

**From:** Eric Polzin, P.E. (NEXGEN Building Products)

**Re:** AIA Presentation Outline

## Presentation Title

# “A Building Professional’s Guide to Selecting Magnesium Oxide (MgO) Products for Safe, Resilient Construction” (NXGN-2401)

**Credits:** 1 LU / HSW

**Program Level:** Introductory

**Delivery Method:** Live

**Advance Preparation Required:** (none)

**Prerequisite Requirements:** (none)

**Objective:** The entire presentation is geared towards educating the building professional (Architects, Code Officials, and others) about structural Magnesium Oxide (MgO) products to give them enough background knowledge to confidently specify and approve them on projects. We will be focused on giving the building professionals the tools they need to get enough information from MgO manufacturers in order to safely design and approve the products for the appropriate uses.

The presentation will provide a brief overview of the products (what they are / how they are made) and the uses (panelized construction). We will then take a deeper dive into the sustainability and resiliency characteristics of the products (fire performance, resilience to natural disasters, etc.), issues to be aware of with some products in the market that can result in structural issues, code requirements (building safety), and the importance of selecting certified products to ensure adequate performance.

## Outline:

- 1) Overview of the products / MgO Applications (5 minutes)
  - a. What are the products, what are they made of, and what do they look like?
  - b. Where are the products used in a building? What types of construction are good fits for MgO?
- 2) Product Performance Characteristics and Features (15 minutes)
  - a. Resilience to natural disasters
    - i. Exceptional performance in fires, storms and floods
  - b. Resilience to deterioration
    - i. Resistance to mold, insect damage, and water damage
  - c. Environmental Attributes (reduction in carbon footprint)
    - i. Energy efficiency applications (Continuous exterior insulation solutions)
    - ii. Reduced carbon footprint of raw goods in comparison to conventional Portland Cement based products.
  - d. Reduction in long term maintenance and insurance costs
- 3) Things to be Aware of / Purported Issues (10 minutes) – what types of issues are present with subpar / poorly manufactured MgO products.

- a. Moisture management issues with poorly formulated products and related issues / damage to structures as a result.
- b. Corrosion issues with poorly formulated products and related issues / damage to structures as a result.

4) Alternative Materials and The Codes (20 minutes) -

- a. Education regarding the IBC / IRC in relation to specifying / approving alternative materials (materials not specified by the codes) to ensure building safety, life safety, and product performance.
  - i. How to determine whether or not a product meets the code's benchmark performance guidelines for:
    - 1. Quality
    - 2. Strength
    - 3. Effectiveness
    - 4. Durability
    - 5. Safety (other than fire)
    - 6. Fire Safety

5) Importance of Using Certified Products (10 minutes)

- a. How product certification can be used by code officials to determine code compliance as well as benchmark product performance to allow for confidence in the safe use of a product.

6) Questions and answers (5 minutes)

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