

MAGPANEL[®] MgO
fireproof • eco-friendly • versatile

HANDLING GUIDELINES & INSTALLATION INSTRUCTIONS

Indoors, Outdoors, Floors, Ceilings, Walls, and More...
MagPanel[®] is today's superior building material that does it all!

Why MagPanel[®]?



Easy To Install

MagPanel[®] can be used in many applications, both interior and exterior, on wood frame, metal frame and SIP assemblies.



Easy To Finish

Use virtually any finish you prefer including paint, plaster, stucco, wallpaper and more.



Safe To Use

MagPanel[®]'s antimicrobial characteristics make it resistant to mold, mildew, fungus, and rot, so it's the perfect wallboard for maintaining high Indoor Air Quality.



1 (866) 710-7070

Contact Us!

MagPanel® is a safe and non-hazardous building material. It's Asbestos-free, Formaldehyde-free, and contains no silica. It's classified as a 'Class 0' material, which means it's considered low-risk.

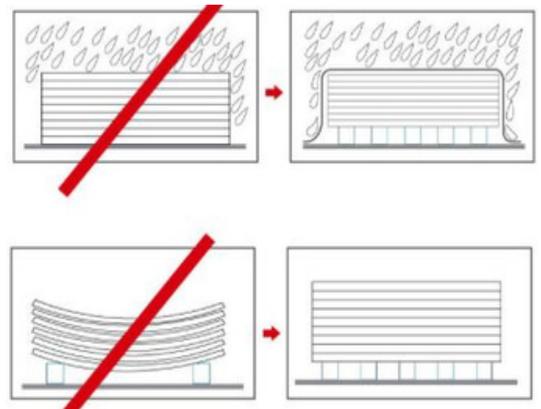
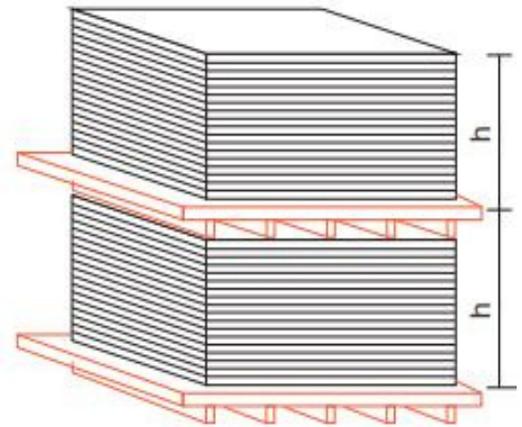
We recommend that installers wear a dust mask and safety glasses during routing, cutting and sanding operations. Never dry sweep MagPanel®, instead use a wet suppression or HEPA vacuum.

Always follow all OSHA (Occupational Safety and Health Administration) regulations and any other safety rules that apply to your work area.

Wear appropriate personal protective equipment (PPE) like gloves, safety glasses, and dust masks when handling and installing MagPanel®.



- Although MagPanel[®] is heat and moisture resistant, it should be stored inside in a cool dry place as with any sheet building material.
- Store boards flat on a pallet, flat on dunnage, loose wood, matting, or other material, to ensure that it is raised off the ground.
- Do not stack any other materials on top of MagPanel[®].
- Keep boards dry and stored indoors under cover.
- Avoid leaning boards upright for extended periods.
- Never drag boards across each other to prevent scratches and damage.
- Always lift boards with two people, carrying them on their edges, not flat.
- Take extra care to protect corners and edges.
- To protect the edges and corners, carry boards on their side.
- Keep boards dry. Moisture trapped between sheets can cause permanent stains.
- Do not allow MagPanel[®] to bow.



MagPanel[®] is a multipurpose board used for exterior sheathing, soffits, and roof decking, as well as for interior subfloor, walls, ceiling, tile backer board, etc.

The specific tools and materials you'll need will depend on your project. However, here's a list of commonly used items to get you started:

ESSENTIAL TOOLS

- ✓ **Measuring tape and pencil**
For accurate measurements and marking.
- ✓ **Level**
To ensure your Magpanel[®] installation is plumb and even.
- ✓ **Dust-reducing circular saw with a carbide-tipped blade**
For precise and clean cuts.
- ✓ **Drill**
To create pilot holes for fasteners.
- ✓ **Safety glasses and gloves**
To protect yourself during cutting and installation.

DID YOU KNOW?

MagPanel can be scored and snapped like drywall for quick, straight cuts.

MATERIALS

- ✔ **Magpanel[®] boards**
Choose the appropriate thickness and size for your application.
- ✔ **Fasteners**
The type and size of fasteners will vary based on your project. Refer to the "Fasteners" section below for specific recommendations.
- ✔ **Joint compound**
A sandable elastomeric joint compound is recommended for filling and finishing seams.
- ✔ **Adhesive (optional)**
A urethane-based construction adhesive can be used for added bonding strength in certain applications.
- ✔ **Primer and paint (if applicable)**
Choose a primer and paint suitable for cement boards.

PRO TIPS

Always pre-drill MagPanel before installing fasteners. This prevents cracking and ensures a secure hold.

Consider using a breathable sealant when installing MagPanel in areas with high moisture. This helps prevent moisture buildup while allowing the panel to breathe.

ACCLIMATION AND ENVIRONMENTAL CONDITIONS

- Allow MagPanel[®] boards to acclimate to the installation environment for at least 72 hours before installation.
- Ideally, the boards should acclimate in the room where they will be used with the temperature replicating the planned temperature of the room.
- Maintain a stable temperature and humidity range during and after installation.
 - MagPanel is more rigid than drywall, necessitating adjustments to standard drywall hanging and finishing practices.
- During and after installation, maintain consistent temperature and humidity levels within the recommended range for Magpanel[®]. Excessive fluctuations in humidity will cause expansion and contraction, which can sometimes lead to micro-cracks.
 - Hygroscopic Nature: MagPanel absorbs and releases moisture, causing slight expansion (1-2%) as humidity levels change. Understanding this behavior is crucial for successful installation and preventing potential issues. Avoid excessive moisture exposure or extreme humidity fluctuations.
 - Ideal temperature range: 60-80°F (10-27°C)
 - Ideal humidity range: 40-60%

PLACEMENT

Placement varies depending on the application of the boards. When attaching to cold-formed steel framing (CFS), stagger panels with a 1/16" (1/5mm) gap between boards. When attaching to wood, allow 1/8" gap.

BOARD ORIENTATION

MagPanel[®] is constructed with one side smooth finish and one side rough finish. The rough finish can be used as a backer board for tile and other applications.

FASTENERS

If you are using galvanized steel framing, it is suggested that you use Magpanel (MgSO₄ boards) instead of traditional MGO Boards (made with MgCl), to prevent potential reactions with steel framing and fasteners.

When installing traditional MGO boards (MgCl) you should always use ceramic coated or stainless steel fasteners. However, **If installing Magpanel (MgSO₄ board) you can use regular steel fasteners.**

Install fasteners no closer than 4" from corners. Perimeter fasteners should be placed 6" apart. Center fasteners should be placed 12" apart.

Install fasteners approximately 9/16" from board edge. Do not install fasteners at 45° angles. Always begin fastening at one side and proceed to fasten across the board to the other side to avoid stress.

FASTENER RECOMMENDATIONS

Fasteners for Wood Framing

- For general wall and ceiling applications, use 1-1/4" coarse thread drywall screws.
- For subflooring, use longer screws appropriate for the joist size and spacing. (Consult your local building codes for specific requirements.)

Fasteners for Steel Framing

- For general wall and ceiling applications, use #8 self-drilling screws.

FRAMING REQUIREMENTS

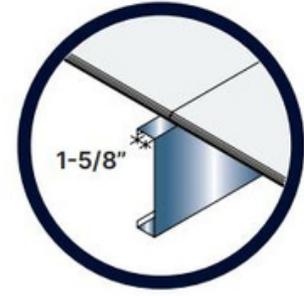
Metal framing should be at least 16 gauge and spaced no more than 24 inches apart (on center) when installing a 3/4-inch thick board. Use low-profile fasteners on the supporting flange, and avoid using hex screws on the top flange.



Flat head fastener



Hex head fastener



Flange Width 1-5/8" wide

CUTTING THE BOARDS

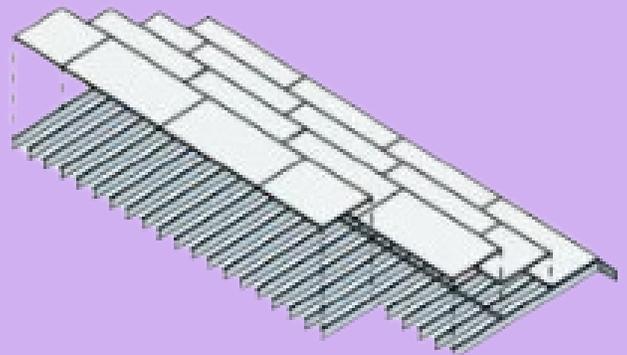
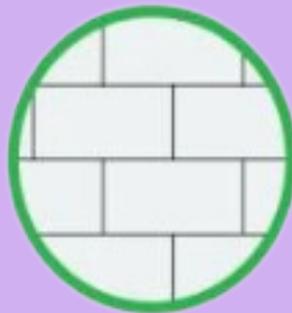
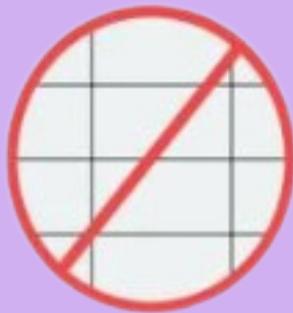
- **Straight Cuts:** For MagPanel[®] thicknesses of 1/2" or less, score the board with a razor knife and snap it. For cleaner cuts or thicker boards, use a power saw equipped with a carbide blade.
- **Circular and Angled Cuts:** Use a rotary or oscillating tool with a cement board bit or carbide-tipped bit for circular or irregular cuts.

PLANNING & LAYOUT

- **Minimize Cuts:** The fewer cuts you make, the easier and faster the installation will be.
- **Dry Layout:** Before fastening, lay out the boards on the floor to plan your layout. Make sure any cut edges are against the walls of the room.
- **Spacing and Alignment:** Ensure the sheets are evenly spaced and tightly butted together.

PLANNING & LAYOUT (Continued)

- Fasten the boards
 - Always support board ends by joists.
 - Start fastening at one end of the board and work your way across.
 - Don't fasten all the corners first.
 - Slightly countersink each fastener.
 - Drive the fasteners (screws or nails) in until the heads are flush with the surface of the board.
 - For optimal results, start screwing in the center of the board and work your way outwards to ensure the boards lie flat against the joists.
- After installing the first board, verify it is level before continuing.
- Leave about 1/8th inch between the perimeter walls and the MagPanel[®] to allow for expansion.



SPECIFIC INSTALLATION APPLICATIONS

When Installed as a Subfloor

- Joist spacing. Only ¾" Magpanel is suitable for standard 24-inch joist spacing. You can also use two ½" panels on top of each other.
- Cut and Fit: Cut Magpanel[®] boards using a carbide-tipped saw. Wear safety gear (gloves, eye protection).
- Install First Row: Lay the first row perpendicular to joists, leaving a 1/8" gap along walls.
- Secure: Attach boards to joists with screws, following manufacturer spacing.
- Continue: Install remaining rows, aligning shiplap joints and staggering them.

When Installed as Walls or Cladding

- Stud spacing: 1/4-inch and thicker boards are suitable for 16-inch stud spacing on interior walls as well as exterior cladding.
- Framing: Use either metal or wood studs, but metal studs are better for moisture resistance..
- Backing: Install a backer layer loosely behind Magpanel[®] for vapor permeability.
- Cutting Boards: Cut boards, tapering edges if possible.
- Joint Placement: Place joints over studs for support.
- Filling Gaps: Use Bondo to fill seams and imperfections, working in small batches.
- Finishing: After Bondo dries, apply your chosen finish.
- Important: Watch for cracks, which indicate installation issues.

FINISHING CONSIDERATIONS

- **Crucial:** Maintain consistent temperature and humidity before, during, and after installation for optimal results.
- Gaps: Leave a 1/6" to 1/8" gap between panels to allow for expansion and contraction.
- A proper joint compound application is vital for a strong, durable bond that withstands MagPanel's expansion and contraction.
- USG Sheetrock 90 joint compound is not suitable for MagPanel[®] due to the board's rigidity.
- Joints between MagPanel[®] boards should be ended on studs, not spliced between studs, to avoid potential microcracking when plaster is applied.
- For best results, before beginning use a belt sander to sand and create a slight taper on all edges of the board, approximately 3 inches wide. Use 60-grit sandpaper and aim for a light surface scratch.

JOINT FILLING PROCESS

- Materials: Use a flexible filler such as Stucco-Flex or Manus-Bond 75-AM for the initial gap fill and a sandable joint compound for finishing.
- Apply Flexible Filler: Fill the 1/6" to 1/8" gaps completely with flexible filler, ensuring the filler is flush with the panel surface. If installing in a cold climate, warm the filler slightly first for easier application.
- Embed Fiberglass Tape: Apply 6"-wide fiberglass tape, embedding it fully in RapidSet "Wunderfixx." Smooth the tape and feather the Wunderfixx out 12-18" on each side of the seam.
- Sand Lightly: While the Wunderfixx is still somewhat damp (leather-like consistency), lightly sand for a smoother finish. If the compound dries fully, it will be much harder to sand.
- Final Coat: Apply a final coat of a high-quality pre-mixed finishing compound, we strongly recommend Westpac Materials "Red Dot." Feather this coat out 18-24" for a seamless look. Alternative finishing compound is Murco Wall M-100 but this option requires careful mixing on-site and is more prone to cracking.

SKIM COATING

- For the best possible finish, consider skim coating the entire MagPanel[®] board after the joints are finished and sanded. This creates a smooth and consistent surface ideal for painting or other finishes.
- Prepare the Surface: Ensure the joints are fully dry and sanded smooth.
- Mix Skim Coat: Prepare a thin coat of skim coat compound according to the manufacturer's instructions.
- Apply Skim Coat: Using a wide trowel, apply a thin layer of skim coat over the entire Magpanel[®] surface. Work in small sections and feather the edges to avoid creating ridges.
- Dry and Sand: Allow the skim coat to dry completely, then sand lightly with fine-grit sandpaper to achieve a smooth, even finish.

Suitable Skim Coating Options for Magpanel

High-Build Joint Compound: This type of joint compound is designed to fill larger imperfections and create a smoother surface. It's ideal for walls with significant unevenness.

Veneer Plaster: Veneer plaster provides a very smooth, high-quality finish. However, it requires more skill to apply and is typically used by professionals.

Cement-Based Skim Coat: These skim coats are highly durable and water-resistant, making them suitable for areas exposed to moisture, such as bathrooms or kitchens.

Setting-Type Joint Compound: If you need a fast-drying option, setting-type joint compounds are a good choice. They set quickly, allowing you to sand and prime sooner.

Lightweight Joint Compound: For easier application and sanding, lightweight joint compounds are a good alternative. They are less dense than traditional joint compounds, making them easier to work with.

FINAL SANDING WHEN USING CONCRETE COMPOUNDS

- Concrete compounds dry very hard, requiring additional sanding.
- It is important to sand the finish within 2 hours while the cement is still in the leather hard state (not fully dried but not wet). This allows it to be sanded down properly.
- The use of wider fiberglass tape and thicker joint compound applications increase the joint's stability, but it also requires more sanding.

PRIMING AND PAINTING

- Primers formulated for cement boards, like Sherwin Williams Loxon, offer excellent compatibility with MagPanel[®]. Loxon provides low VOC emissions and cost-effectiveness. Potassium silicate (water-stone) paints and some urethanes are also suitable options.
- Regular drywall mud may not bond properly over RapidSet compound on MagPanel[®] boards, so testing is recommended.

ACHIEVING A BEAUTIFUL FINISH

- **Surface Preparation:** Ensure the Magpanel[®] surface is clean, dry, and free of dust before priming.
- **Priming:** Apply a coat of primer according to the manufacturer's instructions. Allow the primer to dry completely before painting.
- **Painting:** Apply your chosen paint, following the paint manufacturer's instructions for the best results

Important Note: Regular drywall mud may not bond properly over RapidSet compound on Magpanel[®] boards, so testing is recommended.

PERMEABILITY AND WATERPROOFING

MagPanel[®] is inherently moisture-resistant and breathable, allowing for vapor transmission and reducing the risk of mold and mildew.

However, for applications requiring complete waterproofing, such as shower walls or exterior cladding, it's essential to apply a suitable waterproofing membrane or coating over the MagPanel[®] surface.

Consult with a waterproofing professional to select the appropriate system for your specific needs.

Disclaimer: The information provided in this guide is for general reference only. Always consult local building codes and regulations for specific requirements. For complex installations or technical questions, consult with a qualified professional.

TEST AND PERFORMANCE REQUIREMENTS	TEST STANDARD	TEST RESULTS
REACTION TO FIRE	EN 13501-1+A1: 2010	EUROCLASS A1
DENSITY (PCF)	ASTM C1185 - 08 (2012)	59.74
EDGE STRAIGHTNESS	ASTM C1185 - 08 (2016)	LENGTH: 0.6 MM/M
		WIDTH: 0.8 MM/M
TENSILE STRENGTH (MPA)	ETAG 016: 2013	1.7 (12MM)
TENSILE MODULUS (MPA)	ETAG 016: 2013	20.4 (12MM)
LINEAR MOISTURE MOVEMENT LM (%)	EN 12467: 2012	0.096 (12MM)
NAIL-HEAD PULL THROUGH	ASTM D1037-12	1817 N (12MM)
MOISTURE MOVEMENT	ASTM C1185 - 08(2016)	LINEAR CHANGE IN LENGTH DIRECTION: 0.10% (12MM)
		LINEAR CHANGE IN WIDTH DIRECTION: 0.10% (12MM)
FLEXURAL STRENGTH (PSI)	ASTM C1185 - 08(2016)	PARALLEL: 3070 (12MM)
		PERP.: 2941 (12MM)
MODULUS OF ELASTICITY (PSI)	ASTM C1185 - 08(2016)	PARALLEL: 861250 (12MM)
		PERP.: 824662 (12MM)
IMPACT RESISTANCE	EN 14517 - 9:2005	7.5 KJ/M2
NOISE REDUCTION	EN ISO 140-3	RW = 29 DB
SILICA/ASBESTOS/ FORMALDEHYDE CONTENT	MSDS	NO