

MagTech™

**FIRE RETARDANT
OSB SHEATHING**



Intertek

Valued Quality. Delivered!

Produced and distributed by

FLAMEPROOF COMPANIES

CHICAGO FLAMEPROOF

NORTH TEXAS FLAMEPROOF

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Innovators of high performance fire retardant products

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MagTech™

A truly innovative fire retardant structural sheathing utilizing Magnesium Oxide technology.

MagTech™ fire retardant OSB incorporates the extraordinarily flame and heat resistance of magnesium oxide with the structural ability and overall utility of OSB to create a uniquely high performing structural sheathing product.

Fire retardant plywood, using pressure impregnated chemicals, has been around for decades and does a good job of mitigating flame spread, but has limitations in its use with multi-hour exterior load bearing wall assemblies.

More recently, fire retardant OSB has come to market using spray application of magnesium oxide as a means of decreasing heat transmission, thus becoming an option in multi-hour wall assemblies, where historically fire retardant plywood has not.

MagTech™ fire retardant OSB once again raises the bar by incorporating the use of thin sheets of reinforced magnesium oxide applied to the structural OSB by way of pressure lamination on one or both sides of the OSB sheet. This proprietary, patent-pending product now offers the superior fire and heat resistance of magnesium oxide with added strength and design values achieved by way of lamination.

The result is an extraordinarily high performing fire retardant sheathing that offers a variety of assembly options not previously available with other fire retardant sheathings.

We invite your inquiries so that the many benefits of MagTech™ OSB, as well as the properties of magnesium oxide board, can be explained and demonstrated.



Product Data and Specifications

Superior fire protection with increased structural capacity.

1. Product Information

MagTech™ OSB Structural Fire-Rated Sheathing is a patent-pending, code compliant, Class A Flame Spread Rated, fire retardant wood panel system that is both durable and easy to handle on the job site. MagTech™ structural sheathing can be used in fire-rated wall applications, as well as for fire retardant structural sheathing on exterior and interior walls, pitched roofs, flat roof decks, and floors. MagTech™ offers superior performance with both increased fire resistance and improved structural capacity in a single panel.

MagTech™ consists of a 3 mil thick, non-combustible, fiber-reinforced magnesium oxide (MgO) board laminated to untreated oriented strand board (OSB) on one or two faces, as required by code and building application. The non-combustible MgO board lamination process assures a composite uniform section to reinforce the OSB while also providing both flame and thermal resistance.

MagTech™ offers increased structural capacity. In contrast to other fire retardant sheathing products that are chemically-impregnated or coated, MagTech™ is created using a proprietary lamination process that bonds reinforced MgO board to the face of OSB structural sheathing. The noncombustible MgO laminate prevents both flame and smoke penetration through the sheathing, as well as enables the OSB to remain free of fire retardant chemicals for greater strength of the overall composite sheathing system.

MagTech™ is free of hazardous chemicals, with no VOC (off-gas) present during fabrication. The MgO panel face provides an attractive tile-like surface that mitigates the spread of flame and heat with a burn-through resistance that is greater than that of standard wood structural panels that are treated with fire retardant chemicals.

Refer to the MagTech™ Fire Retardant OSB Sheathing Products Specifications and Technical information Brochure for further information.

2. Product Specifications

- Size/Length: MagTech™ is available in a variety of sizes, thicknesses, and grades and can be fabricated as needed per specific project specifications.
- All materials are rated as non-hazardous materials.
- Code Compliance and Fire Performance:
 - Class A Flame Spread Rating (ASTM E-84 / IBC 2303.2 / ASTM E2768 / UL 273 / UBC 8-1) per QAI Laboratories, Inc. Test Report TJ2773
 - Flame Spread Index: 0
 - Smoke Index: 0 - 5

- Load Bearing 2-Hour Fire-Rated Exterior Bearing Walls for Type III & Type V Construction (ASTM E119 / UL263) per Intertek Design No. CF/WPPS 120-01
- IBC 706 –Fire Walls, Vertical Continuity and general materials used for makeup of fire walls are in compliance with IBC.
- Load Tested and analyzed through engineering by Structural Engenuity, Inc. using load test in compliance with ASTM E72-80 “Standard Methods of Conducting Strength Tests of Panels for Building Construction.”
- Meets requirements for 15-minute thermal barriers
- MagTech™ exceed the US Standard in providing the minimum requirements for energy efficient designs for buildings per ASHRAE 90.1 and the following FSC accreditations:
 - EQ Credit 4.4 – Low Emitting Materials
 - EQ Credit 4.1 – 10% of Material shall be of recycled content
 - EQ Credit 4.2 – 20% of Material shall be of recycled content
 - EQ Credit 5.1 – Regional Materials – 10% Extracted, processed & Manufactured regionally
 - EQ Credit 5.2 – Regional Materials – 20% Extracted, processed & Manufactured regionally
 - EQ Credit 7 – 50%: Minimum of wood must be FSC certified

3. Product Applications

MagTech™ is a versatile sheathing product. MagTech™ has been structurally analyzed and is capable to work as sheathing for both internal and external load bearing and non-load bearing applications of wall, floor, and roof framing. Load tables were developed through a series of load tests that were performed by a licensed structural engineering firm.

Refer to the MagTech™ Fire Retardant OSB Sheathing Products Specifications and Technical information Brochure for more information. Refer to the MagTech™ Installation Instructions for further product application details.

4. Product Installation Instructions

MagTech™ is similar to typical wood construction and can therefore be installed like conventional sheathing using standard framing methods by a carpenter. Refer to the MagTech™ Installation Instructions for further details.

5. Product Warranty and Sustainability

MagTech™ has a transferrable 20 year limited warranty. Contact Flameproof Companies for information regarding warranty coverage.

Certified Wall Assemblies

Exterior Bearing Wall System

(Design No. CF/WPPS 60-01)
(Design No. CF/WPPS 120-01)
(Design No. CF/WPPS 120-02)
(Design No. CF/WPPS 120-03)

Max. Tested Load:

100% of Design Load

Mag Tech Configurations

1 MgO surface (facing in our out)

- 1 hr. from interior only

2 MgO surfaces

- 1-2 hr from exterior

- 1-2 hr from interior

No Mineral Wool



UPGRADABLE

(design flexibility)

- 1 hr from exterior
- 1-2 hr from interior
- No Mineral Wool

1 hr Exterior Bearing Wall

(Design No. CF/WPPS 60-01)

Max. Tested Load:

100% of Design Load

Fire Ratings:

MagTech (1-sided)-MgO facing IN or OUT

- 1 hr. from interior only

MagTech (2-sided)

- 1 hr from exterior

- 1 hr from interior

No Mineral Wool



CF/WPPS 60-01

- 1 hr from exterior
- 1 hr from interior
- MagTech (2-side)

(Optional)

- 1 hr from interior ONLY
- MagTech (1-side)
(MgO surface facing IN or OUT)

Certified Wall Assemblies

2 hr Exterior Bearing Wall

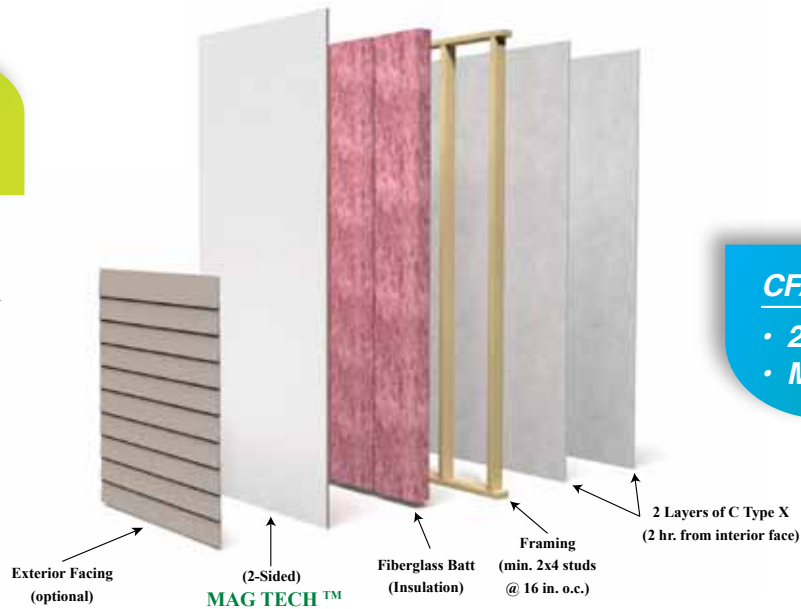
(Design No. CF/WPPS 120-01)

Max. Tested Load:

100% of Design Load

Fire Ratings:

- 2 hr from interior



CF/WPPS 120-01

- 2 hr from interior
- MagTech (2-side)

2 hr Exterior Bearing Wall

(Design No. CF/WPPS 120-02)

Max. Tested Load:

100% of Design Load

Fire Ratings:

- 1 hr from exterior
- 2 hr from interior

No Mineral Wool



CF/WPPS 120-02

- 1 hr from exterior
- 2 hr from interior
- MagTech (2-side)

2 hr Exterior Bearing Wall

(Design No. CF/WPPS 120-03)

Max. Tested Load:

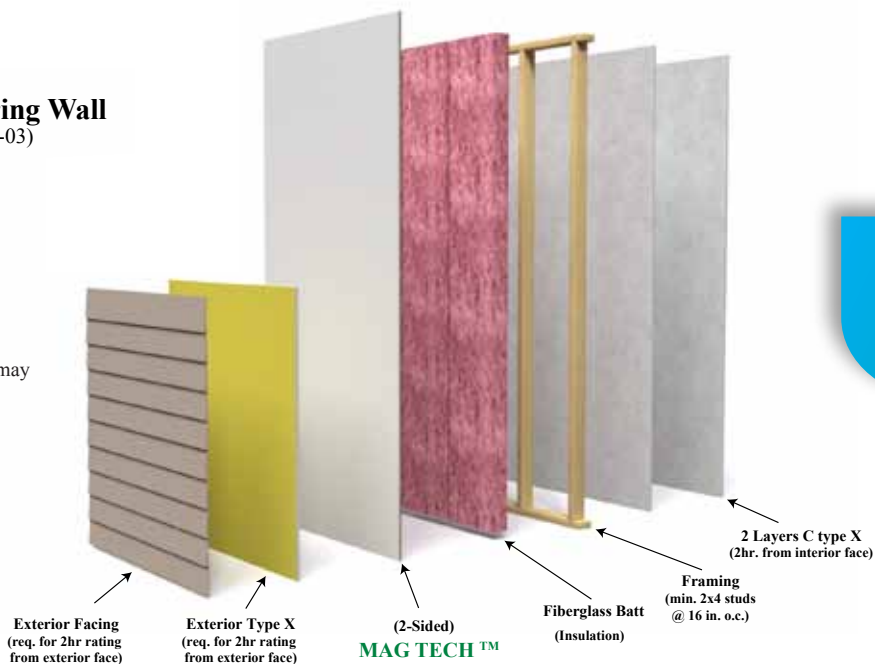
78% of Design Load

Fire Ratings:

- 2 hr from exterior
- 2 hr from interior

No Mineral Wool

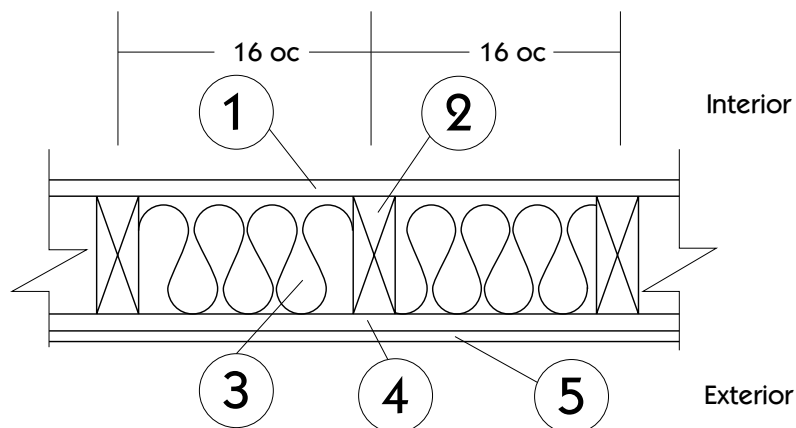
Note: Exterior Type X gyp. may be installed outside or inside MagTech sheathing.



CF/WPPS 120-03

- 2 hr from exterior
- 2 hr from interior

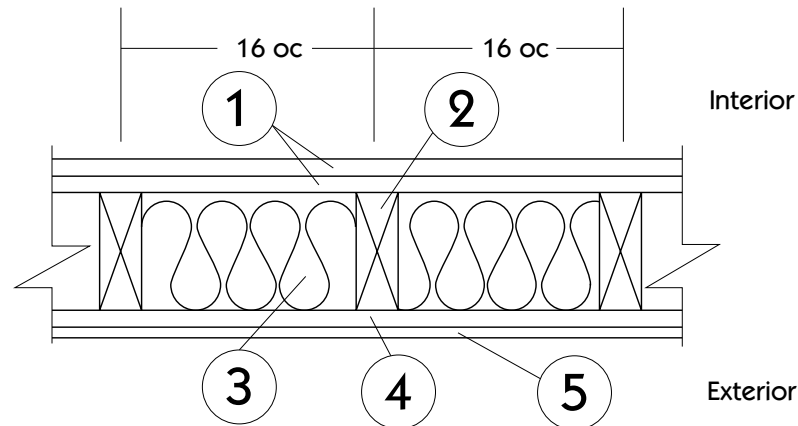
Chicago Flameproof and Wood Specialties Corp., dba Flameproof Companies
Design No. CF/WPPS 60-01
MagTech™ Fire Retardant Sheathing
ASTM E119
Rating: 1 Hour, Load Bearing 100% Design Load (2015 NDS)



1. **GYPSUM BOARD (Interior):** One layer Type C USG Firecode® C Core Type X complying with ASTM C1396 or equivalent, min. 5/8 in. thick, 4 ft. wide applied vertically, fastened to framing. Joints covered with paper tape and joint compound. Fasteners covered with joint compound. Min. #6 x 1-5/8 in. long Type S or W screws, spaced max. 6 in. oc.
2. **FRAMING:** Min 2x4 in. nominal wood studs, spaced max 16 in. oc, double top plates and single bottom plate fastened together with 16 d common nails.
3. **INSULATION:** Fiber batt insulation min. 3-1/2 in. thick R-13 friction fit between the studs. If 2x6 in. nominal wood studs are used, fiberglass batt insulation shall be min. 5-1/2 in. thick.
4. **SHEATHING (Exterior):**
 - A. **CERTIFIED PRODUCT** – MagTech™ fire retardant sheathing for a fire-resistive wood-frame wall assembly, min. 7/16 in. thick wood structural sheathing laminated with min. 3mm thick fiber reinforced magnesium oxide board on each side, required for 1 hour rating from the exterior. Min. 3mm thick magnesium oxide board on one side only required for 1 hour rating from the interior.
 - B. **INSTALLATION** – MagTech™ is applied vertically over the specified framing with min. 2-3/8 in. long, 0.113 in. diameter nails, spaced max. 8 in. oc around the perimeter and max. 12 in. oc in the field. Horizontal joints must be blocked.
 - C. **CERTIFIED MANUFACTURE** – Chicago Flameproof and Wood Specialties Corp., dba Flameproof Companies.
5. **EXTERIOR FACINGS (Optional for Rating from Interior Only):** Materials installed in accordance with manufacturer's installation instructions:
 - Min. 5/16 in. thickness fiber-cement siding complying with ASTM C1186, installed in accordance with approved manufacture's instructions
 - Brick min. thickness of 2-5/8 in. complying with ASTM C216
 - Cement plaster (stucco) min. thickness 3/4 in. on metal lath according to ASTM C926

Chicago Flameproof and Wood Specialties Corp., dba Flameproof Companies
Design No. CF/WPPS 120-01
MagTech™ Fire Retardant Sheathing
ASTM E119

Rating: 2 Hour, Load Bearing 100% Design Load (2015 NDS)
Rated From One Side (Interior Side Only)



1. **GYPSUM BOARD (Interior):** Two layers Type C USG Firecode® C Core Type X complying with ASTM C1396 or equivalent, min. 5/8 in. thick, 4 ft. wide applied vertically, fastened to framing. Face layer joints staggered with base layer and covered with paper tape and joint compound.

FASTENERS: (Not Shown):

- A. FACE LAYER – Min. #6 x 2 in. long Type S or W screws spaced max. 8 in oc and heads covered with joint compound.
- B. BASE LAYER – Min. #6 x 1-5/8 in. long Type S or W screws, spaced max. 6 in. oc.
2. **FRAMING:** Min 2x4 in. nominal wood studs, spaced max 16 in. oc, double top plates and single bottom plate. 16 d common nails.
3. **INSULATION:** Faced or unfaced mineral fiber insulation min. 3-1/2 in. thick (2.8 pcf, nominal) or fiberglass batt insulation min. 3-1/2 in. thick R-13 friction fit between the studs. If 2x6 in. nominal wood studs are used, fiberglass batt insulation shall be min. 5-1/2 in. thick.

4. **SHEATHING (Exterior):**

- A. **CERTIFIED PRODUCT** – MagTech™ fire retardant sheathing for a fire-resistive wood-frame wall assembly, min. 7/16 in. thick wood structural sheathing laminated with min. 3mm thick fiber reinforced magnesium oxide board on each side.
- B. **INSTALLATION** – MagTech™ is applied vertically over the specified framing with min. 2-3/8 in. long, 0.113 in. diameter nails, spaced max. 8 in. oc around the perimeter and max. 12 in. oc in the field. Horizontal joints must be blocked.
- C. **CERTIFIED MANUFACTURE** – Chicago Flameproof and Wood Specialties Corp., dba Flameproof Companies.

5. **EXTERIOR FACINGS (Optional):** Materials installed in accordance with manufacturer's installation instructions:

- Masonry brick veneer or concrete
- Portland cement or synthetic stucco systems with self-furring metal lath or adhesive base coat
- Hardboard, wood structural panel, plywood, or fiber-cement siding including textures, rough sawn, MDO brushed, patterned, and lap
- Metal siding
- Vinyl siding – exterior plastic

Chicago Flameproof and Wood Specialties Corp., dba Flameproof Companies

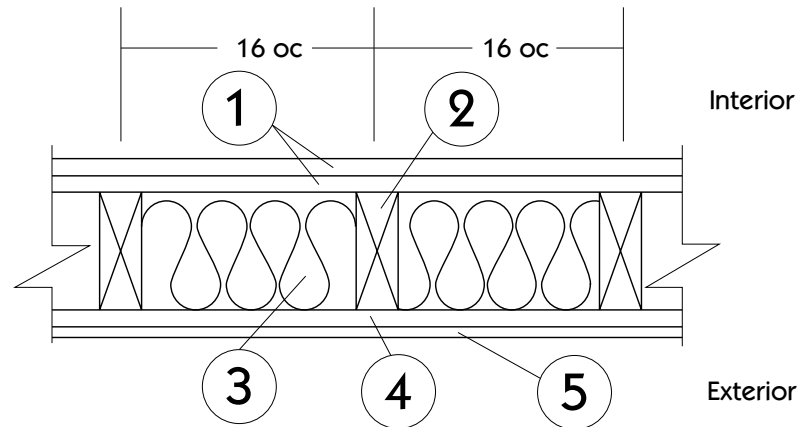
Design No. CF/WPPS 120-02

MagTech™ Fire Retardant Sheathing

ASTM E119

Rating: 2 Hour From Interior, 1 Hour From Exterior

Load Bearing 100% Design Load (2015 NDS)



1. **GYPSUM BOARD (Interior):** Type C USG Fire-code® C Core Type X complying with ASTM C1396 or equivalent, min. 5/8 in. thick, 4 ft. wide applied vertically, fastened to framing. Two layers required for 2 hour rating from the interior. One layer required for 1 hour rating from the exterior. Face layer joints staggered with base layer. All joints covered with paper tape and joint compound.
 - A. FACE LAYER (Required for 2 Hour Rating from Interior) – min. #6 x 2 in. long Type S or W screws spaced max. 8 in oc and heads covered with joint compound.
 - B. BASE LAYER (Required for 2 Hour Rating from Interior and 1 Hour from Exterior) – Min. #6 x 1-5/8 in. long Type S or W screws, spaced max. 6 in. oc.
2. **FRAMING:** Min 2x4 in. nominal wood studs, spaced max 16 in. oc, double top plates and single bottom plate fasten together with 16d common nails.
3. **INSULATION:** Faced or unfaced mineral fiber insulation min. 3-1/2 in. thick (2.8 pcf, nominal) or fiberglass batt insulation min. 3-1/2 in. thick R-13 friction fit between the studs. If 2x6 in. nominal wood studs are used, fiberglass batt insulation shall be min. 5-1/2 in. thick.
4. **SHEATHING (Exterior):**
 - A. CERTIFIED PRODUCT – MagTech™ fire retardant sheathing for a fire-resistive wood-frame wall assembly, min. 7/16 in. thick wood structural sheathing laminated with min. 3mm thick fiber reinforced magnesium oxide board on each side.
 - B. INSTALLATION – MagTech™ is applied vertically over the specified framing with min. 2-3/8 in. long, 0.113 in. diameter nails, spaced max. 8 in. oc around the perimeter and max. 12 in. oc in the field. Horizontal joints must be blocked.
 - C. CERTIFIED MANUFACTURE – Chicago Flameproof and Wood Specialties Corp., dba Flameproof Companies.
5. **EXTERIOR FACINGS (Optional for 2 Hour Rating from Interior):** Materials installed in accordance with manufacturer's installation instructions:
 - Min. 5/16 in. thickness fiber-cement siding complying with ASTM C1186, installed in accordance with approved manufacture's instructions
 - Brick min. thickness of 2-5/8 in. complying with ASTM C216
 - Cement plaster (stucco) min. thickness 3/4 in. on metal lath according to ASTM C926

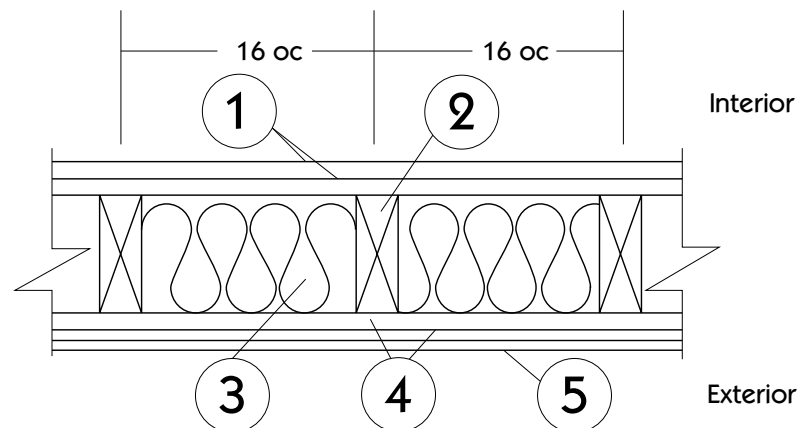
Chicago Flameproof and Wood Specialties Corp., dba Flameproof Companies

Design No. CF/WPPS 120-03

MagTech™ Fire Retardant Sheathing

ASTM E119

Rating: 2 Hour, Load Bearing 78% Design Load (2015 NDS)



- 1. GYPSUM BOARD (Interior):** Two layers USG Sheetrock® Brand Firecode® C Core Gypsum Panels or equivalent, min. 5/8 in. thick, 4 ft. wide applied vertically, fastened to framing. Face layer joints staggered with base layer and covered with paper tape and joint compound.
FASTENERS (Not Shown):
 - A. FACE LAYER – min. #6 x 2 in. long Type S or W screws spaced max. 8 in oc and heads covered with joint compound.
 - B. BASE LAYER – Min. #6 x 1-5/8 in. long Type S or W screws, spaced max. 6 in. oc.
- 2. FRAMING:** Min 2x6 in. nominal fire retardant treated wood studs, spaced max 16 in. oc, double top plates and single bottom plate fasten together with 16d common nails.
- 3. INSULATION:** Fiberglass batt insulation min. 5-1/2 in. thick R-13 or mineral fiber insulation, min. 3 in. thick friction fit between the studs.
- 4. SHEATHING (Exterior):** One layer of MagTech™ fire retardant sheathing applied vertically with min. 2 3/8 in. long, 0.113 in. diameter nails, spaced max. 8 in. oc around the perimeter and max. 12 in. oc in the field. Horizontal joints must be blocked. One layer of Type X gypsum or Type X glass mat gypsum, min. 5/8 in. thick, 4 ft. wide, applied vertically fastened with 7d coated nails, 2-1/4 in. long, 0.0915 in. shank, 1/4 in. heads, 12 in. oc. The required one layer of gypsum may be installed as the base or face layer. The face layer shall be covered with fire resistant protective weather retarded paper.
- 5. EXTERIOR FACINGS:** Materials installed in accordance with manufacturer's installation instructions:
 - Min. 5/16 in. thickness fiber-cement siding complying with ASTM C1186, installed in accordance with approved manufacture's instructions
 - Brick min. thickness of 2-5/8 in. complying with ASTM C216
 - Cement plaster (stucco) min. thickness 3/4 in. on metal lath according to ASTM C926

Roofs and Wall Sheathing

MagTech™ MgO Location (B)ottom, (T)op, Dbl Sided ⁸	Span Rating	Panel Thickness (in) (OSB + 3Mil MgO) ²	Maximum Panel Span (in) ¹ (W/ Edge)	Maximum Panel Span (in) ¹ (W/O Edge)	Max Live Load (psf) ³ Spacing of Supports Cntr to Cntr (in)							
					12	16	20	24	30	36	48	60
B & Dbl Sided	32/16	7/16	30	24	300	140	75	45	20			
B & Dbl Sided	32/16	15/32 (1/2)	32	28	360	190	125	98	32			
B & Dbl Sided	40/20	19/32 (5/8)	40	32		340	208	153	61	30		
B & Dbl Sided	48/24	23/32 (3/4)	48	36			320	200	100	60	50	
B & Dbl Sided	60/32	7/8	60	40				330	175	100	90	32
B & Dbl Sided	60/48	1 1/8	60	48				330	175	100	90	32
Top	24/16	7/16 (1/2)	24	24	225	125	70	40				
Top	32/16	15/32 (1/2)	32	28	270	150	90	70	30			
Top	40/20	19/32 (5/8)	40	32		310	180	130	50	28		
Top	48/24	23/32 (3/4)	48	36			307	180	95	50	35	
Top	60/32	7/8	60	40				315	160	90	65	25
Top	60/48	1 1/8	60	48				315	160	90	65	30

Subfloor

MagTech™ MgO Location (B)ottom, (T)op, Dbl Sided ⁸	Span Rating	Panel Thickness (in) (OSB + 3Mil MgO)	Maximum Panel Span (in) ¹ (W/ Edge)	Maximum Panel Span (in) ¹ (W/O Edge)	Max Live Load (psf) ³ Spacing of Supports Cntr to Cntr (in)							
					12	16	20	24	30	36	48	60
B & Dbl Sided	16 oc	7/16 (1/2)	24	24	230	105	65	35				
B & Dbl Sided	16 oc	15/32 (1/2)	24	24	275	140	100	40	20			
B & Dbl Sided	20 oc	19/32 (5/8)	32	32		260	165	75	50	10		
B & Dbl Sided	24 oc	23/32 (3/4)	48	36			295	130	100	45	30	
B & Dbl Sided	48 oc	7/8	60	48				250	160	95	60	40
Top	16 oc	7/16 (1/2)	24	24	185	100	60	30				
Top	16 oc	15/32 (1/2)	32	28	240	132	85	35	15			
Top	20 oc	19/32 (5/8)	40	32		250	155	60	40	5		
Top	24 oc	23/32 (3/4)	48	36			270	110	85	40	25	
Top	48 oc	7/8	60	48				200	120	90	50	35

1 Panels shall be a minimum of 24 inches wide and are applied over two or more spans.

2 Panels thickness noted is Sheathing Thickness. 3 Mil MgO is in addition to value noted

3 Design Max Live Loads are based on a 100% Load Duration minus a 10psf Dead Load, and over two or more spans. Adjust Live Load Capacity Linearly with increased Dead Load.

4 Table revised per additional testing and further evaluation of results with International Building Code, IBC 2009

5 Greater Panel Thickness not shown in shorter spans has equal or greater load capacity than shown in table. Use table values if panel thickness not provided for that span.

6 Floor capacity based on L/360 deflection & Roof based on L/240 deflection criteria (If Ceiling Attached, use Subfloor for capacity)

7 Strength Axis is perpendicular to supports.

8 For Wall Applications, Bottom = Interior and Top = Exterior.

Allowable Shear (Pounds Per Foot) For Panel Shear Walls with Framing of DF, Larch, or SP or Wind or Seismic Loading (Refer to 2009 IBC, Table 2306.3)

Panel Grade	Performance Category	Minimum Nail Penetration in Framing (in)	Panels Applied Direct to Framing					Panels Applied Over 1/2 or 5/8 Gypsum Sheathing				
			Nail Size (Comm. or Galv. Box)	Nail Spacing at Panel Edge (in)				Nail Size (Comm. or Galv. Box)	Nail Spacing at Panel Edge (in)			
				6	4	3	2		6	4	3	2
Strut. 1	7/16	1 3/8	8d	255	395	505	670	10d	280	430	550	730
	15/32	1 3/8		280	430	550	730					
	15/32	1 1/2	10d	340	510	665	870					
Rated Sheathing	5/16	1 1/4	6d	180	270	350	450	8d	180	270	350	450
	1/4	1		145	220	295	375					
	5/16	1 1/4	6d	140	210	275	360					
	3/8	1 3/8	8d	160	340	310	410					

1. General Information

MagTech™ is similar to typical wood construction and can therefore be installed like conventional sheathing using standard framing methods by a carpenter. Installation shall comply with local safety regulations and applicable building codes in addition to the APA's Engineered Wood Construction Guide Form E3OU (Sept 2011) or equivalent. The MagTech™ structural OSB or plywood panels must be installed in accordance with the manufacturer's published literature and the requirements for wood structural panels in Chapter 23 of the IBC, or Sections R604 and R803.2 of the IRC. The manufacturer's published installation instructions must be strictly adhered to, and a copy of the instructions must be available at all times on the jobsite during installation. If there are any conflicts between the manufacturer's instructions and a code compliance report, the report will govern.

2 Storage and Handling

MagTech™ panels shall be stored in clean, dry areas off of the ground. If stored outside, it is recommended that the material be loosely covered with plastic or tarps and open at base to allow for air circulation.

If sheathing becomes wet while in storage or during shipping/handling, material should be dried out prior to installation to avoid excessive moisture being present in the building. This could lead to mildew and mold that is hazardous to the health of the occupants of the facility.

MagTech™ panels shall be fabricated and installed as noted for the various types of use and construction so that they are in compliance with the governing building codes and regulations. Contact Flameproof Companies for further information.

3. Wall Installation

MagTech™ panels shall be installed as specified in the approved contract plans for the fire-rated assembly of the new construction. In the absence of details in contract plans, panels can be installed vertically with horizontal joints blocked per the approved assembly tested by Intertek Labs under Design No. CF/WPPS 120-01, 120-02, 120-03 and 60-01. Installation must be in conformance with all local building codes and safety regulations.



- It is required that MagTech™ OSB sheathing be covered with a weather resistant barrier (WRB) soon after installation to avoid potential weather-related damage.
- Orientation of the magnesium oxide (MgO) surface of the MagTech™ panel shall be installed per the approved contract plans.
- Provide 1/8" gap between panel edges to account for thermal expansion. It is recommended to use a spacer tool to keep gaps consistent and uniform.
- It is recommended that MagTech™ panels be fastened to framing vertically using 0.113" dia. nails w/ 2 3/8" minimum embedment at 8" centers around perimeter 3/8" in from panel edges and at 12" centers in the field. All horizontal joints shall be blocked and all vertical joints shall be in line with stud framing.
 - Note that shear walls typically have higher stresses due to lateral loads transferring thru the wall from elevated diaphragms to the foundation or floor; therefore, fasten MagTech™ panels to stud framing using fastener type and spacing as specified in the approved contract plans.
- Nails must not penetrate the top layer of magnesium oxide. Set nail guns accordingly.

4. Roof Installation

MagTech™ panels shall be installed as specified in the approved contract plans for the fire-rated assembly of the proposed new construction.

- Place MgO surface of the MagTech™ panel facing down per the approved contract plans for any application

Superior fire protection with increased structural capacity.

where reducing the spread rate of fire from an interior source is required. Place the MgO surface of the MagTech™ panel facing up per the approved contract plans for any application where reducing the spread rate of fire from an exterior source is the intent of the approved contract plans.

- MagTech™ panels shall be installed over roof rafters, joists or beams such that each panel is continuous over three or more supports. Panels shall be spaced to provide a 1/8" gap between edges. Use a spacer tool to ensure uniformity is maintained throughout placement of panels on roof.
- End joints between panels shall occur over support framing. It is recommended that joints be staggered between each successive row of panels in order to maintain a continuous roof diaphragm for a more rigid frame.
- Provide additional panel stiffness using panel edge clips at mid-span or as noted along all unsupported edges of panels as specified in the approved contract plans. It is recommended that MagTech™ panels with a 7/16 or 15/32 category receive panel edge clips at mid-span of all unsupported edges.
- MagTech™ panel shall be nailed to support framing at supported panel ends and edges at 6" OC or as specified in the approved contract plans with a minimum edge distance of 3/8". Panels shall be nailed to support framing at 12" OC for all intermediate supports. Contractor shall use 8d common nails for panels up to 1" in thickness and 10d common nails or 8" ring-shanks for panels 1" or thicker; or an approved fastener per the approved drawings.
- It is recommended that roof sheathing be covered with roofing felt or shingle underlayment for protection against weathering to maintain the best performance of the MagTech™ panel.

5. Attaching Moisture-Resistant Barrier Products

The MgO layer of the MagTech™ that is laminated to one or both sides (depending on the level of fire rating required) of the OSB sheathing, increases the density of the panel in addition to structural strength and fire resistance. The hardened MgO surface requires fastening tools and methods of attaching to the MgO that will provide proper penetration into the sheathing for needed connection strength while preventing damage to the MgO layer and its lamination. Therefore, while the Contractor shall refer to the installation instructions of the moisture-resistant barrier manufacturer, Contractor shall use a power tool that will not cause shattering of the MgO but has enough pressure to penetrate the MgO into the OSB sheathing. While

Flameproof Companies does not endorse specific tools or tool manufacturers, Flameproof Companies is able to provide recommendations of a tool or its equivalent that can be used based on queries by the Contractor for specific MgO thickness and sheathing thicknesses used per a specific contract.

6. Installation Tips

The quality of the framing construction, insulation installation, roofing underlayment installation, and craftsmanship of the overall construction will permit better performance of the MagTech™ fire-rated sheathing in conjunction with its support framing. Smoothing out wrinkles in the shingle underlayment or roofing felt will ensure a consistent finish surface across the MagTech™ panels. In addition, ensuring all construction is in accordance with the approved contract plans and governing local building code will ensure that the MagTech™ panels are installed to the required specifications, such as applying an exterior-grade paint to all exposed undersides and exposed edges of panels that overhang beyond the limits of the exterior walls of a building, while also ensuring proper weighted roofing is applied to the top surface of the sheathing to help in smoothing out any deficiencies.

Refer to typical installation details attached for further reference. Feel free to contact Flameproof Companies with any questions or need of further installation tips.

7. Assistance and Safety

Flameproof Companies has experienced carpenters on staff to assist with any questions regarding the installation of the MagTech™ product in addition to licensed professionals that are available to provide any further technical support needed on a job. Please contact Flameproof Companies for any additional assistance needed regarding installation of the MagTech™ product.

Flameproof Companies also encourages safety at all work sites. It is vital that a contractor understands the work environment that can be ever changing due to weather, phasing of construction, and multiple discipline work forces on site. It is the responsibility of the Contractor to ensure that all required safety equipment is on site and all personnel safety gear is worn by all present on site as required by federal regulations, local codes and jurisdictions, and the approved contract plans. Skid resistant carpenter boots, gloves, and proper fall arrest gear as necessary for elevated above grade installations are a few of the items that each worker should have when installing the MagTech™ paneling.

MagTechTM

**FIRE RETARDANT
OSB SHEATHING**



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