# Selecting Magnesium-Oxide Building Materials

## A Quick Guide for Specifiers and Architects

As magnesium oxide (MgO) panels grow in popularity, so too does the variety of products on the market. However, not all MgO panels are created equally, and inconsistent formulations, testing, and certifications can significantly impact performance.

To help specifiers navigate this landscape, NEXGEN—backed by industry expertise—has developed these guidelines to ensure confidence in your selection process and deliver superior project outcomes.

# For All Projects

### ASK YOUR VENDOR TO SHOW THEIR AC386 CERTIFICATION

#### WHY IT MATTERS

- There is not a consensus standard that sets minimum baseline performance for MgO products, so AC386 is currently used as the industry standard.
- MgO product performance is extremely dependent upon:
  - Controls placed on raw materials
  - Consistency of manufacturing processes
  - In-process quality control measures to ensure consistency on a batch-to-batch basis
- Third-party auditing of these processes ensures product consistency, and that performance matches certification documents.

**Click here** to see a list of products certified by the International Code Council Evaluation Service (ICC-ES).

# Shear Wall Applications

### ASK YOUR VENDOR TO SHOW THEIR AC269.1 AND AC269.2 CERTIFICATION

#### WHY IT MATTERS

- These certifications validate shear wall performance under:
  - IRC requirements for braced wall panels in wood light-frame construction (AC269.1)
  - IBC requirements for shear walls in wood light-frame construction (AC269.2)

# Structural Floor Sheathing Applications

### ASK YOUR VENDOR TO SHOW THEIR AC318, AC319, AND AC367 CERTIFICATION

#### WHY IT MATTERS

- For Use on Wood Framing (AC367):
  - Establishes joist/support spacing and allowable uniform loads
  - Provides diaphragm capacities for shear loads.

- For Use on Cold-Formed Steel Framing:
  - AC318 establishes joist/support spacing and allowable uniform loads.
  - AC319 establishes diaphragm capacities for shear loads.

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## Wall and Ceiling Sheathing Applications

### ASK YOUR VENDOR TO SHOW THEIR AC376 AND AC378 CERTIFICATION

#### WHY IT MATTERS

- These criteria require uniform load testing that establishes the following:
  - Required fastening configurations for proper installation
  - Maximum allowable loads for safe application.

## Floor Underlayment Applications

### ASK YOUR VENDOR TO SHOW THEIR AC376 AND AC378 CERTIFICATION

#### WHY IT MATTERS

- These certifications validate that products meet performance requirements for:
  - Reinforced cementitious sheets used as floor underlayment (AC376)
  - Fiber-cement interior substrates used in wet and dry areas (AC378)

## Material Formulation

### ASK YOUR VENDOR TO SHOW YOU THAT THEY USE SULFATE-BASED FORMULATIONS

#### WHY IT MATTERS

- Chloride-based formulations have the potential to present two critical issues:
  - Moisture management problems where panels can absorb moisture from humid environments and cause condensation within wall/floor cavities.
  - Corrosion risks when in direct contact with metals (e.g. fasteners and framing), as chloride is water soluble and can migrate out of the boards in the presence of moisture.

## Non-Combustibility Standards

### ASK YOUR VENDOR TO DEMONSTRATE THEIR PRODUCTS ARE TRULY NON-COMBUSTIBLE TO 2024 IBC AND IRC STANDARDS

#### WHY IT MATTERS

- The test standard for non-combustible materials (ASTM E136) has been clarified in the 2024 IBC:
  - Some MgO products will no longer be considered non-combustible.
  - Certification agencies will adopt the clarified language across all code editions by January 2026.
  - Products currently classified as non-combustible may be reclassified.

- To avoid future risks:
  - Request information from the manufacturer demonstrating compliance with the most current code requirements.
  - Ensure products meet 2024 IBC standards for non-combustibility.