



HOME of MAGNUM BOARD®
“The New Generation GREEN Building Material”
 “Install It for Health & Safety - Install It for Life”
 Providing a Complete Line of Fiber Reinforced MgO Building Materials

TECHNICAL BULLETIN No.:	040126.1200
Subject:	Benefits of Magnum® Fiber Reinforced “MgO” Building Materials versus Traditional Building Materials
Issue Date / Revised Date	April 1, 2026 / April 02, 2026
Issue No.:	03

Magnum® fiber reinforced MgO building materials not only outperform traditional building materials, but they are one of the most environmentally friendly building materials available in the world today. Their multi generational life cycle makes them truly cost effective and the right choice of materials when compared to traditional building materials. **“Install Magnum fiber reinforced MgO building materials for health and safety – Install them for life.”**

The Magnum® Board® fiber reinforced MgO building material product line is unique in that it is virtually impervious to fire, water, and insects; does not support the growth of mold or mildew; and is completely non-toxic. Magnum® Building Materials are CO₂ negative as delivered, and our manufacturing process operates at near-ambient temperatures. This means not only is the product line environmentally responsible, but the production process is as well — making Magnum® a truly green solution for **ALL** life and for our planet.

Lets explore some of the details that make Magnum® fiber reinforced MgO building materials the safest and most cost effective choice for your investment and family.

I. Production and Low Carbon Emissions

One of the most compelling sustainability advantages of Magnum® fiber reinforced MgO building materials lies in its low-carbon manufacturing process. Traditional materials such as Portland cement and gypsum are associated with

substantial CO₂ emissions due to energy-intensive production methods. By contrast, Magnum® fiber reinforced MgO building materials are produced by combining magnesium oxide, the eight most abundant earth element, magnesium chloride, water and select additives, then cured at near ambient temperatures. This process significantly reduces both energy consumption and greenhouse gas emissions. Furthermore, magnesium oxide can be sourced from abundant and renewable resources such as seawater and brine pools, decreasing reliance on large-scale mining operations.

II. Non-Toxic Composition

A key environmental and health benefit of MAGNUM® FIBER REINFORCED MGO BUILDING MATERIALS is their non-toxic composition. Unlike many conventional building materials, MAGNUM® FIBER REINFORCED MGO BUILDING MATERIALS are free from harmful substances such as formaldehyde, asbestos, silica dust, and volatile organic compounds (VOCs). This makes them safer for both construction workers and building occupants. Their clean composition also contributes to improved indoor air quality—an increasingly important consideration in modern, tightly sealed building environments.

III. Durability and Lifespan

Durability is a fundamental pillar of sustainable construction, and MAGNUM® FIBER REINFORCED MGO BUILDING MATERIALS perform exceptionally well in this regard. Their inherent resistance to fire, moisture, mold, mildew, and pests enables a long service life with minimal maintenance requirements. Reduced need for repair or replacement translates directly into lower material consumption and less waste over time, enhancing the overall environmental performance of the structure.

IV. Recyclability and Waste Reduction

Magnum® fiber reinforced MgO building materials offer environmental advantages at the end of their lifecycle as well. Depending on formulation and disposal conditions, they can be recycled or naturally broken down, reducing

landfill burden compared to more conventional materials. Additionally, their strength and resistance to damage during handling and installation result in less construction waste, further supporting efficient material use.

V. Thermal Performance and Energy Efficiency

Energy efficiency is central to sustainable building design, and Magnum® fiber reinforced MgO building materials contribute positively in this area. Their thermal stability, fire resistance, and moisture-regulating properties help maintain consistent indoor temperatures across varying climates. As a result, buildings incorporating Magnum® fiber reinforced MgO building materials often require less energy for heating and cooling, lowering operational carbon emissions over the life of the structure.

VI. Conclusion

Magnesium oxide (MgO) board presents a compelling case as a sustainable building material. Its low-carbon production, non-toxic composition, durability, multi-generational life cycle performance, and potential for recyclability align well with modern green building principles. Magnum® fiber reinforced MgO building materials stand out as a strong solution for environmentally conscious construction.

REFERENCE DOCUMENTS

- Professional Engineer (PE) Certified Product Submittal Specification
- IAPMO ER-986 and UEL-5068
- Architectural & Engineering Specifications
- Product Installation Instructions
- Magnum website: www.magnumbp.com

Please give us a call. We would welcome an opportunity to participate with you on all your projects.



“GOTTA GO GREEN”