



NEXGEN Building Products

MAXTERRA[®]

**MagRock[™] Fire-Resistant
Premium Wall Board**

NEXGEN

www.nexgenbp.com

Tomorrow's Building Solutions, Today.

Version 1.0 | October 2024 © 2024 NEXGEN Building Products

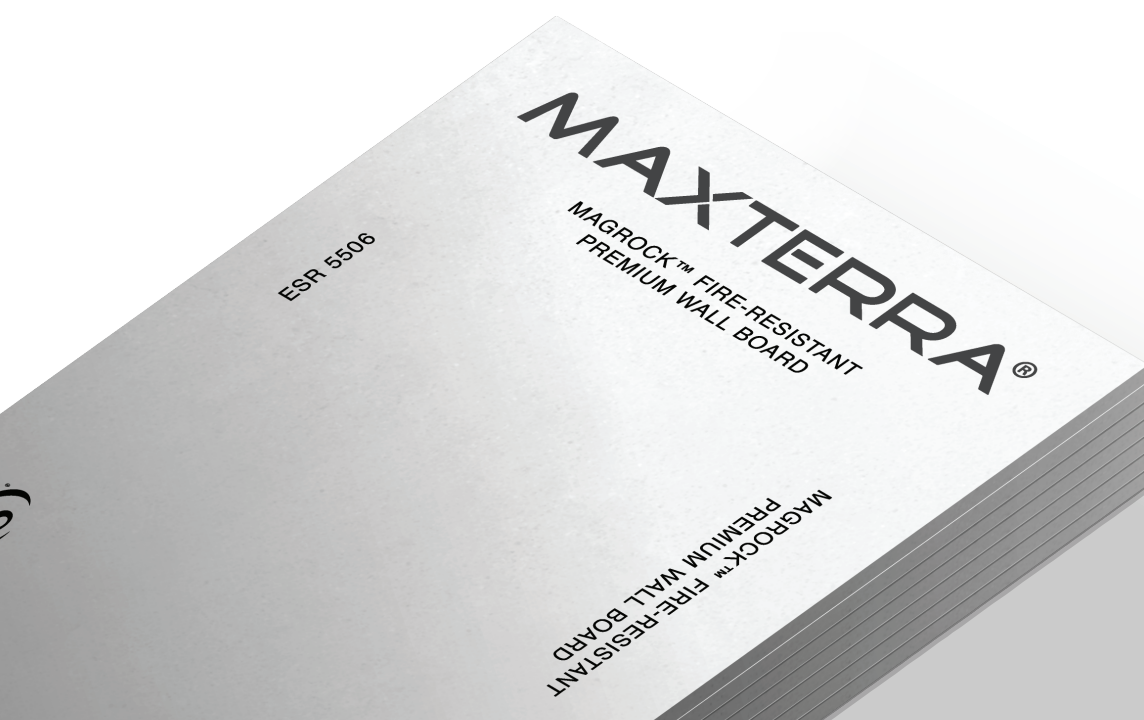
Introduction

Welcome to MAXTERRA® MagRock™ Fire-Resistant Premium Wall Board, our premier solution for versatile interior applications. At NEXGEN, we champion “a safer, stronger, healthier way to build.” This guide is designed to provide step-by-step instructions to ensure proper installation, optimal performance, and lasting durability.

MAXTERRA® MagRock™ Fire-Resistant Premium Wall Board is a best-in-class, innovative, and versatile mineral-based material that offers unmatched fire, water, mold, and mildew resistance without the use of harsh chemicals. This guide addresses various project conditions and emphasizes adherence to the highest standards set by NEXGEN Building Products, LLC, as well as local building codes, and guidelines from architects, engineers, and other authorities having jurisdiction. Proper installation requires compliance with the most stringent requirements specified by these sources.

Please thoroughly review this guide and ensure compliance with all installation instructions, including proper fastening and handling techniques, to maximize the performance and lifespan of your installation.

For additional guidance, please contact NEXGEN Building Products. Invest in MAXTERRA® for quality and success—Tomorrow’s Building Solutions, Today.



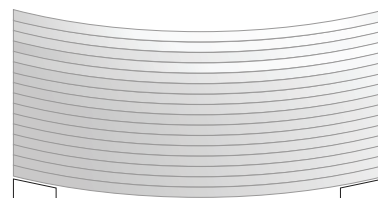
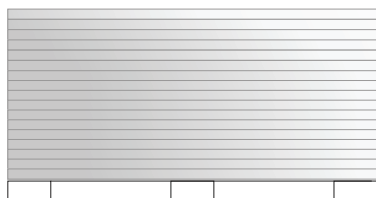
1. General

1.1 Description

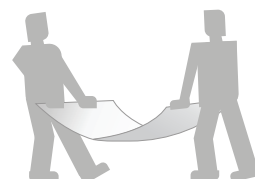
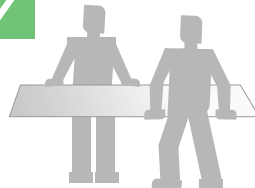
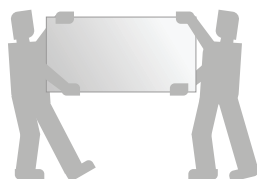
- A. MAXTERRA® MagRock™ Fire-Resistant Premium Wall Board is a best-in-class, innovative, and versatile mineral-based building material that utilizes magnesium oxysulfate (MOS) cement technology. It is a superior alternative to conventional materials, such as gypsum board, offering unmatched fire resistance, water resistance, and mold and mildew resistance without the use of harsh chemicals.
- B. MAXTERRA® MagRock™ Fire-Resistant Premium Wall Board can be used as a replacement for interior gypsum sheathing.
- C. MAXTERRA® MagRock™ Fire-Resistant Premium Wall Board can be attached on walls and ceilings, directly to wood or Cold Formed Steel (CFS) studs and joists using corrosion-resistant nails or screws.
- D. MAXTERRA® MagRock™ Fire-Resistant Premium Wall Board panels used as wall or ceiling sheathing must be installed in accordance with instructions contained in this Installation Manual and the applicable fire-resistant rated design assembly. Should these instructions contradict, the most stringent requirements shall govern.
- E. Attach using fasteners that are inherently resistant to corrosion or coated for corrosion resistance (performance equal to or better than Class D, ASTM A153 Hot-Dipped Galvanized) or ASTM B117 1000+ hr salt-spray rated.
- F. Joint tape and compound must comply with ASTM C475.
- G. Sustainability Characteristics:
 - 1. NEXGEN MAXTERRA® MgO is free from VOCs, silica, and carcinogens.
 - 2. The formulation is sulfate-based, which distinguishes it from traditional chloride-based MgO products by addressing corrosion issues and aligning with future safety and environmental compliance standards.

1.2 Storage and Handling

- A. Store **MagRock™** products in a cool, dry location. Product should be stored off the ground, on a clean and level surface, horizontal and fully supported. Until they are ready to be used, the product should remain covered with a waterproof tarp or plastic sheeting, with proper ventilation provided to avoid trapping any environmental moisture. Consider additional protection during extended adverse weather conditions.
- B. Ensure forklifts or other equipment used to move the pallet or load are capable of lifting and moving the pallet or load safely. If it is necessary to lift pallets from the long end, make sure the forks are long enough to safely balance the weight of the lift.



- C. Make sure to use two people when handling individual **MagRock™** panels.
- D. Hold the panels along the long length with hands spaced apart to avoid excessive bending.



1.3 Project Site Conditions

- A. Product should not be installed until installation areas are enclosed and conditioned.
- B. Prior to installation, store boards for a few days in the prepared space, in order to acclimate to the environmental conditions.

1.4 Safety

- A. Follow all standard industrial safety and hygiene practices during the installation. Wear appropriate personal protective gear. Read SDS and installation information before beginning specification and installation.

1.5 Warranty

- A. Manufacturer's Warranty: Provide the manufacturer's standard limited warranty in effect at the date of purchase for a period of Ten (10) years.

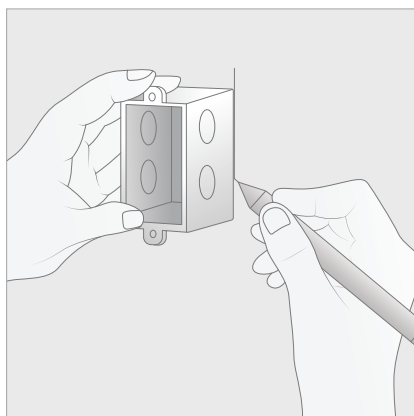
2. Preparation

2.1 Materials and Tools Needed

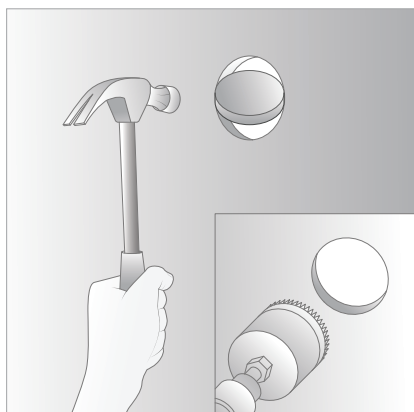
- A. Safety glasses
- B. Gloves
- C. Respiratory protection (mask)
- D. Utility knife or backer board scoring knife (scoring knife is recommended for 1/2" or 5/8" thick panels)
- E. Joint compound (ASTM C475 compliant)
- F. Joint tape (ASTM C475 compliant)
- G. Drywall nails or screws
- H. Corner bead
- I. 5-inch (127 mm) and 10-inch (254 mm) taping knives
- J. Hammer or nail gun
- K. Electric drill
- L. Jigsaw
- M. Sandpaper or sanding sponge
- N. Sponge

2.2 Cutting

- A. Cutouts for pipes and fixtures:



- A. Trace the outline of the fixture at the appropriate position on the wall board.
- B. Use a utility knife to cut through the mesh on both sides of the panel then use a hammer to punch out the desired hole from the back side of the panel, OR
- C. Use an electric drill with a hole-saw bit, OR
- D. Use a jigsaw to cut the wall board.



WARNING: If using an electric drill or saw, wear appropriate breathing protection to avoid inhaling the panel dust. See SDS for more information.

2.3 Framing

- A. Inspect the framing to ensure the face of the studs or joists are flat, and straight. Repair any warped or bowed framing. The wall board should lay flat, and in contact with the framing when positioned on the studs or joists.

2.4 Adhesive (if desired in addition to mechanical fasteners, on walls only)

Adhesives may be used in addition to mechanical fasteners to improve the bond and overall finish.

- A. Ensure the proper adhesive is selected for the job. Solvent or polyurethane-based construction adhesives compliant with APA AFG-01 or ASTM D3498 are recommended.
- B. Adhesive must be applied along the center of the framing member in accordance with the manufacturer's instructions.
- C. Ensure framing members are sufficiently clean and free of debris, dirt, dust, oil, or any other potential contaminants that will degrade the bond.
- D. Mechanical fasteners must be used in addition to adhesive.
- E. **DO NOT ALLOW ADHESIVE TO FORM A "SKIN" PRIOR TO MAXTERRA® PANEL INSTALLATION AND FASTENING.**

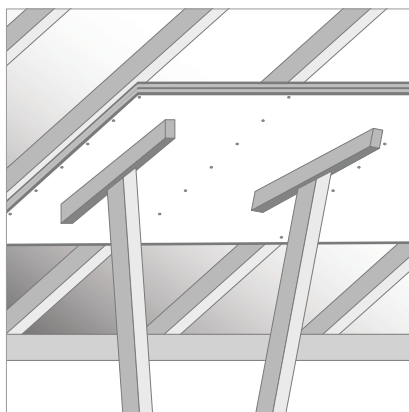
2.5 Fastening

- A. The size and type of fasteners must comply with jurisdictional requirements.
 - 1. Use drywall nails or screws (Class D, ASTM A153 hot-dipped galvanized or ASTM B117 1000+ hr salt-spray rated). The fasteners should be attached while the adhesive is still wet (if used).
 - 2. Fasteners should be placed 6 in. (152 mm) o.c. around the perimeter and 12 in. (305 mm) o.c. across the field of the board.

3. Tips and Tricks

3.1 Things to keep in mind when installing MagRock™

- A. MAXTERRA® MagRock™ Fire-Resistant Premium Wall Board is used across many different projects because it is extremely durable in comparison to conventional gypsum-based products.
- B. The wall board is water-resistant, which makes this product ideal for new construction and renovations in water prone areas.
- C. Installing MAXTERRA® MagRock™ Fire-Resistant Premium Wall Board in a renovation requires the removal of the existing surface material before installing wall board over the studs.
- D. Always use corrosion-resistant screws. (Class D, ASTM A153 hot-dipped galvanized, stainless steel, or ASTM B117 1000+ hr salt spray rated.)
- E. All fasteners should be driven just below the face of the panel to allow for proper finishing. It is also very important not to over-drive the fasteners.
- F. For ceiling applications, it is a good idea to have a couple of extra hands available to help position the boards overhead while fastening.
- G. T-Braces are also helpful to hold MagRock™ panels in place during fastening for ceiling applications.
 1. T-Braces can be made by nailing or screwing together a 2-foot section of 1x4 or 2x4 onto the end of a 2x4 that is about 1 or 1-1/2 inches longer than the ceiling height.
 2. The T-brace can then be “wedged” between the floor and ceiling panel to temporarily brace it during fastening.



4. Installation

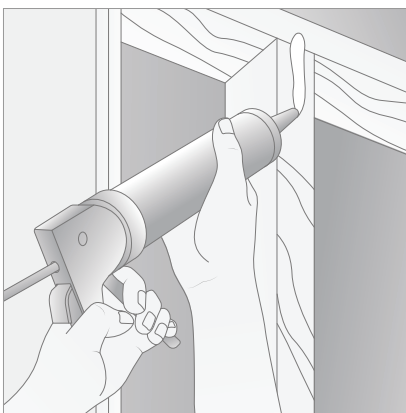
4.1 Plan the Placement

- A. Plan the placement of the MagRock™ panels.
 - 1. Lightly butt the panels to each other. Do not leave a gap or force the panels together.
 - 2. For horizontal applications, stagger the panels a bit like bricks so the seams do not line up in consecutive rows.

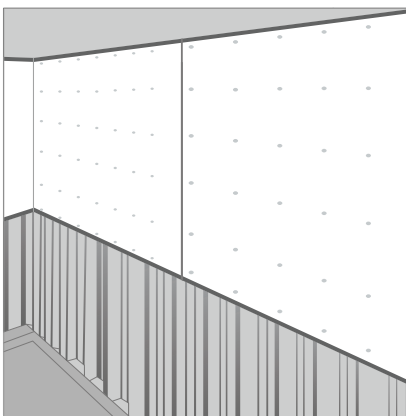
4.2 Secure the MagRock™ panels

- A. Start by installing MagRock™ panels to the ceilings before installing on walls. Panels may be installed either parallel (vertical) or perpendicular (horizontal) to framing members. If installing MagRock™ perpendicular to the framing members, start with the end row.

NOTE: Large panels can be difficult to maneuver when working overhead, so it is best to have a helper when installing the panels to ceilings.

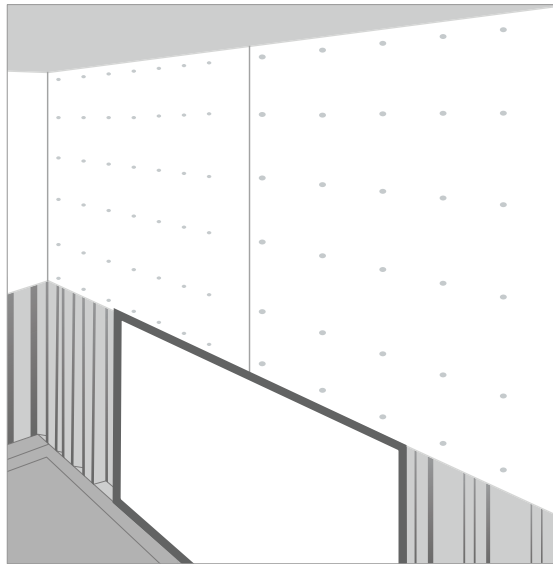


- B. If desired, apply adhesive to the face of the studs (**FOR WALLS ONLY**).



- C. Install the panels to walls either parallel (vertical) or perpendicular (horizontal) to framing members. If installing MagRock™ perpendicular to the framing members, start with the top row for walls.

- D. Attach **MagRock™** to the framing member. Fasteners around the perimeter of the board should be placed 6 in. (152 mm) o.c. for walls and ceilings. Placement of the fasteners across the field of the **MagRock™** panels should be 12 in. (305 mm) o.c.
1. Use drywall nails or screws (corrosion resistant equal to or better than Class D, ASTM A153 hot-dipped galvanized).
- E. Begin fastening at one end of the panel and work your way out and across the panel. Do not fasten all of the corners first.
- F. Secure the fasteners so the heads are flush or slightly below the surface of the board. Do not overdrive the fasteners.
- G. The lower row of wall board should be installed so that the finished edge butts to the finished edge of the top row. Stagger the joints like bricks. Use a filler strip to rest the lower panel on, to leave a gap (at least ¼-inch) between the bottom of the panel and the floor. Do not place the lower panel directly on the floor.



5. Finishing

NOTE: Joint tape and compound must comply with ASTM C475.

5.1 Corners

A. Metal Corner Bead Reinforcement.

1. Install metal corner bead to all outer corners of walls, soffits, and windows, as required.
2. Hold the bead firmly against the corner and fasten the bead through the small holes every 9" on each flange using nails.

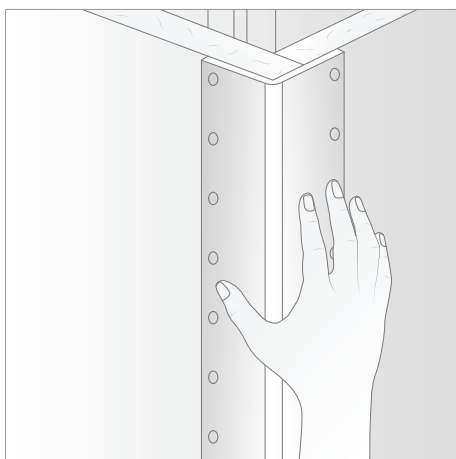
CAUTION: Make sure that nails penetrate the framing. Screws are not recommended for this application.

3. Drive all nails tightly into the flange so that when you apply joint compound, it will smoothly cover the flange.

CAUTION: Be careful not to dent the metal.

4. Where MagRock™ panels butt windows or concrete, install metal trim. Fasten the trim every 9" through the flange as described above.

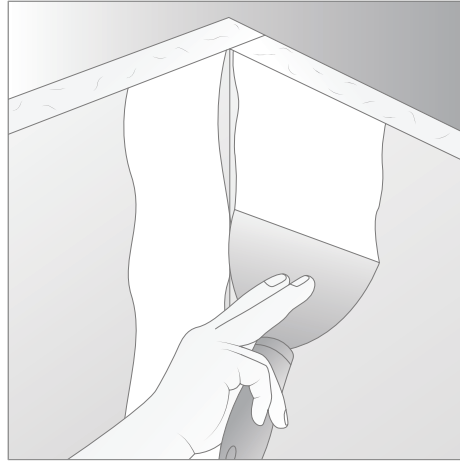
CAUTION: Make sure that the nails penetrate the framing – the board alone should not be relied upon to hold the fastener in place.



TIP: For easy trimming of the corner bead to the correct length, use tin snips to cut through the flanges - cut one flange at a time, then bend and snap. It is recommended to wear gloves to protect your hands - the metal trim can be very sharp.

B. Paper-Faced Metal Corner Bead and Trim

1. Measure the length needed at the corner and cut trim to the correct length with metal snips. It is recommended to wear gloves to protect your hands - the metal can be very sharp.



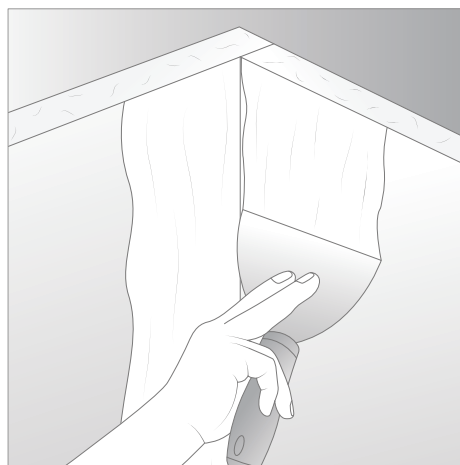
2. **For inside corners** - Use a 4" tapping knife to apply joint compound to the wall board, slightly beyond where the edge of the trim will be placed.

NOTE: For this step, it is permissible to thin the joint compound slightly with water for easier application. Be careful to avoid overthinning the compound.



3. **For outside corners** - Apply the compound to approximately 2 inches (50 mm) beyond the corner on each side.

4. Place trim on the wall and firmly press into position. The top of the corner bead should be flush with the ceiling.



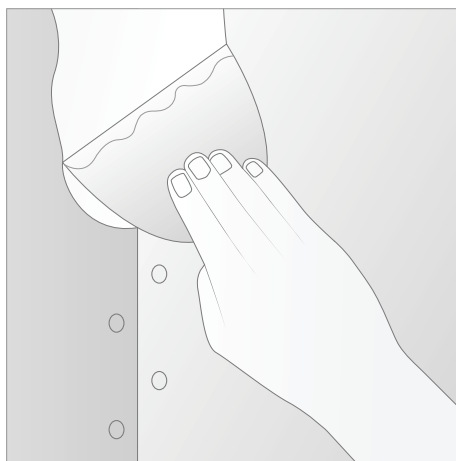
5. Run a tapping knife over the trim at a 45° angle to embed the trim. Be careful to apply even pressure for optimum results.
6. Use the knife to remove any excess compound and eliminate any air bubbles.

7. Allow to dry.
8. Apply a second coat of joint compound.
 - a. Use a 6-inch taping knife for outside corners.
 - b. Use a 4-inch taping knife for inside corners.
9. The second coat should be as even and smooth as possible. Feather the compound beyond the edge of the previous coat.
10. Let dry. Sand the edges lightly if needed.
11. Use an 8" or larger finishing knife for outside corners (4"-6" knife for inside corners) to apply a final coat of joint compound.
12. Feather the compound beyond the edge of the previous coat.
13. Let dry. Sand and prime.

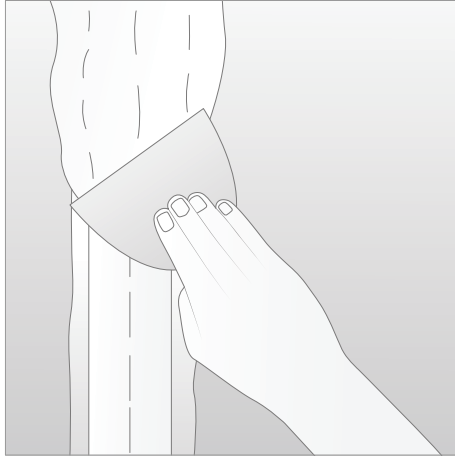
5.2 First coat (in the field of the wall/ceiling)

NOTE: The joint compound may be thinned a bit with water for easier application. Do not over thin the compound.

A. Butt Joints



1. With a 5" finishing knife, apply an even coat of thinned compound to the length of the joint.

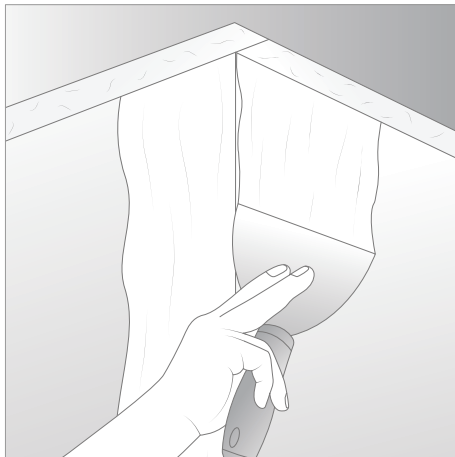


2. Lightly press the tape into the wet joint compound.
3. Drag the taping knife firmly along the joint to embed the tape with even pressure.

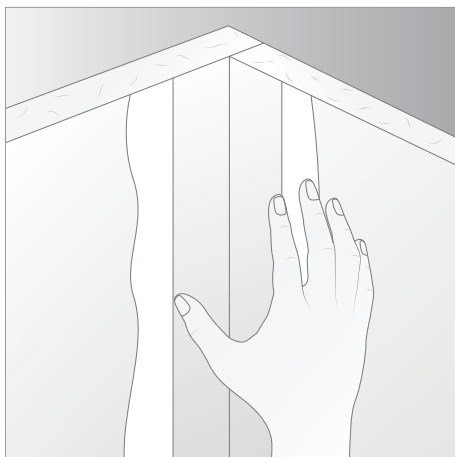
NOTE: It is important to ensure there is enough joint compound under the tape to prevent blistering.

4. While embedding the tape, excess compound should be removed from the edges. The excess can then be used to apply a thin coat over the tape.

B. Inside Corners



1. Apply a thin layer of joint compound with a 5" joint finishing knife along both sides of the corner. The compound should be extended out just beyond the area that will be covered by the tape.



2. Fold the tape along the center crease and lightly press into the compound.
3. Tightly embed the tape with a knife and uniform pressure as with other joints.

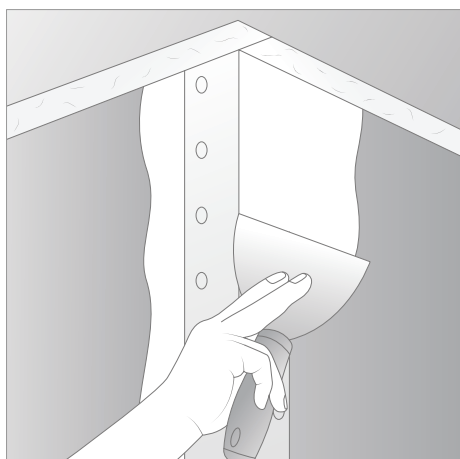
C. Fastener Locations

1. Drag the finishing knife over the fastener head to ensure the fastener head is not protruding from the surface of the board. Drive the fastener just below the surface of the board, if needed.



2. Apply joint compound with a 5" knife at each fastener location. Holding the blade almost flat against the panel, draw the joint compound across the fastener depression, then scrape off the excess.
3. Compound should be even with the panel surface.

D. Outside Corners and Metal Trim



1. Use a 8" knife to apply joint compound onto one side of the corner bead. Work your way down the entire length of the bead. Hold the knife at a 45° angle and smooth the compound with half the knife over the metal and the other half on the panel surface. Compound should extend onto the panel a minimum of 4".
2. Repeat the process for the other side of the corner.

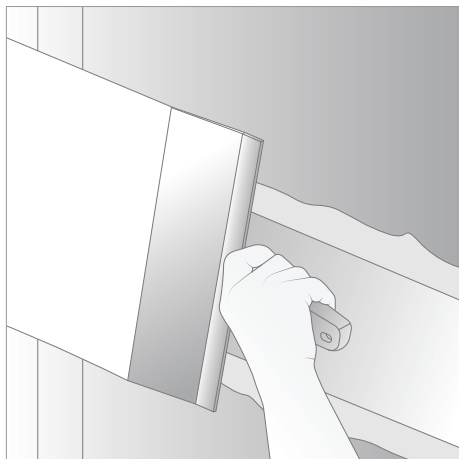
5.3 Second Coat

A. Flat Joints and Fasteners

1. Allow the first coat to dry completely (overnight, if possible).

NOTE: Drying time may vary depending on temperature, humidity, and site conditions.

2. Scrape off any high spots of dried joint compound. Use care to prevent damage to the surface of the wall board.



3. Use a 8" knife to apply the second coat of joint compound. Apply pressure to the knife edge farthest from the joint (towards the field of the panel) and lift the opposite edge (above the joint) just above the surface. Drag the knife along the length of the joint.

4. Repeat steps 1-3 for the opposite edge. When complete, the joint compound should extend beyond the first coat.
NOTE: This technique is called feathering.

5. Next, apply a 7 to 8-inch wide coat of joint compound to each side of the butt joints and feather. When finished, the compound should extend beyond the first coat for a total width of about 14 inches.



6. A second coat of compound should be placed over the fasteners in the same manner as the first coat to provide a light amount of compound over each fastener.

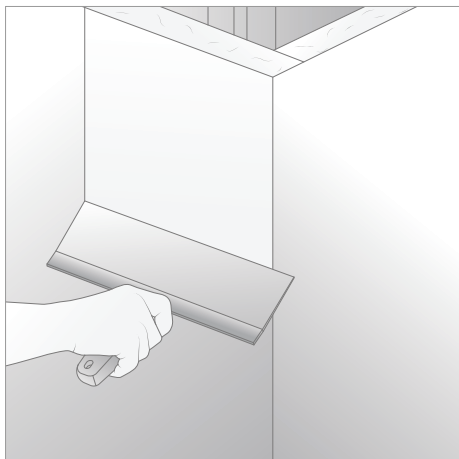
B. Inside Corners

1. Allow first coat to dry (overnight, if possible).
NOTE: Drying time may vary depending on temperature, humidity, and site conditions.
2. Use a 5" knife to apply the second coat of joint compound on one side for the length of the corner. Remove any compound that might overlap onto the second side. Feather the compound beyond the first coat.
3. Allow to dry.
4. Apply compound on other side and feather as described in steps 1-3.

C. Outside Corners and Metal Trim

1. Allow first coat to dry (overnight, if possible).

NOTE: Drying time may vary depending on temperature, humidity, and site conditions.



2. Use a 8" knife to apply the second coat of joint compound along each side of the corner. Ensure that the compound is feathered beyond the first coat.
3. Allow to dry.

5.4 Third (Final) Coat

A. Flat Joints and Fasteners

CAUTION: Before applying the final coat, check to see if joints are level with surface. Hold a 10" blade or similar straight edge across the joint, straight out from the wall. If joint is crowned, the blade can will rock across the joint. In the event of crowning, feather the final coat out as far as possible to hide the joint.

1. Allow the second coat to dry completely (overnight, if possible).

NOTE: Drying time may vary, depending on temperature, humidity and site conditions.

2. If necessary, remove any imperfections with the knife or sandpaper.
3. Use a 10" knife to apply a thin finishing coat of compound to the flat joints. Use a 5" knife to apply a thin finishing coat of compound to the fastener heads.
4. Use uniform pressure to tightly press the knife to the board and ensure joint compound fills any depressions without significantly adding to the overall thickness of the joint.
5. Feather the edges at least 2" past the second coat.

TIP: If sanding is necessary, use fine-grit sandpaper and be careful not to scuff the panel surface to minimize touch-up requirements. Wear a dust mask and use a dust collection device with a HEPA filter for clean-up.

B. Outside Corners and Metal Trim

1. Allow the second coat to dry completely (overnight, if possible).

NOTE: Drying time may vary, depending on temperature, humidity and site conditions.

2. Sand lightly, if necessary.
3. Use a 10" knife apply to apply the third coat
4. Use uniform pressure to tightly press the knife to the board and ensure joint compound fills any depressions without significantly adding to the overall thickness of the joint feathering slightly beyond the second coat.

5.5 Sanding

A. Dry sanding

1. Allow the third coat to dry completely (overnight, if possible).

NOTE: Drying time may vary, depending on temperature, humidity and site conditions.

2. Lightly sand any imperfections in the finished joints, corners, and over fastener heads.
3. Carefully remove dust generated from sanding using a damp sponge or towel.

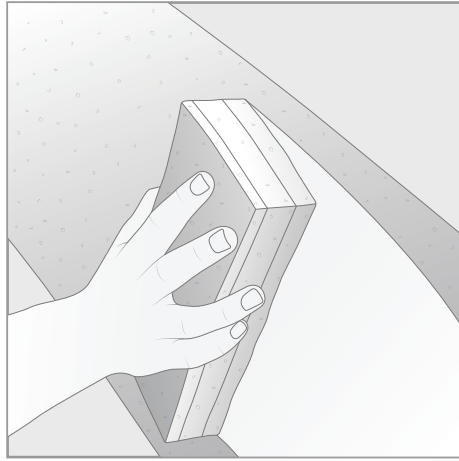
CAUTION: Use a dust collection device with a HEPA filter when power sanding and wear a dust mask.

TIP: Use fine-grit sandpaper wrapped around a block of wood or a sanding sponge to prevent gouging the compound. Avoid sanding the panel surface.

B. Wet sanding

It may be possible to use a wet sponge to achieve the desired finish when only a small amount of touch up is needed. When this option is utilized, it has the added benefit of eliminating dust and will not scuff the panel surface.

1. A small-celled sponge should be used.
2. Saturate the sponge in a bucket of water, then wring out the excess water to prevent dripping while in use.



3. Rub the wet sponge over the joints to remove high spots. Do not over-work the area.
4. Make sure to clean the sponge frequently during use for best results.

5.6 Texture and paint

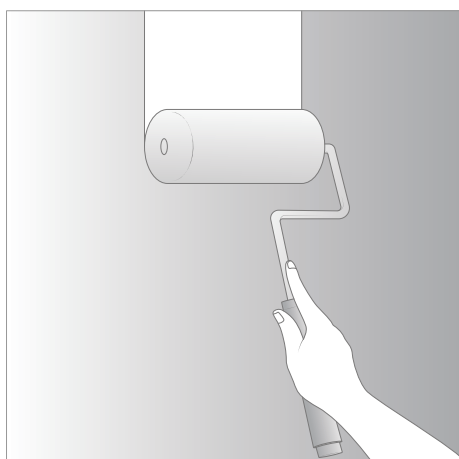
A. Texturing

1. Prior to painting, apply any desired ceiling or wall texture. Follow the manufacturer's recommendations.

B. Priming and Painting

1. Prior to painting, apply primer or a high quality, flat latex paint that is compatible with MgO panels. Follow the manufacturer's recommendations.
2. For best results, use a high-quality roller with 1/8" to 1/4" nap.

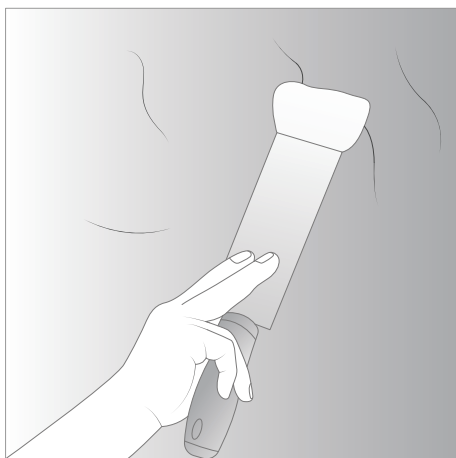
CAUTION: Keep the roller wet during the application and do not rework the primer once it's applied. Overworking the primer may thin or remove the underlying compound.



3. After the primer coat has dried, apply a high-quality interior paint. Follow the recommendations on the container.

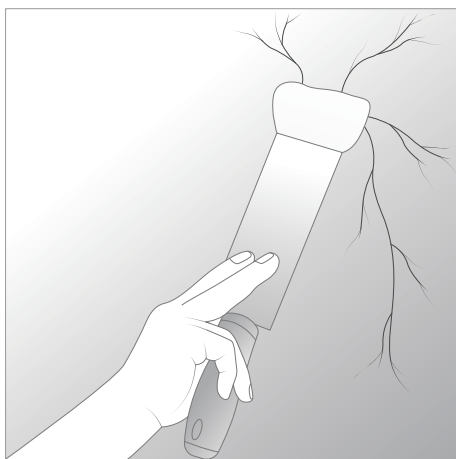
6. Repair of Damaged Panels

6.1 Patching dents, voids, holes, popped nails and cracks



A. To Repair a Dent

1. Sand dented area and then fill it with joint compound.
2. Let harden.
3. If it's needed, add a second coat and feather to remove any imperfections.
4. Let dry completely.
5. Sand, as needed.



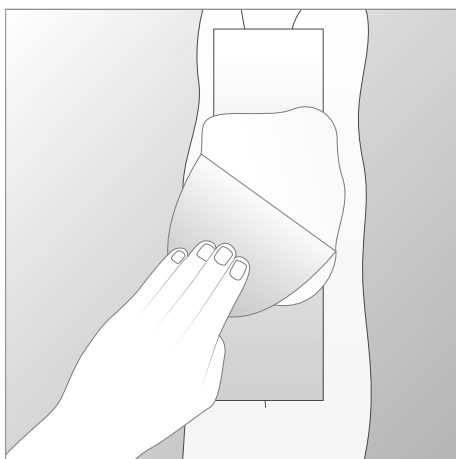
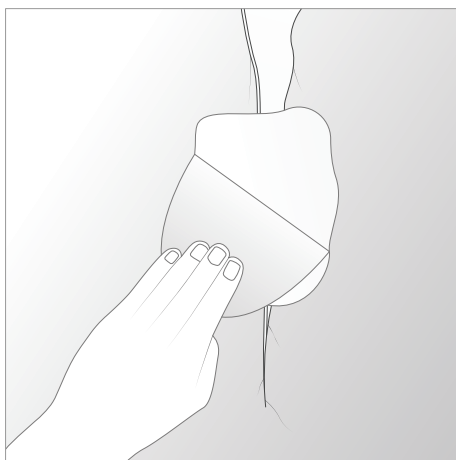
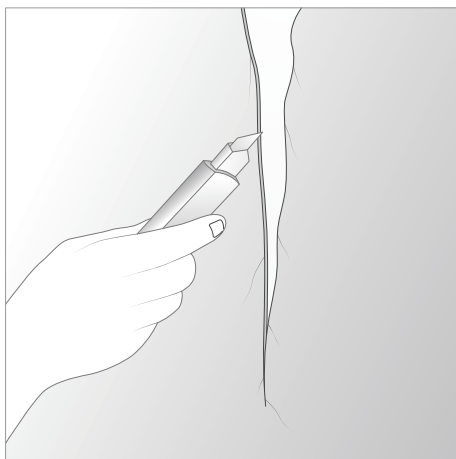
B. To repair a small hole or crack:

1. Use a utility knife or other suitable tool to trim any loose pieces from the damaged area.
2. Wipe it clean.
3. Fill the crack / hole with joint compound, using a putty knife.
4. Let harden.
5. Add a second coat and feather.
6. Let dry completely.
7. Sand and prime.

C. To Repair a Popped Nail

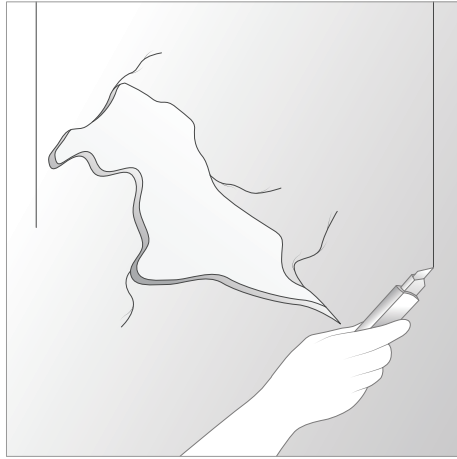
1. Drive and dimple new nail above and below the popped nail (1" to 2" away).
2. Drive and dimple popped nail.
3. Cover with joint compound.
4. Let dry completely (overnight, if possible).
5. Sand, as required.

D. Repairing large cracks (over 1/8")



1. Use a utility knife or other suitable tool to trim any loose pieces from the damaged area.
2. Wipe the area clean.
3. Apply compound to crack with 5" finishing knife.
4. Embed tape in compound to bridge crack. Draw knife firmly over crack to tightly embed tape.
5. Let compound harden.
6. Apply compound over tape with knife.
7. Let harden.
8. Apply second coat of compound and feather.
9. Let dry completely.
10. Sand, as required.

E. Repairing large holes or damaged areas



1. Cut out damaged panel section using a utility knife along the center of the studs and a keyhole saw between the studs.
2. Remove section with a hammer and remove old screws or nails.
3. Measure and cut new **MagRock™** panel section to fit damaged area.
4. Screw through new panel into studs or backing.
5. Apply compound and tape to all four section sides. Do not overlap tape.
6. Apply second and third coats of joint compound, allowing each coat to harden before applying next coat and feathering out from previous coats.
7. Sand, as required.

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