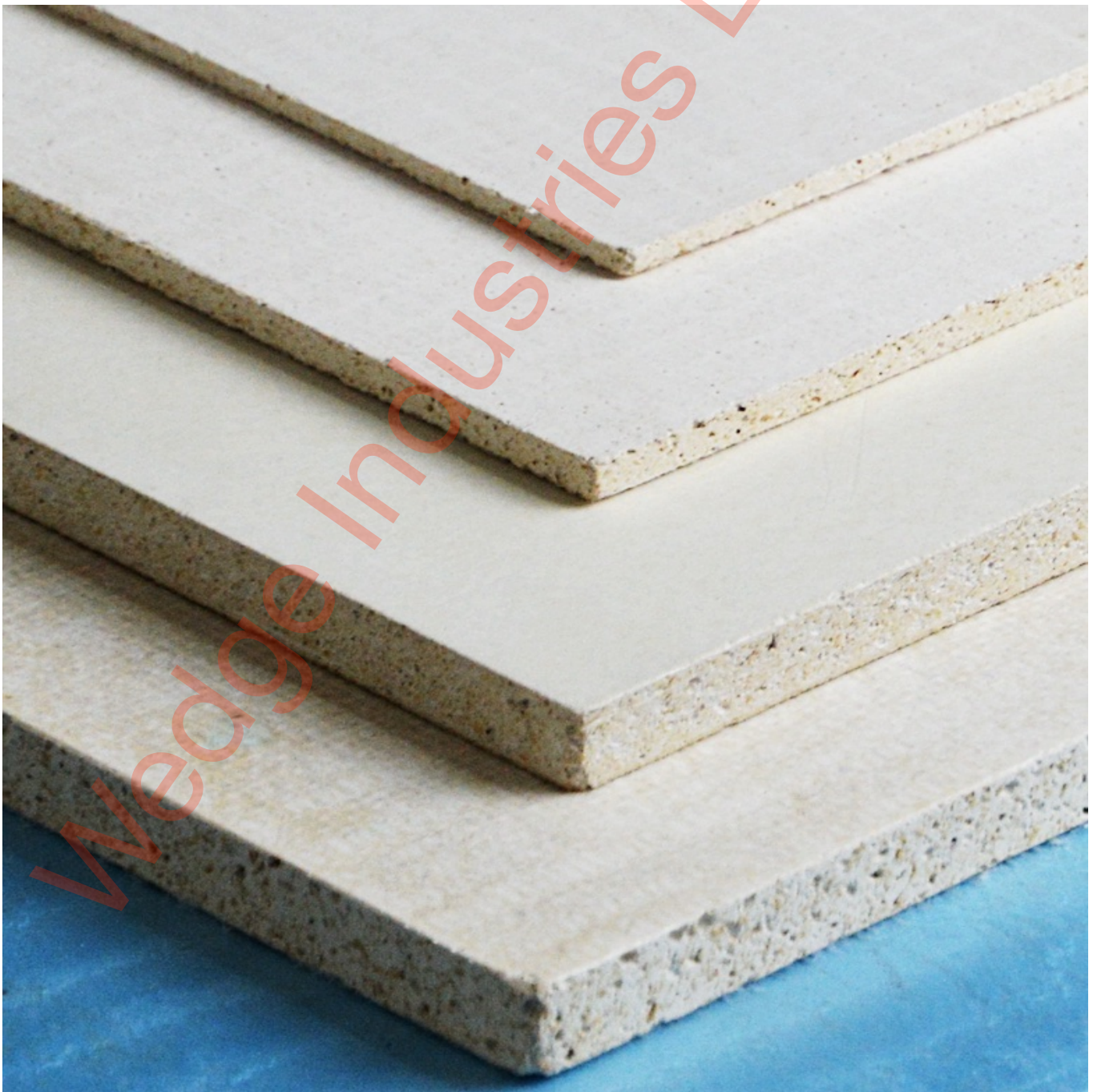


# Wedge India

## WegdeMAG | $\text{MgSO}_4$ MgO Board

High Strength | Long Life | Fire Resistant | Heat & Sound Insulated





Moisture Resistance



Impact Resistance



Fire Resistance



Insect Resistance



Heat Resistance



Mold Resistance



Recyclable



Durable



Flexible



Health Safe



Building Safe



Easy cut and work with



## WedgeMAG | High Strength Wedge Magnesium Sulphate Board

WedgeMAG MgO board is mainly made of magnesium oxide, magnesium sulphate or magnesium chloride, perlite and wood fiber. It is a material which neither burns nor gives off flammable vapours in sufficient quantity for self-ignition when heated to approximately 800°C. It does not spread flames or smoke.

The WedgeMAG MgO board product line is engineered to eliminate the toughest problems faced by architects, engineers, contractors, and builders today while also making construction easier.

Addressing both, magnesium-oxide boards result in lower construction costs during installation and reduced maintenance expenses over the lifespan of the building.

Magnesium Oxide (MgO) wallboards are an alternative construction material to fibre cement and gypsum sheeting and are a relatively new product in the Indian market. MgO boards are now used in several exterior and interior applications including exterior sheathing, wall and ceiling linings, facias, and soffits.

They are now widely distributed as prefabricated wall systems. MgO products are selected for their fire resistance, strength, resistance to mould and mildew, and have a lower environmental footprint.

Magnesium oxide (burnt magnesium) is produced by the thermal decomposition of magnesium carbonate  $MgCO_3$ . High melting points as well as chemical inertness and thermal stability determine the preferred use of magnesia in the manufacture of refractory materials used in the high temperature processes of steel, cement, lime, glass and non-ferrous metals.

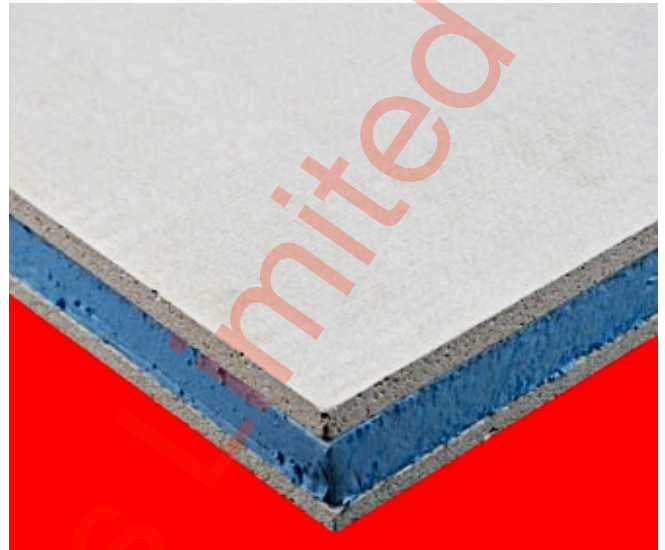
The world's largest consumer of magnesium is the refractory industry. The metallurgical industry needed high-quality refractory materials that can withstand molten metal. The magnesite has become one of such refractory natural materials because its main quality parameter is high heat resistance.

Magnesium oxide board (MgO board) is a large format construction board, generally in white colour. MgO board is made from environmentally friendly natural material that is safe for health and does not release toxic substances when used. Important features of the magnesite board are that it is fire resistant, elastic and solid, frost-resistant, waterproof, ecological, antiallergic, heat-reflective, healthy, resistant to mold and rodent.

A unique feature of the magnesium oxide board is that the board actively consumes  $CO_2$  from the air throughout its life cycle, thereby continuously cleaning it and improving the quality of the indoor environment.

The magnesium oxide panel can be used practically everywhere. This product is used for ceilings, partitions, fireplaces, all types of interior and exterior wall cladding, ventilated facades, creative ceilings and wherever a building needs to be protected from fire, rot and mold. They can be easily tiled, plastered or painted.

MgO board consists of 67% MgO, 18%  $SiO_2$ , 5% Fly Ash Filler, 9% additives and 1% Fiberglass gauze. MgO (Magnesium Oxide) boards are primarily composed of magnesium oxide (MgO), but they also contain several other materials to enhance their properties. The exact chemical composition of WedgeMAG MgO boards may vary slightly depending on the manufacturer and product type.



Here is a typical chemical composition for WedgeMAG MgO boards:

**Magnesium Oxide MgO:** This is the primary component of WedgeMAG MgO boards, making up a significant portion of their composition. Magnesium oxide provides fire resistance and contributes to the boards' overall strength.

**Magnesium Sulphate  $MgSO_4$ :** To improve the resistance to degradation of the  $MgCl_2$  based MgO product, MgO boards containing  $MgSO_4$  have been introduced to the market because of the less hygroscopic behaviour of magnesium sulphate compared to magnesium chloride.

**Perlite:** Perlite is a naturally occurring volcanic mineral that is added to the WedgeMAG MgO board mix to improve insulation properties, reduce the overall weight of the board, and enhance fire resistance.

**Cellulose Fibers or Wood Chips:** Wood chips or cellulose fibers are sometimes added to the mixture to improve the structural integrity and reduce brittleness. They also help with the board's resistance to cracking.

**Fiberglass Mesh:** A layer of fiberglass mesh is often embedded in the board during the manufacturing process to provide additional reinforcement and prevent cracking.

**Other Additives:** Depending on the manufacturer and product type, additional additives, such as fillers, stabilizers, and proprietary ingredients, may be included to enhance properties like moisture resistance, mold resistance, and workability.

The combination of these materials creates WedgeMAG MgO boards with a unique set of properties, including high fire resistance, moisture resistance, durability, and strength.

The exact formulation and proportions of these components can vary among different WedgeMAG MgO board products, so it's important to refer to the manufacturer's specifications and guidelines for the specific WedgeMAG MgO boards to use.





## WedgeMAG | High Strength Wedge Chloride Free MgO Board

WedgeMAG MgO board, also known as magnesium oxide board or MgO panel, is a type of building material that has gained popularity in construction and interior design due to its various beneficial properties. It is a versatile and environmentally friendly alternative to traditional construction materials like gypsum board (drywall) or cement board.

WedgeMAG MgO boards have gained popularity as a versatile building material due to their fire resistance, moisture resistance, durability, and eco-friendliness. They are used in residential and commercial construction projects for various applications, including wall and ceiling systems, flooring, and exterior cladding. However, it's important to follow the manufacturer's guidelines for installation and use to ensure the best performance and longevity of WedgeMAG MgO boards in specific applications.



### Features & Benefits of WedgeMAG Boards

**Composition:** WedgeMAG MgO boards are typically composed of magnesium oxide (MgO), magnesium sulphate (MgSO<sub>4</sub>), perlite, wood chips, and fiberglass mesh. These materials are mixed and formed into sheets, which are then cured to create the finished product.

**Fire resistance:** One of the primary advantages of WedgeMAG MgO boards is their exceptional fire resistance. They are non-combustible and can withstand high temperatures without releasing toxic fumes. This makes them suitable for applications where fire safety is a concern.

**Moisture resistance:** WedgeMAG MgO boards are also highly resistant to moisture, making them suitable for use in areas prone to dampness or humidity, such as bathrooms and kitchens. They do not rot, warp, or degrade when exposed to water.

**Mold and mildew resistance:** Due to their moisture resistance, WedgeMAG MgO boards are less susceptible to mold and mildew growth compared to materials like drywall. This makes them a good choice for environments where maintaining indoor air quality is important.

**Strength and durability:** WedgeMAG MgO boards are strong and durable, with good impact resistance. They can be used for various applications, including as wall and ceiling panels, exterior cladding, and subflooring.

**Ease of installation:** WedgeMAG MgO boards are relatively lightweight and easy to work with. They can be cut, drilled, and fastened using standard tools. Their versatility makes them a practical choice for DIY projects as well as professional construction.

**Environmental considerations:** WedgeMAG MgO boards are considered environmentally friendly because they are made from natural and recyclable materials. They do not contain harmful substances like asbestos, and the production process generates minimal waste.

**Insulation properties:** WedgeMAG MgO boards have some insulating properties, both in terms of thermal and sound insulation. They can help improve the energy efficiency and acoustic performance of buildings.

**Exterior applications:** WedgeMAG MgO boards can be used as exterior cladding or siding for buildings. They are weather-resistant and can provide an attractive and durable finish to structures.

**Printability and finishes:** WedgeMAG MgO boards can be painted, textured, or coated to achieve various aesthetic effects. They can be finished to match different design preferences.



## WedgeMAG | Internal Wall, SIP, Ceiling Wedge MgO Board

WedgeMAG MgO boards are often used as interior wall and ceiling panels in residential and commercial buildings. They provide a smooth and durable surface that can be painted or finished to suit the design aesthetics.

### Technical properties of WedgeMAG Boards

Parameter	WedgeMAG-3	WedgeMAG-4	WedgeMAG-5
Base Materials	MgSO <sub>4</sub>	MgSO <sub>4</sub>	MgSO <sub>4</sub>
Thickness, mm	3	4	5
Max Temperature Resistance °C	1200	1200	1200
Resistance to freezing °C	- 20	- 20	- 20
Density, kg/m <sup>3</sup> , ASTM C 1186	900	900	916
Fire Rating, Minutes	240	240	240
Non Combustibility	A1	A1	A1
Acoustic Sound Insulation, DB	42	42	42
Impact Shock Resistance, kJ/m <sup>2</sup>	3.5	3.5	3.5
Compressive strength, Mpa	12	12	14
Bending strength dry, Mpa	14	14	14
Bending strength wet, Mpa	6	6	6.7
Screw Pull out Strength, N	688	770	790
Moisture content %	6.50 to 8.9	6.50 to 8.9	6.50 to 8.9
Freeze-thaw cycles	50	50	50
Moisture movement, %	0.18	0.18	0.18
Water absorption, %	28	28	28
Water permeability after 24 hours, water gauge 5 cm	Lack of leakage	Lack of leakage	Lack of leakage
Dry Shrinkage, maximum %	0.2	0.2	0.2
Wet expansion, maximum %	0.1	0.1	0.1
Thermal conductivity, W/(m·K)	0.12	0.12	0.12
Asbestos or formaldehyde	None	None	None
Warranty, Years	50	50	50
Growth of Mold & Mildew	No Growth	No Growth	No Growth
MgO %	50 to 60	50 to 60	50 to 60
MgSO <sub>4</sub>	25 to 30	25 to 30	25 to 30
Fiber	5 to 6	5 to 6	5 to 6
Perlite	3 to 4	3 to 4	3 to 4
Chloride content, maximum %	0.03	0.03	0.03

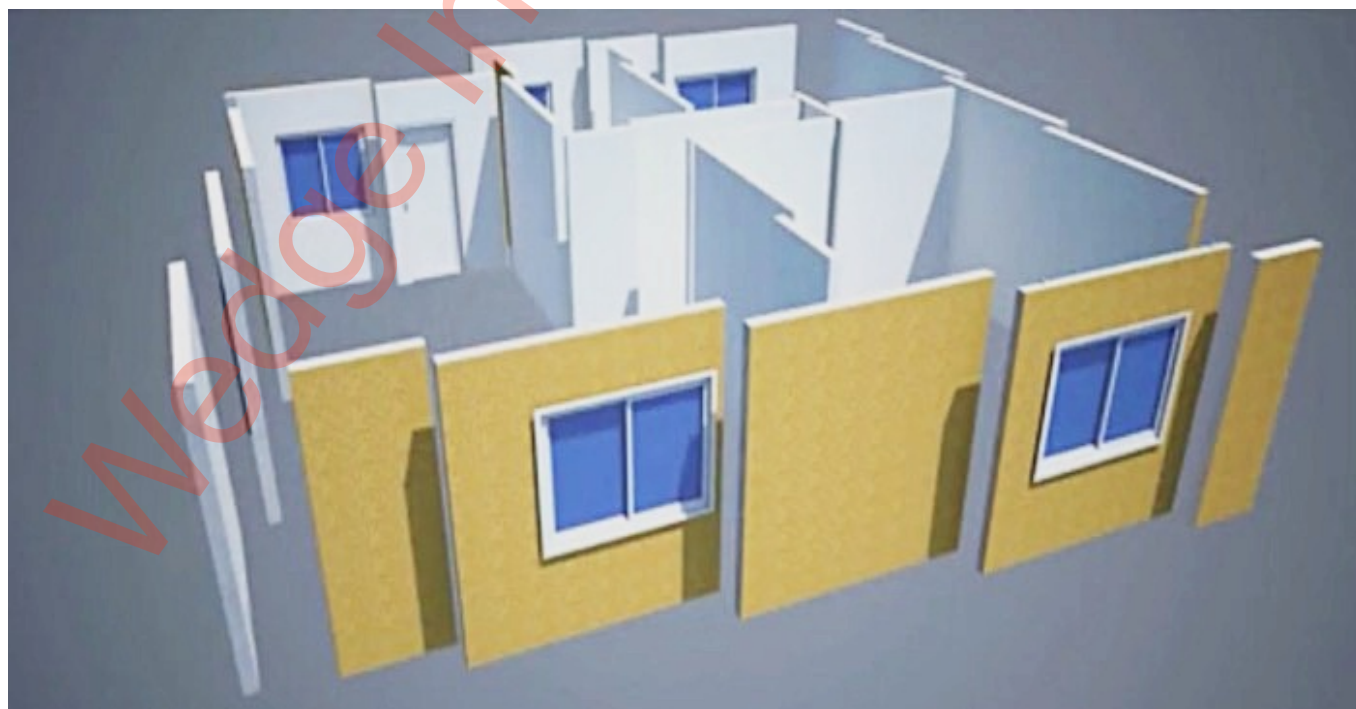


## WedgeMAG | Internal Wall, SIP, Ceiling Wedge MgO Board

WedgeMAG MgO boards are often used as interior wall and ceiling panels in residential and commercial buildings. They provide a smooth and durable surface that can be painted or finished to suit the design aesthetics.

### Technical properties of WedgeMAG Boards

Parameter	WedgeMAG-6	WedgeMAG-8	WedgeMAG-9
Base Materials	MgSO <sub>4</sub>	MgSO <sub>4</sub>	MgSO <sub>4</sub>
Thickness, mm	6	8	9
Max Temperature Resistance °C	1200	1200	1200
Resistance to freezing °C	- 20	- 20	- 20
Density, kg/m <sup>3</sup> , ASTM C 1186	960	960	980
Fire Rating, Minutes	240	240	240
Non Combustibility	A1	A1	A1
Acoustic Sound Insulation, DB	42	42	42
Impact Shock Resistance, kJ/m <sup>2</sup>	3.5	3.5	4.5
Compressive strength, Mpa	14	15	15
Bending strength dry, Mpa	14	14	14
Bending strength wet, Mpa	7	8.5	8.5
Screw Pull out Strength, N	850	890	980
Moisture content %	6.50 to 8.9	6.50 to 8.9	6.50 to 8.9
Freeze-thaw cycles	50	50	50
Moisture movement, %	0.18	0.18	0.18
Water absorption, %	28	28	28
Water permeability after 24 hours, water gauge 5 cm	Lack of leakage	Lack of leakage	Lack of leakage
Dry Shrinkage, maximum %	0.2	0.2	0.2
Wet expansion, maximum %	0.1	0.1	0.1
Thermal conductivity, W/(m·K)	0.12	0.13	0.13
Asbestos or formaldehyde	None	None	None
Warranty, Years	50	50	50
Growth of Mold & Mildew	No Growth	No Growth	No Growth
MgO %	50 to 60	50 to 60	50 to 60
MgSO <sub>4</sub>	25 to 30	25 to 30	25 to 30
Fiber	5 to 6	5 to 6	5 to 6
Perlite	3 to 4	3 to 4	3 to 4
Chloride content, maximum %	0.03	0.03	0.03





## WedgeMAG | External Wall, Sheathing, Cladding, Floor, Tile Backer

WedgeMAG MgO boards can be used as exterior cladding or siding for buildings. They are weather-resistant and provide an attractive and long-lasting finish. In some cases, WedgeMAG MgO boards can be used as a flooring material, especially in areas where moisture resistance is required. They can be covered with various flooring materials, such as tiles or laminate. WedgeMAG MgO boards can serve as a subflooring material, providing a stable and moisture-resistant base for finished flooring materials like hardwood or tile. WedgeMAG MgO boards are commonly used as tile backer boards in bathrooms and kitchens. They provide a strong and moisture-resistant substrate for tile installations.

### Technical properties of WedgeMAG Boards

Parameter	WedgeMAG-10	WedgeMAG-12	WedgeMAG-16
Base Materials	MgSO <sub>4</sub>	MgSO <sub>4</sub>	MgSO <sub>4</sub>
Thickness, mm	10	12	16
Temperature Resistance °C	1200	1200	1200
Resistance to freezing °C	- 20	- 20	- 20
Density, kg/m <sup>3</sup>	1000	1050	1250
Fire Rating, Minutes	240	240	240
Non Combustibility	A1	A1	A1
Acoustic Insulation, DB	42	43	43
Impact Resistance, kJ/m <sup>2</sup>	5	6	8
Compressive strength, Mpa	15	18	35
Bending strength dry, Mpa	14	16	30
Bending strength wet, Mpa	10	13	16
Screw Pull out Strength, N	1000	1480	1600
Moisture content %	6.50 to 8.9	6.50 to 8.9	6.50 to 8.9
Freeze-thaw cycles	50	50	50
Moisture movement, %	0.18	0.18	0.18
Water absorption, %	28	10	20
Water permeability 24 hours, water gauge 5 cm	Lack of leakage	Lack of leakage	Lack of leakage
Dry Shrinkage, %	0.2	0.2	0.2
Wet expansion, %	0.1	0.1	0.1
Thermal conductivity, W/(m·K)	0.13	0.167	0.167
Asbestos or formaldehyde	None	None	None
Warranty, Years	50	50	50
Growth of Mold & Mildew	No Growth	No Growth	No Growth
MgO %	50 to 60	50 to 60	50 to 60
MgSO <sub>4</sub>	25 to 30	25 to 30	25 to 30
Fiber	5 to 6	5 to 6	5 to 6
Perlite	3 to 4	3 to 4	3 to 4
Chloride content, %	0.03	0.1	0.1





## WedgeMAG | External Wall, Sheathing, Cladding, Floor, Tile Backer

WedgeMAG MgO boards can be used as exterior cladding or siding for buildings. They are weather-resistant and provide an attractive and long-lasting finish. In some cases, WedgeMAG MgO boards can be used as a flooring material, especially in areas where moisture resistance is required. They can be covered with various flooring materials, such as tiles or laminate. WedgeMAG MgO boards can serve as a subflooring material, providing a stable and moisture-resistant base for finished flooring materials like hardwood or tile. WedgeMAG MgO boards are commonly used as tile backer boards in bathrooms and kitchens. They provide a strong and moisture-resistant substrate for tile installations.

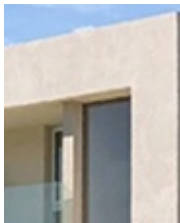
### Technical properties of WedgeMAG Boards

Parameter	WedgeMAG-18	WedgeMAG-20	WedgeMAG-25
Base Materials	MgSO <sub>4</sub>	MgSO <sub>4</sub>	MgSO <sub>4</sub>
Thickness, mm	18	20	25
Temperature Resistance °C	1200	1200	1200
Resistance to freezing °C	- 20	- 20	- 20
Density, kg/m <sup>3</sup>	1250	1350	1350
Fire Rating, Minutes	240	240	240
Non Combustibility	A1	A1	A1
Acoustic Insulation, DB	43	48	48
Impact Resistance, kJ/m <sup>2</sup>	8.5	9	10
Compressive strength, Mpa	35	35	40
Bending strength dry, Mpa	30	30	30
Bending strength wet, Mpa	17	18	18
Screw Pull out Strength, N	1650	1650	1800
Moisture content %	6.50 to 8.9	6.50 to 8.9	6.50 to 8.9
Freeze-thaw cycles	50	50	50
Moisture movement, %	0.18	0.18	0.18
Water absorption, %	20	20	20
Water permeability 24 hours, water gauge 5 cm	Lack of leakage	Lack of leakage	Lack of leakage
Dry Shrinkage, %	0.2	0.2	0.2
Wet expansion, %	0.1	0.1	0.1
Thermal conductivity, W/(m·K)	0.167	0.167	0.167
Asbestos or formaldehyde	None	None	None
Warranty, Years	50	50	50
Growth of Mold & Mildew	No Growth	No Growth	No Growth
MgO %	50 to 60	50 to 60	50 to 60
MgSO <sub>4</sub>	25 to 30	25 to 30	25 to 30
Fiber	5 to 6	5 to 6	5 to 6
Perlite	3 to 4	3 to 4	3 to 4
Chloride content, %	0.1	0.1	0.1



## WedgeMAG | Applications

MgO (Magnesium Oxide) boards are versatile construction materials known for their durability, fire resistance, and moisture resistance. They find applications in various areas of construction and interior design. Here are some common applications of WedgeMAG MgO boards:



### Interior Wall and Ceiling Panels

WedgeMAG MgO boards are often used as interior wall and ceiling panels in residential and commercial buildings. They provide a smooth and durable surface that can be painted or finished to suit the design aesthetics.

### Exterior Cladding

WedgeMAG MgO boards can be used as exterior cladding or siding for buildings. They are weather-resistant and provide an attractive and long-lasting finish.



### Flooring

In some cases, WedgeMAG MgO boards can be used as a flooring material, especially in areas where moisture resistance is required. They can be covered with various flooring materials, such as tiles or laminate.

### Subflooring

WedgeMAG MgO boards can serve as a subflooring material, providing a stable and moisture-resistant base for finished flooring materials like hardwood or tile.



### Tile Backer Board

WedgeMAG MgO boards are commonly used as tile backer boards in bathrooms and kitchens. They provide a strong and moisture-resistant substrate for tile installations.

### Fire-Rated Applications

Due to their exceptional fire resistance, WedgeMAG MgO boards are used in fire-rated wall assemblies and ceilings to enhance fire safety in buildings.

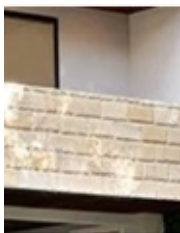


### Partition Walls

WedgeMAG MgO boards can be used to create partition walls in interior spaces, providing separation and sound insulation between rooms.

### Exterior Sheathing

WedgeMAG MgO boards can be used as exterior sheathing in residential and commercial buildings to provide additional insulation and weatherproofing.

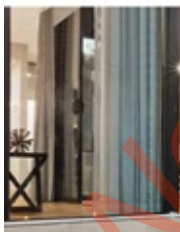


### Facade Systems

In architectural designs, WedgeMAG MgO boards are used in facade systems to achieve a specific aesthetic while providing durability and protection against the elements.

### Furniture and Cabinetry

WedgeMAG MgO boards can be used to make custom furniture pieces, cabinets, and shelving due to their strength and versatility.



### Decorative Features

WedgeMAG MgO boards can be cut and shaped to create decorative features, such as wall panels, moldings, and decorative ceilings.

### Acoustic Insulation & Soundproofing

WedgeMAG MgO boards can be used in soundproofing applications to reduce noise transmission between rooms or floors in multi-story buildings.



### Roof Underlayment

In some cases, WedgeMAG MgO boards are used as roof underlayment to provide additional protection and insulation under roofing materials.

### Eco-Friendly Building

WedgeMAG MgO boards are considered environmentally friendly because they are made from natural and recyclable materials, making them suitable for eco-conscious building projects.

The versatility of WedgeMAG MgO boards and their excellent fire and moisture resistance properties make them suitable for a wide range of applications in the construction industry.

## WedgeMAG | Advantages & Benefits Wedge MgO Boards

Wedge MgO (Magnesium Oxide) boards offer several advantages that make them a popular choice in the construction industry. Here are some of the key advantages of WedgeMAG MgO boards.

### Fire Resistance

WedgeMAG MgO boards are highly fire-resistant and non-combustible. They can withstand high temperatures without releasing toxic fumes, making them an excellent choice for fire-rated applications.

### Moisture Resistance

WedgeMAG MgO boards are highly moisture-resistant and do not degrade or warp when exposed to water. This property makes them suitable for use in areas prone to dampness or high humidity, such as bathrooms and kitchens.

### Mold and Mildew Resistance

Due to their moisture resistance, WedgeMAG MgO boards are less susceptible to mold and mildew growth compared to materials like drywall. This contributes to better indoor air quality.

### High Strength and Durability

WedgeMAG MgO boards are strong and durable, with good impact resistance. They can be used for various structural and non-structural applications, providing stability and longevity to structures. When properly installed and maintained, WedgeMAG MgO boards can have a long service life, reducing the need for frequent replacements or repairs.

### Versatility

WedgeMAG MgO boards are versatile and can be used for a wide range of applications, including interior and exterior wall and ceiling panels, flooring, exterior cladding, subflooring, and as a substrate for tile installations.

### Environmental Friendliness

WedgeMAG MgO boards are considered environmentally friendly because they are made from natural and recyclable materials. They do not contain harmful substances like asbestos, and the production process generates minimal waste.

### Ease of Installation

WedgeMAG MgO boards are relatively lightweight and easy to work with. They can be cut, drilled, and fastened using standard tools. Their ease of installation makes them suitable for both DIY projects and professional construction.

### Paintability and Finishes

WedgeMAG MgO boards can be painted, textured, or coated to achieve various aesthetic effects. They can be finished to match different design preferences.

### Acoustic Insulation Sound Proofing

WedgeMAG MgO boards have some insulating properties, both in terms of thermal and sound insulation. They can help improve the energy efficiency and acoustic performance of buildings.

### Longer Life in Exterior Applications

WedgeMAG MgO boards can be used as exterior cladding or siding for buildings. They are weather-resistant and can provide an attractive and durable finish to structures.

### Compatibility with Other Building Materials

WedgeMAG MgO boards are compatible with a wide range of construction materials and systems, making them adaptable to various building designs and requirements.





## WedgeMAG | Material Test Report ASTM &amp; EN12467, 12667

Item Details & Test Standards	WEMAG S12
Base Materials	MgO, MgSO <sub>4</sub> , Perlite
Thickness, mm	12
Short term Temperature Resistance °C	1400
Long term Temperature Resistance °C	800
Resistance to freezing °C	- 20
Density, kg/m <sup>3</sup> , BS EN 12467 -2012, ASTM C 1186, minimum	1050
Fire Rating, Minutes	240
Reaction to fire, Non Combustibility BS 476 Part4, EN13501-1	A1
Acoustic Sound Insulation, DB	43
Impact Shock Resistance ASTM D5328, kJ/m <sup>2</sup>	6
Compressive strength, Mpa	18
Bending strength dry, ASTM C 1185/ISO 8335, Mpa, EN12467:2012 +A1:2016	16
Bending strength wet, Mpa	13
Screw Pull out Strength, N	1480
Direct Screw Withdrawal, ASTM D1037-12, N	1000
Moisture content %	6.50 to 8.9
Frost resistance Freeze Thaw cycles, EN12467:2012+A1:2016	50
Moisture movement, ASTM C1185, EN12467:2012 +A1:2016 %	0.18
Water absorption, ASTM C1185, %	10
Water permeability after 24 hours, water gauge 5 cm	Lack of leakage
Water Vapour Permeability, EN12467:2012+A1:2016	Water vapour resistance value µm: 31
Water Impermeability, EN12467:2012+A1:2016	Passed
Dry Shrinkage, ASTM C 1186-08, maximum %	0.2
Wet expansion ASTM C 1186-08, maximum %	0.1
Thermal conductivity, ASTM C177, EN12667:2001, W/(m·K)	0.186
Thermal Resistance, EN12667:2001, (m <sup>2</sup> ·K)/W	0.065
Asbestos or formaldehyde	None
Warranty, Years	50
Fire Resistant, EN ISO1182 &1176	A1
Surface burning and smoke, ASTM E 84-12	A
Free chloride content, %	None
Growth of Mold & Mildew ASTM D3273	No Growth
MgO %	50 to 60
MgSO <sub>4</sub>	25 to 30
MgCl <sub>2</sub>	None
Fiber	5 to 6
Perlite	3 to 4
Chloride content, ASTM C 871 maximum %	0.1
Dimensional Tolerance, EN12467:2012 +A1:2016, Width	±2mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Thickness	±0.2mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Edge Straightness, %	±0.02mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Squareness, mm/m	±0.08mm



## WedgeMAG | Comparison with other Building Boards

Products & Features	WedgeMAG MgO Board	Fiber Cement Board	MgO Board Standard	Gypsum Board	OSB / Plywood
Weight	Medium	High	Medium	Low	Medium
Fire Resistant, 120 minutes	9 - 12 mm	20 mm	12 mm	48 mm	NA
Water Resistant	Very High	Medium	Medium	Poor	Poor
Mould/Insect Resistant	Excellent	Good	Excellent	Poor	Poor
Flexibility	Excellent	Poor	Excellent	Poor	Poor
Fasten Strength	Excellent	Poor	Excellent	Poor	Excellent
Environmental	Good	Asbestos Risk	Good	Poor	Good
Chloride %	None	Yes	High	None	None
Impact Resistance	Very High	Very High	High	Very Low	Medium
Bending Strength	Very High	Very High	High	Very Low	High
Compressive Strength	Very High	Very High	High	Very Low	High
Durability Life, Years	30 - 50	40 - 50	25	15 - 20	30 to 50
External Wall Use	Yes	Yes	Required Coat	No	Required Coat



❌ Example: **Gypsum Board** Not termite resistant



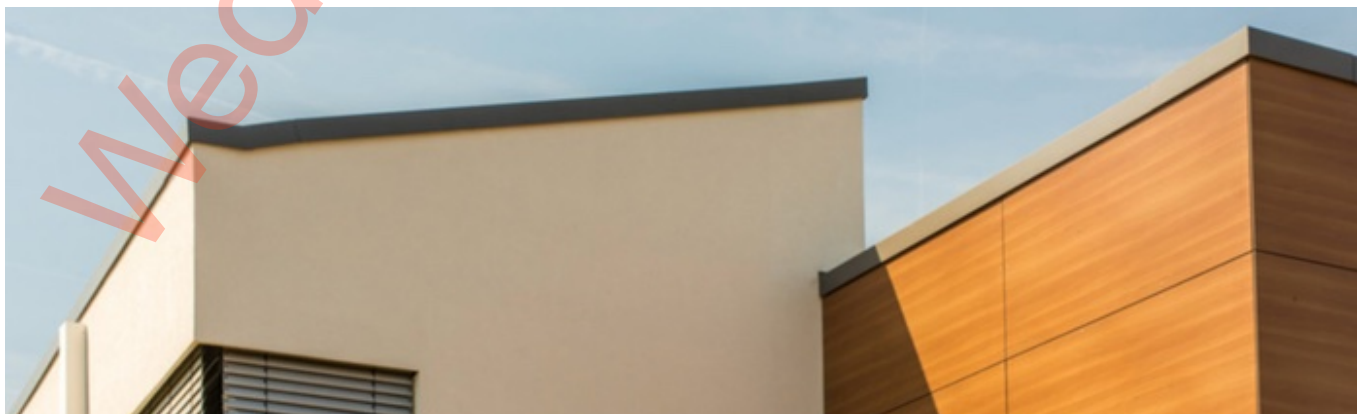
❌ Example: **Gypsum Board** Not humidity resistant



❌ Example: **Wood / Plywood** Not termite resistant



❌ Example: **Wood / Plywood** Not humidity resistant



## WedgeMAG | Comparison with Cement Boards

Cement board and magnesium oxide (MgO) board are both popular construction materials used for a variety of applications in building and construction. Each material has its advantages and disadvantages, and the choice between them depends on the specific needs of a project. Here's a comparison of cement board vs. WedgeMAG MgO board:

Features & Details	WedgeMAG MgO boards	Cement Board
Composition	WedgeMAG MgO boards are primarily composed of magnesium oxide (MgO), magnesium sulphate (MgSO <sub>4</sub> ), perlite, and fiberglass mesh.	Cement boards are typically made of a mixture of Portland cement, sand, and fibers. Some varieties may include additives to enhance moisture resistance.
Fire Resistance	WedgeMAG MgO boards are highly fire-resistant and non-combustible. They are often chosen for applications where fire safety is a concern. They can sustain higher than 1200 Degree temperatures.	Cement boards are fire-resistant and have short time fire-resistant properties. They cannot sustain higher than 300 Degree temperatures as spalling starts above 180 Degree C.
Moisture Resistance	WedgeMAG MgO boards are highly moisture-resistant and do not degrade or warp when exposed to water. They are suitable for high-humidity environments.	Cement boards are resistant to moisture but not entirely waterproof. They can swell or degrade when exposed to prolonged moisture.
Strength and Durability	WedgeMAG MgO boards are also strong and durable, with excellent impact resistance. They can be used for a wide range of applications, including structural and non-structural.	Cement boards are strong and durable, suitable for use as a substrate for tile and stone installations, as well as for exterior cladding. These boards brittle and have lower impact resistance.
Weight & Load on Building	WedgeMAG MgO boards are lighter with density of 1000 to 1100 Kg/M3, Whereas Cement boards have much higher density more than 1300 to 1400 Kg/M3	Cement boards are heavier than WedgeMAG MgO boards, which can make handling and installation more challenging.
Building Maintenance Cost	Very low maintenance cost due to its extremely low moisture absorption.	High maintenance cost due to its higher absorption of moisture in humid areas.
Installation Cost	Almost 20 to 30% lower than Cement Boards.	Higher Installation cost due to heavier weight and brittleness.
Durability & Guarantee Life	30 to 50 years.	30 to 50 years if maintained regularly.

Product Photos



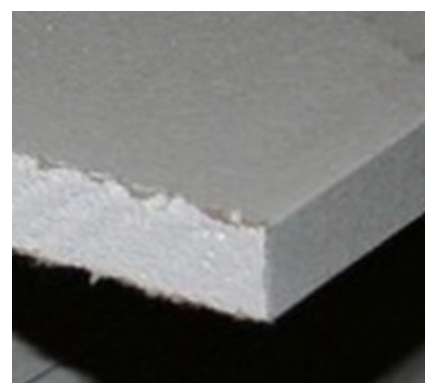


## WedgeMAG | Comparison with Gypsum Boards

WedgeMAG MgO board and gypsum board (also known as drywall or plasterboard) are two commonly used construction materials with distinct characteristics and applications. Below, we compare WedgeMAG MgO board and gypsum board in terms of various properties and use cases:

Features & Details	WedgeMAG MgO boards	Gypsum Board
Composition	WedgeMAG MgO boards are made of magnesium oxide, magnesium sulphate (MgSO <sub>4</sub> ), perlite, fiberglass mesh.	Gypsum boards are composed of gypsum plaster, which is sandwiched between layers of paper.
Fire Resistance	WedgeMAG MgO boards are highly fire-resistant and non-combustible. They are often chosen for applications where fire safety is a concern. They can sustain higher than 1200 Degree temperatures.	Gypsum boards have some fire resistance but are not as fire-resistant as WedgeMAG MgO boards. They can be used in fire-rated assemblies with the addition of fire-resistant materials.
Moisture Resistance	WedgeMAG MgO boards are highly moisture-resistant and do not degrade or warp when exposed to water. They are suitable for high-humidity environments.	Gypsum boards are susceptible to moisture damage and can degrade when exposed to water. Moisture-resistant or waterproof is required.
Strength and Durability	WedgeMAG MgO boards are also strong and durable, with excellent impact resistance. They can be used for a wide range of applications, including structural and non-structural.	Gypsum boards are relatively fragile and less durable than WedgeMAG MgO boards. They are primarily used for interior wall and ceiling applications. Not suitable for high traffic partitions.
Building Maintenance Cost	Very low maintenance cost due to its extremely low moisture absorption.	High maintenance cost due to its higher absorption of moisture in humid areas.
Durability & Guarantee Life	30 to 50 years.	12 to 20 years if maintained well.
Mold and Mildew Resistance	WedgeMAG MgO boards are resistant to mold and mildew due to their moisture resistance properties.	Gypsum boards are not naturally mold-resistant, but mold-resistant varieties are available with special additives.

Product Photos



## WedgeMAG | FAQ of WedgeMAG MgO boards

### What is WedgeMAG MgO board?

WedgeMAG MgO board, short for Magnesium Oxide board, is a construction material made primarily from magnesium oxide, magnesium sulphate, perlite, wood chips, and fiberglass mesh. It is known for its fire resistance, moisture resistance, and durability.

### What are the advantages of WedgeMAG MgO boards?

WedgeMAG MgO boards offer several benefits, including high fire resistance, moisture resistance, resistance to mold and mildew, strength and durability, eco-friendliness, and versatility in applications.

### Where are WedgeMAG MgO boards commonly used?

WedgeMAG MgO boards are used in a wide range of applications, including wall and ceiling panels, flooring, exterior cladding, subflooring, and as a substrate for tile installations.

### Are WedgeMAG MgO boards environmentally friendly?

Yes, WedgeMAG MgO boards are considered environmentally friendly because they are made from natural and recyclable materials. They do not contain harmful substances like asbestos, and the production process generates minimal waste.

### Are WedgeMAG MgO boards waterproof?

WedgeMAG MgO boards are highly moisture-resistant and do not degrade or warp when exposed to water. While they are not entirely waterproof, they are suitable for use in areas with high humidity and occasional moisture exposure.

### Do WedgeMAG MgO boards resist fire?

Yes, WedgeMAG MgO boards are highly fire-resistant and non-combustible. They can withstand high temperatures without releasing toxic fumes, making them suitable for fire-rated applications.

### How do you install WedgeMAG MgO boards?

WedgeMAG MgO boards are typically installed using standard construction techniques, such as cutting, drilling, and fastening. However, they may require specialized fasteners and techniques due to their hardness. Follow the manufacturer's guidelines for the best installation practices.

### Can WedgeMAG MgO boards be used for exterior applications?

Yes, WedgeMAG MgO boards can be used as exterior cladding or siding for buildings. They are weather-resistant and can provide a durable finish to structures.

### Are WedgeMAG MgO boards suitable for DIY projects?

Yes, WedgeMAG MgO boards can be used for DIY projects, but it's essential to follow proper installation procedures and safety precautions. Some experience with construction materials and techniques is beneficial.

### What is the cost of WedgeMAG MgO boards compared to other materials like gypsum board?

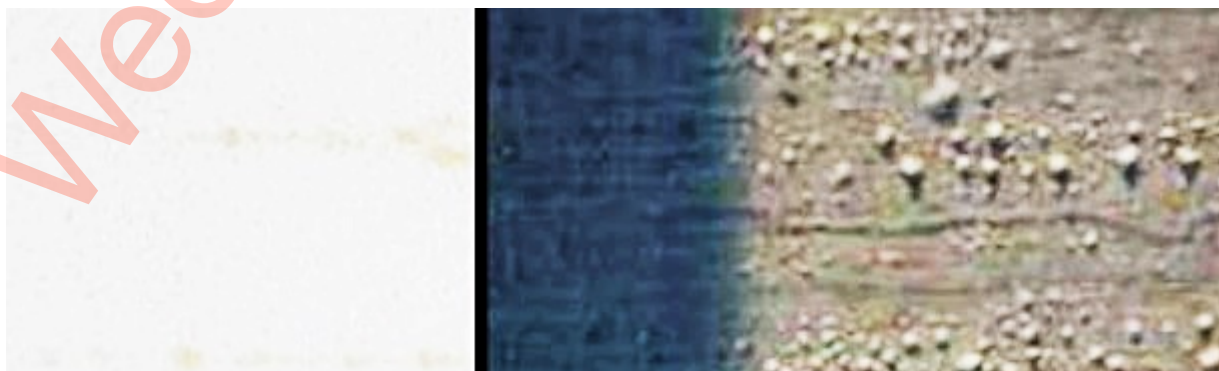
The cost of WedgeMAG MgO boards can vary depending on factors such as thickness, brand, and region. In some cases, WedgeMAG MgO boards may be more expensive than gypsum board, but the prices can fluctuate.

### How do WedgeMAG MgO boards compare to other construction materials, such as gypsum board or cement board?

WedgeMAG MgO boards offer unique advantages, such as high fire resistance and moisture resistance, making them suitable for specific applications where these properties are crucial. The choice between WedgeMAG MgO boards and other materials should be based on project-specific requirements.

### What is problem with MgO Boards made of Magnesium Chloride?

Magnesium chloride oxide board has weakness of halogenide. When it occurs, you can see water droplets lying on the surface of the board. It looks like the board is "sweating". The "sweats" will corrupt board, which may crack and even fall apart over time. The main reason causing halogenide is excess free available chlorine in the board. Factories and research institutes have made a lot of efforts to ensure the removal of excess free available chlorine.





## WedgeMAG | Projects

The suitability of WedgeMAG MgO boards for a particular project depends on the project's needs, local building codes, and the manufacturer's recommendations. Consulting with a construction professional can help you make informed decisions when using WedgeMAG MgO boards in construction or renovation projects.



















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