

INNOVAPANEL® TECHNICAL BULLETIN TB-003

Interior Finishing Guidelines

MgO SIP Wall & Ceiling Systems

The Strength of SIPs. The Beauty of Traditional Finishes.

INTRODUCTION

InnovaPanel® Magnesium Oxide (MgO) Structural Insulated Panels provide a durable, high-performance building envelope that can be finished to match the appearance of traditional drywall construction while delivering superior structural performance, moisture resistance, impact resistance, and energy efficiency.

When properly finished, InnovaPanel® MgO SIP walls and ceilings are visually indistinguishable from conventional drywall systems.

This Technical Bulletin provides recommended procedures and best practices for taping, finishing, and detailing InnovaPanel® interior wall and ceiling systems.

DIRECT FINISH SYSTEMS

Interior SIP Walls

Interior SIP partitions located entirely within the conditioned space may be taped and finished directly.

These walls generally exhibit minimal differential movement and can be finished using methods similar to those used in conventional drywall construction.

Recommended Procedures

Follow current United States Gypsum (USG) finishing recommendations and industry best practices.

Joint Treatment

- Clean panel joints before finishing.

- Apply heavy-duty setting-type joint compound to all joints.
- Bed paper tape into the compound.
- Remove excess compound and allow proper curing.
- Remember to keep layers of compound as thin as possible. Sand smooth between layers.
- Apply additional finish coats as required to achieve the specified finish level.

Recommended Materials

- ✓ Heavy-duty setting compound for bedding
- ✓ Paper tape
- ✓ Corner beads
- ✓ Trim accessories
- ✓ Quality primer and paint systems

Why Paper Tape?

Paper tape provides superior crack resistance and dimensional stability compared to fiberglass mesh tape and is the preferred method for InnovaPanel® interior finishes.

Finished Appearance

Finished smooth or textured and painted, there is no detectable visual difference between a properly finished InnovaPanel® MgO SIP wall and a conventional drywall wall in the same room.

EXTERIOR SIP WALLS – INTERIOR FINISH CONSIDERATIONS

The interior face of an exterior SIP wall experiences different environmental conditions than interior partition walls. When these walls are not sealed properly, moisture or vapor drive can cause movement at the panel joints.

Potential influences include:

- Seasonal temperature variation
- Humidity fluctuations
- Building envelope pressures

- Vapor drive
- Differential movement between structural systems

For many residential projects, direct tape-and-finish systems perform satisfactorily.

For larger or premium projects, additional measures may be desirable.

PREMIUM PROJECT RECOMMENDATIONS

GOOD

Direct tape and finish.

Recommended for:

- Standard residential construction
 - Small commercial projects
 - Interior partitions
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BETTER

Fur the exterior walls and install drywall on the interior side.

Benefits:

- ✓ Reduced finish cracking potential
 - ✓ Service cavity for electrical and low-voltage systems
 - ✓ Easier future modifications
 - ✓ Improved acoustic performance
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BEST

Fur exterior walls and install drywall or MgO board.

Recommended for:

- Luxury homes
- Hospitality projects

- Commercial buildings
- Multifamily developments
- High-performance structures

Benefits:

- ✓ Maximum finish durability
 - ✓ Enhanced acoustics
 - ✓ Improved serviceability
 - ✓ Premium architectural finish quality
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CEILING FINISHING SYSTEMS

Direct Finish Ceilings

For simple structures and straightforward ceiling layouts, the underside of InnovaPanel® roof and ceiling panels may be taped and finished directly.

Recommended procedures mirror wall finishing techniques.

Decorative Batten Systems

Decorative battens provide an attractive architectural solution while concealing panel joints.

Materials may include:

- Composite battens
- PVC battens
- Fiber cement trim
- Wood trim

Benefits:

- ✓ Conceals panel joints
- ✓ Creates a coffered appearance

- ✓ Accommodates minor movement
 - ✓ Architectural enhancement
 - ✓ Reduced maintenance
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Furred Ceiling Systems

For luxury homes, commercial buildings, and projects with complex architectural detailing, furred ceilings provide the highest level of finish performance.

Benefits include:

- Reduced movement transfer
 - Additional service space
 - Easier lighting integration
 - Improved acoustic performance
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FOR COMMERCIAL PROJECTS

For commercial projects that exceed the code requirements of light commercial construction, the exterior SIP walls shall be furred. This class of construction does not allow Romex and requires electrical wires to be installed in an electrical conduit, requiring furred walls like masonry walls.

ARCHITECT / ENGINEER NOTES

CSI SECTION 09 29 00

MgO SIP Interior Finishing

Interior MgO SIP surfaces shall be prepared and finished in accordance with manufacturer recommendations.

Joints shall be treated using:

- Heavy-duty setting-type compound
- Paper tape
- Additional finish coats as required

Finish levels shall comply with project requirements and industry standards.

CSI SECTION 09 90 00

Painting and Coating

Finished surfaces shall receive:

- Quality primer (recommend first coat of primer to be rolled on)
- Manufacturer-approved paint systems
- Texture as required by project specifications

WALL FINISH COMPARISON

Finish Method	Appearance	Cost	Crack Resistance
Direct Tape & Finish	Excellent	Lowest	Good
Furred Wall + Drywall	Excellent	Higher	Excellent
Furred Wall + MgO Board	Excellent	Higher	Excellent

CEILING FINISH COMPARISON

Method	Appearance	Cost	Best Application
Direct Finish	Excellent	Moderate	Simple ceilings
Decorative Battens	Excellent	Lowest	Architectural ceilings
Furred Ceiling + Drywall	Excellent	Higher	Premium projects
Suspended Ceiling Systems	Excellent	Higher	Commercial applications

BUILDING SCIENCE NOTICE

Structural insulated panel buildings are high-performance building envelopes capable of achieving very low air leakage rates.

Proper HVAC sizing, ventilation, humidity control, and fresh-air exchange are critical components of overall building performance.

Mechanical systems should be designed by qualified professionals familiar with high-performance and near-airtight structures.

Oversized HVAC systems may short-cycle, reducing dehumidification performance and potentially contributing to condensation-related issues.

Proper ventilation and humidity control are essential to achieving optimal occupant comfort, indoor air quality, and long-term building durability.

Mini-split units are not recommended in humid environments. If used, they should be used with a proper whole-house dehumidifier sized to deliver proper CFM of outside air and ventilation.

KEY TAKEAWAY

A properly finished InnovaPanel® MgO SIP wall or ceiling system is visually indistinguishable from traditional drywall construction while delivering superior structural performance, durability, resilience, and energy efficiency.

The use of direct finishing techniques, decorative battens, reinforced finish systems, or furred wall and ceiling assemblies allows designers and contractors to select the level of finish performance most appropriate for the project while maintaining the benefits of the InnovaPanel® high-performance building envelope.



MGO SIP Panels do not have tapered edges at the seams like drywall. Joint finishing compound should be installed in thin layers and sanded between each layer. When dry, the joint should be sanded. Once smooth, another thin layer of joint compound should be applied. Note that the joint should be widened with each new layer compound.



Taped and finished MGO SIP exterior walls and battens used to finish the ceiling joints. Using battens eliminates the need for taping and finishing of the panel joints, and offers the most economical option for finishing the panels.