

October 6, 2021

D-Max Wall

Advantages compared to exterior insulation

- Can be sprayed regardless of temperature or wind (as low as 15°F)
- No scaffolding or vessel necessary. Less machinery therefore less rental cost, logistics and risk of accident.
- Building insulation can be performed as the walls go up.
- Less materials therefore time and cost savings for execution.
- Important heating cost savings in winter.
- Meets fireblocking requirements for concealed wall spaces. IBC Section 718.2.
- NFPA 285 Compliant.
- Sequencing of work simpler and easier to manage for the superintendent since there are less workers to execute each step.
- Avoids overspray.
- Avoids having to install an interior furring in comparison with a fiberglass insulated cavity where the electricity cannot run through the stud cavity.

Typical D-Max Wall Assembly:

- Lightweight or brick siding
- Omega bars or brick ties
- Exterior 5/8" sheathing with taped joints or full surface air barrier membrane (Tyvek or others)
- Heatlok HFO Pro / Heatlok HFO High Lift (variable thickness)
- Z girts (variable thickness)
- Steel stud 6" or 3 5/8"
- Interior gyprock

List of completed projects

Project	Architect	General Contractor
Saint Philippe	Bilodeau Baril Lemming	Dinamo
K Building	Alpha Architecture	Dalcon
Nicolas	Beaudet Faille Normand	Dinamo
Saphir	CCM2 Architectes PMA Architectes	Constrobourg
Le Renaissance	Architech Design	Dinamo
Liénard	PA Marquis Architecte	GM Développement

List of upcoming projects

Project	Architect	General Contractor	
Circa Condo	ABCP Architecture	Magil	
Château Bellevue Saint- Nicolas	CCM2 Architects	Construction M. Grégore	
800 Charest	PA Marquis Architect	GM Development	
Le Guillaume	Beaudet Faille Normand	Dinamo	
Les Loges	CCM2 Architects	TB4	
Huma Lévis	Roberge et Leduc Architects	Construction M. Grégore	
Réseau Sélection	PMA Architects	CH2015	
Viridi	BGLA Architecture	L'Intendant	
Novit	Beaudet Faille Normand Garoy Construction		



Nicolas Project



K Building Project

Saint-Philippe Project













D-MAX WALL

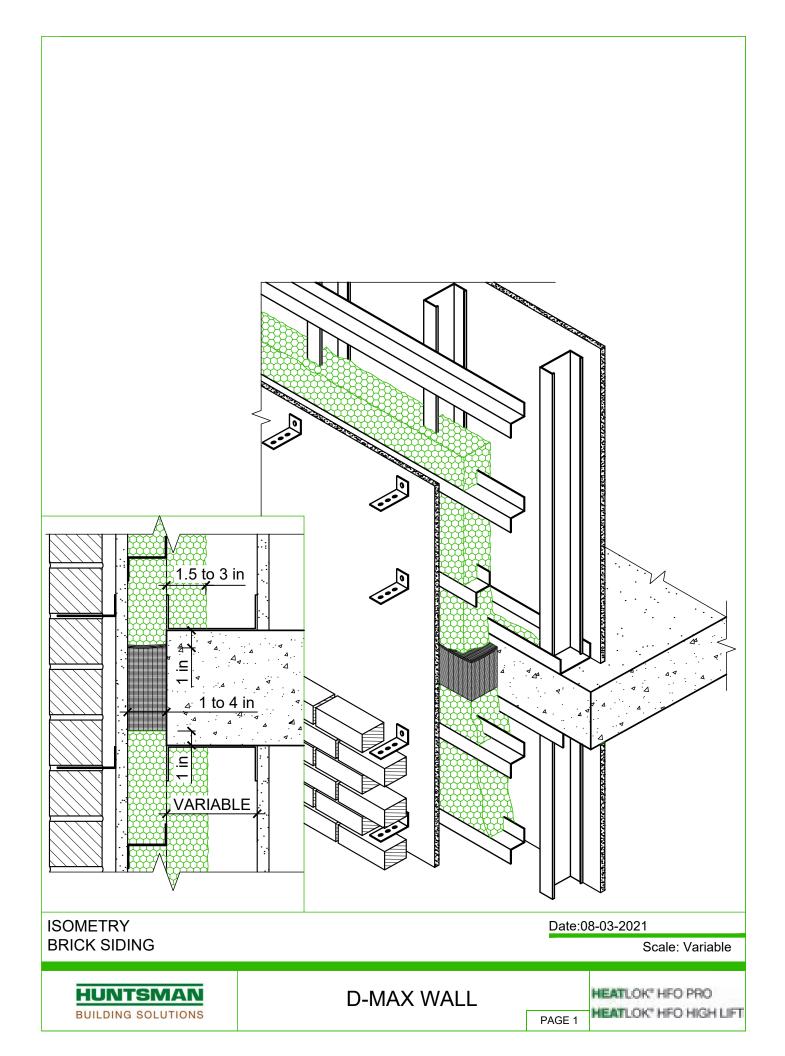
BEFORE THE START OF CONSTRUCTION OF THE WALL ASSEMBLY, A START-UP MEETING IS STRONGLY RECOMMENDED WITH THE DIFFERENT PROFESSIONALS TO COORDINATE CONSTRUCTION STEPS AND DETAILS. WE ARE AVAILABLE FOR THIS MEETING.

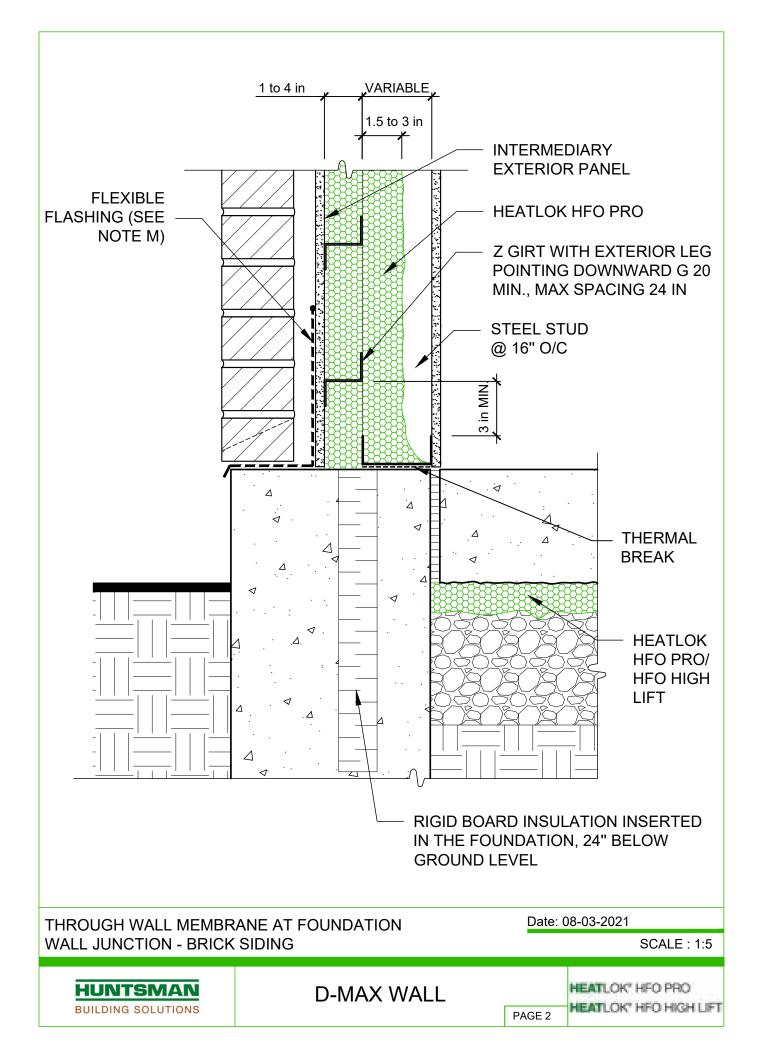
- 1) THE ADVANTAGE OF THIS WALL SECTION IS A MAXIMUM EFFECTIVE R VALUE IN A VERY THIN WALL. THIS INCREASES THE INHABITABLE FLOOR SPACE. THE STEEL STUD CAN BE 3-5/8 IN OR 6 IN DEPENDING ON THE DESIGNER'S CHOICE.
- 2) THIS WALL SECTION ALLOWS THE APPLICATION OF THE INSULATION FROM THE INTERIOR, SHELTERED FROM THE WEATHER AND WITHOUT SCAFFOLDING.
- 3) THE OUTER Z GIRT'S THICKNESS IS VARIABLE FROM 1 IN TO 4 IN ACCORDING TO THE DESIRED EFFECTIVE R VALUE AND DESIGN CHOICES.
- 4) A MINIMUM THICKNESS OF 1.5 IN AND A MAXIMUM OF 3 IN IS RECOMMENDED TO COVER THE OUTER Z GIRTH FROM INSIDE TO CUT THE THERMAL BRIDGE.
- 5) HUNTSMAN BUILDING SOLUTIONS IS AVAILABLE FOR REVIEWING PROJECT DETAILS, FOR A COORDINATION MEETING AT THE BEGINNING OF THE PROJECT AND FOR SITE INSPECTIONS DURING THE WORKS.
- THE FLEXIBLE FLASHING ABOVE OPENINGS MUST EXCEED 8" MIN. ON BOTH SIDES OF THE OPENING
- RAISE THE SELF-ADHESIVE MEMBRANE 3" ON THE JAMB
- MEMBRANES MUST BE INSTALLED ACCORDING TO MANUFACTURERS' REQUIREMENTS

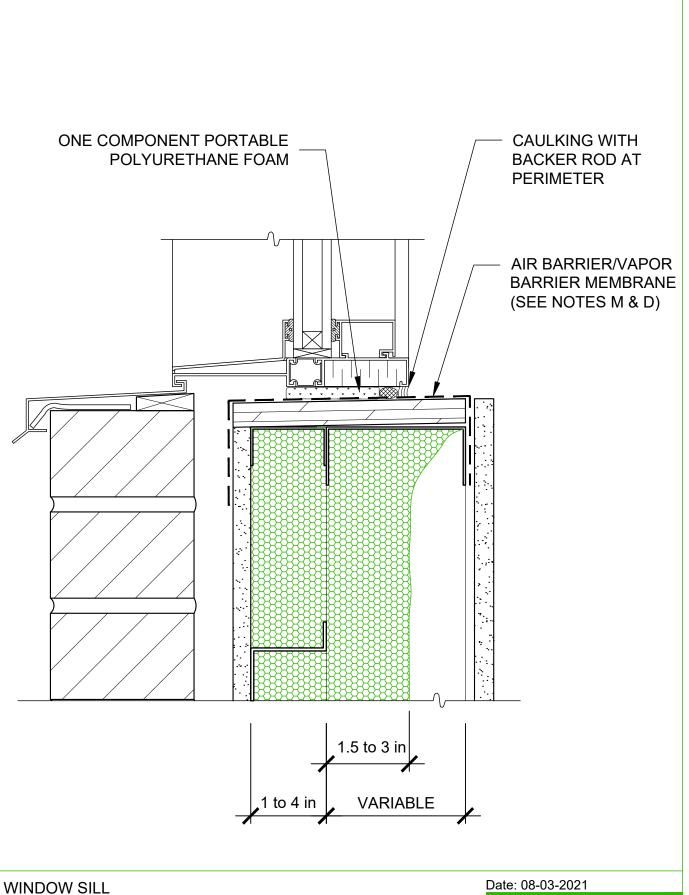
NOTES: A FULL SURFACE MEMBRANE CAN BE USED DEPENDING ON THE DESIGNER'S CHOICE (NON ILLUSTRATED)

Date: 08-03-2021







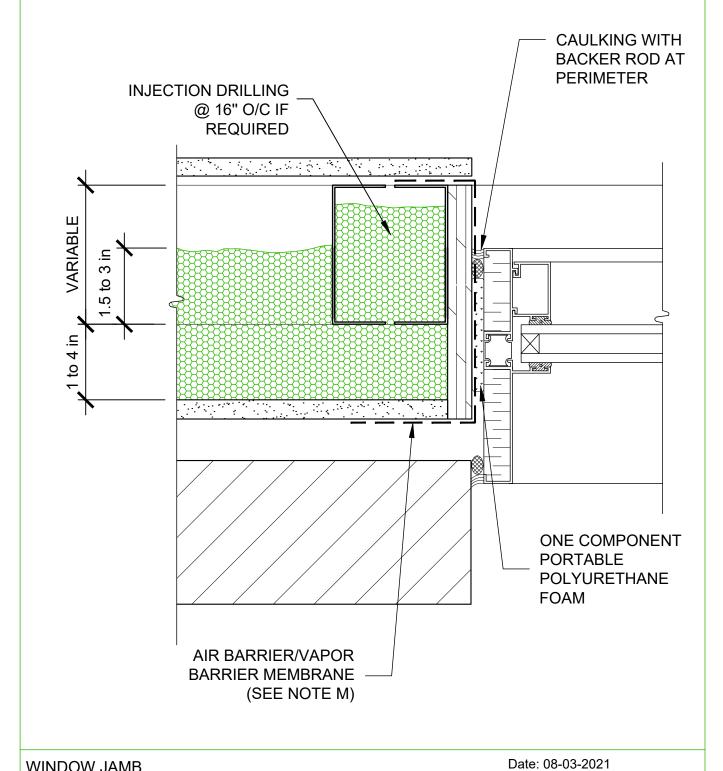


WINDOW SILL BRICK SIDING

SCALE: 1:2.5



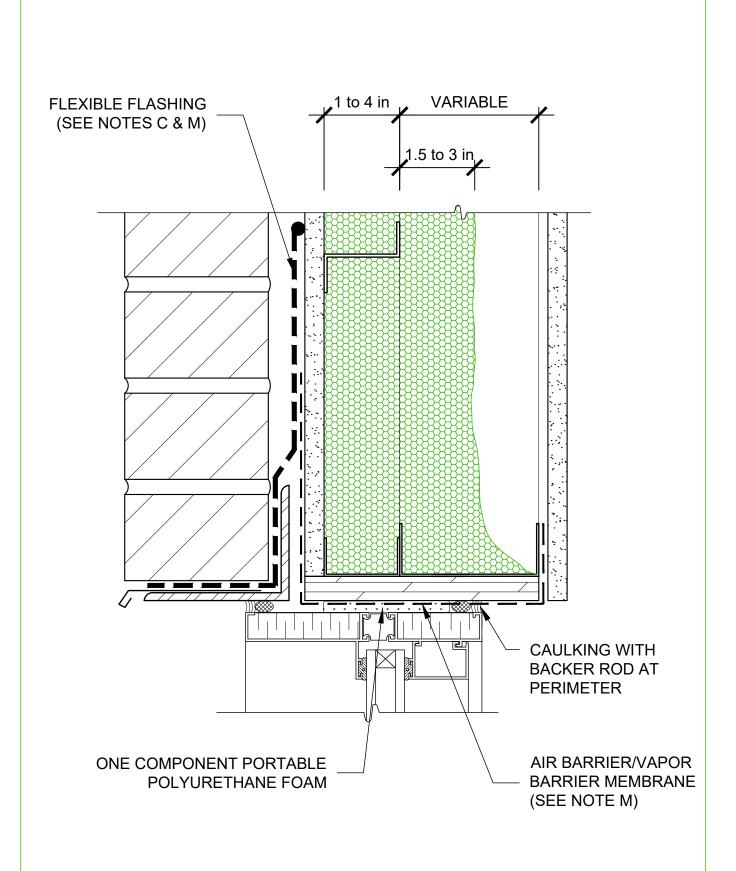
NOTE: FOR SUPPORT PURPOSES AT OPENINGS, THE WINDOW SUPPORT POSTS MAY BE DOUBLED AND INJECTED WITH HEATLOK HFO PRO/HFO HIGH LIFT.



WINDOW JAMB BRICK SIDING

SCALE: 1:2.5





TOP OF WINDOW BRICK SIDING Date: 08-03-2021

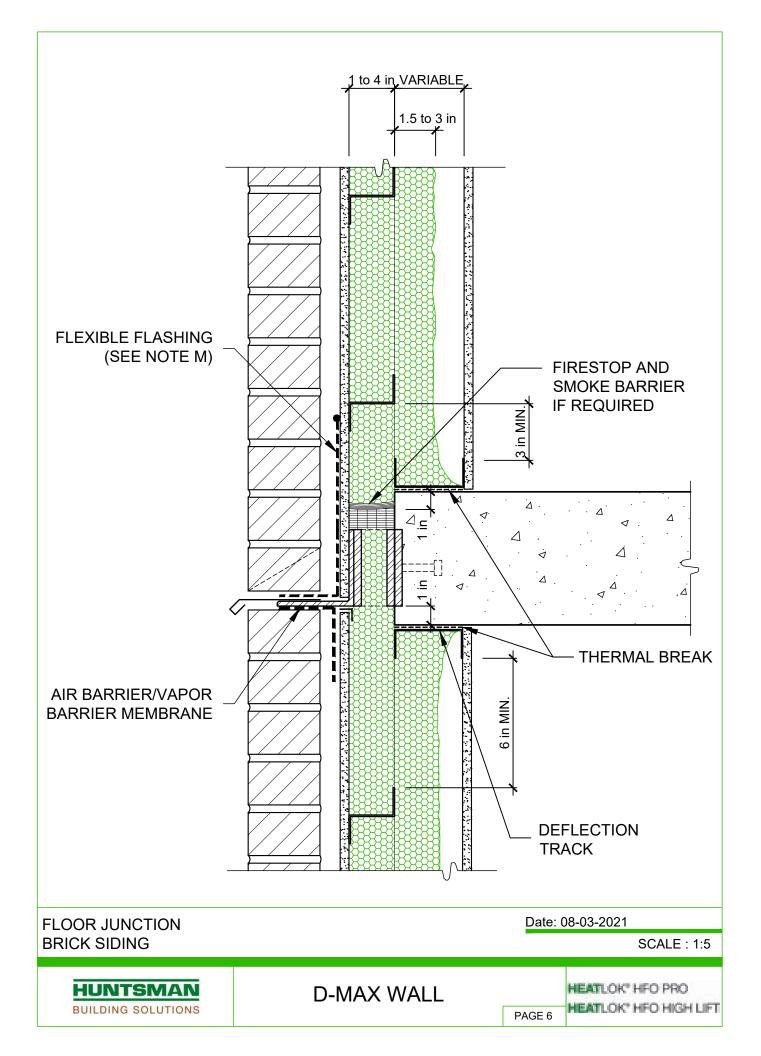
PAGE 5

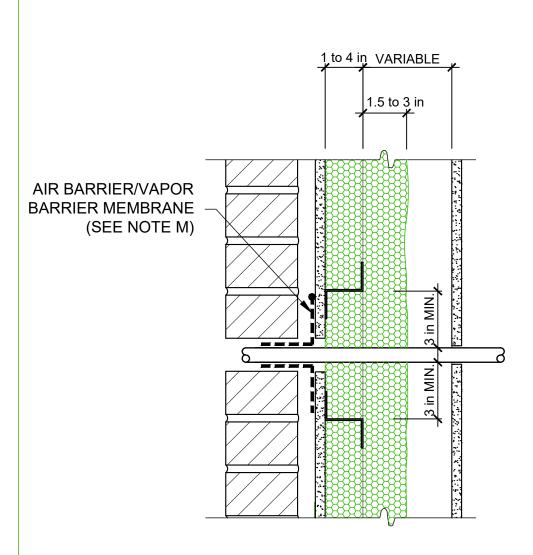
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D-MAX WALL

HEATLOK" HFO PRO HEATLOK" HFO HIGH LIFT



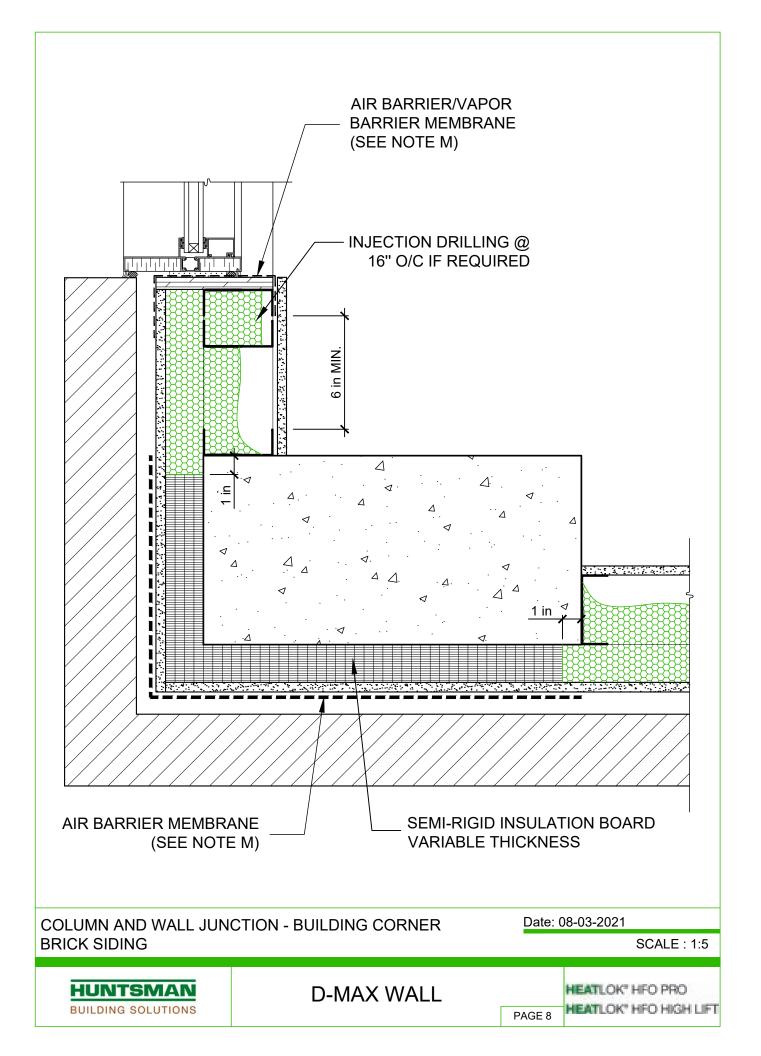


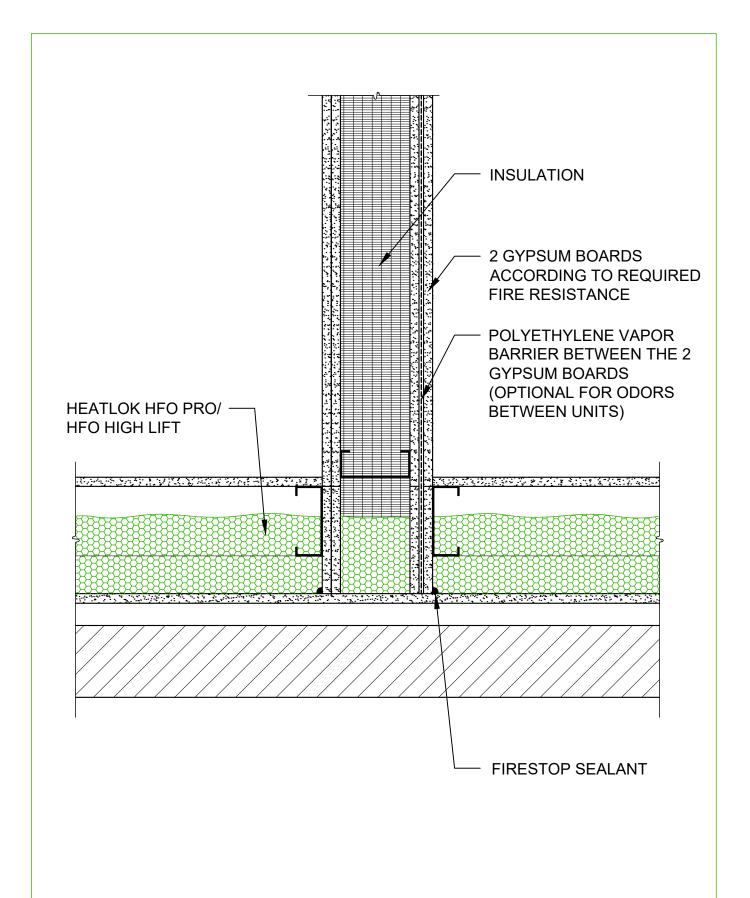
DETAIL AT WALL PENETRATION BRICK SIDING

Date: 08-03-2021

SCALE : 1:5







FIRE SEPARATION BRICK SIDING

Date: 08-03-2021

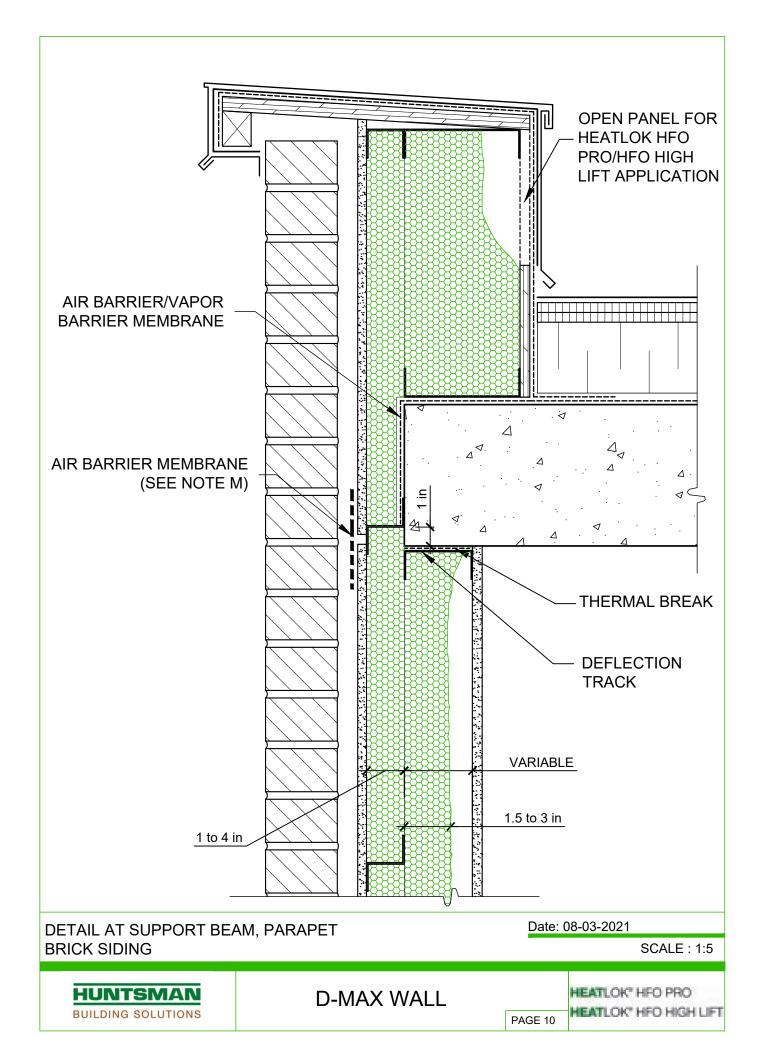
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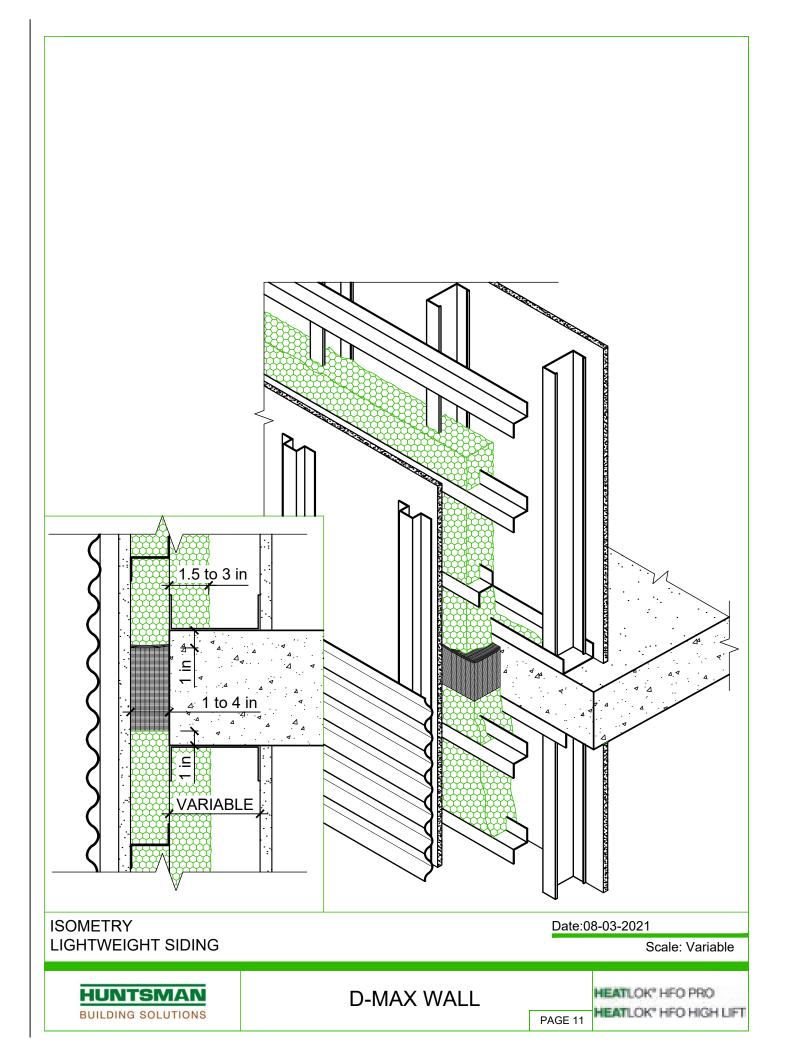
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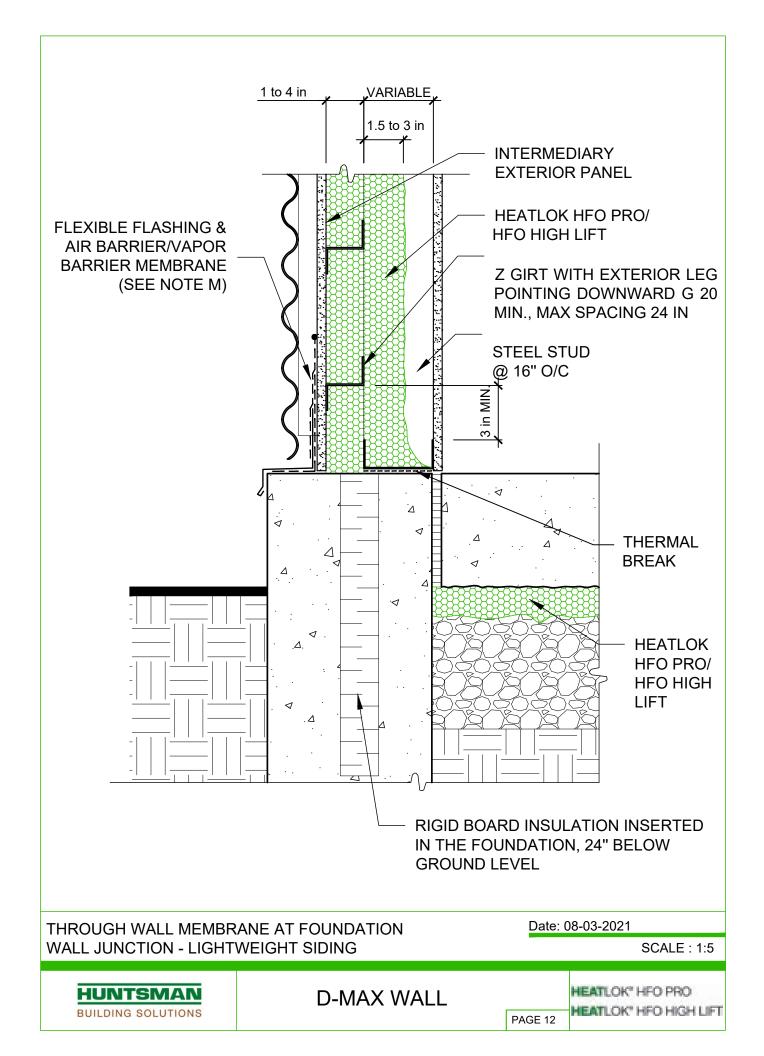


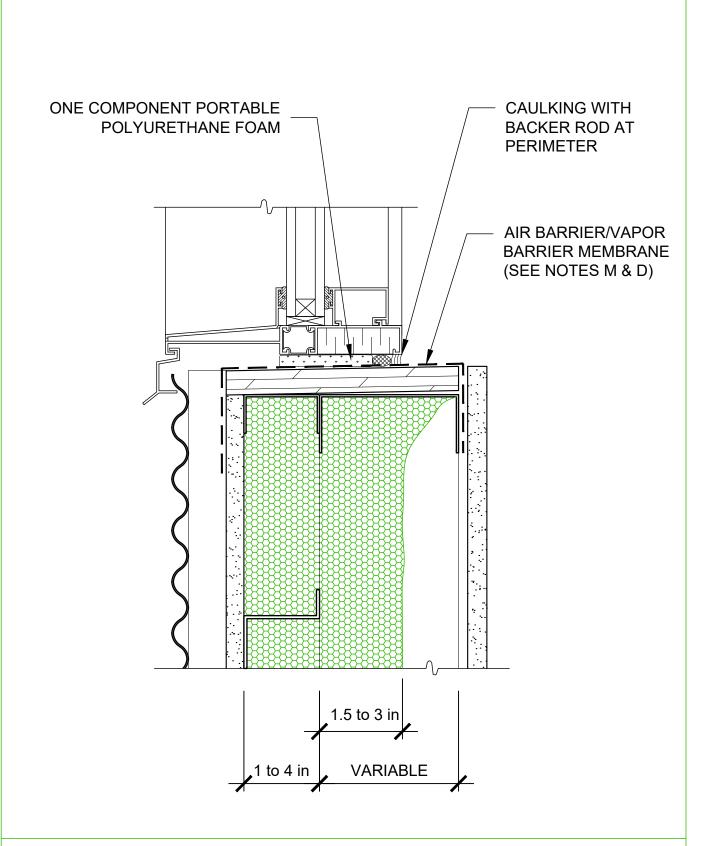
D-MAX WALL

HEATLOK* HFO PRO HEATLOK* HFO HIGH LIFT









WINDOW SILL LIGHTWEIGHT SIDING Date: 08-03-2021

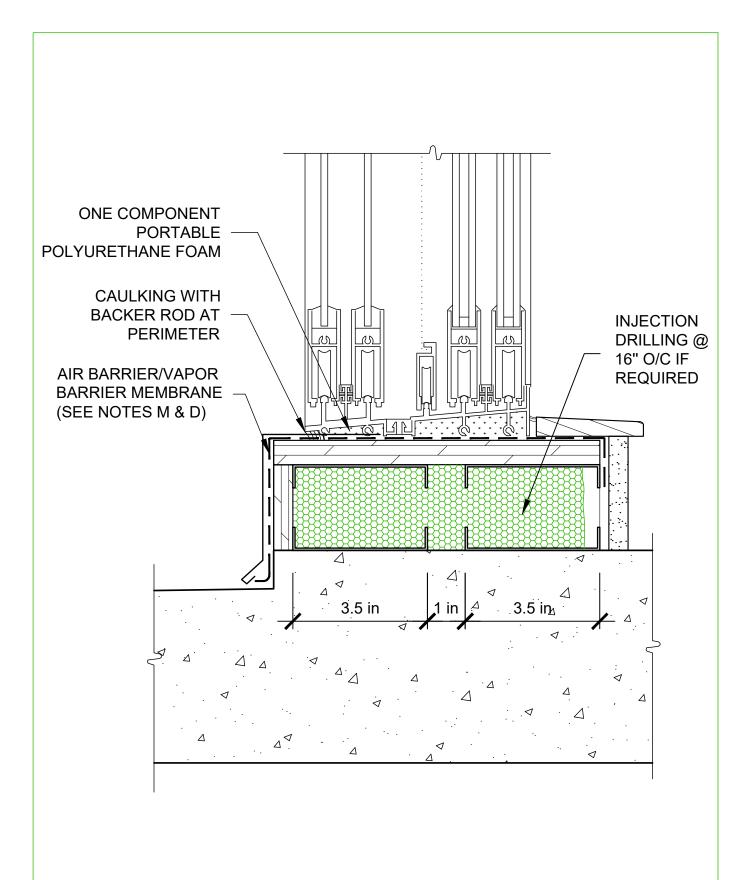
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D-MAX WALL

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HEATLOK* HFO HIGH LIFT



PATIO DOOR SILL LIGHTWEIGHT SIDING

Date: 08-03-2021

SCALE: 1:2.5

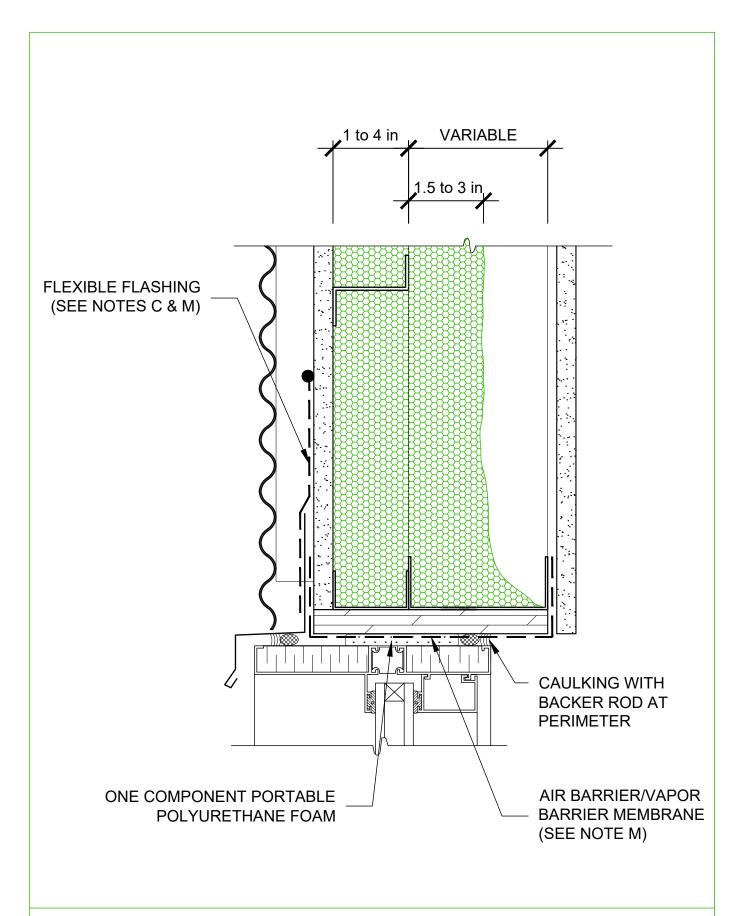


D-MAX WALL

HEATLOK® HFO PRO HEATLOK® HFO HIGH LIFT

NOTE: FOR SUPPORT PURPOSES AT OPENINGS, THE WINDOW SUPPORT POSTS MAY BE DOUBLED AND INJECTED WITH HEATLOK HFO PRO. **CAULKING WITH BACKER ROD AT PERIMETER** INJECTION DRILLING @ 16" O/C IF **REQUIRED** VARIABLE .5 to 3 in .⊑ to 4 ONE COMPONENT **PORTABLE POLYURETHANE FOAM** AIR BARRIER/VAPOR BARRIER MEMBRANE (SEE NOTE M) Date: 08-03-2021 **WINDOW JAMB** LIGHTWEIGHT SIDING SCALE: 1:2.5 HEATLOK" HFO PRO HUNTSMAN **D-MAX WALL HEATLOK® HFO HIGH LIFT BUILDING SOLUTIONS**

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TOP OF WINDOW LIGHTWEIGHT SIDING

Date: 08-03-2021

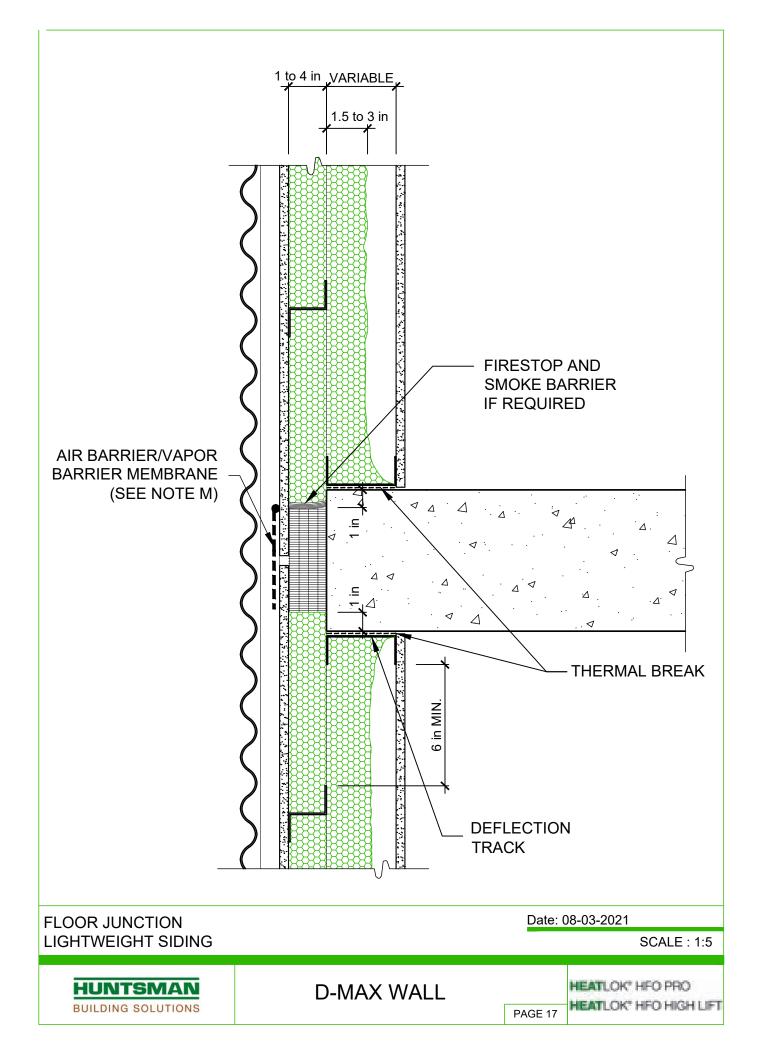
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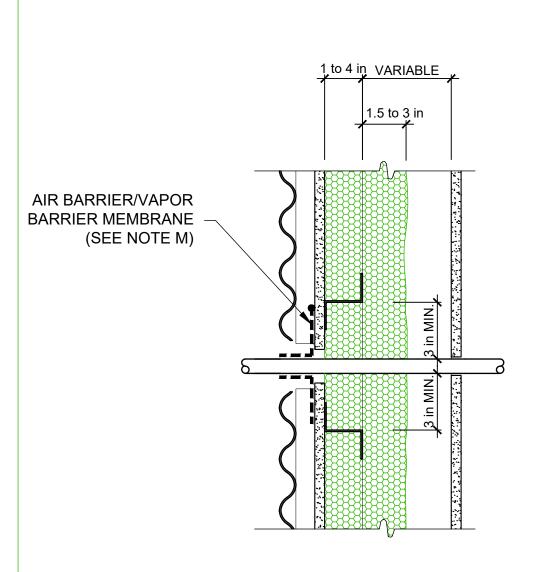


D-MAX WALL

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HEATLOK* HFO HIGH LIFT





DETAIL AT WALL PENETRATION LIGHTWEIGHT SIDING

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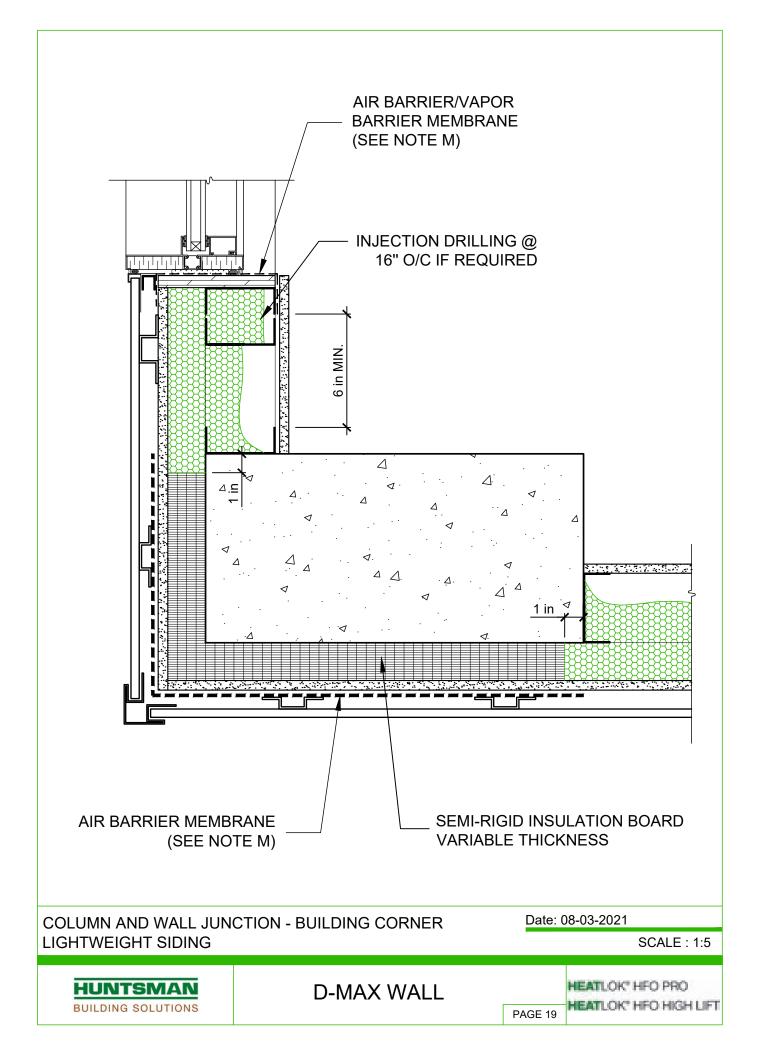
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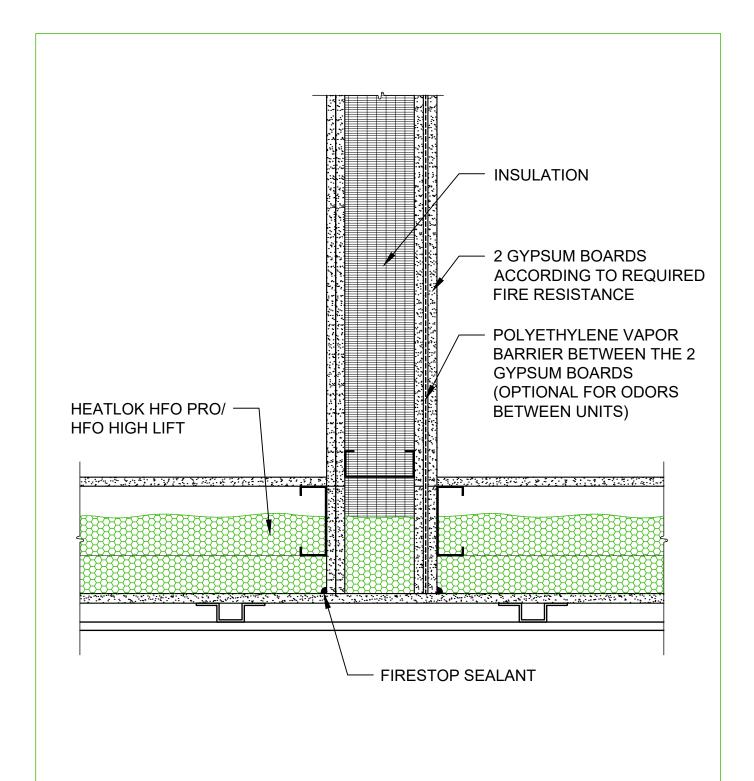
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D-MAX WALL

HEATLOK" HFO PRO HEATLOK" HFO HIGH LIFT





FIRE SEPARATION LIGHTWEIGHT SIDING

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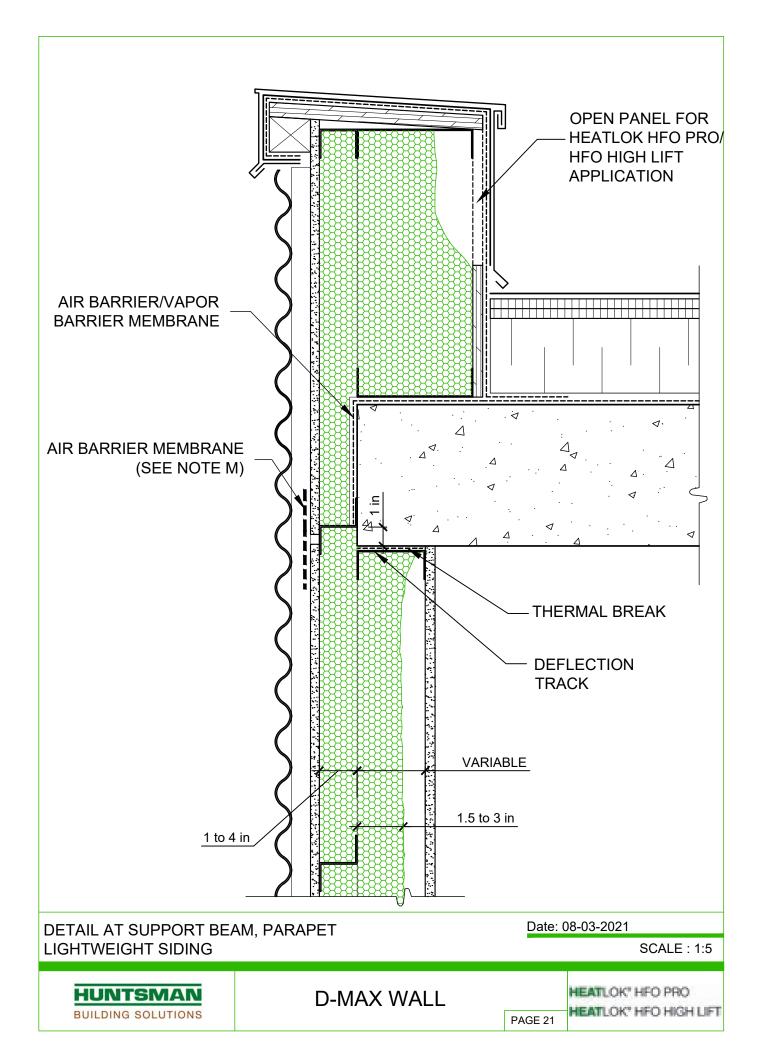
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SCALE: 1:5



D-MAX WALL

HEATLOK* HFO PRO HEATLOK* HFO HIGH LIFT



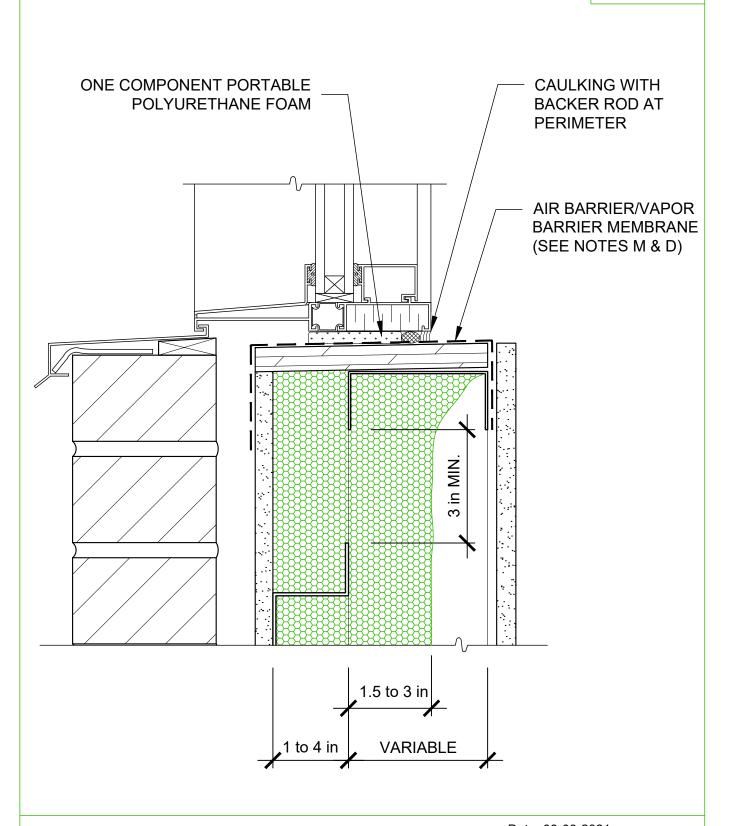
Date: 08-03-2021

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D-MAX WALL

HEATLOK" HFO PRO HEATLOK" HFO HIGH LIFT



WINDOW SILL BRICK SIDING

Date: 08-03-2021

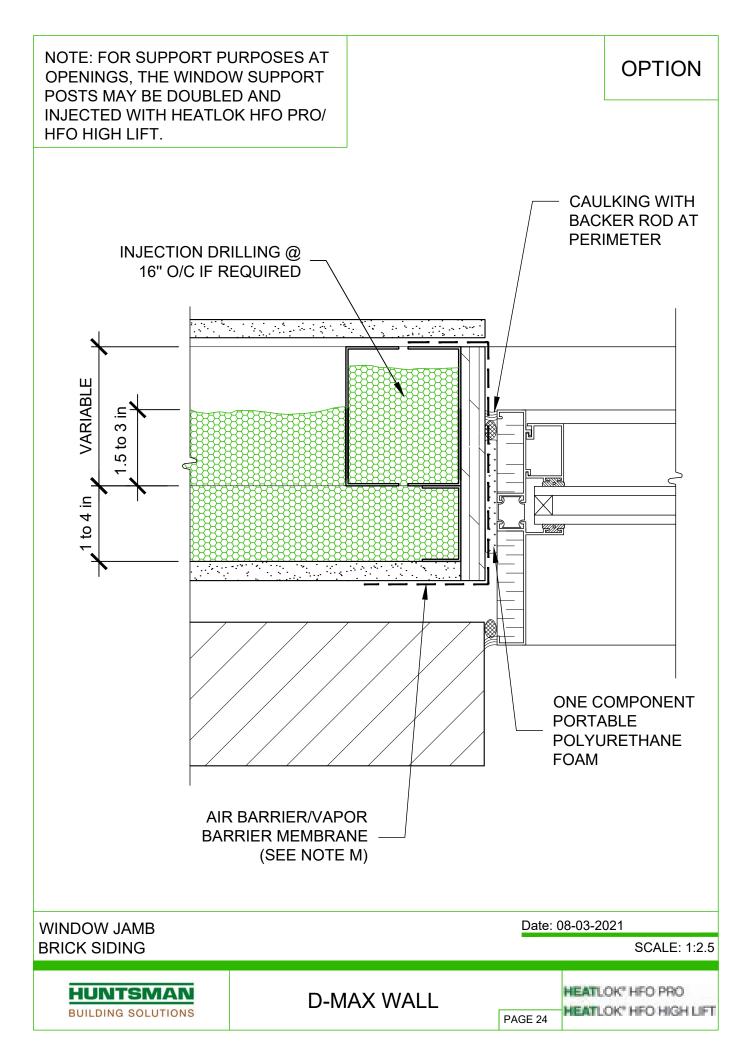
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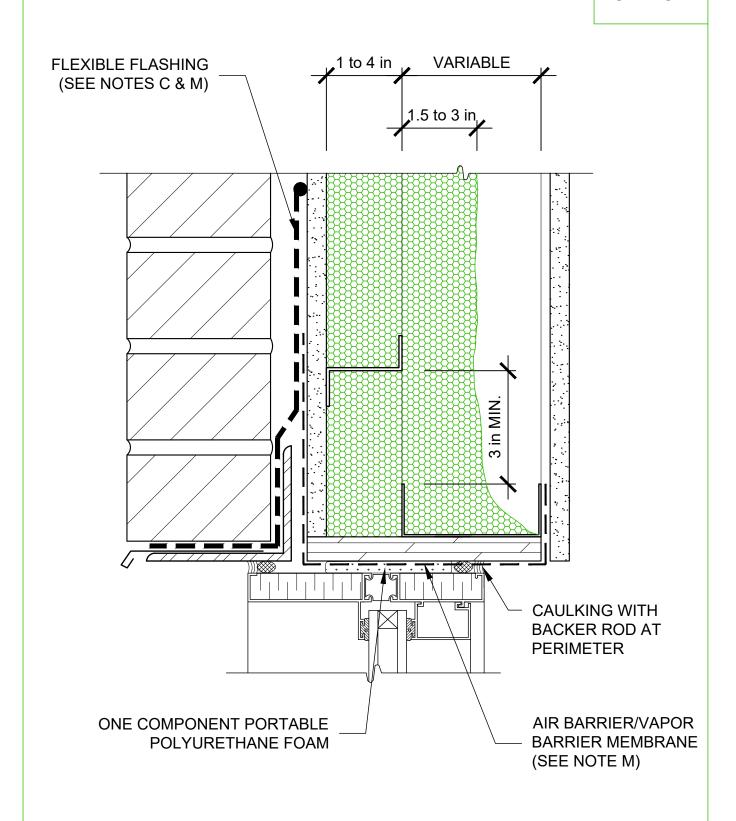
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D-MAX WALL

HEATLOK" HFO PRO HEATLOK" HFO HIGH LIFT





TOP OF WINDOW BRICK SIDING

Date: 08-03-2021

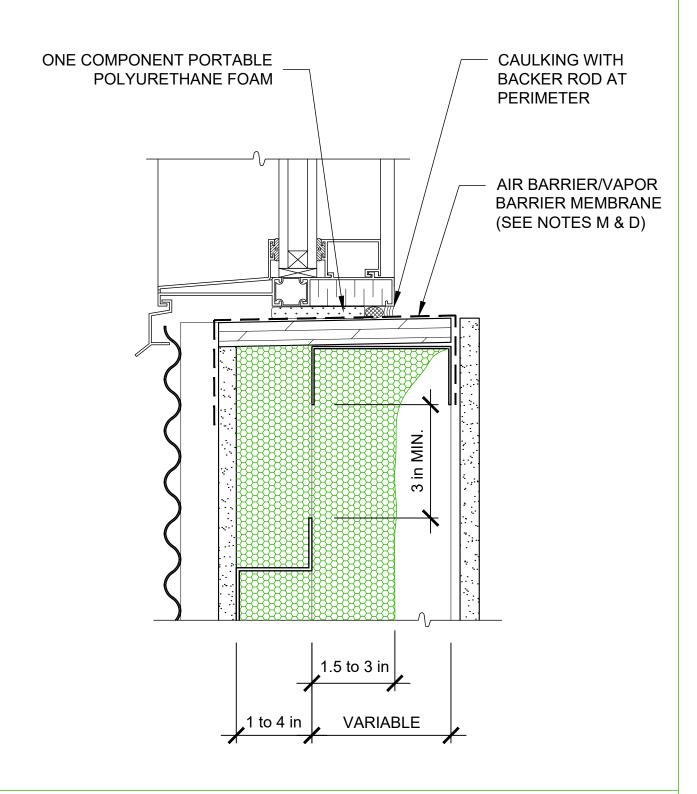
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D-MAX WALL

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HEATLOK* HFO HIGH LIFT



WINDOW SILL LIGHTWEIGHT SIDING

Date: 08-03-2021

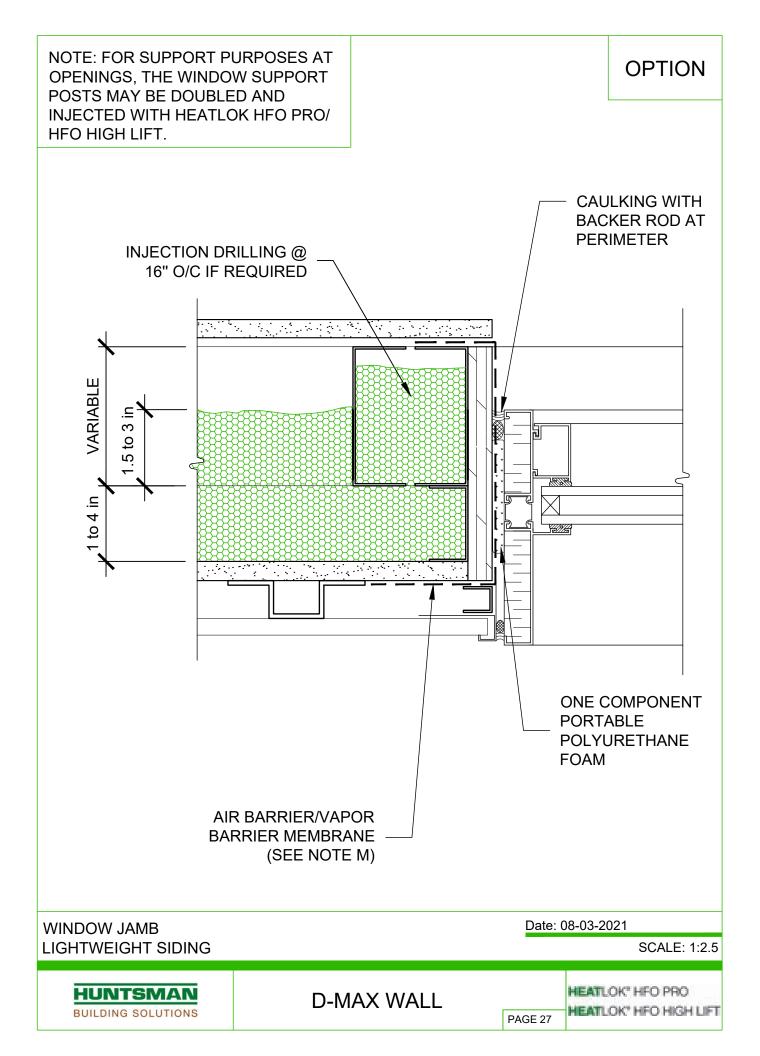
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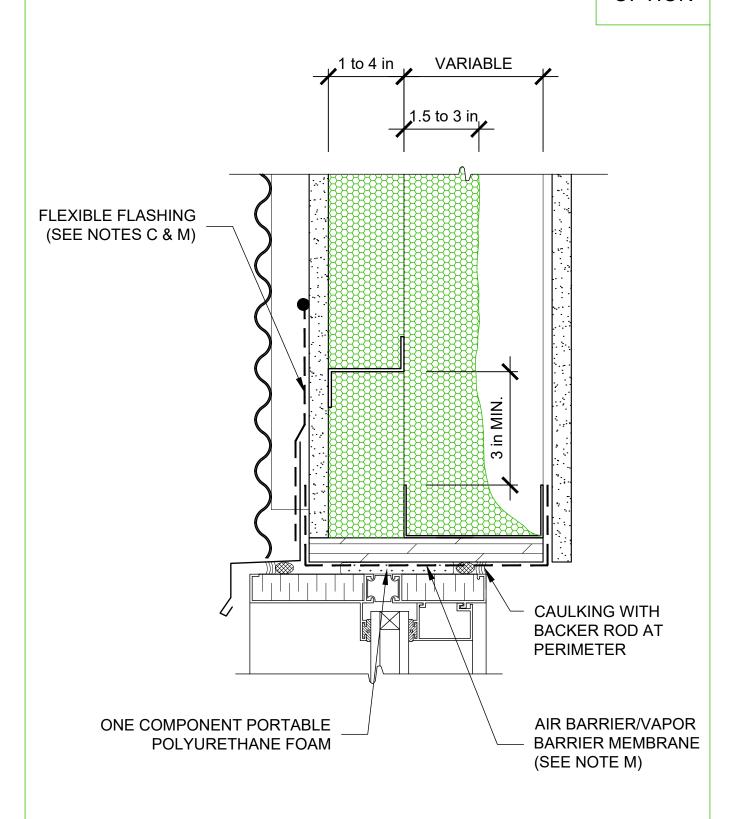


D-MAX WALL

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HEATLOK* HFO HIGH LIFT





TOP OF WINDOW LIGHTWEIGHT SIDING

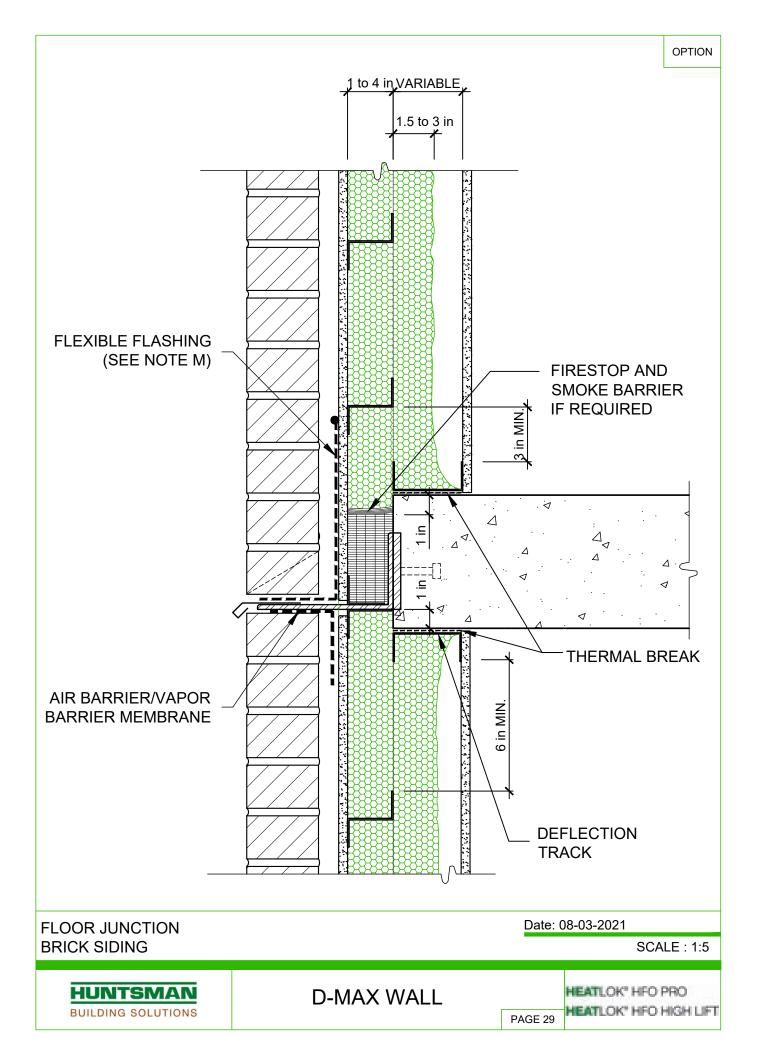
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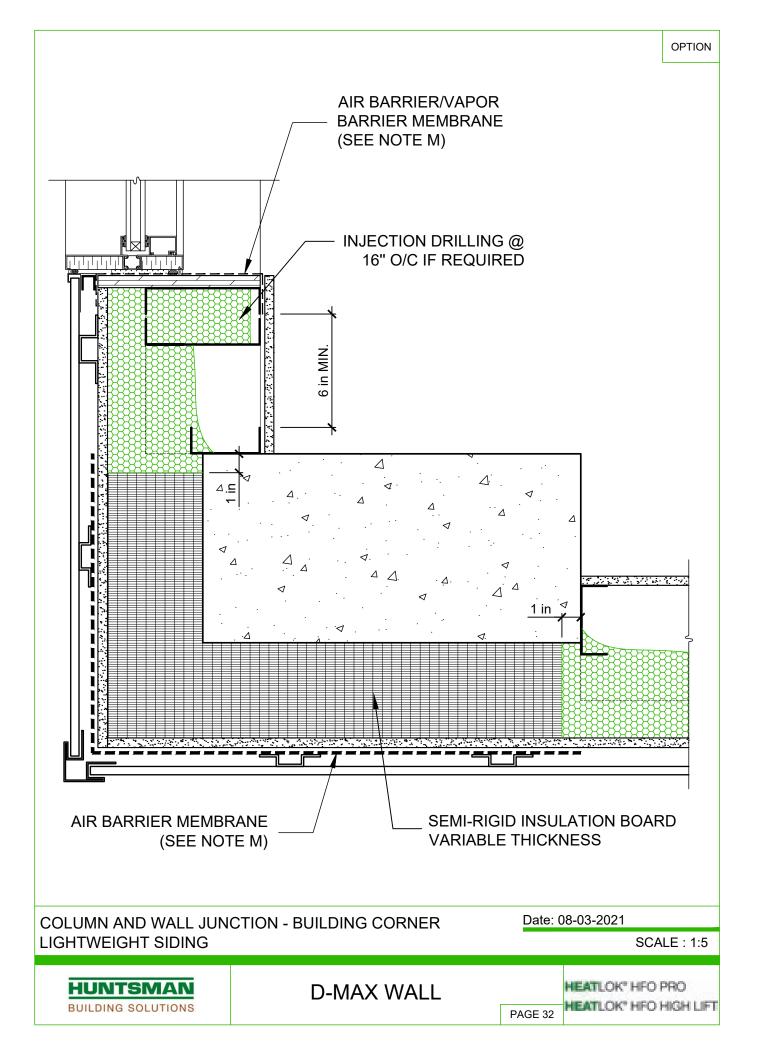
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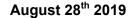
HUNTSMAN
BUILDING SOLUTIONS

D-MAX WALL

PAGE 28 HEATLOK® HFO HIGH LIFT









A/S Maxime Duzyk Demilec 870, Curé Boivin Boisbriand, Québec J7G 2A7

Project: Z Bar wall section -- Demilec

As per your request and our discussions, you will find below our preliminary recommendation concerning the required Z bar thickness spaced at 24" c/c for different depth that varies from 1" to 5".

Design dead load: 6 lb/ft²

Steel cladding: 1.5 lb/ft²
5/8"Glasroc pannel: 2.5 lb/ft²
Omega bar: 0.5 lb/ft²
Z bar: 0.5 lb/ft²
Insulation: 1.0 lb/ft²

Z bar thickness required according to depth

Depth from 1" to 2": 20 gage required (0.0359")
Depth from 2" to 3 1/2": 18 gage required (0.0478")
Depth from 3 1/2" to 5": 16 gage required (0.0598")

These recommendations must be confirmed by the project stud wall structural engineer. He has to consider the project wind load acting on walls and dead load. The calculation of Z bar connexion to stud wall is the responsibility of the project stud wall structural engineer.

If you have any question, do not hesitate to contact the undersigned.



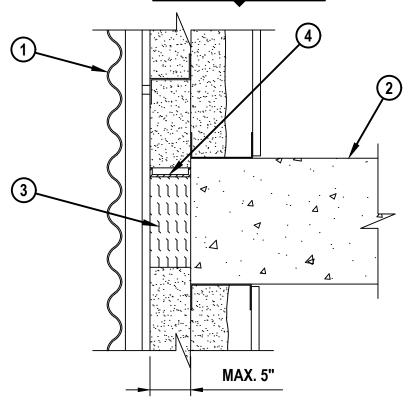
Ronald Beaucage eng. Beaucage Experts-Conseils

ENGINEERING JUDGMENT FIRESTOP DETAIL

PROJECT: D-MAX WALL

CONTRACTOR: HUNTSMAN BUILDING SOLUTIONS F-RATING = 1-HR. OR 2-HR. (SEE NOTE NO. 2 BELOW)

CROSS-SECTIONAL VIEW



- 1. EXTERIOR DENSGLASS CURTAIN WALL ASSEMBLY WITH MAXIMUM 8" STEEL STUD FRAMING AND [OPTIONAL, NOT SHOWN] EIFS (NON FIRE-RATED).
- 2. CONCRETE FLOOR ASSEMBLY (MINIMUM 5" THICK) (1-HR. OR 2-HR. FIRE-RATING).
- 3. MINIMUM 4" THICKNESS MINERAL WOOL SAFING (MIN. 4 PCF DENSITY) COMPRESSED 33%. MINERAL WOOL MAY BE RECEESED BELOW TOP SURFACE OF FLOOR ASSEMBLY MAXIMUM 1".
- 4. MINIMUM 1/8" (WET) THICKNESS HILTI CFS-SP WB FIRESTOP JOINT SPRAY OR MINIMUM 2mm (WET) THICKNESS HILTI CFS-SP SIL FIRESTOP SILICONE JOINT SPRAY TO COMPLETELY COVER MINERAL WOOL, OVERLAPPING MINIMUM 1/2" ONTO ADJACENT ASSEMBLIES.

NOTES: 1. MAXIMUM WIDTH OF JOINT = 4".

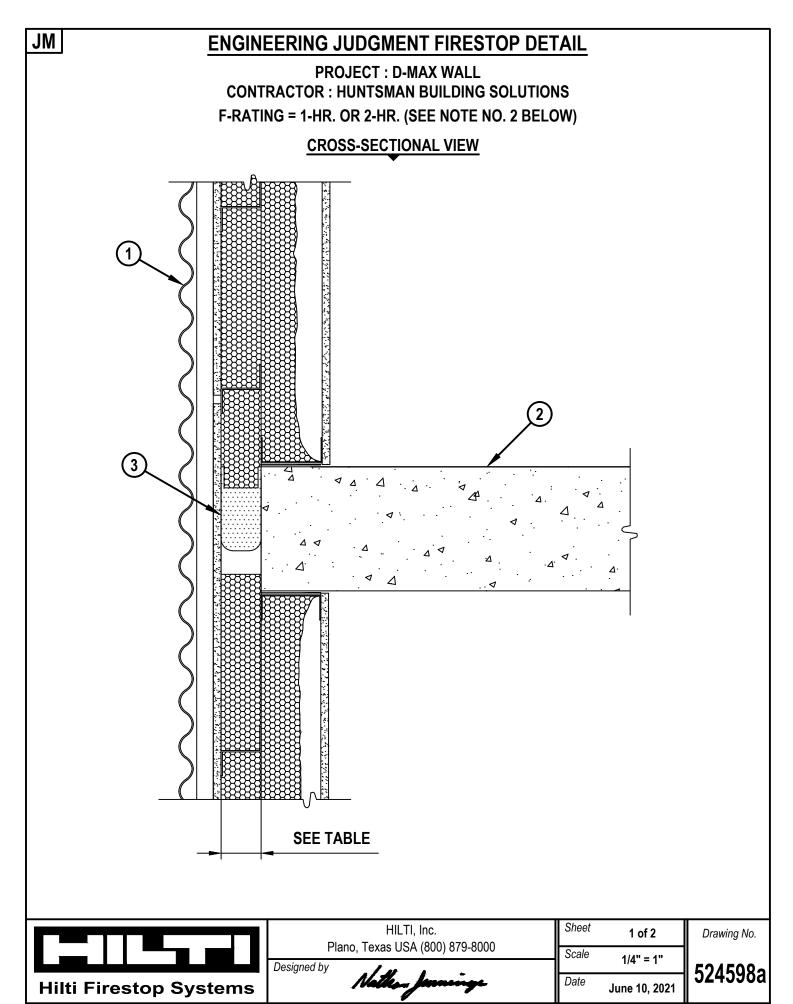
- 2. FIRE-RATING OF ASSEMBLY IS DEPENDENT UPON THE PERFORMANCE OF CURTAIN WALL ASSEMBLY UNDER FIRE CONDITIONS.
- 3. THIS SYSTEM IS DESIGNED BASED UPON CANADIAN TEST STANDARD CAN/ULC-S115-2018 AND IN ACCORDANCE WITH ASTM E2307.

Drawing No.

THIS ENGINEERING JUDGMENT REPRESENTS A FIRESTOP SYSTEM THAT WOULD BE EXPECTED TO PASS THE STATED RATINGS IF TESTED. (REFERENCE: INTERTEK SYSTEM NO. HI/BP 120-04 & HI/BP 120-03)



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Saving Lives through Innovation and Education

JM

ENGINEERING JUDGMENT FIRESTOP DETAIL

PROJECT: D-MAX WALL

CONTRACTOR: HUNTSMAN BUILDING SOLUTIONS F-RATING = 1-HR. OR 2-HR. (SEE NOTE NO. 2 BELOW)

- 1. EXTERIOR DENSGLASS CURTAIN WALL ASSEMBLY WITH MAXIMUM 8" STEEL STUD FRAMING AND [OPTIONAL] EIFS (NON FIRE-RATED).
- 2. CONCRETE FLOOR ASSEMBLY (MINIMUM 5" THICK) (1-HR. OR 2-HR. FIRE-RATING).
- 3. COMPRESS THE APPROPRIATELY SIZED EDGE OF SLAB QUICKSEAL (CFS-EOS QS) PRODUCT (PER TABLE BELOW) INTO PERIMETER JOINT. REMOVE PAPER FROM ADHESIVE AND ADHERE FLAPS FIRMLY TO ADJACENT SUBSTRATES. SPLICES (BUTT JOINTS) IN THE LENGTH OF EDGE OF SLAB QUICKSEAL (CFS-EOS QS) ARE TO BE TIGHTLY COMPRESSED TOGETHER (MINIMUM 1/4" COMPRESSION).

PRODUCT	ALLOWABLE JOINT WIDTH		
PRODUCT	MINIMUM	MAXIMUM	
CFS-EOS QS SMALL	1-1/2"	3"	
CFS-EOS QS MEDIUM	2"	4"	
CFS-EOS QS LARGE	3"	5"	

NOTES: 1. MAXIMUM WIDTH OF JOINT = 4".

- 2. FIRE-RATING OF ASSEMBLY IS DEPENDENT UPON THE PERFORMANCE OF CURTAIN WALL ASSEMBLY UNDER FIRE CONDITIONS.
- 3. THIS SYSTEM IS DESIGNED BASED UPON CANADIAN TEST STANDARD CAN/ULC-S115-2018 AND IN ACCORDANCE WITH ASTM E2307.

THIS ENGINEERING JUDGMENT REPRESENTS A FIRESTOP SYSTEM THAT WOULD BE EXPECTED TO PASS THE STATED RATINGS IF TESTED. (REFERENCE: INTERTEK SYSTEM NO. HI/BP 120-04, HI/BP 120-03, HI/BPF 120-25 & HI/BPF 120-18)





ENGINEERING JUDGMENT FOR:	
9/3/2020	
Marc Simard	
3M Canada Company	

Project: Mur D-Max	Contractor: TBD	
Firestopping Category: Joints / Perimeter	Hourly Rating Requested / Type: 1 and 2 Hour / F	
	Obtainable Rating: *see below	
Joint Type: Perimeter	Maximum Joint Width: 4 Inch	
Curtain Wall: Exterior Grade Fiberglass Sheathed	Slab Assembly: Concrete Floor	
Gypsum Board		
Type of Movement: Dynamic		

Special Conditions: Field conditions like Intertek Design 3MU/JS 120-22 with deviation of spray foam in lieu of the optional mineral wool batt curtain wall insulation. Steel studs terminate at top and bottom of concrete floor instead of passing through joint, and are tied to exterior wall with horizontal Z-shaped framing. Firestop may be recessed up 1 in. below top surface of concrete floor.

Application Details: To firestop this application, install in accordance with Intertek Design 3MU/JS 120-22 with the following modifications/clarifications:

- 1. Install min 4 in. depth of min 4 pcf mineral wool compressed min 33% within the joint. Mineral wool may be recessed below top surface of floor assembly maximum 1 in.
- 2. Install one of the following over the mineral wool:
 - Install a 1/10 in. wet thickness of Watertight Spray or 1/8 in. wet thickness of FireDam Spray 200 over the mineral wool.
 - o Watertight Spray or FireDam Spray 200 to overlap minimum ½ in. onto all surrounding substrates.
 - Install a minimum ½ in. depth of sealant to completely cover the mineral wool. Sealant to be level with the top surface of the floor.
 - Install Fire and Water Barrier Tape to completely cover the mineral wool.
 - o Tape to overlap minimum 1 in. onto all surrounding substrates.
 - o Splices in the tape system to overlap minimum ½ in.
- 3. *The obtainable rating in this scenario is reduced to "Up to 1- or 2-hour F only or as long as the entire assembly remains fully intact in a fire scenario".

3M Fire Barrier Material: FireDam Spray 200, FB 1003SL Silicone Sealant, Fire and Water Barrier Tape, 3M Fire Barrier Watertight Spray

Based On: 3MU/JS 120-22

Additional Referenced System(s): (See Attached Drawing)

This Engineering Judgment (EJ) is based upon the sole and exclusive use of 3M brand Fire Protection Products as described within. Modification of any of the parameters of this EJ, including, without limitation, the use of non-3M brand Fire Protection Products, shall render this EJ null and void. This perimeter fire barrier design is expected to achieve the hourly rating indicated above. This engineering judgment is based on performance results obtained in testing with independent laboratories which have been tested in accordance to ASTM E 2307 and / or internal 3M fire tests, and CAN/ULC-S115.

3M Industrial Adhesive and Tapes Fire Protection Products 3M Center, Building 230-B-S-37-03

3M Center, Building 230-B-S-37-03 St. Paul, MN 55144-1000 Phone: 800-328-1687 Engineering Judgment Prepared By:

Pulfain

Senior Application Engineer

Reviewed By:

CAM

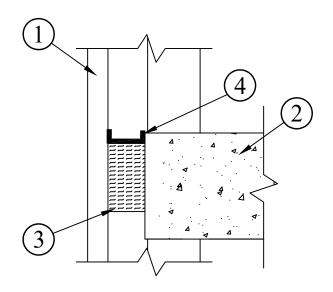
cc: Bethany Turowec Email: bturowec@mmm.com

Technical Information, Product Selection and Use

The technical information, guidance and other statements contained in this document are based upon records, tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed and may not be indicative of field conditions. Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the 3M product and determining whether it is appropriate and suitable for customer's application. 3M product purchases are subject to the terms, conditions and limitations set forth in the applicable Technical Data Sheet

Phone: 800-328-1687

3M ENGINEERING JUDGEMENT NO. 610333 MODIFIED SYSTEM NO. 3MU/JS 120-22 REQUESTED F RATING - 1 & 2 HR OBTAINABLE RATING: *SEE BELOW



- 1. EXTERIOR GRADE FIBERGLASS SHEATHED GYPSUM BOARD..
- 2. CONCRETE FLOOR.
- 3. 4 PCF MINERAL WOOL.
- 4. FIRESTOP SEALANT/SPRAY AS OUTLINED IN APPROPRIATE VERSION OF CORRESPONDING EJ. (SPRAY DEPICTED)

*THE OBTAINABLE RATING IN THIS SCENARIO IS REDUCED TO "UP TO 1- OR 2-HOUR F ONLY OR AS LONG AS THE ENTIRE ASSEMBLY REMAINS FULLY INTACT IN A FIRE SCENARIO".

SEE APPLICATION DETAIL NOTES ON APPROPRIATE VERSION OF CORRESPONDING EJ.

CONFIGURATION OR ORIENTATION OF PENETRANT(S)/OPENING(S) MAY NOT MATCH SITE CONDITION(S).

CONSULT CURRENT INDEPENDENT TESTING LABORATORIES (UL/INTERTEK) FOR SYSTEMS OR DESIGN DETAILS

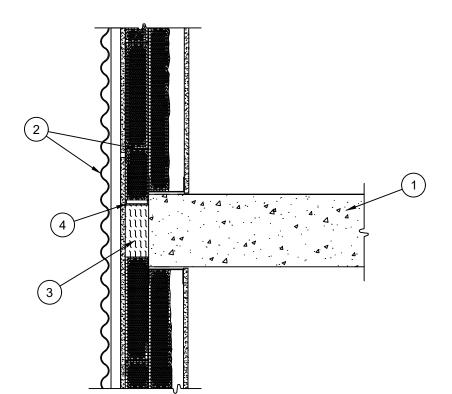
				,		
PROJECT: MUR D-MAX			signature: Bruce Fitzwater			
REV:	DATE:	DESCRIPTION	DRWN BY:	THIS ELEMENTARY FIRESTOP DRAWING IS TO BE USED	DWG. LOCATION:	DATE:
0	09-03-20	ORIGINAL ISSUE	BLF	ALONG WITH THE CORRESPONDING	610333.DWG	09-03-20
				ENGINEERING JUDGMENT AND REFERENCED LISTED/TESTED SYSTEMS FROM INDEPENDENT TESTING LABORATORIES	ALL STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON TE WE BELIEVE TO BE RELIABLE, HOWEVER, SINCE THE CONDIO FUSE AND APPLICATION ARE BEYOND OUR CONTROL. 3M	
3M Fire Protection Products			(UL/INTERTEK). DRAWING NOT TO SCALE.	SHALL NOT BE LIABLE FOR ANY DAMA CONSEQUENTIAL, RESULTING FROM OR DESIGN. 3M'S ONLY WARRANTY S OF OUR PRODUCTS PROVED TO BE D	AGE, DIRECT OR THE USE OF THIS MATERIA SHALL BE TO REPLACE AN	

Drawing No.

NS08821020



-B



- 1. Floor Assembly (2 Hr) - Min 5" thick concrete floor assembly.
- 2. Curtain Wall Assembly (Non Fire Rated) - Exterior densglass curtain wall assembly with max 8" steel stud framing and (optional, not shown) EIFS. Max width of joint is 4".
- Packing Material Min 4 pcf density mineral wool batt insulation compressed a min 33% and installed within joint to a min 4" depth, flush with top surface of floor. When sealant is used, recess to accommodate for the required depth of sealant.
- Spray SpecSeal® AS200, Fast Tack, or SFS Safing Spray applied to completely cover mineral wool to a min 1/8" wet thickness, overlapping onto surrounding substrates a min 1/2".
- Sealant (Optional) In lieu of spray, SpecSeal® SIL300SL Sealant applied within joint to a min 1/2" depth. Sealant to be flush with top surface of floor.

*Notes: 1 - Rating of the firestop system is dependent on the performance of the surrounding construction under fire exposure with a max possible F rating of 2 Hr.

THIS DESIGN REPRESENTS A FIRESTOP SYSTEM EXPECTED TO PASS THE STATED RATINGS IF TESTED Project: Huntsman Building Solutions System Reference: Signature ĆW-D-1011 Project Address: Designed by: Joe Potts Based on testing to ASTME2307 and CAN/ULC-S115 Date: 3/31/2021 Scale Architect: Hunstman Building Services Standard Test Method of Fire Tests of Through-Penetra N.T.S. PAGE 1 OF 1 and Joint Firestops



Specified Technologies Inc.

y • Somerville, NJ 98876 USA • Toll Free: \$00-992-1180 • T: +1 9

All statements, technical information, and recommendations contained herein are based upon tests we believe to be accurate; however since the conditions of use and application are beyond our control, STI shall not be liable for any damage, direct or consequential, resulting from the use of this material or design. STI's sole warranty shall be to refund or replace materials found to be defective