

The non-combustible structural building panel
for subfloor applications

GENERAL

Megaboard is a fiber glass mesh reinforced concrete panel for floor, roof and wall sheathing.

- Strong, durable and very easy to work with regular wood working tools
- Dimensionally stable, factory sealed and T&G on long edges or square edges

Megaboard are mechanically fastened directly to steel or wood framing joists.

Megaboard subfloor floor and roof assemblies are designed to carry gravity and lateral loads. When Megaboard is used as structural subfloor, it can be covered with vinyl tiles, ceramic tiles, hardwood or carpets as finished floor.

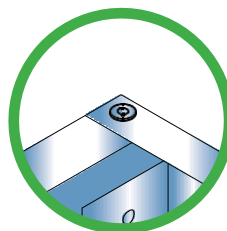
Carbide saw blades are used to cut the Megaboard with a circular saw equipped with dust collection system. Wear safety goggles, gloves and a NIOSH approved dust mask when cutting Megaboard.

BUILDING CODE APPROVAL

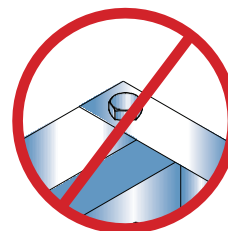
- IAPMO certified and listed non-combustible for use in all types of non-combustible constructions.
- More than 35 UL/ULC fire-rated assemblies available at 1 hr., 1.5 hrs. and 2 hrs.
- State of California Approval (Cal-Fire)
- 2021, 2018, and 2015 International Building Code® (IBC)
- 2021, 2018, and 2015 International Residential Code® (IRC)
- 2019 California Building Code® (CBC) and 2019 California Residential Code® (CRC)
- 2020 Florida Building Code® (FBC), Building and Florida Building Code® (FBC) Residential

FRAMING INSPECTION SYSTEM

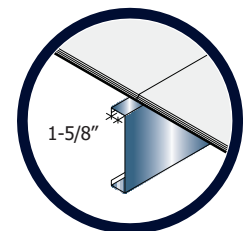
Metal framing must be a minimum of 16 gauge and spaced no greater than 24" (610mm) O.C. when installing a 3/4" thick board. Use low profile fastener on supporting flange, no hex screw on top flange.



Flat head fastener



Hex head fastener



Flange width
min. 1-5/8" wide



STEEL JOIST FRAMING

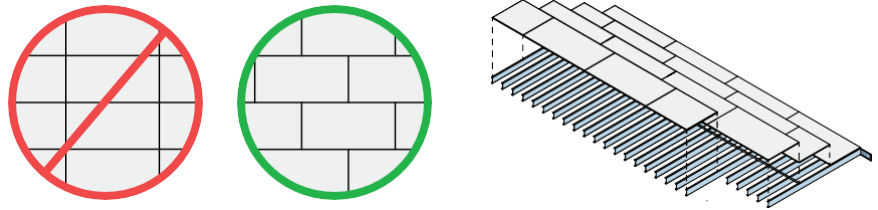
The steel framing must be designed to meet the strength and deflection criteria specified in the contract documents. The panel end must be bearing supporting flange for at least minimum 3/4" wide. Flange width shall be minimum of 1-5/8th.

INSTALLATION

All installations must follow the current Megaboard Installation Specification, using only the listed material and components. For a completely updated copy of Megaboard Installation Specification, contact Ectek or a local distributor.

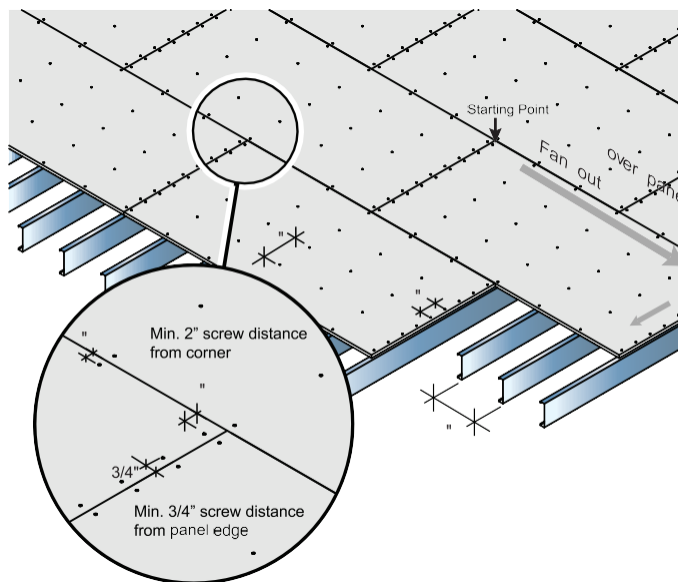
Always install a Megaboard panel perpendicular to the joist in running bond pattern so that the end joints fall over the center of the framing members and are staggered.

Panels may be installed with smooth surface against the framing (smooth surface as bottom). Slide panels together so that tongue of panel being installed fits into the groove of the installed panel. Begin fastening at one end of the panel and fan out across the panel. Do not fasten all the corners first. Drive fasteners so the heads are flush with the surface of the board.



SCREW PATTERNS

Screws shall fan out over panel, minimum 3/4" from edge minimum 2" screw disfauce from panel edge.





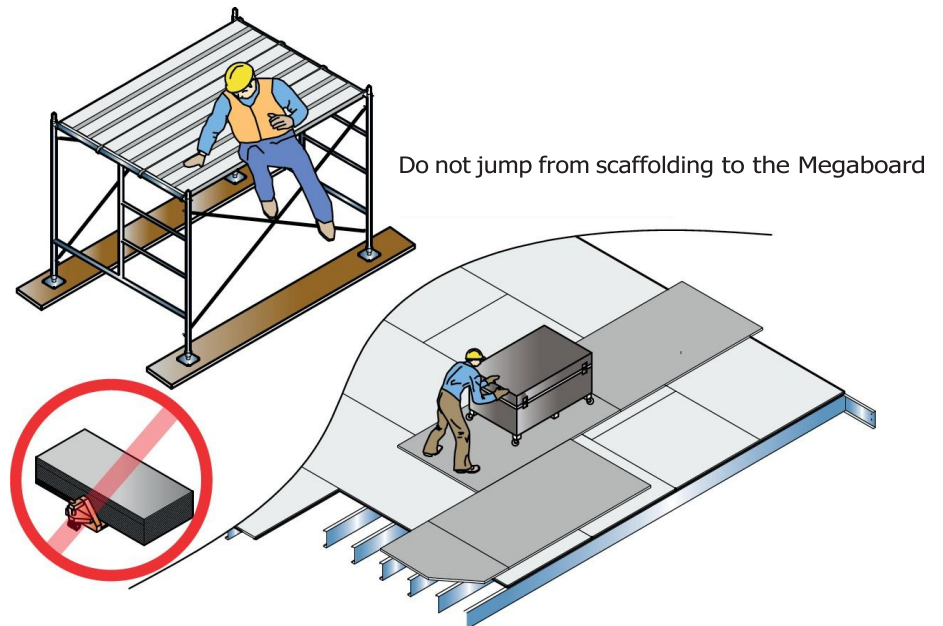
RECOMMENDED FASTENERS

3/4" Megaboard:	Steel Joist:	Muro Grabber Simpson Strong Tie	RSM547WFL-GY CGH8158LG F12C200FDB
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Wood Joist: 0.113 HDG RING SHANK NAIL

JOBSITE PROTECTION

Place additional plywood or Megaboard panels on high-traffic construction pathways for transporting construction equipment. Place load spreader planks perpendicular to joists for scaffolding.





TECHNICAL DATA SHEET		
ITEM	TYPICAL VALUES (STANDARD / Tested)	STANDARD / REFERENCE
Bending Strength (Modulus of Rupture)	1305 PSI per ISO 8335 Test Value Ave: 2523 PSI/17.4 MPA	ASTM C 1185/ISO 8335
Concentrated load on 3/4" (18 mm) board (Dry and Wet)	0.068" (1.6 mm) deflection@400 lb. (1.78 KN) static, 0.033" (0.84 mm) deflection@200 lb. (0.89 KN) static	ASTM E 661/AC 318*
Diaphragm Test - Cantilever	Up to 2,458PLF	ASTM E 455*
Uniform Load on 3/4" (18mm) Board (Dry and Wet)	Average Deflection of 0.021" (dry) and 0.044" (wet) under load of 100 PSF, Ultimate load of 330 PSF	ASTM E 330/AC 318*
Fastener Holding	Dry: Lateral/withdrawal (210/20) Test results: (383/294)	ASTM D1761/AC 318*
	Wet: Lateral/withdrawal (160/15) Test results: (375/155)	
Linear Variation with Change in Moisture (from 50% to 90% relative humidity)	1 % (Test result 0.08%)	ASTM C 1185-08 /AC 318*
Saturated Thickness Swelling (24-hour water immersion)	3% (Test result: 0.01%)	ASTM D1037+/AC 318*
Mold Resistance	0/0	ASTM G3273/ASTM G 21
PH Value	10.5-11.5	ISO 8335 Standard*
Density – Oven Dry	≥ 1000 Kg/M3 /62.4 lbs./ft3	ASTM C 1186
Moisture Content (at 65% RH)	6% - 12%	ASTM C 1186 Section 10
Frost Resistance	50 cycles, zero damage	ASTM C 1186 Section 12
Formaldehyde Content	Zero	MSDS
Asbestos Content	Zero	MSDS
Rot & Termite Resistance	Resistant to destruction	Resistant / No Food Value
Surface Burning Characteristics	CLASS A (0 Flame / 0 Smoke)	UL 723/ULC S102
Non-Combustibility	Passed ASTM E 136 Section B ASTM E 2652	ASTM E136
UL Listing	1 hr., 1.5 hrs. & 2 hrs. UL assembly H509/M524	ASTME 119/UL 723*

* These values are the minimum allowable performance requirements of ASTM C 1186/ISO 8335 standard/AC 318 Criteria)

* Test values are from Certified Test labs.

NOTES:

1) All MEGABOARD installations must be designed and reviewed by a qualified architect or engineer. Panels perpendicular to supports. 3/4" minimum for floors, subject to load table and building code limitations. Refer to installation specifications for additional information on proper use and installation of Megaboard.

2) This technical data sheet replaces all previously published technical data sheets or physical & mechanical property sheets

Megaboard Packaging Info:3/4"x4'x8' (18mmx1220mmx2440m): Weight 125 lbs./sheet, 3.9 lb./SF, 35 PCs/pallet, 350 pcs/truck

Megaboard edge finishing: T&G



UL No.	Assembly Rating	Description
G592	1 and 2 Hr.	3/4" Megaboard directly over Steel Trusses, Trusses are 10" deep - min. 18 ga material, spaced at max. 24" O.C
H502	1, 1-1/2 and 2 Hr.	3/4" Megaboard directly over Steel Trusses, Trusses are 18" deep - min. 18 ga. material, spaced at max. 24" O.C and connected to supporting structure as per manufacturer's instructions.
H509	1, 1-1/2 and 2 Hr.	3/4" Megaboard directly over C channel Joist, 10" deep, 16 ga
H525	2 Hr.	3/4" Megaboard directly over Steel Trusses, Trusses are 10" deep - min. 18 ga material, spaced at max. 24" O.C
H527	2 Hr.	3/4" Megaboard directly over C channel Joist, 9 1/4" deep, 16 ga
H529	2 Hr.	3/4" Megaboard directly over Steel Modular assembly
L501	1 Hr.	3/4" Megaboard directly over Wood Joists — Min 2 by 10, space 16 in. OC and effectively fireblocked in accordance with local codes
L502	1 Hr.	3/4" Megaboard directly over Wood Joists — Min 2 by 10, space 16 in. OC and effectively fireblocked in accordance with local codes
L505	2 Hr.	3/4" Megaboard directly over Wood Joists — Min 2 by 10, space 16 in. OC and effectively fireblocked in accordance with local codes
L511	2 Hr.	3/4" Megaboard directly over Wood Joists — Min 2 by 10, space 16 in. OC and effectively fireblocked in accordance with local codes
L528	1 Hr.	3/4" Megaboard directly over Wood Trusses — Parallel chord trusses, spaced a max 24 in. OC, fabricated from nom 2 by 4 in. lumber with lumber oriented vertically or horizontally. Min truss depth is 12 in. when item 9 is not employed. Min truss depth is 18 in.
L551	1 Hr.	3/4" Megaboard directly over prefabricated light gauge steel truss system consisting of cold-formed, galv steel chord and web sections. Trusses are fabricated in various sizes, depths and from various steel thickness. Trusses spaced a max of 48 in. OC.
L556	2 Hr.	3/4" Megaboard directly over Wood TJI Min 9-1/4 in. deep "I" - shaped wood joists spaced a max 24 in. OC. Min joist bearing on bearing plates 2 in. Joists secured to bearing plates with two 8d steel nails at each end. 2B: Steel Channel Joists — As an alternate to Item 2, steel channel-shaped joists, min 8 in. deep with min 1-1/2 in. flanges and 1/4 in. stiffening flanges. The joists are fabricated from min 18 MSG galv steel. Min yield strength is 33 ksi. Joists spaced max 24 in. OC.
L558	1 Hr.	3/4" Megaboard directly over Wood Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when Ceiling Dampers* are not used. Min truss depth is 18 in. when Ceiling Damper* is used.
L563	1/2 and 1 Hr.	3/4" Megaboard directly over Wood Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when Ceiling Dampers* are not used. Min truss depth is 18 in. when Ceiling Damper* is used.
L564	1 Hr.	3/4" Megaboard directly over Clark Dietrich - Type TDJ or TDW Floor Joists, TD Rim Joist
L565	1 Hr.	3/4" Megaboard directly over prefabricated light gauge steel truss system consisting of cold-formed, galvanized steel chord and web sections. Trusses fabricated in various sizes, depths, and from various steel thickness. Trusses spaced max 48 in OC.
L567	1 Hr.	3/4" Megaboard directly over Marino/WARE - Type JR JoistRite floor joists, Type JT JoistRite track
L570	1 Hr.	3/4" Megaboard directly over Wood TJI Min 9-1/2 in. deep "I" shaped wood joists spaced at a max of 19.2 in. OC. Joists shall conform to ICC-ES ESR-1153 Report.
L580	1 Hr.	3/4" Megaboard directly over Marino/WARE - Type JR JoistRite floor joists, Type JT JoistRite track
L587	1 Hr.	3/4" Megaboard directly over Wood Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented horizontally or vertically. Min truss depth is 12 in. when no Ceiling Damper is used and 18 in. when a Ceiling Damper* is used.
L597	1 Hr.	3/4" Megaboard directly over Steel Trusses Prefabricated light gauge steel truss system consisting of cold-formed, galvanized steel chord and web sections. Trusses fabricated in various sizes, depths, and from various steel thickness. Trusses spaced max 48 in.
M501	1 Hr.	3/4" Megaboard directly over Steel Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in.
M502	1 Hr.	3/4" Megaboard directly over wood TJI Min 9-1/2 in. deep "I" shaped wood joists spaced at a max of 24 in. OC. Joists shall conform to ICC-ES ESR-1153 Report.



UL No.	Assembly Rating	Description
M503	1 Hr.	3/4" Megaboard directly over Steel Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 18 in.
M506	1 Hr.	3/4" Megaboard directly wood TJI — Min 9-1/2 in. deep "I" shaped wood joists spaced at a max of 19.2 in. OC. Joists shall conform to ICC-ES ESR-1153 Report.
M508	1 Hr.	3/4" Megaboard directly over Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in.
M511	1 Hr.	3/4" Megaboard directly over metal deck over iSpan
M513	1 Hr.	3/4" Megaboard directly over Steel Trusses Prefabricated light gauge steel truss system consisting of cold-formed, galvanized steel chord and web sections. Trusses fabricated in various sizes, depths, and from various steel thickness. Minimum truss depth is 12 in.
M515	1 Hr.	3/4" Megaboard directly over metal deck over iSpan
M527	2 Hr.	3/4" Megaboard directly over Steel Joist C-shaped, galvanized steel section, min 254 mm deep with min 42 mm flanges and min 13mm returns. Joists fabricated from min No. 16 MSG galv steel with Yield Strength of 345 MPa. Joists spaced max 610 mm OC.
M530	1 Hr.	3/4" Megaboard directly over Wood Joists — Min 2 by 10, space 16 in. OC and effectively fireblocked in accordance with local codes
M536	1 Hr.	3/4" Megaboard directly over Steel Trusses Prefabricated light gauge steel truss system consisting of cold-formed, galvanized steel chord and web sections. Trusses fabricated in various sizes, depths, and from various steel thickness. Trusses spaced max 48 in.
M538	1 Hr.	3/4" Megaboard directly over Wood Joists — Min 2 by 10, space 16 in. OC and effectively fireblocked in accordance with local codes.
M550	1 Hr.	3/4" Megaboard directly over Wood Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in.
P523	1 and 1-1/2 Hr.	In lieu of the wood structural panels described in Item 3, steel roof deck and structural cement-fiber units or building units may be installed. The steel roof deck is to consist of corrugated or fluted steel form units, minimum 9/16 in. deep, 22 MSG painted or galv steel, welded or mechanically fastened at a max. 12 in. OC to the top chord of the roof trusses (Item 1). Nominal 19 mm (3/4 in.) thick structural cement-fiber units or building units installed over the steel roof deck and secured to trusses with fasteners spaced a max of 12 in. OC. Batts and Blankets (Item 8) must be used, and the Class A, B or C Roofing System must include application over structural cement fiber units.
P555	1 Hr.	In lieu of the plywood decking described in Item 2 - Nominal 19 mm (3/4 in.) thick tongue and groove structural cement-fiber units or building units. Long dimensions of panels to be perpendicular to trusses with end joints staggered. Panels fastened to the trusses with #10 self-drilling, self-tapping cement board screws 1-3/4 in. long. Screws shall be spaced 6 in. OC along the perimeter of each sheet and 12 in. OC in the field of each sheet. Screws shall be spaced 1/2 in. from end joints and 1 in. from side joints.
P557	1 and 1-1/2 Hr.	In lieu of the wood structural panels described in Item 3, steel roof deck and structural cement-fiber units or building units may be installed. The steel roof deck is to consist of corrugated or fluted steel form units, minimum 9/16 in. deep, 22 MSG painted or galv steel, welded or mechanically fastened at a max. 12 in. OC to the top chord of the roof trusses (Item 1). Nominal 19 mm (3/4 in.) thick structural cement-fiber units or building units installed over the steel roof deck and secured to trusses with fasteners spaced a max of 12 in. OC. Batts and Blankets (Item 8) must be used, and the Class A, B or C Roofing System must include application over structural cement-fiber units.
P569	1 Hr.	In lieu of the wood structural panels described in Item 3, steel roof deck and structural cement-fiber units or building units may be installed. The steel roof deck is to consist of corrugated or fluted steel form units, minimum 9/16 in. deep, 22 MSG painted or galv steel, welded or mechanically fastened at a max. 12 in. OC to the top chord of the roof trusses (Item 1). Nominal 19 mm (3/4 in.) thick structural cement-fiber units or building units installed over the steel roof deck and secured to trusses with fasteners spaced a max of 12 in. OC. Batts and Blankets (Item 8) must be used, and the Class A, B or C Roofing System must include application over structural cement-fiber unit.



HANDING AND STORAGE

Care must be taken when placing pallets of Megaboard. Pallets must be placed over a structural support beneath the joists (load-bearing wall or beam) when loading pallets or panels on open framing or completed assemblies.

Stack full pallets no more than 4 units high.

Avoid keeping unit in freezing temperatures. Freezing may result in panels sticking together. Allow panels to thaw naturally if frozen, bring the unit to a place where temperature above 32°F (0°C) to allow the ice to melt naturally. Salt or de-icing agents should not be used at any time. Covering the units completely with tarps or similar coverings is an easy way to avoid panels from freezing together.

FLOOR FINISHES:

When Megaboard panels are properly installed and tightened to the steel or wood framing, gypcrete topping maybe applied is achieve better STC rating.

Follow Floor finish manufacturer's recommendations for the application of finished flooring.

LIMITATION:

Backer is only required for tiles. For all other flooring, a 'underlayment' is recommended.

SUBMITTAL APPROVALS

Project Name:

Contractor:

Date:
