	Sandwich Panel	MDF Panel	Compact HPL	Ceramic	Cement Board	Concrete Stone
1	Fire resistance	✓	✗	✓	✗	✗	✓	✓	✓
2	Water resistance	✓	✗	✓	✗	✓	✓	✓	✗
3	Resistance to mold/fungus	✓	✓	✓	✗	✗	✓	✓	✓
4	Resistance to insect penetration	✓	✗	✓	✗	✗	✓	✓	✓
5	Moisture resistance	✓	✗	✓	✗	✗	✓	✓	✗
6	Dust-free / Low emissions	✓	✓	✓	✗	✗	✓	✗	✗
7	No special cutting tools required	✓	✓	✗	✗	✗	✗	✗	✗
8	Non-toxic	✓	✓	✗	✗	✗	✓	✗	✗
9	Lightweight	✓	✓	✓	✓	✓	✓	✗	✗
10	Interior & exterior use	✓	✗	✓	✗	✓	✓	✓	✓
11	Surface finishing / Laminating capability	✓	✗	✗	✓	✓	✗	✗	✗
12	Recyclable	✓	✗	✗	✗	✗	✗	✗	✗
13	Environmentally friendly (Green product)	✓	✗	✗	✗	✗	✓	✗	✗
14	Printable	✓	✗	✗	✓	✗	✓	✗	✗
15	Free from asbestos & VOCs	✓	✓	✓	✓	✓	✓	✓	✓
16	Color stability / Repairability	✓	✓	✗	✗	✗	✗	✗	✗
17	Flexibility	✓	✓	✗	✓	✗	✗	✗	✗
18	Fireproofing	✓	✓	✓	✗	✗	✓	✓	✓
19	Dry construction suitability	✓	✓	✓	✓	✓	✓	✓	✓
20	Acoustic insulation	✓	✓	✓	✗	✗	✗	✗	✓
21	Short wave insulation	✓	✗	✗	✗	✗	✗	✗	✗



Comparison of Technical Specifications of MgOboard with Similar Materials

	Title	Unit/Type	MgOboard	Gypsum Board	MDF	Ceramic	Cement Board
1	Flame Spread Surface	Class	1	1	2	1	1
2	Flame Spread Index (FSI)	FSI	0-5	15-25	100-150	0	0-5
3	Fire reaction rating	Rating	A0	A2	B2	A1	A0
4	Flexural strength dry	MPa	≤12	2.9	3.64	2.5	3.4
5	Compressive strength	N/mm2	10.2	6.6	8.4	11.1	10.1
6	Water absorption (by weight %)	%	≤ 20	≤ 46	≤ 32	2	12
7	Density	g/cm ³	0.9 – 1.2	0.97	0.8	0.9	1.2
8	Thermal conductivity	W/MK	0.14	0.11	0.19	1.15	0.15
9	Sound reduction	db	≥ 43	≥ 34	≥ 35	≥ 30	≥ 38
10	Thermal expansion	%	1.0	1.2	1.6	0.2	0.5
11	Strain (length change)	%	≥ 2.6	≥ 2.2	≥ 2.3	≥ 0.2	≥ 1.4

1. “Flame Spread Surface” or “flame spread index” is a metric that shows how quickly and to what extent fire spreads across the surface of a material. This index is very important in evaluating the fire safety of building materials.
2. A general measure describing how a material or a building system reacts to fire (including ignitability, flame spread, smoke production, and sometimes the shedding of flaming particles). This range varies from Class A0 - the best reaction (no ignition or very limited ignition) - to Class F without a successful test.
3. The maximum stress that a material can withstand under bending load in the dry condition (without additional moisture) before failure or permanent deformation.
4. The ratio of the maximum compressive load (before crushing or excessive deformation) to the loaded cross-sectional area.
5. The percentage increase in a material's weight relative to its initial dry weight after absorbing water. This percentage indicates how much water the material absorbs in its structure or on its surface.
6. The amount of mass contained in a unit volume of a material. This index indicates how “heavy” or “light” a material is relative to its volume.
7. A material's ability to transfer or conduct heat from its hot side to its cold side. The lower this number is, the lower the material's thermal conductivity.
8. Indicates the difference in the level of sound intensity between the two sides of a wall or panel. The higher this value, the better the object functions as a sound insulator.
9. The extent to which a material enlarges as a result of heat.
10. The amount of change in the length of an object along its principal (longitudinal) axis due to force or heat.

Applications of MgOboard Panels in Construction

1. Interior and exterior spaces: MgOboard panels are versatile and durable sheets that can serve multiple purposes in both interior and exterior building applications.
2. Ceilings: MgOboard panels can be used as suspended ceilings or as substrates for other ceiling finishes.
3. Partitions: MgOboard panels can be used as non-load-bearing partition walls, making them a suitable option for office spaces and other areas where privacy is important.
4. Acoustic insulation: MgOboard panels can be used to reduce noise levels in recording studios, offices, and residential spaces.
5. Fire resistance: MgOboard panels are fire-resistant, making them an excellent choice for use in areas where fire safety is critical, such as schools, hospitals, shopping centers, banks, etc. They are also suitable for the production of fire-rated doors.
6. Strength and stability: Prefabricated SIPs (Structural Insulated Panels) using MgOboard have a lower likelihood of collapse or breakage during earthquakes, reducing the amount of debris generated (applicable in hospitals, schools, and hotels).
7. Raised ceilings and floors: Due to their light weight, fire resistance, and ease of installation, MgOboard panels are an ideal choice for suspended ceilings and raised floors.
8. Exterior finishing / facade overlay.
9. Protective underlayment beneath wall and floor tiles.
10. Prefabricated buildings.
11. Office furniture: In the production of office furniture such as cupboards, shelving units, bookcases, and cabinets, MgOboard panels serve as a suitable replacement for MDF and HDF boards.
12. Elevator shaft cladding.



Other Unique Advantages of MgOboard Panels in the Construction Industry

✓ **Innovation:**

- Gypsum-free
- Environmentally friendly
- Consistent performance and quality guaranteed, aligned with advanced know-how

✓ **Performance:**

- Non-toxic and safe for cutting
- Free from crystalline silica and benzene
- Resistant to fire, moisture, termites, and other insects
- Lightweight
- Easy nailing and screwing capability

✓ **Sustainability:**

- Requires less energy for production
- Absorbs CO2 during the manufacturing process
- Durable material
- Recyclable production waste
- Waste by-products are recognized as nutrients for soil







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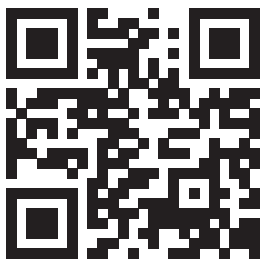
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