



NEXGEN Building Products

**MAXTERRA®**

MgO Non-Combustible  
Single Layer Structural  
Floor Panels

**NEXGEN**

[www.nexgenbp.com](http://www.nexgenbp.com)

Tomorrow's Building Solutions, Today.

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# Introduction

Welcome to MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels, our premier solution for superior flooring. At NEXGEN, we champion 'a safer, stronger, healthier way to build.' This manual provides essential information for designers, contractors, and end users. Please thoroughly review this guide and ensure all users are familiar with it before beginning installation.

This guide addresses a variety of 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.

It is the responsibility of the engineer of record to specify the precise blocking requirements within your floor framing elements. Detailed instructions for blocking materials and methods should be provided, and the truss manufacturer must include these requirements in their design.

You are fully responsible for ensuring safety and code compliance. For any additional information, please contact NEXGEN Building Products. Invest in MAXTERRA® for quality and success—Tomorrow's Building Solutions, Today.



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# 1.0 Product Overview

Experience the superior performance of MAXTERRA® MgO **Non-Combustible Single Layer Structural Floor Panels**. These high-density magnesium oxide panels are designed to replace traditional plywood, OSB, or fiber cement subflooring, eliminating the need for poured gypsum cement for fire resistance and sound attenuation in floor/ceiling assemblies. This manual covers the installation of 3/4-inch (20 mm) thick panels.

MAXTERRA® MgO **Non-Combustible Single Layer Structural Floor Panels** are intended for use as a structural single-layer subflooring panel to support evenly distributed uniform loading. Line and point loads must be addressed by the engineer of record.

## Available Sizes and Dimensions

- 3/4-in. thick by 48-in. wide by 96-in. length (20 mm x 1220 mm x 2440 mm)
- 3/4-in. thick by 48-in. wide by 120-in. length (20 mm x 1220 mm x 3050 mm)

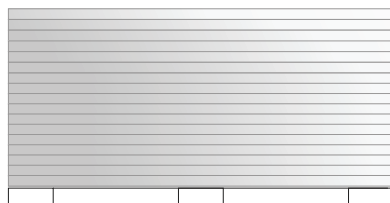
Panels feature tongue and groove profile or may be ordered with a square edge.

## 1.1 Uses and Limitations

- A. Panels are intended for use in Single Floor applications (combination subfloor/underlayment) on wood or cold-formed steel (CFS) framing.
- B. Panels are intended only for indoor subflooring applications and are not intended for use in permanently exposed areas.
- C. Panels can be exposed to weather during construction for up to 200 days, depending on the warranty registration.
- D. Panels can be used in specific sound attenuation and fire-resistant-rated assemblies; see [www.nexgenbp.com/resources](http://www.nexgenbp.com/resources), UL Product IQ (Building Unit R41539), and ICC-ES ESL-1645 for more information.
- E. Always consult local building codes for fire-resistant rated design requirements.
- F. **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** are installed in a similar fashion to plywood and OSB subflooring.
- G. Fasteners and bare metal components in direct contact with **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** shall be inherently resistant to corrosion, coated for corrosion resistance (performance equal to or better than Class D, ASTM A153), or permanently separated by a non-metallic material.
- H. Ensure consistent cleanliness of the project site by periodically removing dust and residue from floors, walls, tools, and other areas. This is crucial, especially after cutting **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** to maintain a high-quality work environment.
- I. **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** are not intended to support load-bearing or non-load-bearing walls running parallel to the framing without additional blocking or framing.
- J. Special inspections are at the discretion of the local building code, designer of record, or any relevant authority in the jurisdiction.
- K. Always implement good framing practices to achieve perfectly flat and level finished floors.

## 1.2 Storage

- A. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels are designed for convenient storage on manufacturer-provided pallets, dunnage or risers; at least 4-6 inches above ground level - ensuring they stay off the ground and fully supported for optimal preservation. Do not store panels vertically.

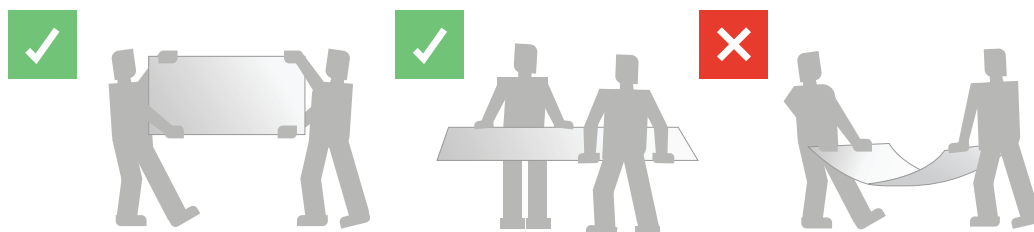


- B. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panel pallets are designed for safe stacking up to 2 high on job sites and not more than 12 feet high in warehouses so long as the pallets are not damaged.
- C. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels feature specialized packaging for optimal storage. Pallets should be stored in cool, dry environments (indoors or in a covered location when possible), ensuring product integrity from the manufacturer.
- D. Until they are ready to be used, the product should remain covered with the original plastic wrap (if the wrap is damaged, it should be resealed 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.
- E. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels should not be stored near standing water or snowpack.
- F. Avoid keeping panels/pallets in freezing temperatures. Freezing may result in panels sticking together. If panels are frozen, allow them to thaw naturally; bring panels/pallets to a place where the temperature is above 32°F (0°C) to allow the ice to melt naturally. **Salt or de-icing agents should not be used at any time;** sand may be used for ice build-up. Covering the panels/pallets completely with tarps or similar coverings is an easy way to prevent panels from freezing together. To remove accumulated snow, use a plastic edged shovel to prevent panel damage.



## 1.3 Precautions and Safety

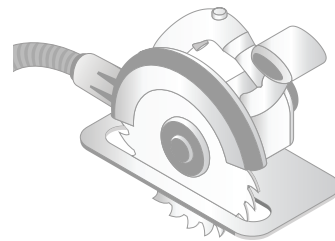
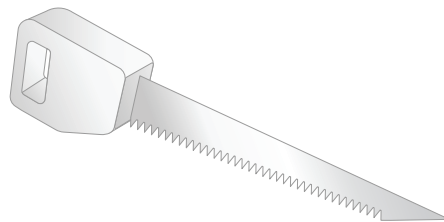
- A. Always consult the Safety Data Sheets (SDS) for all safety and hazard concerns.
- B. Wear appropriate personal protective equipment (PPE) for the job. Suggested gear includes but is not limited to:
  - 1. Gloves and long sleeves.
  - 2. Dust mask and/or respirators.
  - 3. Safety glasses or goggles.
- C. Use best practices to reduce dust build-up, such as:
  - 1. Adequate ventilation.
  - 2. Dust collection systems for saws.
  - 3. Frequent job site cleanup.
  - 4. Use compressed air to blow out power tools to prevent dust buildup.
- D. Wash hands after handling.
- E. Observe good industrial hygiene practices.
- F. Ensure that forklifts or similar equipment are rated to lift and move loads. Forks must extend under the entire load. Take proper precautions while handling to avoid damaging panels and panel edges.
- G. Best Handling Practices:
  - 1. Make sure to use two people when handling individual panels.
  - 2. Use proper lifting techniques; panels are heavier than typical structural panels.
  - 3. Hold the panel along the long length with hands spaced apart to avoid excessive bending.



- H. Proper design and material staging are required to avoid unforeseen loading of subflooring during construction. The design professional is responsible for structural support of special loads that may occur during construction or staging.

## 1.4 Cutting

- A. Avoid scoring and damaging nearby panels by ensuring they're not stacked on top of one another before cutting.
- B. **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** can be effortlessly cut using a circular saw with a fiber cement blade. NEXGEN™ Building Products recommends using fiber cement blades with power saws for optimal results to achieve cleaner edge cuts, minimal dust production, and extended blade life. Always ensure both ends of the panels are adequately supported during the cutting process.
- C. Effortlessly perform precision cut-outs in **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** for plumbing, electrical, HVAC, etc., with simple measures and marks on the smooth side of the panel before cutting. For optimal convenience, use an array of tools, such as jigsaws, hole saws, rotary tools, or equivalent hand tools. Consider carbide blades for a more extended blade lifespan.
- D. Ensure regular and thorough cleaning of tools to prevent dust accumulation to ensure optimal performance and longevity.



## 1.5 Physical Properties

Edge Profile	Tongue and Groove
Thickness and Tolerances	nom. 3/4-in. (20 mm) +/- 0.04-in (1 mm)
Width and Tolerances	nom. 48-in. (1220 mm) +/- 0.08-in (2 mm)
Length and Tolerances	nom. 96-in. (2440 mm) +/- 0.08-in (2 mm) nom. 120-in. (3050 mm) +/- 0.08-in (2 mm)
Squareness	+/- 1/32-in/ft (2.6 mm/m)
Straightness	+/- 1/32-in/ft (2.6 mm/m)
Weight	Approx. 4.92 lbs/sf (24kg/m <sup>2</sup> )
Non-combustible	Passed E136. Test resulted in Loss of Temperature. Rated as Non-combustible.
Surface Burning Characteristics	0/0. (ASTM E84) Flame spread index/smoke developed.
Fire Resistance	Fire resistant (ASTM E119/UL263)
Sound Attenuation	STC / IIC ≥ 50/50 (ASTM E90 / ASTM E492)
Mold Resistance	0 Mold Growth Observed (ASTM G21)
Resistance to Rapid Freezing and Thawing	No Disintegration following 25 Cycles
Humidified Deflection	Less than 0.0639-in (1.62 mm)
Mortar Shear Bond Strength	Dry-Set Portland Cement: Greater Than 50psi (345 kPa) Latex-Portland Cement Mortar: Greater Than 50psi (345 kPa)

1. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels may be used in specific fire-resistance-rated assemblies as tested in accordance with ASTM E119/UL 263. Follow published fire-resistance-rated assembly requirements and consult local building codes for fire-resistant design requirements.
2. ASTM G21 Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
3. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels may be used in specific acoustical rated assemblies as tested in accordance with ASTM E90 and ASTM E492 for airborne sound transmission and structural-borne sound, respectively. Follow published assembly requirements and consult local building codes for design requirements; see ICC-ES ESR-1645 for more information.



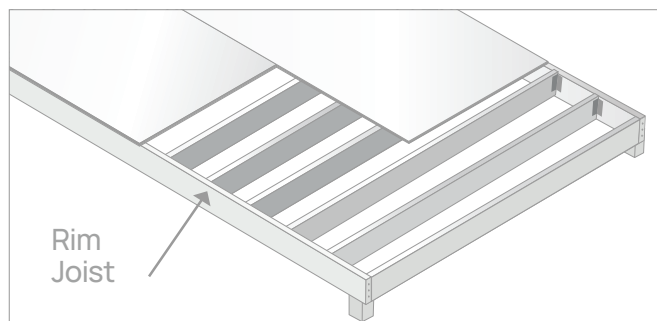
## 1.6 Structural & Mechanical Properties

Joist/Truss Spacing	24-in O.C. (610 mm) Maximum
Flexural Strength	Greater than 3,343 psi (23 MPa)
Structural Performance Average Deflection at 133 psf (6.4 kPa) at 24-in (610 mm) O.C. spacing	Less than 0.033-in (0.85 mm) L/600
Maximum Structural Design Load	133 psf (6.4 Kilopascals)
Concentrated Static & Impact Loads	Greater than 1000lbs (453.6 Kilograms) Max. Deflection under 200lbf Concentrated Load: Less than 0.1083-in (2.75 mm) Max. Deflection under 200lbf Following Impact Load: Less than 0.1083-in (2.75 mm)
Falling Ball Impact (ASTM D1037)	No Damage at 12-in drop
Compression Indentation	Less than 0.02-in (0.51 mm)
Diaphragm (ASTM E455 / AISI S907)	See ICC-ES ESR-5194 for diaphragm design information.

1. Panels must be placed with long edge perpendicular to the joists/supports; panels must be supported by three or more joists/supports.
2. Notes for use as single floor or combination subfloor/underlayment: square edges (edges without the tongue and groove profile) must be located over framing members.
3. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panel is evaluated as a Structural Single-layer Floor Subfloor to support evenly distributed uniform loading. Line and point loads are outside the scope of the evaluations performed on MAXTERRA® and the engineer of record shall be responsible for that portion of the design.

## 1.7 Panel Edge Support

- A. **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Tongue and Groove Panels** eliminate the need for additional blocking along profiled edges when the tongue is fully engaged into the groove of the adjacent panel. Along the perimeter of the floor, continuous support of panel edges via rim joist or rim track is required.



- B. Ensure panel installation is reliable and robust; refrain from installing panels with damaged edges unless they are adequately supported, such as with blocking between framing members under square edges (edges without tongue and groove profile).
- C. Ensure consistent support by installing blocking flush with the floor framing members, providing edge support in compliance with building codes, joist/truss manufacturers, designer records and any relevant authorities.

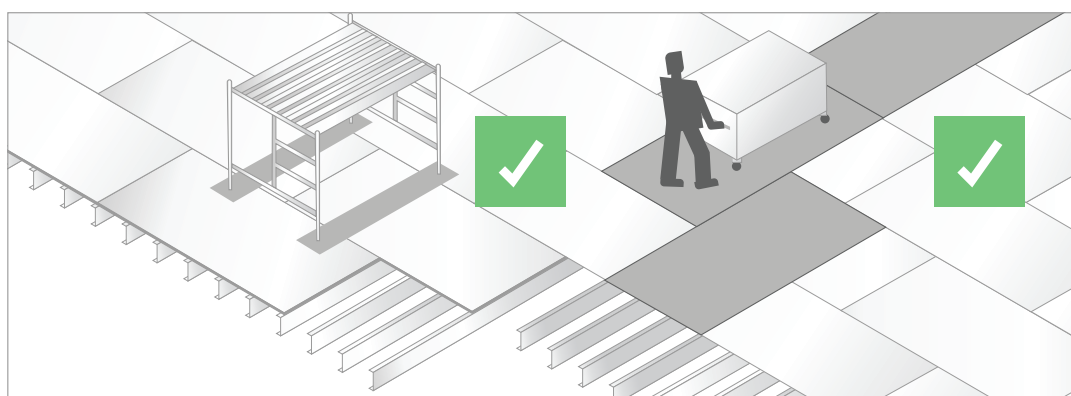
## 1.8 Load & Non-Load Bearing Walls

- A. **AVOID applying load to non-load bearing walls on MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** to ensure durability and to maintain structural integrity. Ensure NO load from trusses or other framing is applied to non-load-bearing walls during installation for optimal structural integrity.
- B. Ensure any load- and non-load-bearing walls running parallel to the framing are supported by continuous framing or blocking for optimal structural integrity.
- C. The bottom plate of the non-load-bearing wall should be attached to framing or blocking through **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels**. Attachment to subflooring alone is not sufficient support.
- D. Use approved fasteners to install blocking below **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** and fasten into the blocking.
- E. The truss fabricator and/or the engineer of record should incorporate blocking requirements in their design and shop drawings.

## 2.0 Installing MAXTERRA® Subflooring

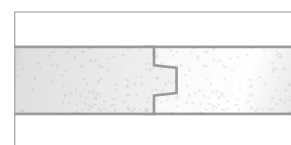
### 2.1 General

- A. The general contractor is responsible for ensuring proper staging of materials to prevent concentrated loads on unprepared surfaces.
- B. **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** must be installed in accordance with the instructions in this manual and the applicable fire-resistance-rated assembly. If these instructions contradict each other, the most stringent requirements must be met.
- C. When **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** have been installed, NEXGEN requires placing an additional temporary sheet of plywood or MAXTERRA® on all high-traffic construction areas and any point load areas such as ladders, scaffolding, and drywall carts to protect the subfloor during construction.



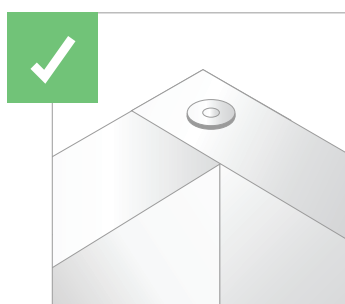
Please note that the dark gray panels represent plywood/additional layers of MAXTERRA®.

- D. Panels with tongue and groove edges do not require additional support/blocking. For proper installation, the tongue should be fully engaged into the groove of the adjacent panel.
- E. Panels should be installed butted tight to one another.
- F. To help prevent damage to the surface of the panels, keep the work area clean of loose debris that can gouge the panel surface, such as loose screws, nails, or other similar materials.
- G. **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** shall not be less than 8 inches (20.3 cm) from exposed earth.

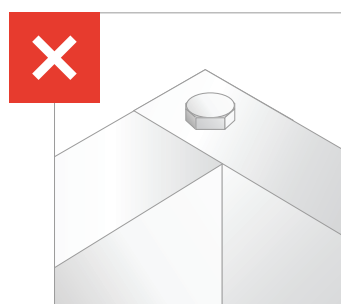


## 2.2 Framing

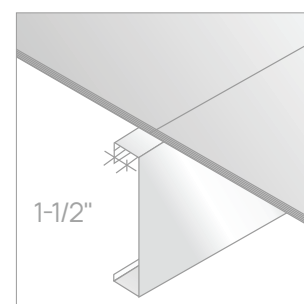
- A. Ensure all joists and/or trusses are square and level to achieve a smooth and level floor installation. Replace all warped, crooked, or bowed framing members.
- B. Install **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** with the smooth side up for all applications.
- C. Bearing width of framing members shall not be less than 1-1/2-in. (38 mm) wide for wood & 1-5/8-in (41 mm) wide for metal framing. Framing members must be spaced no greater than 24" (610 mm) o.c. when installing a 3/4" MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels.
- D. Metal framing must be galvanized (minimum ASTM A653 G60 or better) with a minimum base thickness of 43 mils (0.428-inch; 1.1 mm). Use a low profile fastener on the supporting flange. Use of hex head or other high profile fasteners is not permitted.



Flat head fastener



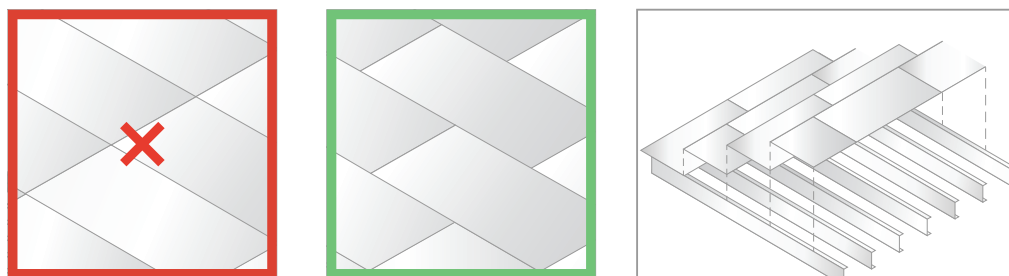
Hex head fastener



Minimum 1-1/2" wide

- E. Framing must be designed to meet the strength and deflection criteria specified by the engineer of record. The square panel edges must bear on at least 3/4" (19 mm) of the framing member.
- F. Framing members shall be plumb and in plane with the adjacent framing. **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** will not correct out-of-plane irregularities in framing members.

- G. Always install MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels perpendicular to the joist in a running bond pattern so that the end joints fall over the center of the framing member.



- H. Panels must be supported by three or more joists with the long dimension perpendicular to the floor framing. All short [4 ft (1220 mm)] edges (those without the tongue and groove profile) must be supported.
- I. Slide panels together so that the tongue of the panel being installed fits into the groove of the installed panel.

## 2.3 Panel Penetrations

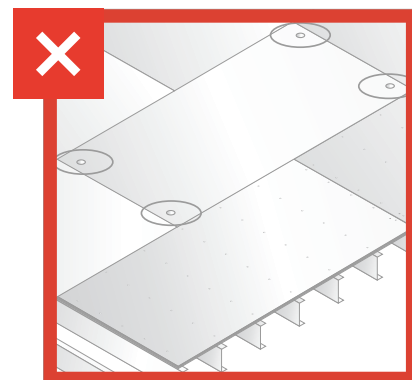
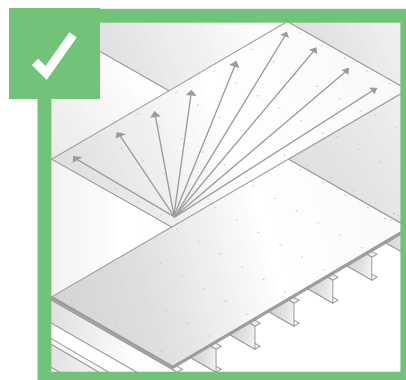
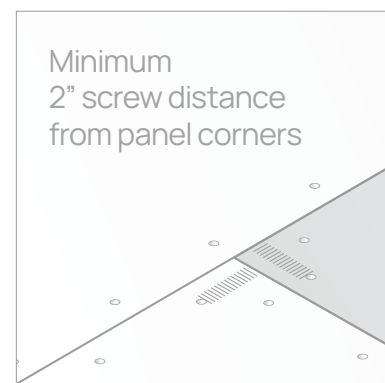
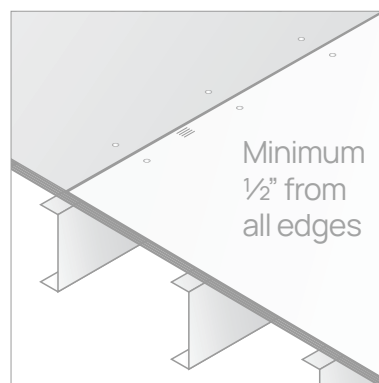
- A. Small penetrations (such as those for small pipes for plumbing or electrical conduit), with largest dimension measuring 6 inches or less, do not require additional blocking or reinforcement.
- B. Large penetrations measuring greater than 6-inches in any direction and groups of multiple openings spaced closely to one another require structural blocking along the boundary of the opening(s).

## 2.4 Adhesive

- A. Understand the significance of selecting the right subfloor adhesive. NEXGEN recommends solvent—or polyurethane-based adhesives conforming to APA AFG-01 or ASTM D3498 for optimum performance (if used with metal framing, ensure that the adhesive is compatible with the metal framing).
- B. Ensure adhesive application strictly follows the adhesive manufacturer's guidelines for optimal performance.
- C. Ensure the framing surface is meticulously clean and free from water, oil, dirt, or contaminants for optimal performance.
- D. Mechanical fasteners must be used in conjunction with adhesive for enhanced and reliable bonding.
- E. Ensure immediate panel installation after adhesive application for optimum bonding. Do not let adhesive form "coating/film" before installation.

## 2.5 Fastening

- A. Ensure that **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** are flush against the top of the surface of the framing member to which they are being fastened.
- B. Fasteners must be inherently resistant to corrosion or coated for corrosion resistance (performance equal to or better than Class D, ASTM A153 Hot-Dipped Galvanized or proprietary coated and rated for 1,000+ hrs. in accordance with ASTM B117).
- C. NEXGEN recommends the use of a 2,500 rpm or less variable speed non-impact standup driver, such as Grabber SuperDrive® 75 for installation of screws.
- D. Begin fastening at one end of the panel and fan out across the panel. **DO NOT FASTEN ALL OF THE CORNERS FIRST.**
- E. Drive fasteners so the heads are flush or slightly below the surface of the board. **DO NOT OVERDRIVE THE FASTENERS.**
- F. Nails and Screws shall fan out over the panel, a minimum of ½-in (13 mm) from all edges and a minimum 2-in (51 mm) screw distance from the panel corners. The maximum fastening pattern should be 6-in (152 mm) O.C. edge (perimeter), & 12-in (305 mm) O.C. in the field.

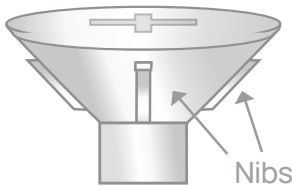


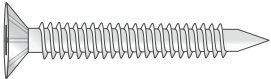


## 2.6 Fasteners for Wood-Framed Construction

### Screws

- A. Install fasteners straight and perpendicular to subfloor panels and framing.
- B. Ensure precise installation of screws, countersinking them just below the surface of the subfloor panels for optimal performance. Avoid overdriving the screws to maintain the integrity of the panel.
- C. Utilize a systematic approach starting from one corner and progressively working around the remaining edges for optimal results.
- D. Minimum #8 x 2-inches (51 mm) screws with nibs on the underside of the head for countersinking must be used when attaching nominal 3/4 in. (20 mm) **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** to wood trusses/joists.



Screws	Type	Length	Corrosion Resistance
	Min. #8 Self-Drilling Wafer Head with nibs (generic).	2 inches (50.8 mm)	Performance equal to or better than Class D, ASTM A153 Hot-Dipped Galvanized.

Nails

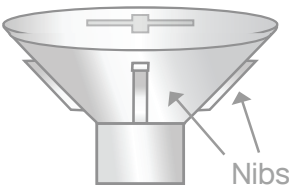
- A. Ensure accurate driving of nails, maintaining a straight and perpendicular approach to subfloors and framing members.
- B. Ensure nails are properly set flush or slightly beneath the subfloor panel surface for optimum performance.
- C. Utilize a systematic approach starting from one corner and progressively working around the remaining edges for optimal results.<sup>1</sup>
- D. Utilize code-approved, minimum 2-in. (51 mm) deformed ring shank nails for secure attachment of 3/4 in. (20 mm) **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels**.

Nail	Nail Length	Description
	Min. 0.113-in x 2-in (2.9 mm x 50.8 mm)  For Diaphragm Applications <sup>1</sup> : Min. 0.131-in x 3-in (3.3 mm x 76.2 mm)	Performance equal to or better than Class D, ASTM A153 Hot-Dipped Galvanized.

<sup>1</sup> See ESR-5194 for more information regarding fastener configuration and diaphragm capacities.

2.6 Fasteners for Cold-Formed Steel (CFS) Framing

- A. Install fasteners straight and perpendicular to subfloor panels and framing.
- B. Ensure precise installation of screws, countersinking them just below the surface of the subfloor panels for optimal performance. Avoid overdriving the screws to maintain the integrity of the panel.
- C. Utilize a systematic approach starting from one corner and progressively working around the remaining edges for optimal results.
- D. Fasteners shown in the table below must be used when attaching nominal 3/4 in. (20mm) **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** to CFS trusses/joists.
- E. Minimum 1-5/8-in. (41.3 mm) screws with nibs on the underside of the head for countersinking must be used. Screws must be installed into the CFS member with a minimum of three exposed threads when attaching nominal 3/4-in. (20mm) **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** to metal trusses/joists. The North American Standard for Cold-Formed Steel Framing—General Provisions (AISI S200) stipulates that a properly installed screw extends through the steel connection a minimum of three exposed threads, and the screw shall penetrate the components without causing permanent separation between the components.



Fastener <sup>1</sup>	Type	Length	Corrosion Resistance
	Min. #8 Self-Drilling Wafer Head with nibs (generic)	Min. 1-5/8in. (41.3 mm)	Performance equal to or better than Class D, ASTM A153 Hot- Dipped Galvanized, or proprietary coated and rated for 1,000+ hrs. in accordance with ASTM B117.
	GCB8158SD (GRABBER <sup>3</sup> )	1-5/8in. (41.3 mm)	
	CGH8158LG <sup>2·5</sup> or GH8158LG <sup>2</sup> GRABBER <sup>3</sup> ) ESR-4223	1-5/8in. (41.3 mm)	
	CGH8158TG <sup>5</sup> (GRABBER <sup>3</sup> )	1-5/8in. (41.3 mm)	
	FCBD158 or FCBDS158 (PRO-TWIST <sup>4</sup> )	1-5/8in. (41.3 mm)	

<sup>1</sup> Check to determine compatibility of selected fastener with thickness / grade of steel being used for framing.  
<sup>2</sup> See ESR-5194 for more information regarding fastener configuration and diaphragm capacities.  
<sup>3</sup> For more information, call 1-800-477-8876 or visit [www.grabber.com/findyourgrabberpro](http://www.grabber.com/findyourgrabberpro)  
<sup>4</sup> For more information, call 1-800-676-777 or visit [www.pro-twist.com](http://www.pro-twist.com)  
<sup>5</sup> Collated fasteners are recommended to be installed with the Grabber SuperDrive® system with extension (images below) – tools may be obtained directly from Grabber, call 1-800-477-8876 or visit [www.grabber.com/findyourgrabberpro](http://www.grabber.com/findyourgrabberpro)



## 3.0 Repair

- A. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels' imperfections and minor divots can be easily corrected through patching with an elastomeric compound explicitly designed for concrete and masonry substrates. Follow the manufacturer's instructions for achieving optimal gap filling and applications.
- B. For damage greater than small imperfections or minor divots that create a hole in the panel, the impacted area and surrounding area should be replaced with a new piece of **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panel**. Replace damaged areas with new **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels**, ensuring a minimum coverage width of 24 inches (610 mm) that spans a minimum of three floor joists. Add blocking at the panel seams.

## 4.0 Finish Floor Coverings

- A. MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels are designed to carry gravity and lateral loads. When **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** are used as a structural subfloor, they can be covered with vinyl tile, ceramic tiles, natural stone, dimensional stone veneers, hardwood or carpets as a finished floor.

Note: For tile installations, we recommend using a second layer of **MAXTERRA® MgO Fire- and Water-Resistant Underlayment (ESR-5192)**. (This is to prevent damage to the structural floor in the event that the tile needs to be replaced).

### 4.1 Surface Preparation

- A. Correct any imperfections and repair any damage in accordance with these instructions.
- B. Ensure that fasteners used to install **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** sit flush with or just below the panel surface.
- C. Ensure optimal preparation for finished floor coverings by thoroughly cleaning subfloor panels of debris, dirt, and dust and ensuring they are free from water, oil, grease, or other contaminants.
- D. Follow all finish floor manufacturer's specifications. Patch and feather seams and fastener locations with an elastomeric compound explicitly designed for concrete and masonry substrates (this may not be required for carpet or floating floor systems; check the finish floor manufacturer's recommendation). **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** should be flat and free of excessively high or low areas – typical floor covering installations require the flatness of the floor not to exceed deviations greater than 1/8 inch in 6 feet (3.2 mm in 1.8 m) or 3/16 inch in 10 feet (4.8 mm in 3 m). . If your floor type necessitates a substrate with more restrictive flatness tolerances, this may be accomplished by using a reliable self-leveling product. To ensure optimal results, your HVAC system should operate under end-use conditions for at least 48 hours prior to the installation of the finish floor.

## 4.2 Underlayment

If installing underlayment on **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels**, adhere to the following guidelines:

- A. Underlayment must be a minimum of 1/4 in. (6 mm) thick certified underlayment grade. We recommend **MAXTERRA® MgO Fire- and Water-Resistant Underlayment** (ESR-5192).
- B. Underlayment shall be oriented in the same direction as the **MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** and offset a minimum of 24-in (610 mm) in both directions to ensure that the underlayment edges do not align with the MAXTERRA® subfloor.
- C. The underlayment must be fully adhered to MAXTERRA® Subfloor and mechanically fastened in accordance with the manufacturer's installation instructions.
- D. Fasteners must be inherently resistant to corrosion or coated for corrosion resistance (performance equal to or better than Class D, ASTM A153 Hot-Dipped Galvanized) spaced 6-in. (152 mm) O.C. along the edges (perimeter) and 12-in. (305 mm) O.C. in the field.
- E. Begin fastening at one end of the panel and fan out across the panel. **DO NOT FASTEN ALL OF THE CORNERS FIRST.**
- F. Drive fasteners so the heads are flush with the underlayment surface.

## 4.3 Floor Coverings

Before starting any installation project, always understand your flooring manufacturer's installation requirements and substrate compatibilities. This includes following all the specific instructions for primers, adhesives, mortars, and underlayments. For floating systems, remember that you may need to install a backer material such as foam or cork on the subfloor prior to installation. For more information, please review the most current MAXTERRA® fire and sound assemblies manual.

### A. Vinyl

**MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels** are suitable for the installation of vinyl products, including luxury vinyl plank (LVP) and luxury vinyl tile (LVT). The application of vinyl sheet products and vinyl composite tile (VCT) is typically fully adhered to subfloor/underlayment.

Ensure substrate compatibility and follow all manufacturer's installation instructions strictly for adhered vinyl finishes. Patch and feather all seams and apply primer to the area assigned for floor covering for optimal results.

## B. Ceramic Tile

MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels are not designed to replace tile backer, uncoupling, or crack isolation products. Ceramic tiles should not be installed directly onto the MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels. Adherence to the manufacturer's installation guidelines is highly recommended.

## C. Carpet

MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels offer easy installation for carpet and padding using adhesive tack strips secured with hotmelt glue. They are ideal for commercial carpet tiles and other adhered carpets, provided the flooring manufacturer's instructions regarding adhesives, primers, and substrates are followed. The use of a primer is advised for optimal results.

## D. Natural Hardwood Flooring

For the installation of natural hardwood flooring on MAXTERRA® MgO Non-Combustible Single Layer Structural Floor Panels, full-coverage adhesive is mandatory, as mechanical fasteners alone are insufficient. The flooring manufacturer's guidelines for adhesive type and application rates must be followed.

## E. Engineered Wood Flooring

MAXTERRA® single-floor subflooring panels are compatible with both floating and adhered engineered wood flooring installations, following the prescribed manufacturer's guidelines for adhesives, primers, and underlayment.



# NEXGEN

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## NOTICE

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The product must be stored and handled according to NEXGEN's instructions at all times between purchase and installation and must be installed according to NEXGEN's printed installation instructions and all applicable building codes adopted by federal, state or local governments or government agencies. NEXGEN's Limited Warranty does not cover damage, claims, or defects resulting from or in any way attributable to the improper use, storage, shipping, handling or installation of the product.

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