MAG TECH™

Fire-Rated Structural Sheathing

MAG TECH™ OSB and Plywood Structural Sheathing, is a ***patent pending,*** **Class A Flame Spread Rated**, fire retardant wood panel system.

In contrast to other fire retardant products that are chemically-impregnated or coated, **MAG TECH™ panels are laminated** using a proprietary manufacturing process which **bonds together a thin layer of fiber-reinforced MgO board to structural OSB or plywood sheathing (on one or two sides).** The lamination process assures a composite uniform section to reinforce the wood sheathing for additional strength while also serving to provide superior flame resistance. The end result is a ***lighter, stronger, better,*** **GREEN** building solution.

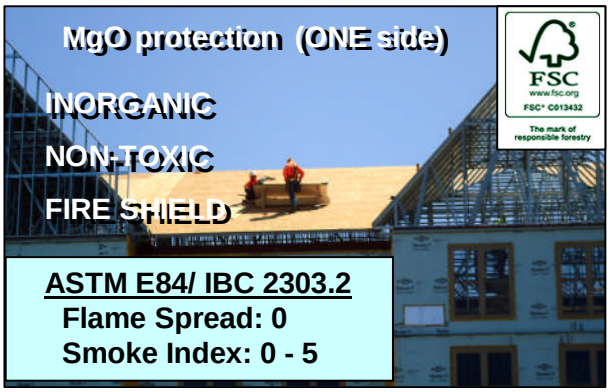
Compliance Criteria:

- ASTM E119/ UL263
- ASTM E84/ UL723
- IBC 602.3
- IBC 603.1
- IBC 703.2
- IBC 703.3
- IBC 706.6
- IBC 803
- UBC 8-1
- NFPA 255
- ASTM E72-80
- AC264 (1.3.2.1 & 3)
- AC264 (1.3.4 & 1.3.5)
- AC264 (1.3.8)

Build with **MAG TECH™**

www.Flameproof.com

MgO protection on **ONE** or **TWO** sides



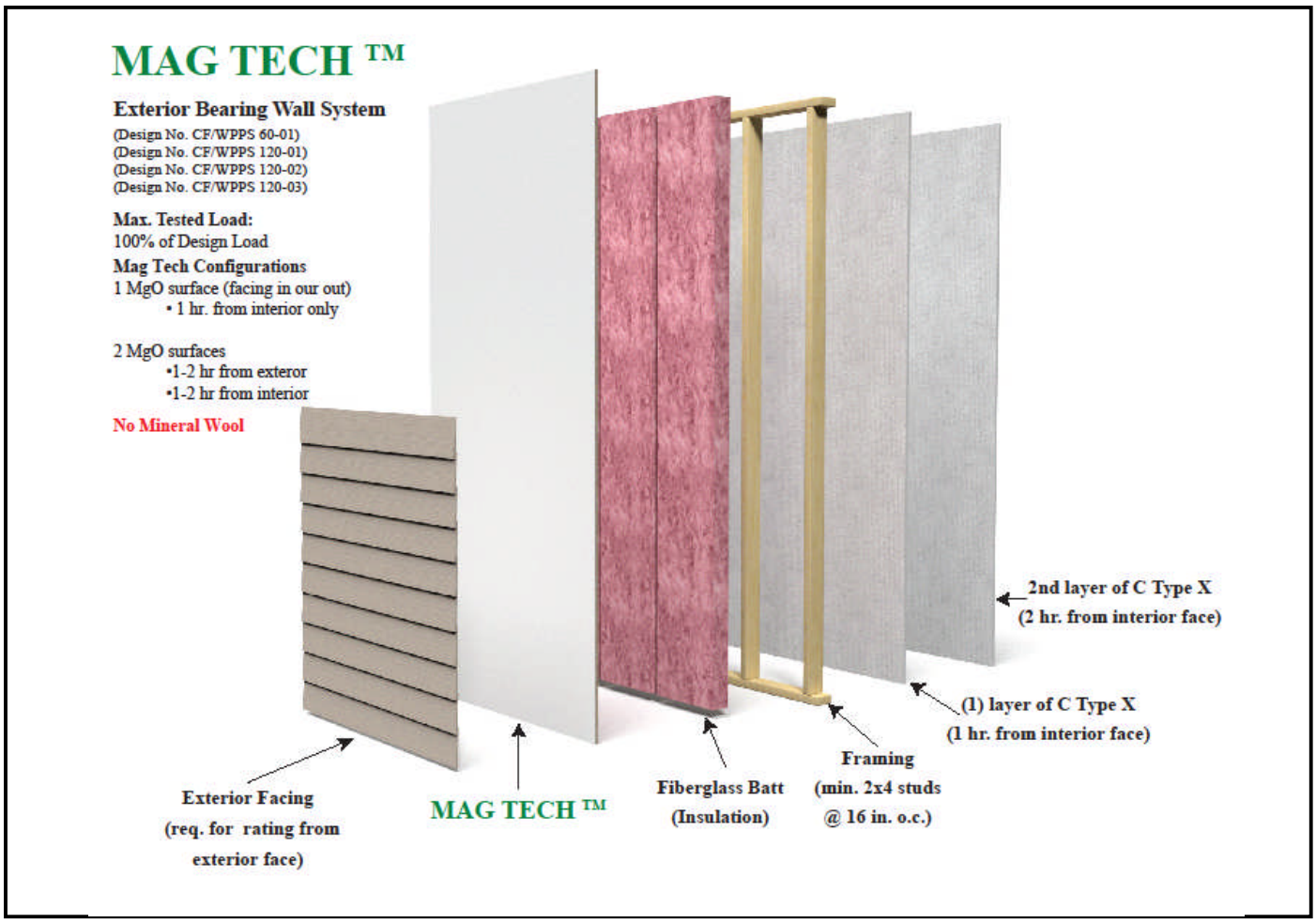
Manufactured by

FLAMEPROOF COMPANIES

Delivery anywhere in the USA

MAG TECH™

Exterior Bearing Wall System



MAG TECH ™

1 hr Exterior Bearing Wall
(Design No. CF/WPPS 60-01)

Max. Tested Load:
100% of Design Load

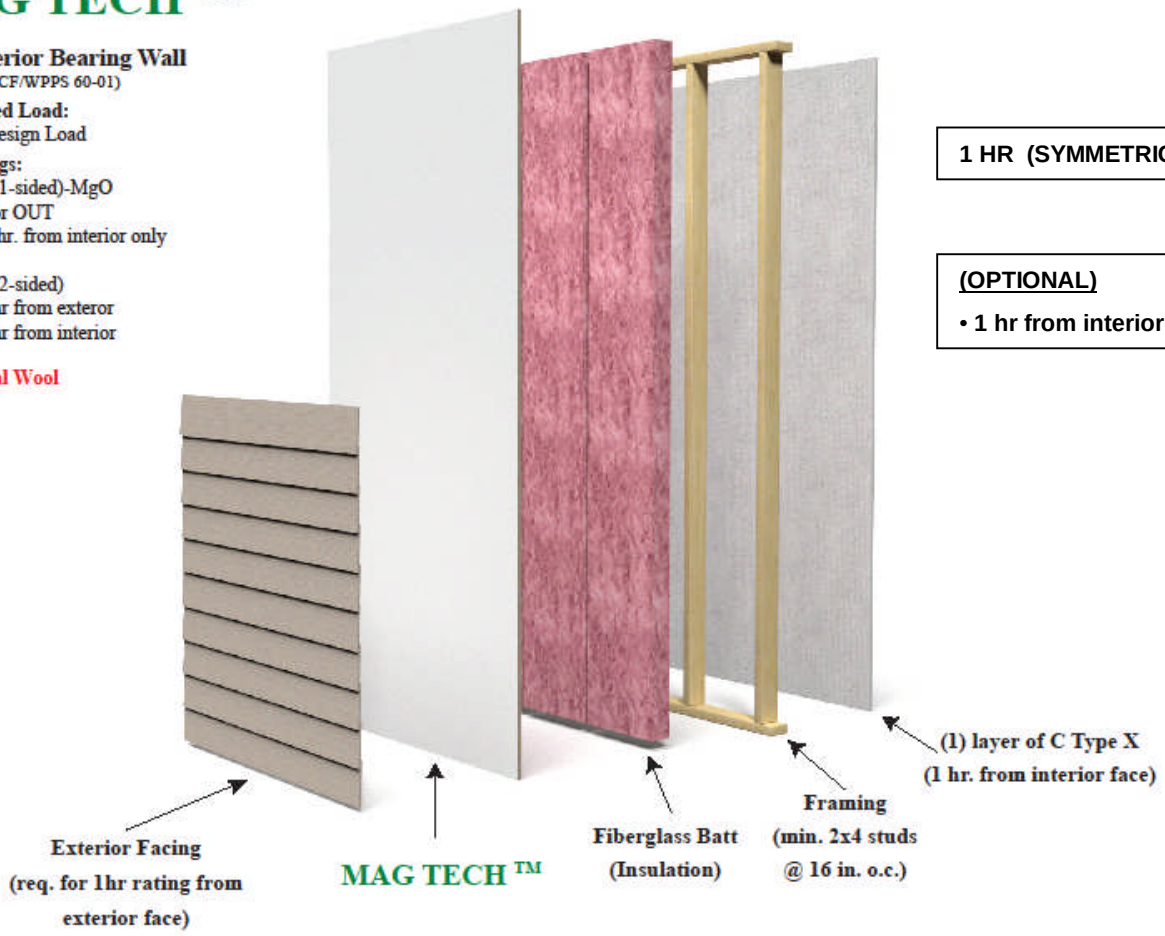
Fire Ratings:
MagTech (1-sided)-MgO facing IN or OUT
- 1 hr. from interior only

MagTech (2-sided)
- 1 hr from exteror
- 1 hr from interior

No Mineral Wool

1 HR (SYMMETRICAL)

(OPTIONAL)
- **1 hr from interior only**



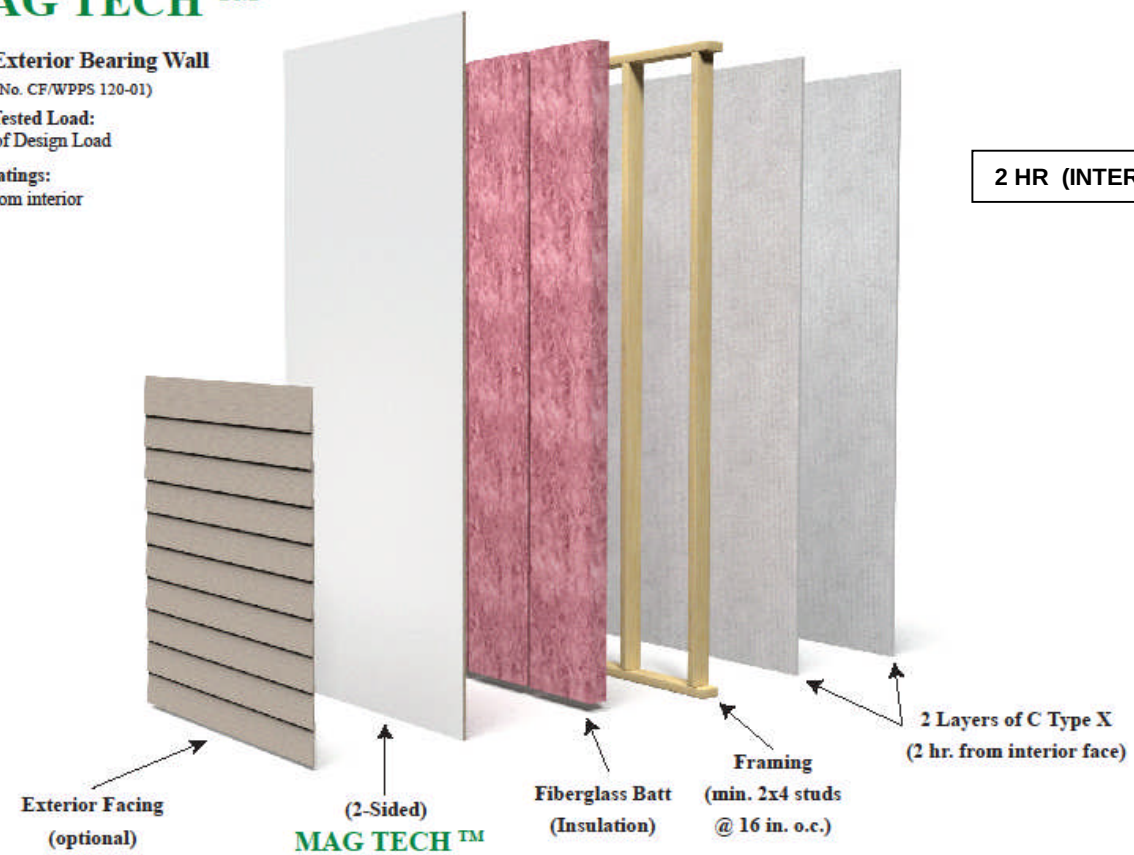
MAG TECH ™

2 hr Exterior Bearing Wall
(Design No. CF/WPPS 120-01)

Max. Tested Load:
100% of Design Load

Fire Ratings:
- 2 hr from interior

2 HR (INTERIOR ONLY)



MAG TECH ™

2 hr Exterior Bearing Wall
(Design No. CF/WPPS 120-02)
Max. Tested Load:
100% of Design Load
Fire Ratings:
•1 hr from exteror
•2 hr from interior
No Mineral Wool

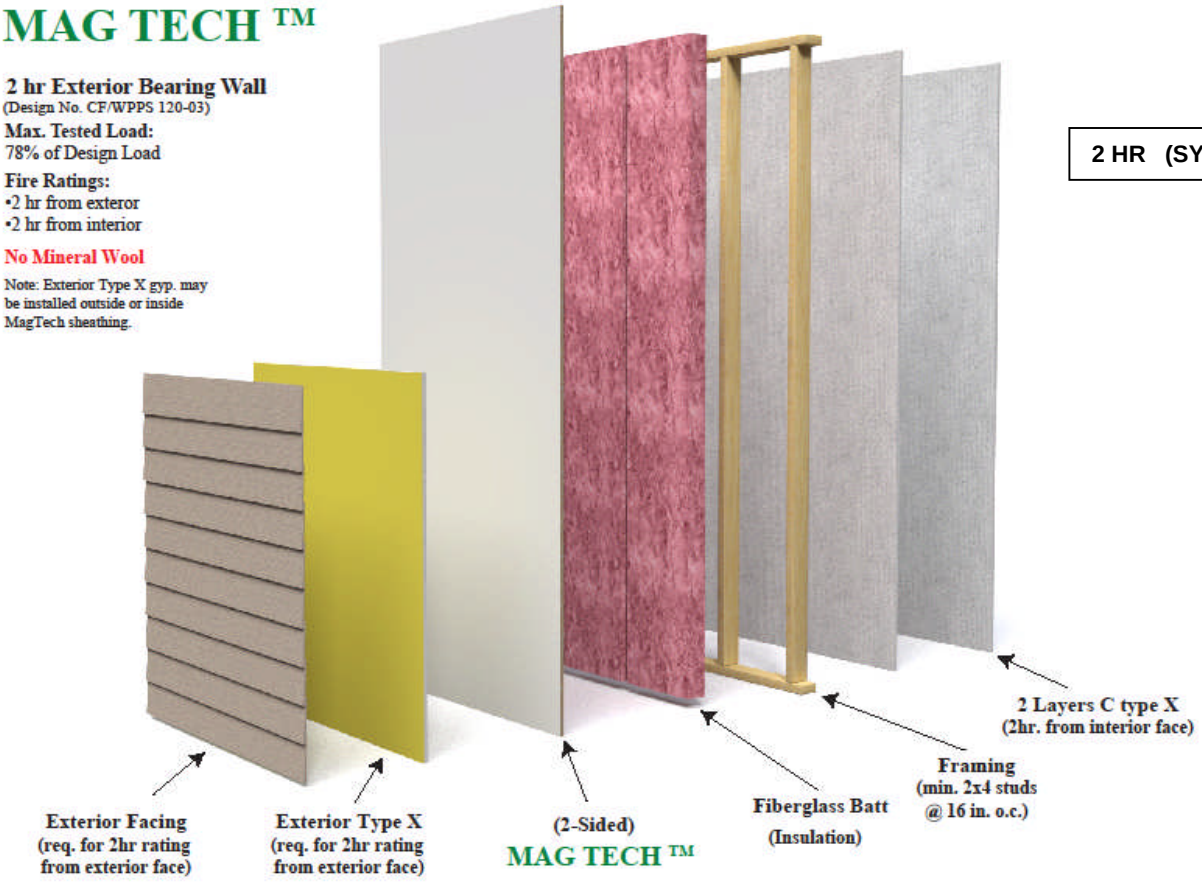
2 HR (ASYMMETRICAL)

MAG TECH ™

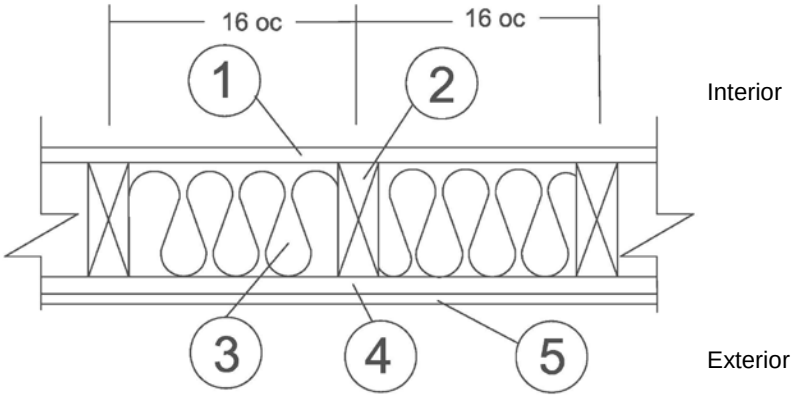
2 hr Exterior Bearing Wall
(Design No. CF/WPPS 120-03)
Max. Tested Load:
78% of Design Load
Fire Ratings:
•2 hr from exteror
•2 hr from interior
No Mineral Wool

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

2 HR (SYMMETRICAL)



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 × 1-5/8 in. long Type S or W screws, spaced max. 6 in. oc.

2. **FRAMING:** Min. 2×4 in. nominal wood studs, spaced max. 16 in. oc, double top plates and single bottom plate fastened together with 16d common nails.

3. **INSULATION:** Fiberglass batt insulation min. 3-1/2 in. thick R-13 friction fit between the studs. If 2×6 in. nominal wood studs are used, fiberglass batt insulation shall be min. 5-1/2 in. thick.

4. **SHEATHING (Exterior):**

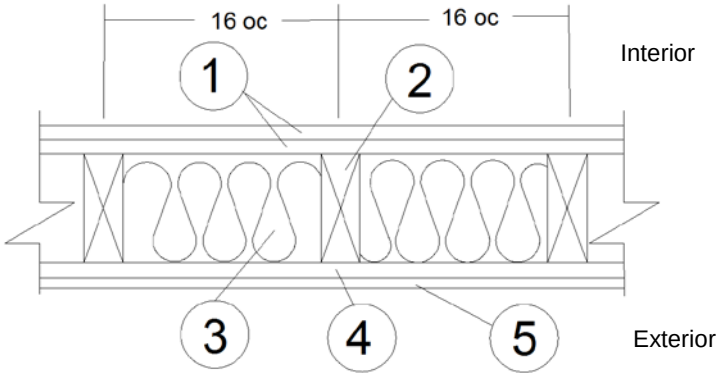
   A. CERTIFIED PRODUCT – MagTech™ fire retardant sheathing for a fire-resistive wood-frame wall assembly, min. 7/16 in. thick wood structural sheathing laminated with min. 3mm thick fiber reinforced magnesium oxide board on each side, required for 1 hour rating from the exterior. Min. 3mm thick magnesium 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 MANUFACTURER – 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 manufacturer'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. 16d common nails.

3. **INSULATION:** Faced or unfaced mineral fiber insulation min. 3 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.

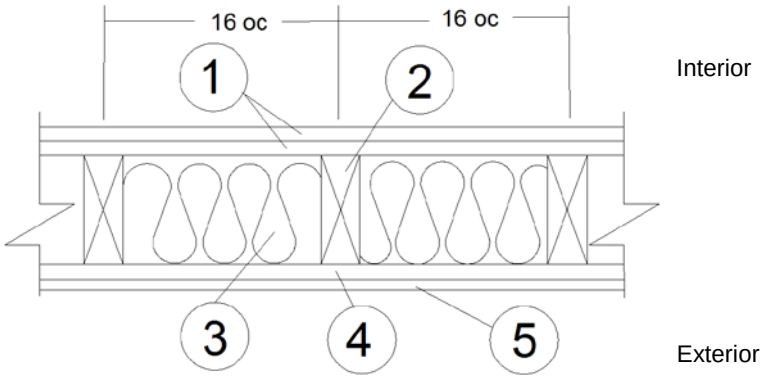
4. **SHEATHING (Exterior):**
   A. CERTIFIED PRODUCT – MagTech™ fire retardant sheathing for a fire-resistive wood-frame wall assembly, min. 7/16 in. thick wood structural sheathing laminated with min. 3mm thick fiber reinforced magnesium oxide board on both sides.

   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 MANUFACTURER – 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 Firecode® 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 × 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 × 1-5/8 in. long Type S or W screws, spaced max. 6 in. oc.

2. **FRAMING:** Min. 2×4 in. nominal wood studs, spaced max. 16 in. oc, double top plates and single bottom plate fastened 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 2×6 in. nominal wood studs are used, fiberglass batt insulation shall be min. 5-1/2 in. thick.

4. **SHEATHING (Exterior):**

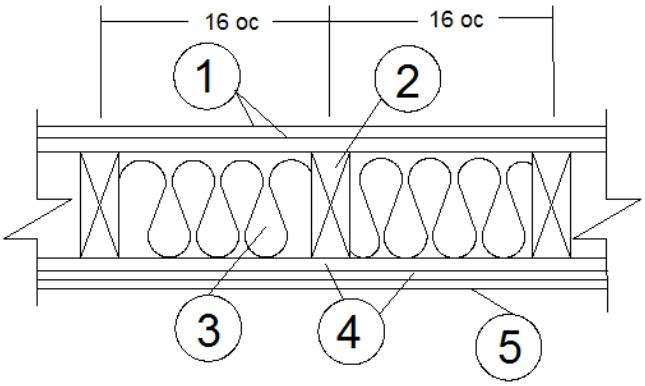
   A. CERTIFIED PRODUCT – MagTech™ fire retardant sheathing for a fire-resistive wood-frame wall assembly, min. 7/16 in. thick wood structural sheathing laminated with min. 3mm thick fiber reinforced magnesium oxide board on each side.

   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 MANUFACTURER – 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 manufacturer'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 Type C USG Firecode® C Core Type X 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. 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 is 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, ¼-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 retarder 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 manufacturer's instructions
   - Brick min. thickness of 2 5/8-in. complying with ASTM C216
   - Cement plaster (stucco) min. thickness ¾-in. on metal lath according to ASTM C926

QAI LABORATORIES
CERTIFICATION TESTING INSPECTION

1325 North 108th East Avenue
Tulsa, OK 74116
918.437.8333 ph. 918.437.8487 fx.

CLIENT: CHICAGO FLAMEPROOF
1200 South Lake St
Montgomery, IL 60538

Test Report No: TJ2773	Date: March 12, 2015

SAMPLE ID: The client identified the following test material as "OSB MAGTECH"

SAMPLING DETAIL: Test samples were submitted to the laboratory directly by the client. No special sampling conditions or sample preparation were observed by QAI.

DATE OF RECEIPT: Samples were received at QAI facilities on February 20, 2015

TESTING PERIOD: February 25, 2015

AUTHORIZATION: Signed work order SP-2015-021002

TEST REQUESTED: Perform standard flame spread and smoke density developed classification tests on the sample supplied by the Client in accordance with ASTM E2768-11 "Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test). This method is similar to UBC No. 8-1 per Chapter 7A of the 2001 California Building Code, Ignition-Resistant Material 30 minute test.

TEST RESULTS:

Flame Spread	Smoke Developed
0	5

CONCLUSION: The submitted sample material **did meet** the Conditions of Classification of **ASTM E2768**.

Prepared By

Jeff Foster
Fire Test Technician

Signed for and on behalf of
QAI Laboratories, Inc.

J. Brian McDonald
Operations Manager

PREPARATION AND CONDITIONING: The sample was submitted in three panels 8 feet long measuring 24 inches wide and approximately 3/8" thick. The sample material was placed into conditioning at 73°F (± 5°F) and 50% (± 5%) relative humidity until day of testing.

Conditions of Classification
13.1 The test method has the following conditions of classification for a material or product to be classified as
Meeting the requirements of this standard:
13.1.1 The flame spread index shall be 25 or less as determined for the initial 10 min test period,
13.1.2 The flame front shall not progress more than 10.5 ft (3.2 m) beyond the centerline of the burners at any time during the 30 min test period. This is considered evidence of no significant progressive combustion in this test method.

Ignition-Resistant Material: Is any product which when tested in accordance with UBC Standard 8-1 for a period of 30 minutes, shall have a flame spread of not over 25 and show no evidence of progressive combustion. In addition, the flame front shall not progress more than 10 ½ feet (32000 mm) beyond the centerline of the burner at any time during the test.

TEST DATA SHEET:

MOUNTING METHOD: The sample was self-supporting and the samples were butted end to end in the test chamber, with cement board placed between the lid and sample.

CLIENT: Chicago Flameproof **DATE:** February 25, 2015

SAMPLE: OSB MAGTECH

IGNITION: 10 minutes, 18 seconds

FLAME FRONT: 0 feet maximum

MAXIMUM SPREAD: 0

TEST DURATION: 30 minutes, 00 seconds

SUMMARY: FLAME SPREAD: 0 (0.0 unrounded) **SMOKE DEVELOPED: 5** (3 unrounded)

OBSERVATIONS:

Sample began charring and bubbling at 21 seconds, with dripping at 1 minute 47 seconds. Sustained ignition was at 10 minutes 15 seconds. Crackling was heard at 14 minutes 15 seconds. Test was uneventful for the remainder of 30 minute test. After-burn was self-extinguished at the conclusion of the 30 minute test.

545 E. Algonquin Rd.
Arlington Heights, IL 60005

Telephone: (847) 439 5667
Facsimile: (866) 262 2753
www.intertek.com

February 10, 2016

Chicago Flameproof – MagTech
1200 S Lake St.
Montgomery, IL 60538

Subject: Intertek Listing for Chicago Flameproof

Dear Mr. Markle,

This is to confirm that Intertek (using the ETL mark) is accredited and performs all testing, certification and inspection services to ANSI/ISO/IEC standards, the same standards to which UL is accredited.

Specifically, Intertek is accredited to the following:

- ANS/ISO/IEC Standard 17025, General criteria for the competence of testing and calibration laboratories;
- ISO/IEC Standard 17020, General criteria for the operation of various types of bodies performing inspection;
- ISO/IEC Standard 17065, Conformity assessment - Requirements for bodies certifying products, processes and services

Intertek is accredited to each of these standards by International Accreditation Services (IAS), multiple recognized Test Labs including Certificate Numbers TL-271(Middleton, WI) and TL-143 (Elmendorf, TX), Type A (Third-Party) Inspection Body under certificate AA-647, and PCA-101. Also Intertek is accredited to ISO/IEC Standard 17065 with Standards Council of Canada (SCC). In addition Intertek is a Nationally Recognized Laboratory under the OSHA criteria for Nationally Recognized Test Laboratories.

The Chicago Flameproof listing for MagTech and design listing CF/WPPS 120-01 specify the product application in a 2 hour rated from the interior wall assembly listed to ASTM E119 in accordance with the IBC Sections 703.2 and 705.5. I included the full listing for your reference.

Sincerely,

Gregory D Dupuis

Gregory Dupuis
Senior Project Engineer
Intertek

MAGTECH™ OSB LIVE LOAD SPAN TABLES[1,4]

(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)[2] (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	16oc	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	16oc	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 Internation 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: Nail Size (Comm. or Galv. Box)	Nail Spacing at Panel Edge (in)			Panels Applied Over 1/2 or 5/8 Gypsum Sheathing: Nail Size (Comm. or Galv.	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					

MAG TECH™
Structural Fire-Rated Sheathing

"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) or plywood 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 serving to provide 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 exterior 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 (gas-off) 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 & Plywood 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 Enginuity, 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 & Plywood 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 further information regarding the warranty coverage.

MAG TECH™
Structural Fire-Rated Sheathing

"Superior Fire Protection with Increased Structural Capacity"

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 E30U (Sept 2011) or equivalent.

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 of material 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 envelope. This could lead to mildew and mold that is hazardous to the health of the occupants of the facility.

3 Wall Installation

MagTech™ panels shall be installed as specified in the approved contract plans for the fire-rated assembly of the proposed new construction. In the absence of details in approved 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. Installation shall be in conformance with all local building codes and safety regulations.

- 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.

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 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 contract 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 or plywood 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 OR plywood 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 of the finished surface.

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.

Product Testing Report **LSR No. 581-16-019**

Subject: Adhesion MagTech treated OSB	Date: May 25, 2016

1.0 Background and Purpose

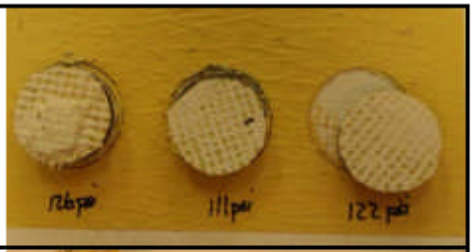
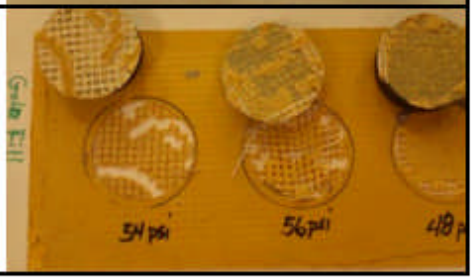
Testing was requested to verify adhesion of Sto Gold Coat and Sto Gold Fill to MagTech sheathing.

2.0 Test Methods

ASTM D 4541 adhesion tests were performed. Sto Gold Coat and Sto Gold Fill were applied to the treated surface of the MagTech sheathing board and allowed to dry 7 days.

3.0 Test Results and Discussion

Adhesion testing was performed in accordance with ASTM D 4541, *Pull-off Strength of Coatings Using Portable Adhesion Testers*, using a Positest hydraulic tester. Three pulls were made on each coating scenario. Average values are reported.

Sto Gold Coat: 120 psi bond strength (avg.) 100% cohesive failure of substrate at scrim	
Sto Gold Fill: 52.7 psi bond strength (avg.) 95% cohesive failure of Gold Fill at reinforcing mesh 5% adhesion failure between Gold Fill and substrate	

4.0 Conclusions and Recommendations

The test results exceed the minimum requirement for WRB adhesion (15 psi) per ASTM E2570, by safety factors exceeding 3.5 times. Therefore the StoGuard products tested are adhesively compatible with the MagTech sheathing.

Prepared by:

Charles Moore
Principle Product Testing Technician
Sto Corp.

Approved by:

Terry L. Viness, P.E.
Senior Technical Services Manager
Sto Corp.

BASF

We create chemistry

Tensile Bond Test of Enershield® -HP over MagTeach™ OSB

Products: Enershield® -HP; MagTech™ OSB
Test: ASTM D4541
Applied date: 5/3/2016
Test date: 5/10/2016

Samples:

Two 10 mil WFT coats of Enershield® -HP were applied to the white magnesium oxide facing of MagTech™ OSB noncombustible sheathing, first coat on 5-2-2016 and second coat on 5-3-2016. All testing, sample preparation and drying conditions were interior ambient conditions. The samples cured for seven days.

Procedure:

Tensile bond testing for air/water resistive barriers is in accordance with ASTM D4541 Stand Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers. One inch loading fixtures were epoxied to the coated sample. Enershield® -HP was scored around test fixture prior to pull. The failure must be 15 psi or greater. 15 psi is the number set by the ICC-ES Acceptance Criteria for fluid applied WRBs bond strength to sheathing.

Results:

MagTech™ OSB Sample	Force at Failure (psi)	Mode of Failure
1	125	50 % adhesive failure of the coating to the substrate. 50% cohesive failure of the substrate
2	75	40 % adhesive failure of the coating to the substrate. 60% cohesive failure of the substrate
3	100	50 % adhesive failure of the coating to the substrate. 50% cohesive failure of the substrate
4	100	20 % adhesive failure of the coating to the substrate. 50% cohesive failure of the substrate. 30% cohesive failure of the coating
5	125	65 % adhesive failure of the coating to the substrate. 35% cohesive failure of the substrate
6	100	20 % adhesive failure of the coating to the substrate. 65% cohesive failure of the substrate. 15% cohesive failure of the coating

In all samples, the force at failure was greater than the required 15 psi specified by the ICC-ES Acceptance Criteria for fluid applied water resistive barriers bond strength of sheathing.

BASF Corporation
Construction Chemicals
23700 Chagrin Boulevard
Cleveland, Ohio 44122
Telephone (216) 839-7500

MASTER® BUILDERS SOLUTIONS

TEST REPORT

REPORT NUMBER: 102537566MID-001
ORIGINAL ISSUE DATE: May 23, 2016
REVISED DATE: N/A

EVALUATION CENTER
Intertek
8431 Murphy Drive
Middleton, WI 53562
Ph: (608)836-4400

RENDERED TO

Chicago Flameproof and Wood Specialties Corp
1200 S Lake St
Montgomery, IL 60538

PRODUCT EVALUATED: Mag-Tech Two-Sided
EVALUATION PROPERTY: Water Vapor Transmission

Report of Testing Mag-Tech Two-Sided for compliance with the applicable requirements of the following criteria: ASTM E96: *Water Vapor Transmission of Materials*

1 TABLE OF CONTENTS

2 REVISION SUMMARY

DATE	SUMMARY
May 23, 2016	Date of original report

3 INTRODUCTION

Intertek has conducted testing for Chicago Flameproof and Wood Specialties Corp, on Mag-Tech Two-Sided, to evaluate Water Vapor Transmission. Testing was conducted following the standard methods of ASTM E96: *Water Vapor Transmission of Materials*. This evaluation began March 30, 2016 and was completed May 19, 2016.

4 TEST SAMPLES

4.1. SAMPLE SELECTION

Samples were directly submitted to Intertek by the client. Samples were not independently selected for testing. Samples were received at the Evaluation Center on March 30, 2016 in good condition and labeled as MID1603300850.

4.2. SAMPLE AND ASSEMBLY DESCRIPTION

The sample is described as a sheet of 7/16" OSB laminated with ~1/8" Magnesium Oxide facers (figure 1).

Figure 1- Typical Sample Board

Figure 2- Typical Sample Cup

5 TESTING AND EVALUATION METHODS

5.1. ASTM E96 WATER VAPOR TRANSMISSION

Four (4) test samples of Mag-Tech Two-Sided were prepared with a 3.5-inch diameter and provided thickness (~3/4 inch). The first sample (labeled A) was used as a control and attached to an empty 3.5-inch glass petri dish. The remaining samples (labeled B, C, and D) were attached to 3.5-inch glass petri dishes filled with deionized water to within 0.25 inch of the sample. Beeswax was used to attach all samples to their dish as well as seal the 3/4-inch exposed sample edge (figure 2). All four (4) samples were placed in an environmental chamber at 23 ± 2°C and a relative humidity of 50 ± 5% for 885 hours. Periodic measurements were

taken to determine weight change over the course of the 885 hours to determine the rate of water vapor transmission. The rate of water vapor transmission was determined graphically by applying a linear fit to six data points with a minimum of 0.2 g change in mass between data points. Data for this linear regression were recorded between hour 574 and hour 885 of the test.

5.1.1. DEVIATIONS FROM TEST METHOD

After reviewing the data from sample D, it was determined that a defective beeswax seal allowed moisture to flank the sample, artificially raising the rate of water vapor transmission to a level higher than that published for the 7/16" OSB core itself. As this rate of water vapor transmission was determined to be erroneous, the values presented here are the average of samples B and C.

6 TESTING AND EVALUATION RESULTS

6.1. RESULTS AND OBSERVATIONS

Results for Mag-Tech Two-Sided by Chicago Flameproof and Wood Specialties Corp	
Water Vapor Transmission per ASTM E96	1.80 grains/h-ft^2 [S.D. 0.8 grains/h-ft^2]
Permeance per ASTM E96	3.29 Perms [S.D. 0.2 Perms]

7 CONCLUSION

Intertek has conducted testing for Chicago Flameproof and Wood Specialties Corp, on Mag-Tech Two-Sided, to evaluate Water Vapor Transmission. Testing was conducted following the standard methods of ASTM E96: *Water Vapor Transmission of Materials*. This evaluation began March 30, 2016 and was completed May 19, 2016.

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

INTERTEK

Reported by: _____
Andrew Holstein
Engineering Team Lead

Reviewed by: _____
Rick Curkeet
Chief Engineer

Appendix A- EQUIPMENT CALIBRATION

Equipment	Asset Number	Calibration Date
Cincinnati Sub Zero Z32 Environmental Chamber	1059	11/11/2016
Adam 2000 Scale	1396	

MATERIAL SAFETY DATA SHEET

Section 1. Chemical Products and Company Identification

Product Name/Trade Names: MAGTECH Fire Retardant OSB Sheating

Use: The above products are used as internal/external wall cladding & tile underlayment.

Manufacturer: CHICAGO FLAMEPROOF Inc.
Effective date: September 4, 2014
Note: As of the date of the preparation of this document, the information contained herein is believed to be accurate.

Substance Name	CAS #	UN #	EINECS #	Proportion (by weight)
Oriented Strand Board (OSB)		not a hazardous material		48%
Magnesium Oxide	1309-48-4	not a hazardous material	215-171-9	32%
Magnesium Chloride	7791-18-6	not a hazardous material		12%
Fiberglass non-woven mesh		not a hazardous material		>5%
Talc		not a hazardous material		>3%
Other non hazardous ingredients (fillers)		not a hazardous material		>3%

Section 2. Hazardous Ingredients/Identity Information

Substance Name	CAS #	UN #	EINECS #	Proportion (by weight)
Wood Dust		not a hazardous material		48%
Magnesium Oxide	1309-48-4	not a hazardous material	215-171-9	32%
Magnesium Chloride	7791-18-6	not a hazardous material		12%
Fiberglass non-woven	NA	not a hazardous material		<5%
Talc	NA	not a hazardous material		<3%
Other non-hazardous ingredients	NA	not a hazardous material		<3%

Section 3. Hazards Identification

Emergency Overview: Not explosive, not a fire hazard
Primary Routes of entry and Potential Health Effects:

Acute effects- Dust may cause irritation of the nose, throat, and air ways, resulting in coughing and sneezing. Certain susceptible individuals may experience wheezing (spasms of the bronchial airways) on inhaling dust during sawing operations.
Chronic Effects- Repeated and prolonged overexposures to dust can increase the risk of bronchitis and renal disease.
Ingestion: Unlikely under normal conditions of use, but swallowing the dust from this product may result in irritation to the mouth and gastrointestinal tract.
Eye: Dust the eyes from mechanical abrasion causing watering and redness
Skin: Dust may cause irritation of the skin from friction but cannot be absorbed through intact skin.

Section 4. First Aid measures

Signs and symptoms of over exposure:
Breathlessness, wheezing, cough, sputum production
First Aid:

Swallowed: If swallowed, dilute by drinking large amounts of water. Seek medical attention. If unconscious, loosen tight clothing and lay the person on their left side. Give nothing by mouth to some one who is unconscious.
Eye Contact: Remove contact lens. Flush with running water or saline for at least 15 minutes. Seek medical attention if redness persists or if visual changes occur.
Skin Contact: Wash with mild soap and water. Contact physician if irritation persists or later develops.
Inhaled: Remove to fresh air. If shortness of breath or wheezing develops, seek medical attention.

ADVICE TO DOCTOR: Treat symptomatically

Section 5. Fire Fighting Measures

MagTECH OSB Sheathing: products are flammable (OSB) but the MagTECH is imflammable and non- explosive

Fire and Explosion Hazard: 1. Flash point: Not applicable
2. Auto-ignition: Not applicable
3. Non-explosive

Extinguishing Media: This material is combustible (OSB) and non-combustible (MagTECH). Appropriate extinguishing media (carbon dioxide, foam, water, or dry chemical) for surrounding fire should be used.
Fire Fighting: Fire fighting personnel should wear normal protective equipment and positive self- contained breathing apparatus.

Section 6. Accidental Release Measures

No special precautions are necessary to pick up product that has been dropped. The following applies to spills or releases of dust generated during cutting or sanding of the material.

Precautions: Good housekeeping practices are necessary for cleaning up areas where spills of dust have occurred. Take measures to either eliminate or minimize the creation of dust. Wherever possible, practices likely to generate dust should be controlled with engineering controls such as local exhaust ventilation, dust suppression with water and containment, enclosure or covers.

Use respiratory protection as described in Section 8.

Cleanup methods: A fine water spray should be used to suppress dust when sweeping (dry sweeping is not recommended). Vacuuming with an industrial vacuum cleaner fitted with a high-efficiency particulate (HEPA) filter is preferred to sweeping. Waste may be disposed of by landfill in compliance with government and local requirements.

In the event of an accidental spill, observe all protection measures set out in this MSDS. Avoid using materials and products that are incompatible with the product. Refer to Section10.

Section 7. Handling and Storage

These Boards in their intact state do not present a health hazard. The controls below apply to dust generated from the boards by cutting, drilling, routing, sawing, crushing, or abrading, and cleaning or moving sawdust.

Keep exposure to dust as low as reasonably possible. Respirable levels should not exceed those specified by OSHA and MSHA and identified in this MSDS. Exposure to respirable (fine) dust depends on a variety of factors, including activity rate (cutting rate), method of handling, environmental conditions (weather conditions, workstation orientation) and control measures used.

Wherever possible, practices likely to generate dust should be carried out in a well vented area (outside). The work practices and engineering controls set out in section 8 should be followed to reduce exposure.

Keep away from reactive products. Avoid spilling and creating dust. Maintain appropriate dust controls during handling. Use appropriate respiratory protection during handling as described in Section 8.

Section 8. Exposure Controls and Personal Protection

OSHA Permissible Exposure Standards (PEL): Exposures shall not exceed an 8-hour time weighted average (TWA) limit as stated in 29 CFR 1910.1000 Table Z-3 for mineral dusts, expressed in million particles per cubic feet (Mppcf) and/or milligrams per cubic meter (mg/m3). The American Conference of Governmental Industrial Hygienists Threshold Limit Values (TLV) is a recommended exposure limit based on an 8-hour TWA.

	TLV mg/m^3	PEL Mpper	PEL mg/m3
Wood/Wood Dust	0.5 mg/m^3		
Magnesium Oxide	15 mg/m^3	250 %MgO	15mg/m^3 %MgO
Magnesium Chloride	15mg/m^3	250 %MgCl2.6H2O	15mg/m^3 %MgCl2.6H2O
Fiberglass	15mg/m^3		15mg/m^3
Talc	15mg/m^3	Mg3Si4010(OH)2	15mg/m^3
Nuisance Dust (total dust)	10mg/m^3 (inhalable)	50	15mg/m^3
(respirable)	3 mg/m^3	15	5mg/m^3

Personal protection:

When handling products that may generate dust: Follow practices to limit the release of dust, work outdoors wherever possible, wear a NIOSH-approved dust mask or respirator (e.g., the N 95 dust mask) to limit exposure to respirable dust and warn others in the area.

Respiratory: If respirators are required, use and maintain in accordance with ANSI Standard (Z88.2) for particulate respirators. Use respirators that offer protection to the highest concentrations of dust. Put in place a respiratory protection and monitoring program that complies with MSHA or OSHA standards.

Comply with all other applicable federal, provincial, and state laws.

Eye: When cutting material, dust resistant safety goggles/glasses should be worn and used in compliance with ANSI Standard Z87.1-1989 and applicable OSHA (e.g. 29 CFR 1910.133) standards.

Skin: Loose comfortable clothing should be worn. Direct skin contact with dust and debris should be avoided by wearing long sleeved shirts and long pants, hat, and gloves. Work clothes should be washed often.

Engineering Controls

Cutting Outdoors

1. Position cutting station so that wind will blow dust away from operator or others in the working area.
2. Use the following methods best suited for job site conditions.
   a. Score and snap using carbide-tipped scoring knife or utility knife or Fiber Cement Shears
   b. Dust reducing circular saw equipped with cement-blade and HEPA vacuum extraction
   c.Dust reducing circular saw with cement-blade

Cutting Indoors a.Cut only using score and snap method or with Fiber Cement Shears

b. Position cutting station in a well-ventilated area to allow for dust dissipation

Sanding, Drilling, Machining If sanding, drilling, machining is necessary, you should always wear a NIOSH-approved dust mask or respirator (e.g. N-95) and warn others in the area.
Clean-Up During clean-up of dust and debris, never dry sweep as it may suspend dust particles into the user's breathing area. Instead, wet debris down with a fine mist to suppress dust during sweeping, or use a HEPA vacuum to collect particles.

Section 10. Stability and Reactivity
Stability: MagTECH OSB Sheating is stable under ordinary conditions
Conditions to Avoid: Excessive dust generation during storage and handling
Materials to Avoid: Incompatibility: Hydrochloric acid will dissolve Magnesium Oxide and can generate Magnesium Chloride fumes.

Section 11. Toxicological Information
These products are not toxic in their intact form. The following applies to dust that may be generated during cutting and sanding:
Chronic Effects:
Inhaled: Repeated and prolonged overexposures to dust can cause increased risk of bronchitis and renal disease. It is possible that repeated inhalation exposure to MagTECH OSB Sheating fiber dust over time may lead to inflammation of the lungs in humans. Precautions taken to prevent inhalation will prevent this.

Section 12. Ecological Information
Because Magnesium Oxide is a naturally occurring minera, releases that may occur into the environment would not be expected to leave any hazardous material that could cause a significant adverse impact.

Section 13. Disposal Consideration
Disposal of material, as an inert, non-metallic mineral, in conformance with federal, provincial, state and local regulations. MagTECH OSB Sheating is not a RCRA hazardous waste.

Section 14. Transport Information
There are no special requirements for storage and transport.

UN No.	None Allocated
Dangerous Goods Class:	None Allocated
Hazchem Code:	None Allocated
Poisons Schedule:	None Allocated
Packing Group:	Not Applicable
Label:	Not a DOT hazardous material

Section 15. Regulatory Information
DOT Hazard Classification: None, not a hazardous material.
Placard requirement: Not a DOT hazardous material.
CERCLA Hazardous Substance (40 CFR Part 302):

Listed Substance:	No
Unlisted Substance: No	
Reportable Quantity (RQ):	None
Characteristics:	Not Applicable
RCRA Waste Number:	Not Applicable

Section 16. Other Information
Warning: avoid ingesting MagBoard or inhaling its dust. This form has been prepared to meet current Federal OSHA hazard communications regulations and is offered with out any warranty or guarantee of any type. MGO Group Inc. cannot control the use of its products, and therefore specifically disclaims liability and responsibility arising from the use, misuse and alteration of its products.
MGO Group Inc. requires, as a condition of use of its products, that purchasers comply with all applicable Federal, Provincial, State, and local health and safety laws, regulations, orders, requirements, and strictly adhere to all instructions and warnings which accompany the product.

MagTech™

FIRE RETARDANT OSB SHEATHING

20-YEAR LIMITED WARRANTY

WARRANTY COVERAGE

This warranty applies to the end user/purchaser ("Purchaser") of MagTech® OSB (Class A Fire Retardant OSB) and to the owner of a building in which the product is originally installed. MagTech® Fire Retardant OSB Sheathing is warranted as follows:

1. At the time of manufacture, MagTech® Fire Retardant OSB will meet applicable standards pertaining to OBS sheathing and will not exhibit delamination or dimensional instability which would cause a reduction of structural performance.

2. It will meet specified standards for Class A Rated Sheathing as defined by ASTM E-84.

3. When installed in accordance with industry standards for OSB sheathing, including generally acknowledged maintenance standards. MagTech® OSB will perform its intended use as reasonably required as a sheathing for a period of 20 years from date of installation.

WARRANTY EXCLUSIONS

Any warranty claims are voided by:

1. Damage caused by improper installation.

2. Damage caused by improper handling/storage.

3. Any improper or deficient design of the structure.

4. Alterations made to the structure after initial installation of MagTech® OSB.

5. Installation of MagTech® OSB that is not in compliance with building codes.

6. Damage from insects or fungal decay.

7. Damage relating to any faulty workmanship issues.

8. Damage caused by prolonged exposure during construction if exterior walls are not covered with a weather resistant barrier (WRB).

REMEDIES

The sole remedy available to end user or building owner is as follows:

1. If MagTech® Fire Retardant OSB is not in conformance with the warranted performance, Chicago Flameproof will repair or replace the non conforming product, as well as surface materials. The total amount of replacement materials and any labor that might be applicable specifically to the repair or replacement will be limited to twice the original cost of the non conforming MagTech® Fire Retardant OSB.

2. In no event will Chicago Flameproof be liable for lost profits, property damage or other consequential or punitive claims made in regard to non conforming MagTech® Fire Retardant OSB.

RESPONSIBILITY OF PURCHASER OR OWNER

1. Product is to be installed in accordance with industry accepted guidelines for OSB sheathing.

2. Follow all applicable building codes.

3. Proper storage of product on jobsite prior to installation must be complied with. There should be no storage of product directly in contact with the ground or in any standing water. Every effort to avoid excess moisture or condensation should be made.

4. Purchaser/owner shall make every reasonable attempt to mitigate any potential non conformance issue that may arise.

CLAIMS

User or owner must notify Chicago Flameproof within 1 month (30 days) of discovering any possible non conformance issue.
Claim must be made in writing to:

CHICAGO FLAMEPROOF
AND WOOD SPECIALTIES CORP.
1200 S. Lake Street | Montgomery, IL 60538
630-859-0009 | chicagoflameproof.com

Department of Forestry & Fire Protection
Office of the State Fire Marshal
Fire Engineering Division
Building Materials Listing (BML) Program
APPROVED TESTING LABORATORIES

An approved testing organization is any person, firm, corporation or association equipped or having access to facilities which are equipped to perform tests in accordance with the **California State Fire Marshal's testing procedures**.

Approved testing organizations are divided into the following types:

TYPE A	Those who are qualified and equipped to conduct tests and examinations, have a labeling program, and conduct factory inspections of the materials and workmanship used in production of the listed items.
TYPE A1	Those who are qualified and equipped to conduct designated tests and examinations and have a recognized labeling and factory inspection program for specific products.
TYPE B	Those who are qualified and equipped to conduct all forms of tests and examinations but do not conduct factory inspections.
TYPE B1	Those who are qualified and equipped to conduct designated tests and examinations but do not conduct factory inspections.
TYPE C	Those who are qualified to conduct or supervise all forms of tests and examinations and who may utilize the facilities of other firms for the necessary testing equipment.
TYPE C1	Those who are qualified to conduct or supervise designated tests and examinations and who may utilize the facilities of other firms for the necessary testing equipment.
TYPE D	Organizations, firms, corporations or associations who possess approved equipment for testing, as designated, when utilizing the services of a Type C or C1 organization.

APPROVED TESTING LABORATORIES

TYPE A Those who are qualified and equipped to conduct tests and examinations, have a labeling program, and conduct factory inspections of the materials and workmanship used in production of the listed items.

Qualified Laboratories:

Intertek Testing Services/ETL Testing Laboratories, Inc.
3933 US Route 11, Industrial Park, Cortland, NY 13045

Intertek Testing Services/Warnock Hersey International/ETL
3210 American Dr., Mississauga, Ontario L4V 1B3, Canada

Intertek Testing Services NA, Ltd.
1500 Brigantine Dr., Coquitlam, BC, V3K 7C1, Canada

Intertek Testing Services/Warnock Hersey International
8431 Murphy Drive, Middleton, WI 53562

Intertek Testing Services NA, Inc.
16015 Shady Falls Road, Elmendorf, Texas 78112

Intertek Testing Services NA, Inc.
41 Plymouth Street, Fairfield, NJ 07004
(formerly the Totowa NJ location)

Intertek Testing Services NA, Inc.
545 East Algonquin Road, Arlington Heights, IL 60005

Intertek Testing Services NA, Inc.
1950 Evergreen Boulevard, Suite 100, Duluth, GA 30096

Additional SFM Test Standards for Wildland Urban Interface (WUI)

SFM 12-7A-1
SFM 12-7A-2
SFM 12-7A-3
SFM 12-7A-4
SFM 12-7A-4A
SFM 12-7A-5

Intertek Testing Services/Warnock Hersey International
1500 Brigantine Dr., Coquitlam, BC, V3K 7C1, Canada

Intertek Testing Services/Warnock Hersey International
8431 Murphy Drive, Middleton, WI 53562

Intertek Testing Services NA, Inc.
16015 Shady Falls Road, Elmendorf, Texas 78112

Underwriters Laboratories, Inc. (UL)
333 Pfingsten Road, Northbrook, IL 60062-2096

Underwriters Laboratories, Inc. (UL)
1285 Walt Whitman Road, Melville, L.I., NY 11747-3081

Additional SFM Test Standards for Wildland Urban Interface (WUI)

SFM 12-7A-1 SFM 12-7A-2 SFM 12-7A-3 SFM 12-7A-4 SFM 12-7A-4A SFM-12-7A-5	**Underwriters Laboratories, Inc. (UL)** 333 Pfingsten Road, Northbrook, IL 60062-2096 **Underwriters Laboratories, Inc. (UL)** 1285 Walt Whitman Road, Melville, L.I., NY 11747-3081

TYPE A1 Those who are qualified and equipped to conduct designated tests and examinations and have a recognized labeling and factory inspection program for specific products.

Limitations	**Qualified Laboratories**:
ASTM E84, ASTM E108 UL 723, UL 790	**Architectural Testing Inc. (ATI)** 130 Derry Court, York, PA 17406
Gas and Oil-fired Appliances or Equipment	**Applied Research Laboratories** 5371 NW 161st Street, Miami, FL 33014
Gas and Oil-fired Appliances or Equipment	**CSA International/American Gas Association** 8501 Pleasant Valley Road, Cleveland, OH 44103 **CSA International/American Gas Association** 2805 Barranca Parkway, Irvine, CA 92606
ASTM E119	**Fenestration Testing Laboratory, Inc.** 8148 N.W. 74th Avenue Medley, FL 33166
ASTM E84 ASTM E119 UL10B ASTM E163	**FM Approvals LLC** 1151 Boston-Providence Turnpike PO Box 9102 Norwood, MA 02062

APPROVED TESTING LABORATORIES (CONTINUED)

ASTM E814 UL32, UL33, UL242 Fire Alarm Devices Door/Panic Hardware Fire Sprinklers Fire Extinguishing Systems FM 3011 FM 3210 FM 3615 FM 6921	FM Approvals LLC 1151 Boston-Providence Turnpike, Norwood, MA 06062
ASTM E84 ASTM E119 ASTM E814 NFPA 251 UL 10B UL 10C UL 723	**Guardian Fire Testing Laboratories, Inc.** 480 Hinman Avenue, Buffalo, NY 14216
ASTM E84 UBC 15-2 ASTM E84 ASTM E136 ASTM E108 UL10B, UL10C LPG Detectors	**QAI Laboratories** 8385 White Oak Avenue, Rancho Cucamonga, CA 91730
ASTM E84 UBC 15-2, UBC 15-3, UBC 15-4 ASTM E119 UL 10B ASTM E163 CBC 12-42-100 ASTM E136 ASTM D2898	**Southwest Research Institute** 8500 Culebra Road San Antonio, TX 78284
	Additional SFM Test Standards for Wildland Urban Interface (WUI)
SFM 12-7A-1 SFM 12-7A-2 SFM 12-7A-3 SFM 12-7A-4 SFM 12-7A-4A SFM 12-7A-5	**Southwest Research Institute** 8500 Culebra Road San Antonio, TX 78284

APPROVED TESTING LABORATORIES (CONTINUED)

TYPE B1 Those who are qualified and equipped to conduct designated tests and examinations but do not conduct factory inspections.

Limitations	**Qualified Laboratories**:
UBC 15-2 ASTM E84 UL 10B ASTM E814 LPG Detectors	**Applied Research Laboratories** 5371 NW 161st Street, Miami, FL 33014
ASTM E84	**Commercial Testing, Inc.** P. O. Box 985, Dalton, GA 30720
ASTM E84	**Hardwood Plywood Veneer Association** 1825 Michael Faraday Dr. Reston, VA 22090-5350
ASTM E84, ASTM E108	**LAPI SpA Laboratorio Prevenzione Incendi** Via della Quercia , 11 – I-59100 Prato Italy Email: *lapi@laboratoriolapi.it* Web: *www.laboratoriolapi.it* Contact Person: Massimo Borsini Phone: 0039.0574.575320
ASTM D2898	**PFS Corporation** 1507 Matt Pass Cottage Grove, WI 53527
ASTM E108 ASTM E136	**Ramtech Laboratories, Inc.** 14104 Orange Avenue Paramount, CA 90723 (562) 633-4824
ASTM E84	**QAI Laboratories** 1325 North 108th East Avenue, Tulsa, OK 74116
	Additional SFM Test Standards for Wildland Urban Interface (WUI)
SFM 12-7A-1 SFM 12-7A-2 SFM 12-7A-3	**QAI Laboratories** 1325 North 108th East Avenue, Tulsa, OK 74116

APPROVED TESTING LABORATORIES (CONTINUED)

Type B1 (continued)
Limitations

ASTM E84	**Twining Laboratories, Inc**. 3310-A Airport Way, Long Beach, CA 90801
UBC 15-2 ASTM E119/UBC 7-1 ASTM E84 ASTM D2898	**Western Fire Center, Inc.** 2204 Parrott Way, Kelso, WA 98626
	Additional SFM Test Standards for Wildland Urban Interface (WUI)
SFM 12-7A-1 SFM 12-7A-2 SFM-12-7A-3 SFM 12-7A-4 SFM 12-7A-4A SFM 12-7A-5	**Western Fire Center, Inc.** 2204 Parrott Way, Kelso, WA 98626
ASTM-F2517-05	**Cambridge Materials Testing Limited** 13-6991 Millcreek Drive Mississauga, Ontario L5N 6B9 Canada (905) 812-3856 *www.cambridgematerials.com*
ASTM-F2517-05	**Consumer Product Testing, LLC** 32605 East 3300 South Salt Lake City, UT 84109 (801) 467-9440
ASTM-F2517-05	**Great Lakes Marketing** 3103 Executive Parkway, Suite 106 Toledo, OH 43606-1311 (419) 534-4700 *info@GreatlakesMarketing.com*
ASTM E-84 (UL 723) ASTM E-119 UL 10B ASTM E163 (UL 9) ASTM E-814 UL 2079	**NGC Testing Services** 1650 Military Road, Buffalo, NY 14217-1198

APPROVED TESTING LABORATORIES (CONTINUED)

ASTM-F976 ASTM-F852	**TSG Testing Services Group** 828 Whitney Drive Lapeer, MI 48446 (801) 245-1600

TYPE C1 Those who are qualified to conduct or supervise designated tests and examinations and who may utilize the facilities of other firms for the necessary testing equipment.

Limitations	**Qualified Laboratories**:
Underground Ducts	**Cascade Testing Laboratories, Inc.** 14120 NE 21st St., Bellvue, WA 98007
ASTM E84	**Ramtech Laboratories, Inc.** 14104 Orange Avenue Paramount, CA 90723 (562) 633-4824
ASTM E84 ASTM E119, UBC 15-2	**Priest and Associates Consulting, LLC** 4607 Verdi Road, Pleasanton, TX 78064
	Additional SFM Test Standards for Wildland Urban Interface (WUI)
SFM 12-7A-1 SFM 12-7A-2 SFM-12-7A-3 SFM 12-7A-4 SFM 12-7A-4A	**Priest and Associates Consulting, LLC** 4607 Verdi Road, Pleasanton, TX 78064
UL10B ASTM E84/UL723 UL228, ASTM E108	**Product Certification Consultants, LLC** 1676 Tupolo Drive, San Jose, CA 95124
	Additional SFM Test Standards for Wildland Urban Interface (WUI)
SFM 12-7A-1 SFM 12-7A-2 SFM-12-7A-3 SFM 12-7A-4 SFM 12-7A-4A SFM 12-7A-5	**Product Certification Consultants, LLC** 1676 Tupolo Drive, San Jose, CA 95124
Waste Containers	**York Research** 1 Research Drive, Stamford, CT 06906

APPROVED TESTING LABORATORIES (CONTINUED)

TYPE D Organizations, firms, corporations or associations who possess approved equipment for testing, as designated, when utilizing the services of a Type C or C1 organization.

Qualified Laboratories:

Hardwood Plywood & Veneer Association
1825 Michael Faraday Dr., Reston VA 22090-5350

NGC Testing Services
1650 Military Road, Buffalo NY 14217-1198