

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

Re: AIA Presentation Outline

Presentation Title

“Magnesium Oxide (MgO) Sheathing: An Introduction to Architects and Specifiers” (NXGN-2403)

Credits: 1 LU / HSW

Program Level: Introductory

Delivery Method: Live

Advance Preparation Required: (none)

Prerequisite Requirements: (none)

Objective:

The 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 specific applications that have gained traction for MgO usage while 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). We will then take a deeper dive into the resiliency characteristics of the products, project examples, innovative applications with MgO sheathing, common issues encountered on construction sites and where MgO can be a solution, and we will wrap up with a discussion surrounding how alternative materials fit within the context of the building codes – if time permits, we will also discuss specific test methods and requirements for MgO products.

Outline:

- 1) What is MgO Sheathing? (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) Top Benefits (10 minutes)
 - a. Fire Resistance
 - b. Water Resistance
 - c. Mold Resistance
 - d. Insect / Pest Resistance
 - e. Structural Performance
 - f. Reduction in long-term maintenance costs
- 3) Project Examples (10 minutes)
 - a. Multifamily / Assisted Living
 - b. Hotel, Hospitality, Schools and Municipal
 - c. Commercial, Modular, and Panelized Construction

- 4) Innovative Applications and Project Benefits (15 minutes)
 - a. MgO used as alternative underlayment
 - b. MgO used as structural floor sheathing
 - c. MgO used as structural wall sheathing
- 5) Construction Challenges & MgO Solutions (10 minutes)
 - a. Common challenges with composite concrete slabs [corrugated metal deck / concrete (pan & pour) systems] and alternative structural MgO assemblies.
 - b. Common challenges with gypsum cement underlayment (OSB & lightweight cement systems) and alternative structural MgO assemblies.
- 6) Alternative Materials and The Codes (10 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
 - b. 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.
- 7) Material and Assembly Testing Required for Code Compliance (Optional – if time permits)
 - a. Acoustical Testing of floor/ceiling assemblies
 - b. Fire Resistance testing of floor / ceiling and wall assemblies
 - c. Non-Combustibility and Surface Burning Characteristics testing
 - d. Structural Testing (for structural floor and wall panels)

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