ICC-ES Evaluation Report

ESR-4073

Reissued August 2026

This report also contains:

- **CA Supplement**
- **SI Supplement**

This report remains under an active continuous compliance program through the end of August 2027

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

Copyright © 2026 ICC Evaluation Service, LLC. All rights reserved.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION Section: 07 21 00—Thermal Insulation	REPORT HOLDER: HUNTSMAN BUILDING SOLUTIONS, LLC	EVALUATION SUBJECT: HEATLOK® HFO HIGH LIFT SPRAY FOAM INSULATION	

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2024, 2021, 2018, 2015, 2012 and 2009 *International Building Code®* (IBC)
- 2024, 2021, 2018, 2015, 2012 and 2009 *International Residential Code®* (IRC)
- 2024, 2021, 2018, 2015, 2012 and 2009 *International Energy Conservation Code®* (IECC)

Properties evaluated:

- Surface-burning characteristics
- Physical properties
- Thermal resistance
- Attic and crawl space installation
- Water vapor transmission
- Air permeability
- Exterior walls in Types I through IV construction

1.2 Evaluation to the following green standard:

- 2008 ICC 700 *National Green Building Standard™* (ICC 700-2008)

2.0 USES

Heatlok® HFO closed cell spray foam is a spray-applied polyurethane foam plastic insulation used as a nonstructural thermal insulating material in all Types of construction (Types I, II, III, IV and V) under the IBC; and in dwellings under the IRC. The insulation is intended for use in wall cavities, floor/ceiling assemblies, the underside of on-grade slabs, or attics and crawl spaces when installed in accordance with Section 4.4. Under the IRC and 2024, 2021, 2018 and 2015 IBC, the insulation may be used as air-impermeable insulation when installed in accordance with Section 3.5.

The insulation may be used in exterior walls of Type I, II, III or IV construction when used as described in Section 4.5.

The attributes of the insulation have been verified as conforming to the provisions of ICC 700-2008 Section 703.2.1.1.1(c) as an air impermeable insulation. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon

meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.0 DESCRIPTION

3.1 General:

Heatlok® HFO product is a rigid, medium-density, spray-applied cellular polyurethane foam plastic insulation installed as a component of wall assemblies, ceilings, floors, crawlspaces and cavities of roofs. The foam plastic insulation is a two-component, closed-cell, one-to-one by volume spray foam system with a nominal density of 2.0 pcf (32 kg/m^3). The insulation is produced in the field by combining a polymeric isocyanate (A component) with a polymeric resin blend (B component). The insulation components have a shelf life of six months when stored in factory-sealed containers at temperatures between 50˚F (10˚C) and 80°F (26˚C). The Heatlok® HFO product meets or exceeds the minimum requirements set forth in Section 2603.1.1 of the 2024 and 2021 IBC.

3.2 Surface-burning Characteristics:

Heatlok® HFO product, at a maximum thickness of 4 inches (102 mm) and a nominal density of 2.0 pcf (32 kg/m^3), has a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 (UL 723). There are no thickness limitations when insulation is covered by a code-prescribed 15-minute thermal barrier.

3.3 Thermal Resistance (*R*-values):

Heatlok® HFO product has thermal resistance (*R*-value), at a mean temperature of 75˚F (24˚C), as shown in Table 1.

3.4 Vapor Permeance:

Heatlok® HFO has a vapor permeance of 1.0 perm or greater and less than 10 perms when applied at a minimum of 1 inch (25.4 mm) thickness and may be used where a Class III vapor retarder is required by the applicable code.

3.5 Air Permeability:

Heatlok® HFO foam plastic insulation, at a minimum 1-inch (25.4 mm) thickness, is considered air-impermeable insulation in accordance with 2024, 2021, 2018, 2015 and 2012 IRC Section R806.5 (2009 IRC Section R806.4) and 2024, 2021 and 2018 IBC Section 1202.3 (2015 IBC Section 1203.3) based on testing in accordance with ASTM E283.

3.6 DC 315 Intumescent Coating:

DC 315 intumescent coating (see ESR-3702), manufactured by International Fireproof Technology, Inc., is a water-based coating supplied in 5-gallon (19L) pails and 55-gallon (208L) drums and has a shelf life of one (1) year when stored in factory-sealed containers at temperatures between 50°F (10°C) and 80°F (24°C).

4.0 DESIGN AND INSTALLATION

4.1 General:

Heatlok® HFO product must be installed in accordance with the manufacturer's published installation instructions and this report. A copy of the manufacturer's published installation instructions must be available at all times on the jobsite during installation.

4.2 Application:

The insulation is spray-applied on the jobsite using equipment identified in the manufacturer's published installation instructions. The Huntsman Building Solutions Heatlok® HFO product must be applied when the ambient and substrate temperature is between10˚F (-12˚C) and 120˚F (49˚C). The insulation must not be used in areas that have a maximum service temperature greater than 180˚F (82˚C). The foam plastic insulation must not be used in electrical outlet or junction boxes or in contact with rain or water. The substrate must be free of moisture, frost or ice, loose scales, rust, oil and grease, or contaminates that will interfere with adhesion of the spray foam insulation. The Huntsman Building Solutions Heatlok® HFO product may be applied in passes having a maximum thickness of 6$^1/_2$ inches (165 mm) per pass. When multiple passes are required, subsequent passes can be sprayed once the core temperature drops below 100˚F (37.7˚C).

4.3 Thermal Barrier:

4.3.1 Application with a Prescriptive Thermal Barrier: Heatlok® HFO insulation must be separated from the interior of the building by an approved thermal barrier of $^1/_2$-inch-thick (12.7 mm) gypsum wallboard or an equivalent thermal barrier complying with and installed in accordance with the applicable code except where the installation complies with the requirements set forth in Section 4.3.2. When installation is within an attic or

crawl space as described in Section 4.4, a thermal barrier is not required between the foam plastic and the attic or crawl space, but is required between the insulation and the interior of the building.

There is no thickness limit when installed behind a code-prescribed thermal barrier except as noted in Section 4.4.2.1.

4.3.2 Application without a Prescriptive Thermal Barrier: Heatlok® HFO spray foam insulation may be installed without the prescriptive 15-minute thermal barrier or ignition barrier described in Section 4.3.1 or Section 4.4.1, respectively, when installation is in accordance with the following:

4.3.2.1 The insulation must be covered on all surfaces with the intumescent coating specified in Section 3.6 at the minimum coating thickness specified in Table 2.

4.3.2.2 The maximum installed thickness of the insulation must not exceed the insulation thickness specified in Table 2.

4.3.3 The intumescent coating must be applied over the insulation in accordance with the coating manufacturer's instructions, ICC-ES evaluation report ESR-3702 for the coating and this report.

4.4 Ignition Barrier – Attics and Crawl Spaces:

4.4.1 Application with a Prescriptive Ignition Barrier: When Heatlok® HFO insulation is installed within attics or crawl spaces where entry is made only for service of utilities, an ignition barrier must be installed in accordance with IBC Section 2603.4.1.6 and 2024 IRC Sections R303.5.3 and R303.5.4 (2021, 2018, 2015, 2012 and 2009 IRC Section R316.5.3 and R316.5.4), as applicable, except when the installation is in accordance with Section 4.4.2. The ignition barrier must be consistent with the requirements for the type of construction required by the applicable code, and must be installed in a manner so that the foam plastic insulation is not exposed. The attic or crawl space area must be separated from the interior of the building by an approved 15-minute thermal barrier as described in Section 4.3.1.

Heatlok® HFO insulation, as described in this section, may be installed in unvented attics in accordance with 2024, 2021, 2018, 2015 and 2012 IRC Section R806.5 (2009 IRC Section R806.4) or 2024, 2021 and 2018 IBC Section 1202.3 (2015 IBC Section 1203.3).

4.4.2 Application without a Prescriptive Ignition Barrier: Where the spray-applied insulation is installed in accordance with Section 4.4.2.1, the following conditions apply:

a) Entry to the attic or crawl space is to only service utilities, and no storage is permitted.

b) There are no interconnected attic or crawl space areas.

c) Air in the attic or crawl space is not circulated to other parts of the building.

d) Attic ventilation is provided when required by 2024, 2021 and 2018 IBC Section 1202.2 (2015, 2012 and 2009 IBC Section 1203.2) or IRC Section R806, except when air-impermeable insulation is permitted in unvented attics in accordance with the 2024, 2021 and 2018 IBC Section 1202.3 (2015 IBC Section 1203.3) or 2024, 2021, 2018, 2015 and 2012 IRC Section R806.5 (2009 IRC Section R806.4), as applicable.

e) Under-floor (crawl space) ventilation is provided when required by 2024, 2021 and 2018 IBC Section 1202.4 [2015 IBC Section 1203.4 (2012 and 2009 IBC Section 1203.3)] or IRC Section R408.1, as applicable.

f) Combustion air is provided in accordance with *International Mechanical Code*® Section 701.

g) If hot work is to be performed, all necessary procedures, precautions and limitations must be observed in accordance with OSHA 1926 Subpart J Standard 1926.352 requirements for hot work (welding / cutting) performed in the vicinity of combustible materials.

h) An installation certificate with the following information must be posted at each entrance:

- Product name and installation thickness.
- Manufacturer name, address and contact information.
- Installation contractor name, address and contact information.
- Attestation that the product(s) have been installed in accordance with the manufacturer's installation instructions and the requirements of the evaluation report.
- A notice that the certificate is not to be removed or altered.
- A list of limitations for the space including the following:
  - Entry to the space is only to service utilities, and no storage is permitted.
  - FIRE SAFETY WARNING: If hot work is to be performed, all necessary procedures, precautions and limitations must be observed in accordance with OSHA 1926 Subpart J Standard 1926.352 requirements for hot work (welding / cutting) performed in the vicinity of combustible materials.

4.4.2.1 Application without a Prescriptive Ignition Barrier: In attics and crawl spaces, Heatlok® HFO insulation may be spray-applied to the underside of roof sheathing and/or rafters, and to vertical surfaces and the underside of floors as described in this section. The thickness of the foam plastic applied to the underside of the overhead surfaces (roof sheathing, rafters and the underside of floors) must not exceed $11^1/_4$ inches (286 mm). The thickness of the foam plastic applied to vertical surfaces must not exceed $7^1/_4$ inches (184 mm). The attic or crawl space must be separated from the interior of the building by an approved thermal barrier as described in Section 4.3.1.

4.4.3 Use on Attic Floors: Heatlok® HFO insulation may be installed at a maximum thickness of $11^1/_4$ inches (286 mm) between and over joists in attic floors. The Heatlok® HFO insulation must be separated from the interior of the building by an approved thermal barrier.

4.5 Exterior Walls of Type I, II, III and IV Construction:

4.5.1 General: When used on exterior walls of Type I, II, III, and IV construction, the assembly must comply with Section 2603.5 of the IBC and this section, and the Heatlok® HFO insulation must be installed at a maximum thickness described in Tables 3 and 4. The potential heat of Heatlok® HFO insulation is 2300 Btu/ft^2 (26 Mj/m^2) per inch of thickness when tested in accordance with NFPA 259.

4.5.2 Specific Wall Assemblies: Wall assemblies complying with Section 4.5 must be as described in Table 3 under the 2018, 2015, 2012 and 2009 IBC and Table 4 under the 2024, 2021, 2018, 2015, 2012 and 2009 IBC.

5.0 CONDITIONS OF USE:

The Heatlok® HFO spray foam insulation described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The products must be installed in accordance with the manufacturer's published installations instructions, this evaluation report and the applicable code. If there are any conflicts between the manufacturer's published installation instructions and this report, this report governs.

5.2 The insulation must be separated from the interior of the building by an approved thermal barrier, except when installation is as described in Sections 4.3.2. A thermal barrier must be installed between the insulation and the interior space above (crawl space) or below (attic).

5.3 The insulation must not exceed the thicknesses noted in this report based upon the intended end use.

5.4 The insulation must be protected from exposure to weather during and after application.

5.5 The insulation must be applied by contractors authorized by Huntsman Building Solutions, LLC.

5.6 Use of the insulation in areas where the probability of termite infestation is "very heavy" must be in accordance with 2024, 2021, 2018, 2015, and 2009 IBC Section 2603.8 (2012 IBC Section 2603.9) or IRC Section 2024 IRC Section R305.4 (2021, 2018, 2015, 2012 and 2009 R318.4), as applicable.

5.7 When use is on exterior walls of buildings of Types I, II, III, and IV under the IBC, construction must be as described in Section 4.5.

5.8 Jobsite certification and labeling of the insulation must comply with 2024, 2021, 2018 or 2015 IRC Sections N1101.10.1 and N1101.10.1.1 (2012 IRC Sections N1101.12.1 and N1101.12.1.1 or 2009 IRC Sections N1101.4 and N1101.4.1) and 2024, 2021, 2018, 2015 and 2012 IECC Sections C303.1.1, C303.1.1.1, R303.1.1 and R303.1.1.1 (2009 IECC Sections 303.1.1 and 303.1.1.1), as applicable.

5.9 When installed in accordance with Section 4.4.2 of this report, the associated installation certificate(s) containing the required information referenced in Section 4.4.2 must be installed at each entrance to the crawlspace or attic, as applicable. The certificate(s) must be red in color and constructed of durable materials, such as metal, plastic, or laminated paper.

5.10 When used in unvented attics in accordance with Section 4.4.2 of this report, installation with a vapor diffusion port in accordance with 2024 and 2021 IBC Section 1202.3, Item 5.2 or 2024, 2021 and 2018 IRC Section R806.5, Item 5.2 is outside the scope of this report.

5.11 The insulation components A and B are produced in Arlington, Texas and Mississauga, Ontario, Canada, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Spray-applied Foam Plastic Insulation (AC377), dated June 2023 (editorially revised June 2024), including reports of tests in accordance with AC377 Appendix X.

6.2 Reports of air leakage testing in accordance with ASTM E283.

6.3 Reports of water vapor transmission test in accordance with ASTM E96.

6.4 Reports of room corner tests in accordance with NFPA 286.

6.5 Reports of fire propagation characteristics tests in accordance with NFPA 285.

6.6 Reports of potential heat of foam plastic tests in accordance with NFPA 259.

6.7 Supplementary fire engineering analysis.

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4073) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.

7.2 In addition, components of the insulation are identified with the manufacturer's name [Huntsman Building Solutions, LLC], address and telephone number; the product name (Heatlok® HFO B-side or A-PDMI); use instructions; the density; the flame-spread and smoke-developed indices; and the date of manufacture; thermal resistance values.

The International Fireproof Technology, Inc. / Paint To Protect, Inc. DC 315 intumescent coating is identified with the manufacturer's name, the product trade name, use instructions and ICC-ES evaluation report number ESR-3702.

7.3 The report holder's contact information is the following:

HUNTSMAN BUILDING SOLUTIONS, LLC
3315 EAST DIVISION STREET
ARLINGTON, TEXAS 76011
(817) 640-4900
info@huntsmanbuilds.com
www.huntsmanbuilds.com

TABLE 1—THERMAL RESISTANCE (*R*-VALUES)

THICKNESS (inches)	*R*-VALUE (°F.ft^2.h/Btu)	THICKNESS (inches)	*R*-VALUE (°F.ft^2.h/Btu)
1.0	6.3	7.0	52
1.5	10	7.5	56
2.0	14	8.0	60
2.5	18	8.5	64
3.0	22	9.0	67
3.5	26	9.5	71
4.0	30	10.0	75
4.5	34	10.5	79
5.0	37	11.0	82
5.5	41	11.5	86
6.0	45	12.0	90

For **SI:** 1 inch = 25.4 mm; 1°F.ft^2.h/Btu = 0.176 110°K.m^2/W.

[1]*R*-values are calculated based on tested *K*-values at 1- and 4-inch thicknesses.

TABLE 2—USE OF INSULATION WITHOUT A PRESCRIPTIVE THERMAL BARRIER (TESTED IN ACCORDANCE WITH NFPA 286)

INSULATION TYPE	MAXIMUM THICKNESS (in.) (Vertical Surfaces)	MAXIMUM THICKNESS (in.) (Overhead Surfaces)	COATING TYPE & MINIMUM THICKNESS[2,3] (Applied to all Foam Surfaces)	MINIMUM APPLICATION RATE OF COATING[2]
Heatlok HFO	$7^1/_2$	$11^1/_2$	DC 315 18 mils WFT 12 mils DFT	1.125 gal / 100 ft^2

For **SI:** 1 inch = 25.4 mm; 1 mil = 0.0254 mm; 1 gallon = 3.38 L; 1 ft^2 = 0.93 m^2.

Notes: [1]See Section [4.3.2.]
[2]DFT = Dry Film Thickness; WFT = Wet Film Thickness
[3]See Section 3.6 .

TABLE 3—NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES – WALL CAVITY INSULATION [1,2]

WALL COMPONENT	MATERIALS
Base Wall System – Use either 1, 2 or 3	1 – Concrete wall. 2 – Concrete masonry wall. 3 –Minimum $3^5/_8$-inch-deep (92 mm), No. 25 gage, C-shaped steel studs, spaced a maximum of 24 inches on center with lateral bracing every 4 feet (1219 mm) as required by code. Interior sheathing must be 1 layer $^5/_8$-inch-thick (19.1 mm) Type X gypsum wallboard complying with ASTM C1396. Exterior Sheathing shall be a described in Exterior Sheathing below.
Floorline Firestopping	Minimum 4 pcf mineral wool in each stud cavity at each floorline, attached with Z-clips. Thickness must match stud cavity depth.
Perimeter Fire Barrier System	Perimeter fire barrier system complying with 2018, 2015 and 2012 IBC Section 715.4 (2009 IBC Section 714.4) must be installed to fill the void between the edge of the concrete floor slab and the interior surface of the exterior wall assembly.
Cavity / Interior Insulation – Use either 1, 2, 3, 4 or 5; (Note: Cavity Insulation No. 3 may be combined with No. 4 or Cavity Insulation No. 3 may be combined with No. 5 to achieve depth of insulation required)	1 – None. 2 – $3^5/_8$ inches (92 mm) of Heatlok® HFO applied to the interior surface of Base Wall System 1 or 2[a]. 3 – Full cavity depth not exceeding $3^5/_8$ inches (92 mm) of Heatlok® HFO. 3 – Any insulation qualified as noncombustible in accordance with ASTM E136. 4 – Glass fiber batt insulation[b]. 5 – Mineral fiber insulation[b]. [a] Fireblocking in accordance with 2018, 2015 and 2012 IBC Section 718 (2009 IBC Section 717) and thermal barrier material requirements in accordance with IBC Section 2603.4 shall be met for Base Wall Systems 1 and 2, when a combustible concealed space is present on interior side of the exterior wall assembly. [b] Insulation must comply with the applicable requirements of 2018, 2015 or 2012 IBC Section 720.2 (2009 IBC Section 719.2).
Exterior Sheathing – Only for Base Wall System No.3 –	Minimum $^5/_8$-inch-thick (19.1 mm) glass mat gypsum sheathing complying with ASTM C1177. Sheathing shall be attached with No. 6, $1^1/_4$-inch-long (32 mm) self-tapping screws located 8 inches (203 mm) on center along the perimeter and 12 inches 302 mm) on center in the field of wallboard. Joints must be taped and treated with joint compound in accordance with ASTM C840 or GA-216.
Exterior Wall Covering – Use either 1 or 2	1 – Any noncombustible exterior wall covering material using any standard installation technique (Base Wall 1 or 2) 2 – Any noncombustible exterior wall covering system with a combustible WRB that has successfully been tested in accordance with NFPA 285. (Base Wall 3) Details of the exterior wall covering must be provided to the code official by the report holder, designer or specifier, with an engineering analysis demonstrating that (1) the exterior wall covering conforms to ASTM E136 and (2) the addition of the wall covering and/or water-resistive barrier to the assembly described in this section does not negatively affect conformance of the assembly with the requirements of IBC Section 2603.5.

[1] When used on exterior walls of Types I, II, III or IV construction, the specific wall assembly must comply with 2018, 2015, 2012 and 2009 IBC Section 2603.5.

[2] The exterior wall assemblies described in Table 3 comply with 2018, 2015, 2012 and 2009 IBC Section 2603.5.5.

TABLE 4—NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES – WALL CAVITY INSULATION [1,2]

WALL COMPONENT	MATERIALS
Base Wall System –	1–Minimum $3^5/_8$-inch-deep (92 mm), No. 20 gage, C-shaped steel studs, spaced a maximum of 24 inches (610 mm) on center with lateral bracing every 4 feet (1219 mm) as required by code. Interior sheathing must be 1 layer $^5/_8$-inch-thick (19.1 mm) Type X gypsum wallboard complying with ASTM C1396. Exterior Sheathing shall be a described in Exterior Sheathing below.
Floorline Firestopping	Minimum 4 pcf mineral wool in each stud cavity at each floorline, attached with Z-clips. Thickness must match stud cavity depth.
Perimeter Fire Barrier System	Perimeter fire barrier system complying with 2024, 2021, 2018, 2015 and 2012 IBC Section 715.4 (2009 IBC Section 714.4) must be installed to fill the void between the edge of the concrete floor slab and the interior surface of the exterior wall assembly.
Cavity / Interior Insulation	None
Exterior Sheathing	Minimum ½-inch-thick (12.7 mm) glass mat gypsum sheathing complying with ASTM C1177. Sheathing shall be attached with No. 6, $1^1/_4$-inch-long (32 mm) self-tapping screws located 8 inches (203 mm) on center along the perimeter and 12 inches (302 mm) on center in the field of wallboard. Joints must be taped and treated with joint compound in accordance with ASTM C840 or GA-216.
Exterior Insulation	Maximum 8-inch-thick (203 mm) Heatlok® HFO insulation.
Exterior Wall Covering	Nominal 4-inch- thick (101.6 mm) common clay brick installed in running bond pattern in accordance with the code with a 1-inch (25.4 mm) air gap between back of brick and exterior insulation. Window opening must be flashed with minimum 0.05-inch-thick (1.3 mm) steel flashing.

For **SI:** 1 inch = 25.4 mm.

[1] When used on exterior walls of Types I, II, III or IV construction, the specific wall assembly must comply with 2024, 2021,2018, 2015, 2012 and 2009 IBC Section 2603.5.

[2] The exterior wall assemblies described in Table 4 comply with 2024, 2021, 2018, 2015, 2012 and 2009 IBC Section 2603.5.5.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 21 00—Thermal Insulation

REPORT HOLDER:

HUNTSMAN BUILDING SOLUTIONS, LLC

EVALUATION SUBJECT:

HEATLOK® HFO HIGH LIFT SPRAY FOAM INSULATION

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the Heatlok® HFO High Lift Spray Foam Insulation, described in ICC-ES evaluation report ESR-4073, has also been evaluated for the codes noted below.

Applicable code editions:

- 2025 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of the State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2025 *California Residential Code* (CRC)
- 2025 *California Energy Code* (CEC)

2.0 CONCLUSIONS

2.1 CBC and CRC:

The Heatlok® HFO High Lift Spray Foam Insulation, described in Sections 2.0 through 7.0 of the evaluation report ESR-4073, complies with the 2025 CBC and CRC, provided the design and installation are in accordance with the 2024 *International Building Code®* (IBC) and 2024 *International Residential Code®* (IRC) provisions noted in the evaluation report.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CEC:

The Heatlok® HFO High Lift Spray Foam Insulation, described in Sections 2.0 through 7.0 of the evaluation report ESR-4073, complies with the 2025 CEC, provided the design and installation are in accordance with the 2024 *International Building Code®* (IBC) provisions noted in the evaluation report.

2.2.1 Conditions of Use:

In accordance with Section 110.8 of the 2025 California Energy Code, verification of certification by the Department of Consumer Affairs, Bureau of Household Goods and Services, must be provided to the code official, demonstrating that the insulation conductive thermal performance is approved pursuant to the California Code of Regulations, Title 24, Part 12, Chapters 12-13, Article 3, "Standards for Insulating Material." Certification can be verified with the DCA Bureau of Household Goods and Services using the following link to the bureau's Directory of Certified Insulation Materials: https://bhgs.dca.ca.gov/consumers/ti_directory.pdf

This supplement expires concurrently with the evaluation report, reissued August 2026.

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

Copyright © 2026 ICC Evaluation Service, LLC. All rights reserved.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 21 00—Thermal Insulation

REPORT HOLDER:

HUNTSMAN BUILDING SOLUTIONS, LLC

EVALUATION SUBJECT:

HEATLOK® HFO HIGH LIFT SPRAY FOAM INSULATION

1.0 EVALUATION SCOPE

Conformance to the following:

Seal and Insulate with ENERGY STAR Program, *Definitions and Testing Requirements for Residential Insulation, Version 1.0*

Properties evaluated:

- Thermal resistance
- Surface-burning characteristics

2.0 PURPOSE OF THIS SUPPLEMENT

This supplement is issued to certify that the Heatlok® HFO High Lift Spray Foam Insulation described in Sections 2.0 through 7.0 of the evaluation report (ESR-4073) have been reviewed for compliance with the applicable codes noted in Section 1.0 of the evaluation report and with the requirements set forth in the Seal and Insulate with ENERGY STAR Program, *Definitions and Testing Requirements for Residential Insulation, Version 1.0*. The insulation product covered by this supplement is defined as "Spray Foam Insulation."

The requirements for testing laboratory qualifications and product sampling, as well as the specific material and test standards and editions used in this evaluation, are as set forth in the applicable documentation noted in Section 6.0 of the evaluation report.

ICC-ES, the Certification Body, has verified that the test results were issued by laboratories accredited as required by the Conditions and Criteria for Recognition of Insulation Certification Bodies for the ENERGY STAR Program.

3.0 DEFINITIONS

The following definitions are from the Definitions and Testing Requirements for Residential Insulation, Version 1.0, and are applicable to the subject of this report.

3.1 General Definition:

Insulation: Any material mainly used to slow down heat flow. It may be mineral or organic, fibrous, cellular, or reflective (aluminum foil). It may be in rigid, semi-rigid, flexible, or loose-fill form.

Residential Buildings: Single family homes (attached or unattached), multifamily buildings with 4 units or fewer, or multifamily buildings (e.g., condominiums and apartments) with 3 stories or less in height above grade.

3.2 Insulation Product Definition:

Spray or Pour Foam Insulation: A thermal insulating material that is sprayed or poured (as a gel or foamy liquid) into place and expands or sets into a cellular foam and cures at the point of installation through a chemical reaction. Foamed materials include, but are not limited to polyurethane, polyisocyanurate, phenolic, and cementitious insulation.

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

Copyright © 2026 ICC Evaluation Service, LLC. All rights reserved.

3.3 Insulation Performance Definitions:

***R*-value:** The inverse of the time rate of heat flow through a body from one of its bounding surfaces to the other surface for a unit temperature difference between the two surfaces, under steady state conditions, per unit area. For the purposes of the Seal and Insulate with ENERGY STAR program, only Imperial units will be accepted [(h·ft^2·°F)/Btu].

Smoke-Development Index: The characteristic of a material to emit smoke when exposed to flame or fire compared to heptane and inorganic cement.

Flame-Spread Index: The characteristic of a material to resist the spreading of flames when exposed to flame or fire compared to red oak and inorganic cement.

4.0 Insulation Performance:

4.1 Thermal Resistance:

The Heatlok® HFO High Lift Spray Foam Insulation has the thermal resistance *R*-values as noted in Table 1 of ESR-4073, based upon testing.

4.2 Surface Burning Characteristics:

Smoke-Development Index: See Section 3.2 of ESR-4073 for the smoke-development index of the insulation material.

Flame-Spread Index: See Section 3.2 of ESR-4073 for the flame-spread index of the insulation material.

5.0 Installation:

Installation of the Heatlok® HFO High Lift Spray Foam must be in accordance with the requirements set forth in Sections 4.0 and 5.0 (as applicable) of ESR-4073 and Huntsman Building Solution's Installation Instructions dated October 8, 2024, which are reprinted on pages 11 through 31. The installation instructions address use in the following locations of the residence:

- Above grade wall (inside)
- Above grade wall (outside)
- Below grade wall (inside)
- Crawlspace wall (under house)
- Roof or rafters (cathedral ceiling)
- Attic floor
- Attic knee wall
- Ceiling of basement or crawlspace

This supplement expires concurrently with the evaluation report, reissued August 2026.

HUNTSMAN
BUILDING SOLUTIONS

RESIDENTIAL SPRAY FOAM PRODUCT APPLICATION GUIDE FOR HOMEOWNERS

OVERVIEW OF HEALTH AND SAFETY FACTORS TO TAKE INTO ACCOUNT WHEN USING SPRAY POLYURETHANE FOAM (SPF)
This application guide pertains to the spray polyurethane foam insulation products offered by Huntsman Building Solutions for residential use. It serves as a general reference for homeowners. Contractors are advised to consult the complete Application Guides for each specific product to obtain detailed installation parameters and requirements. When applying SPF, it is essential to prioritize health and safety. The subsequent sections address potential hazards associated with SPF application, the proper handling of chemical components, safety practices on the job site, and the necessary personal protective equipment for handling and installing SPF chemicals. This information is derived from the Center for Polyurethane Industries' Guidance on Best Practices for the Installation of Spray Polyurethane Foam, which can be accessed at https://www.americanchemistry.com. For more extensive information regarding the health and safety considerations of SPF, additional resources, guidance documents, and training materials are available at www.spraypolyurethane.org.

QUALITY ASSURANCE – INSTALLER QUALIFICATIONS
Only contractors authorized by Huntsman Building Solutions in the art of applying spray polyurethane foam insulation can install the products.

OVERVIEW OF SPRAY POLYURETHANE FOAM'S COMPONENT MATERIALS HEALTH RISKS
Spray polyurethane foam insulation is created through the combination of methylene diphenyl diisocyanate (MDI) and a polyol mixture. Given that these materials may pose health risks, only contractors approved by Huntsman Building Solutions in the application of spray polyurethane foam insulation, and equipped with the appropriate personal protective equipment (PPE) as outlined below, are permitted to handle and install these products. For a visual summary of the required PPE for applicators and assistants, please refer to Figure 1. For further details regarding potential health effects, consult the Material Safety Data Sheets (MSDS) for A-PMDI and B-Side Resin provided by HBS.

RESPIRATORY PROTECTION
In the course of application, the concentration of airborne chemicals may surpass the established exposure guidelines. Consequently, access to the work area and the handling of raw materials is restricted to trained and authorized contractors equipped with appropriate personal protective equipment (PPE). Indoor applications generally necessitate the use of Supplied Air Respirators (SAR), while outdoor applications may call for Air Purifying Respirators. For additional guidance on selecting respirators, please consult the NIOSH Respirator Decision Logic, which is accessible online at www.cdc.gov/niosh/docs/2005-100/pdfs/05-100.pdf.

EYE PROTECTION
It is essential to wear suitable eye protection to safeguard the eyes from accidental splashes of liquids, reactive foams, and other aerosols and particulates that may be encountered during application. When dealing with liquid SPF chemicals in open containers, workers should utilize safety goggles or a combination of safety goggles and face shields to shield their eyes. Additionally, during the application of SPF, eye protection can be enhanced by using a hooded or full-face respirator. Furthermore, having a portable eyewash station readily accessible in the rig or truck, as well as in the immediate work area, and ensuring it is properly covered, can provide additional safety.

CLOTHING & GLOVES
Workers are required to don suitable protective attire whenever there is a risk of direct exposure to SPF component chemicals, particularly during the handling of raw materials and the application of SPF. Applicators and their assistants generally utilize disposable coveralls to prevent spray and mist from coming into contact with their skin and clothing. Fabric gloves that are completely coated with nitrile, neoprene, butyl, or PVC are usually effective in safeguarding SPF applicators. To ensure adequate skin protection, personal protective equipment (PPE) must be worn in a way that leaves no skin exposed.

RE-ENTRY & RE-OCCUPANCY TIMES FOR INTERIOR APPLICATIONS
Only trained, approved and properly protected workers can access the work area during application and for a determined period afterwards. The work area shall be ventilated in accordance with applicable guidance, notably the US Environmental Protection Agency (EPA)'s ''Ventilation Guidance for Spray Polyurethane Foam Application'', the American Chemistry Council's Center for the Polyurethanes Industry's "Good Practices – Engineering Controls and Ventilation", as well as Federal Regulations for Safety and Health during Construction. Re-entry periods for sprayers, helpers, informed trade workers and contractors will vary depending on the product and ventilation rate being used. For homeowners and building occupants, Huntsman Building Solutions recommends a 24-hour re-occupancy time after the application of SPF when appropriate ventilation is used. Homeowners are encouraged to visit www.spraypolyurethane.org and www.huntsmanbuildingsolutions.com for up to date information about spray foam application standards.

Figure 1 – PPE Guidance for applicators and helpers

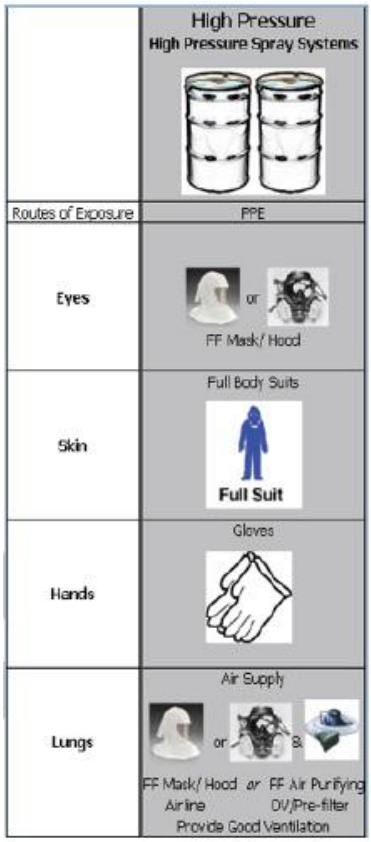


Figure 1 Source: Center for Polyurethane Industries' Guidance on Best Practices for the Installation of Spray Polyurethane Foam

GENERAL PROCESSING GUIDELINE

HBS spray polyurethane foam (SPF) insulation requires heat from the proportioner to complete the chemical reactions necessary to create foam meeting the specifications on the Technical DataSheet. Fully functional primary heaters and hose heat are needed to process the materials. Please consult the Huntsman Building Solutions Technical Service Department for further assistance.

SUBSTRATE PREPARATION

All surfaces to be sprayed must be free of oil, grease, waxes, rust scale, loose dirt and water. In addition, the substrate must be structurally sound. The moisture content ofwood substrates must not exceed 19% before foam is applied. Some metal surfaces may require sandblasting and priming prior to foam spraying to ensure adequate adhesion. Consult a Huntsman Building Solutions Technical Service Representative for additional information on surface preparation. When in doubt about the potential foradhesion to a substrate, build a mock-up and spray the foam under similar conditions to that expected in the field, then test for adhesion and cohesion.

Applying foam insulation to concrete:

- Concrete and masonry must be fully cured and “bone-dry.”
- Oils – wash with detergent and allow to dry
- Salt or calcium deposits – wash with detergent and allow to dry
- Muriatic acid can be an effective cleaning agent for preparing concrete substrates prior to spraying foam. Follow the label instructions for dilution and application.

Applying foam insulation to galvanized steel:

- Oils or passivators – clean with solvent, wash with water based cleaner/degreaser, brush blasting may be necessary.
- Do not use hydrocarbon solvents like mineral spirits to clean galvanized metal.
- White rust – wire brushing or scrubbing with a stiff brush or abrasive pad.
- Prime using a DTM (direct to metal) bonding primer suitable for galvanized metal.

Applying foam over previously painted surface:

- Glossy surfaces – sand or abrade surfaces.

Applying foam over bare steel/metal:

- Rust scales – wire brushing or scrubbing with a stiff brush or abrasive pad.
- Corrosion – clean then prime with suitable bonding primer.
- Glossy or very smooth surfaces – sand or abrade surfaces.

Applying foam over stainless steel:

- Oils – wash with minerals spirits and then prime with a suitable primer. Brush blasting, sanding or abrading may be necessary as foam requires a mechanical bond.

Applying foam over aluminum:

- Oils, Hydrated Alumina – clean with solvent, never use a caustic solution, and prime with a high adhesion bonding primer suitable for aluminum.

Applying foam over glass:

- Oils – wash with detergent
- Glossy or very smooth surfaces – sand or abrade surfaces.
- UV degradation – prime glass surface with suitable primer.

Asphalt and Tar:

- Solvents – allow to cure and for solvent to evaporate, prime with suitable primer.

Rigid Polyurethane Foam:

- UV degradation – remove surface of foam with wire brush or wire grinding wheel.

Polypropylene, polyethylene, some silicones and some ceramic surfaces:

- Spray polyurethane foam may not adhere without a mechanical attachment to these substrates.

FOAM APPLICATION

In preparation for spraying, workers will perform an off-target test spray to verify the processing pressure, primary heater and hose temperature settings. Foam application temperatures and pressures can vary widely depending on temperature, humidity, elevation, substrate, equipment and other factors. While processing,the applicator must continuously observe the characteristics of the sprayed foam and adjust processing temperatures and pressures to maintain proper cell structure, adhesion, cohesion and general foam quality.

Spraying sections too thick, too fast may result in charring of the foam, or in extreme conditions a fire may result. Therefore, the maximum thickness per pass and proper wait times between passes should be respected to avoid fire hazards, including spontaneous combustion, resulting from excessive heat generation. Thin foam layers often result in poor physical properties, reduced coverage and poor chemical reaction due to low exothermic heat generated from the chemical reaction, which is needed to create proper cell formation. When multiple layers are necessary to achieve the proper R-value, cross-hatching should be done. This technique aids in proper cohesion of passes.

The temperature of the substrate has a major effect on the foam density and adhesion. Certain compromises are necessary to spray in cold weather. The “COLD WEATHER PROCESSING” section offers more information on this topic. If in doubt about the substrate or the ambient conditions, a trial application should be done tocheck foam quality and spray performance. Water on the substrate from rain, fog, condensation, etc. will react chemically with the isocyanate, adversely affecting the physical properties, performance and adhesion of the foam. Application on substrates with high relative humidity can also adversely affect the physical properties of the foam.

EXTERIOR FOAM APPLICATION

Climatic conditions are an important factor that should be considered when preparing to apply foam to the exterior of a structure. Ambient and substrate temperatures should be monitored. Foam should only be applied when ambient and substrate temperatures are inside the range for the foam system being used. Foam should only be applied to substrates with less than 19% moisture content. It is best to apply foam when the humidity is less than 80% and the wind is less than 10 mph to maintain properadhesion. Pay close attention to the temperature of the substrate when applying foam to the exterior of a structure.

Use windscreens downwind, the foam can travel long distances because the particles may separate when airborne. Windscreens can also be configured around scaffolding and man-lifts. It may also be necessary to enclose and preheat the area to the acceptable temperature range for the foam system being used. In preparation forspraying, a test spray should be performed to ensure that the proper processing temperatures and pressures are set. The specified settings per the TDS are general starting parameters, it is important to observe the foam and the reaction time of the reacting mass and make additional adjustments as needed.

COLD STORAGE APPLICATIONS

Cold storage facilities require vapor barriers. Vapor barriers are typically applied to the warm side of the insulation system. Closed-cell spray foam is classified as a class II vapor barrier above a certain thickness. When spraying in freezers, use 1” (25mm) lift passes. Thicker passes in deep freezers can lead to severe cracking. Freezers require closed-cell 2 lb foam, using lower density foam or an over catalyzed foam can also lead to severe cracking. Proper surface preparation may be necessary prior to the application of closed-cell spray foam in cold storage applications. Contact the Huntsman Building Solutions Technical Service Department for more information about cold storage applications.

Materials used to construct refrigerated rooms are affected by temperature changes, like all common building materials. Gradual lowering of the temperature is designed to eliminate problems stemming from these temperature changes while at the same time withdrawing construction moisture, and testing the vapor barrier and mechanical system.

HOW TO AVOID OVER SPRAY

Over spray with spray foam occurs for a variety of reasons such as spraying the product too cool, applying the product to a substrate that is too cold, not spraying perpendicular to the surface, and high wind conditions. Flash coating to warm the surface is not a recommended practice and may create unwanted over spray. Flash coats are very thin and may not have enough exothermic reaction present to properly cure. Excessive over spray may lead to blisters or delaminating of additional passes of foam or coating. Over spray can travel long distances and may adhere to objects left unprotected such as windows, buildings and automobiles. Protect anything that should not get foamed.

LIMITATIONS OF USE

Spray foam insulation described in this Application Guide is a combustible material with a maximum continuous service temperature of 180°F (82°C). Spray foam insulation should not be used in direct contact with chimneys, flues, steam pipes, recessed lighting or other heat emitting devices. Consult the listing or label of such materials for clearance to combustibles. A minimum clearance of 3” (76mm) should be maintained when applying around recessed lighting or other heat emitting devices (IRC Section R302.14), and it’s important to avoid spraying inside electric outlets or junction boxes. Where factory-built chimneys pass through insulated assemblies, an insulation shield made of steel having a thickness of not less than 0.0187 inch (No 26 gage) shall be installed to provide clearance between the chimney and the insulation. Insulation shields provided as part of a listed chimney system shall be installed in accordance with the chimney manufacturer’s installation instructions (IRC Section 1005.8). For applications for spray-applied insulation around ductwork, attic hatches, pull-down stairways, windows, pipes or plumbing see to the applicable code. Properly prep and secure any material or surface that should not get insulated. If in doubt about the substrate temperature or surface conditions, a trial application should be conducted to check foam quality and spray performance. Water on the surface from rain, fog, condensation, etc. will react chemically with the isocyanate, adversely affecting the foam and physical properties, particularly adhesion.

COLD WEATHER PROCESSING

Low temperatures affect the foaming process in two ways.

1. Chemical reactions can be slowed due to reduced exothermic energy within the expanding mass, which could lead to poor cell structure, dripping and voids from slowplastic formation
2. This reduced temperature often leads to reduced yield.

The temperature and type of substrate has a greater influence on the quality of the foam than the temperature of the air because the rate of heat transfer from liquid to air is much slower than the rate from liquid to substrate. If the substrate temperature is too low, or it is a highly conductive material such as metal or concrete, the heat produced by the chemical reaction may be drawn into the substrate so rapidly that plastic formation and cell generation becomes very slow, thus reducing yield. It is not a good practice to use the heated chemicals to warm the surface (flash coat). Instead, if the substrate to be sprayed is too cold to produce proper foam, the substrate should be heated using an indirect-fired heater or the foam should be sprayed on a warmer substrate on a warmer day. No open flame or direct heating is permitted during the spraying process.

THERMAL AND UV PROTECTION

Combustible spray foam insulation must be separated from the living space by a thermal barrier in accordance with applicable codes. This product must not be used when the continuous service temperature of the substrate or foam is above 180°F (82°C). Spray foam must be protected fromdirect exposure to sunlight; incidental exposure during construction may cause surface discoloration but will not degrade the performance of the foam.

VENTILATION

Ventilate during spray foam application and for a minimum of 24 hours following the application or until no objectionable odor remains. If not adequately ventilated duringand shortly after application, the odors can be absorbed in adjacent materials such as fibrous insulation, wood framing and household or stored items. Sheet plastic should be placed over any absorbent material that cannot be removed during the spray and ventilation operation.

CHEMICAL STORAGE

Spray foam insulation's B-side resin is packaged in totes or in closed-head metal drums. A-PMDI is packaged in totes or in closed-head metal drums. Products' B-side resin and A-side isocyanate should be stored within their respective temperature ranges as described in Table 1 below. The storage temperature for containers of chemicals used to make spray foam insulation is very important. Installers storing these chemicals should refer to manufacturer information to confirm proper storage practices. The materials should be kept away from direct sunlight. The transfer pump should be removed and the bungs of the A-PMDI and B-side drum tightly closed after use. B-side resin's shelf life should be respected. See the products' B-side SDS for additional information.

LOCATIONS/APPLICATIONS

HBS offers closed-cell and open-cell spray foam products that can be used as a nonstructural thermal insulating material in some or all Types of construction (Types I, II, III, IV & V) under the IBC, and in dwellings under the IRC. Please refer to the appropriate product ESR evaluation report for the specific Types of construction each product can be used in. Closed-cell spray foam insulation can be used installed inside or outside. Such applications include, but are not limited to, external walls, within wall cavities, floor/ceiling assemblies, attics and crawl spaces when installed in accordance with applicable codes. Open-cell spray foam insulation is only intended to be used indoors and above grade. Its applications include within wall cavities, floor/ceiling assemblies and attics when installed in accordance with applicable codes. Local codes should be consulted regarding appropriate thermal and ignition barriers for use with the product where applicable. For additional information, refer to the products' respective Evaluation Service Reports on Huntsman Building Solutions' website.

UNVENTED CRAWL SPACE APPLICATIONS

HBS spray foam insulation shall be applied directly to the crawl space walls, bands of the floor system and in direct contact with framing materials. Do not use separator sheets between the insulation and the concrete/block masonry wall, as this will provide paths for air leakage around the insulated layer. Building Codes require that exposed earth in an unvented crawl space be covered with a continuous Class I Vapor Retarder to avoid excessive moisture loads in the crawl space. The Class I Vapor retarder shall be sealed or taped, its edges shall extend at least 6'' up the crawl space wall and shall be attached and sealed to the wall and spray foam applied overtop to prevent any air leakage. Refer to Figure 2 for typical details.

TERMITE INSPECTION GAP

The use of insulation in "very heavy" termite infestation probability areas shall comply with 2021 IBC Section 2603.8 & 2021 IRC Section R318.4. As such, in areas where the probability of termite infestation is "very heavy", extruded and expanded polystyrene, polyisocyanurate and other foam plastics shall not be installed on the exterior face or under interior or exterior foundation walls or slab foundations located below grade. The clearance between foam plastics installed above grade and exposed earth shall be not less than 6 inches (152mm). Refer to local codes that may require a gap at the top of the foundation walls for termite inspection purposes. The SPF & Pest Management industry developed a solution to maintain building performance and permit visual termite inspection. One solution that provides the inspection gap (no foam) on the top (if required) and 6'' gap on the bottom of the foundation wall is not to install spray foam over the band joist and mudsill. In this case, the framing members must be caulked at all the joints between the band joists, floor joists, the floor sheathing above, and to the top of the foundation, as can be seen on Figure 3. A non-rigid removable insulation would then be placed between the joists to insulate the band joist and the mudsill. This will allow for the periodic inspections required to maintain termite warranties/bonds. Moreover, in very heavy termite infestation areas, it is not recommended to install spray foam directly on the soil as it may be an at-risk area that would require access for visual inspection.

Figure 2

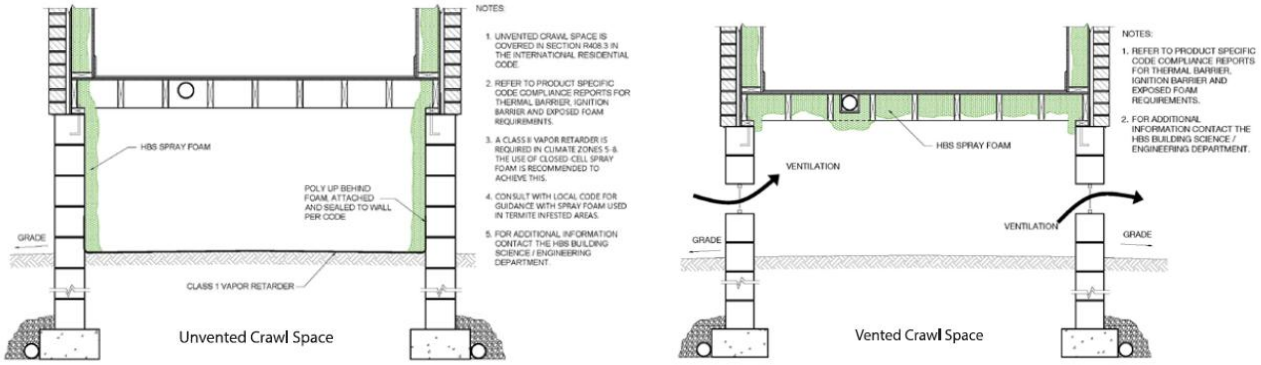
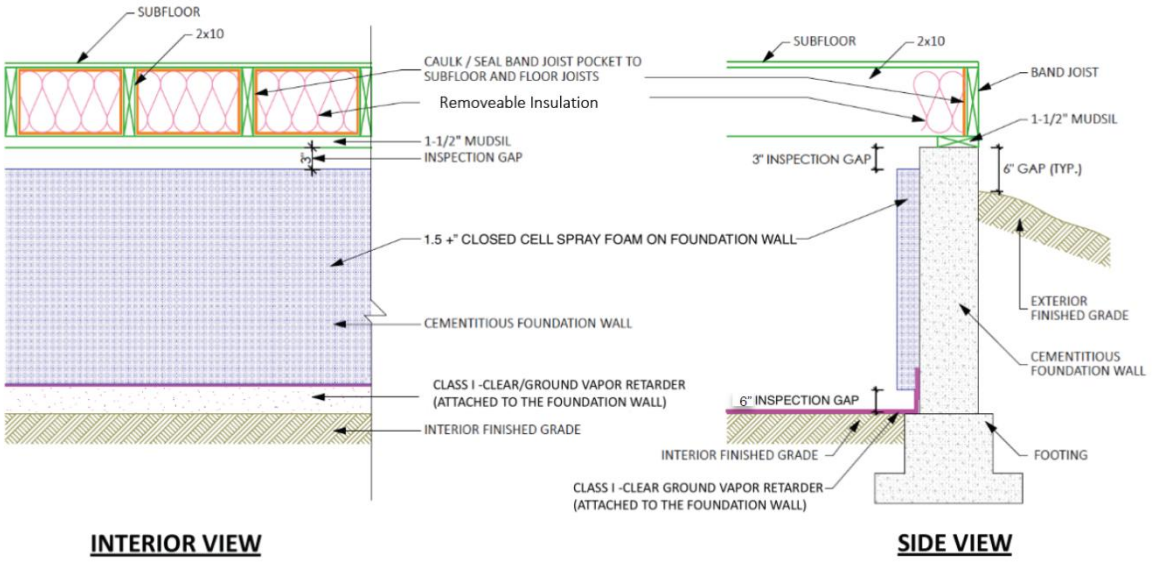


Figure 3 – Unvented/Sealed Crawlspace with 1.5'' + Closed-Cell Spray Foam on Foundation Wall and Removable Insulation on Band Joist



FOR MORE INFORMATION

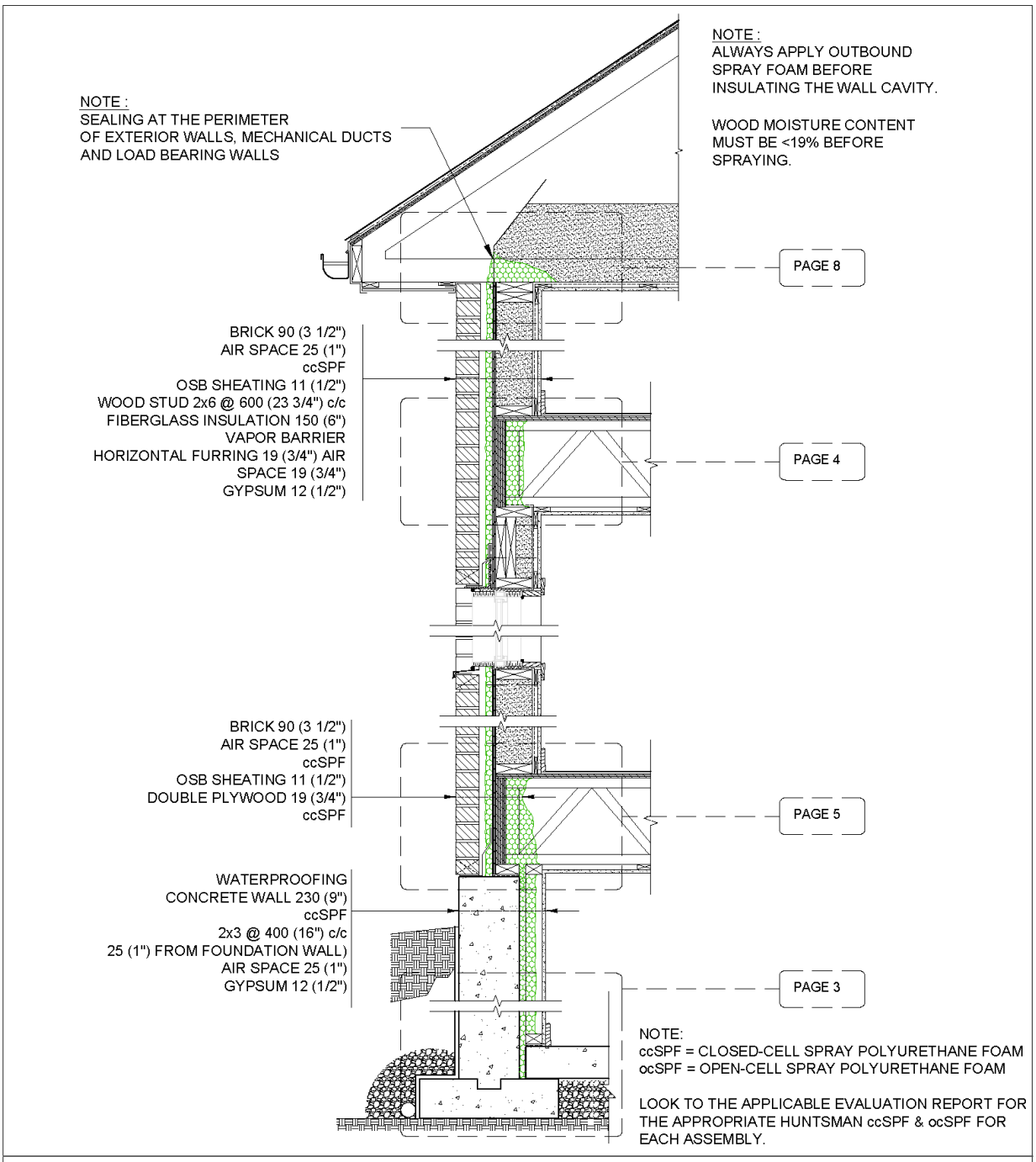
Visit www.huntsmanbuildingsolutions.com or call 817-640-4900 for more information on health, safety and environmental protection with respect to polyurethanechemicals.

Disclaimer: The information herein is to assist customers in determining whether our products are suitable for their applications. We request that customers inspect andtest our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, expressed or implied, including any warrantyof merchantability or fitness, nor is protection from any law or patent inferred. All patent rights are reserved. The foam product is combustible and must be protected inaccordance with applicable codes. Protect from direct flame and spark contact, around hot work for example. The exclusive remedy for all proven claims is replacement of our materials.

APPENDIX A

Construction drawings representing typical assembly details and locations where spray foam is certified to be used in residential buildings.

10003 Woodloch Forest Drive
The Woodlands, Texas 77380
Phone: (817) 640-4900
www.huntsmanbuildingsolutions.com



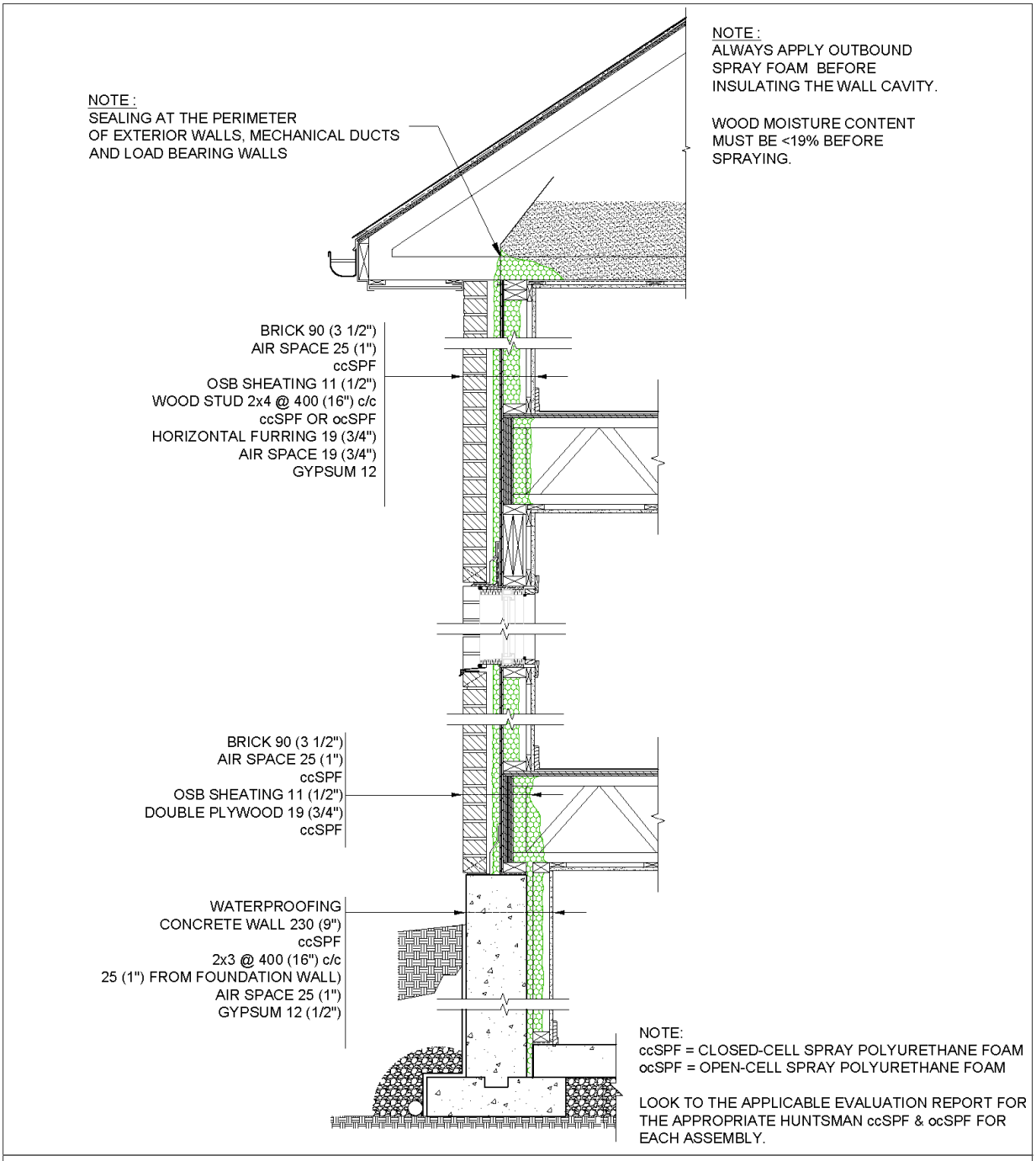
2x6 WALL - BRICK
SYSTEM SECTION

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:20
Page 1
08-09-2023

® HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



2x4 WALL - BRICK
SYSTEM SECTION

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

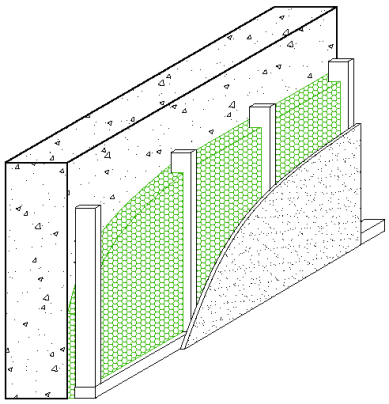
TYPICAL DETAIL
WOOD FRAMING

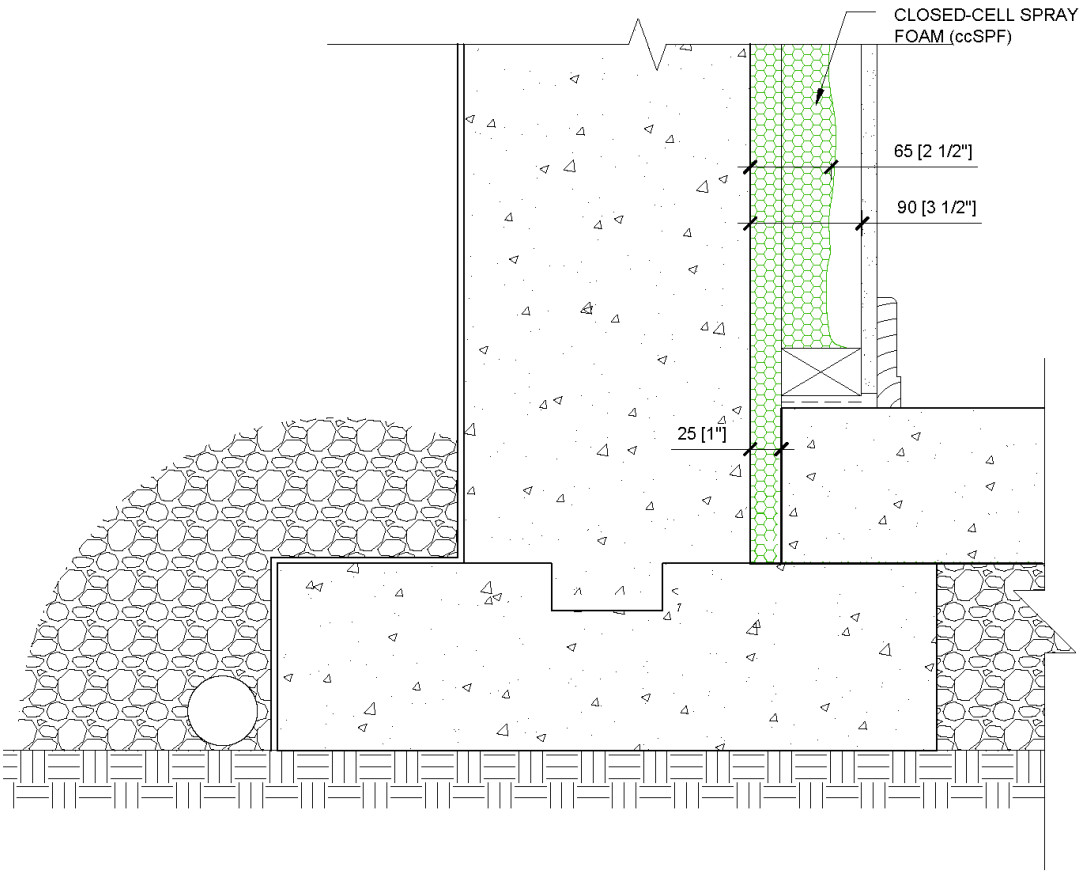
Scale: 1:20

Page 2

08-09-2023

® HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.





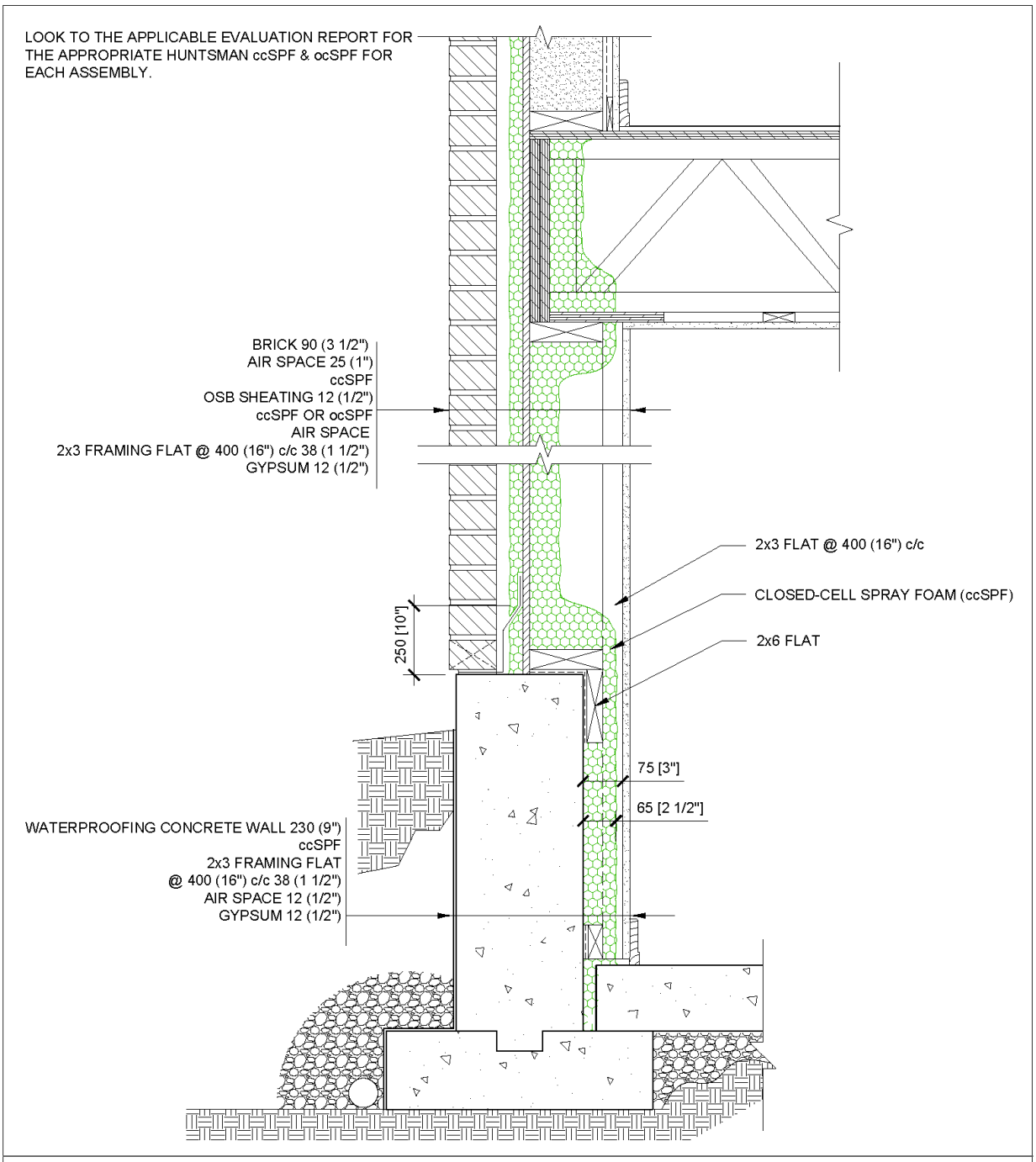
FOUNDATION

HUNTSMAN BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:5
Page 3
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



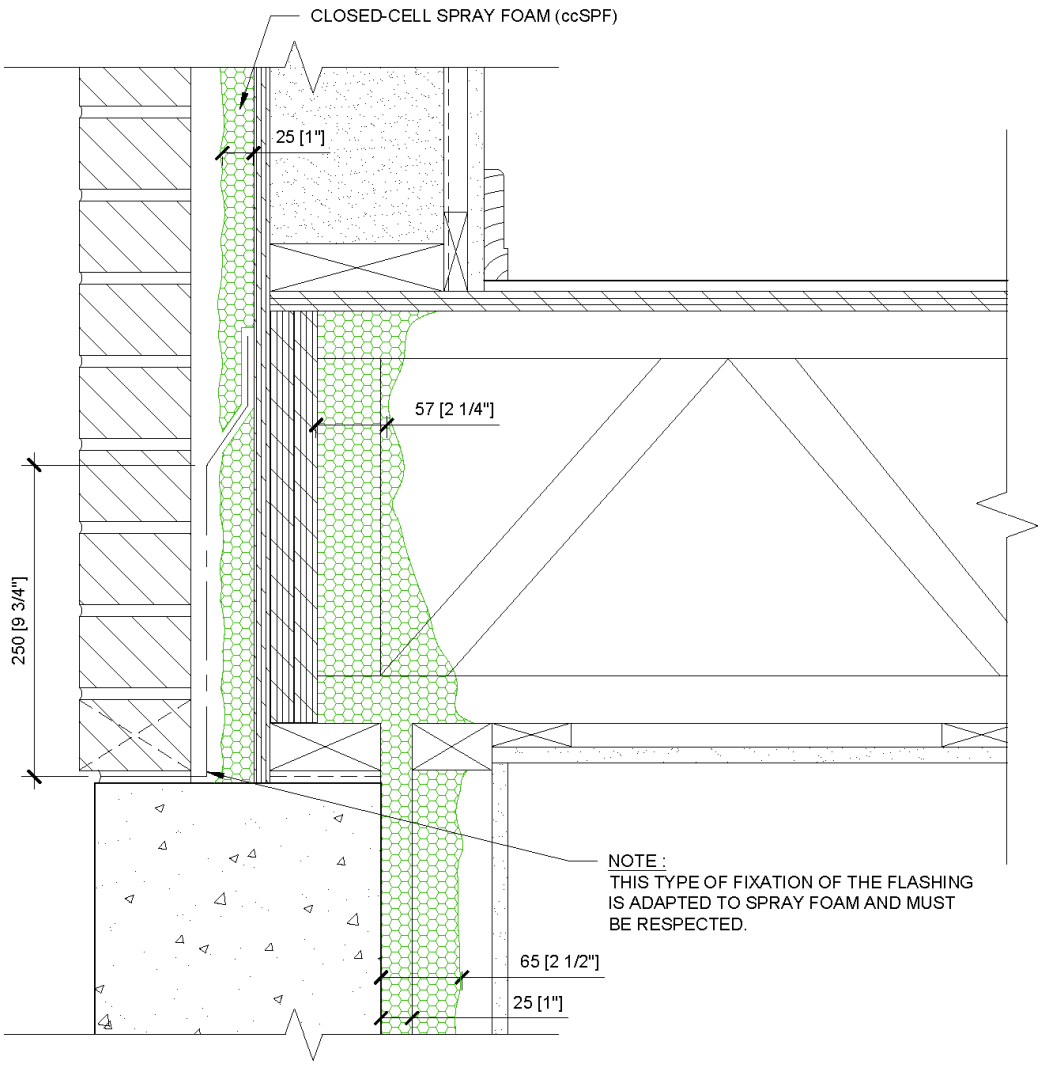
2x6 WALL - BRICK
FOUNDATION KNEE WALL

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:10
Page 4
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



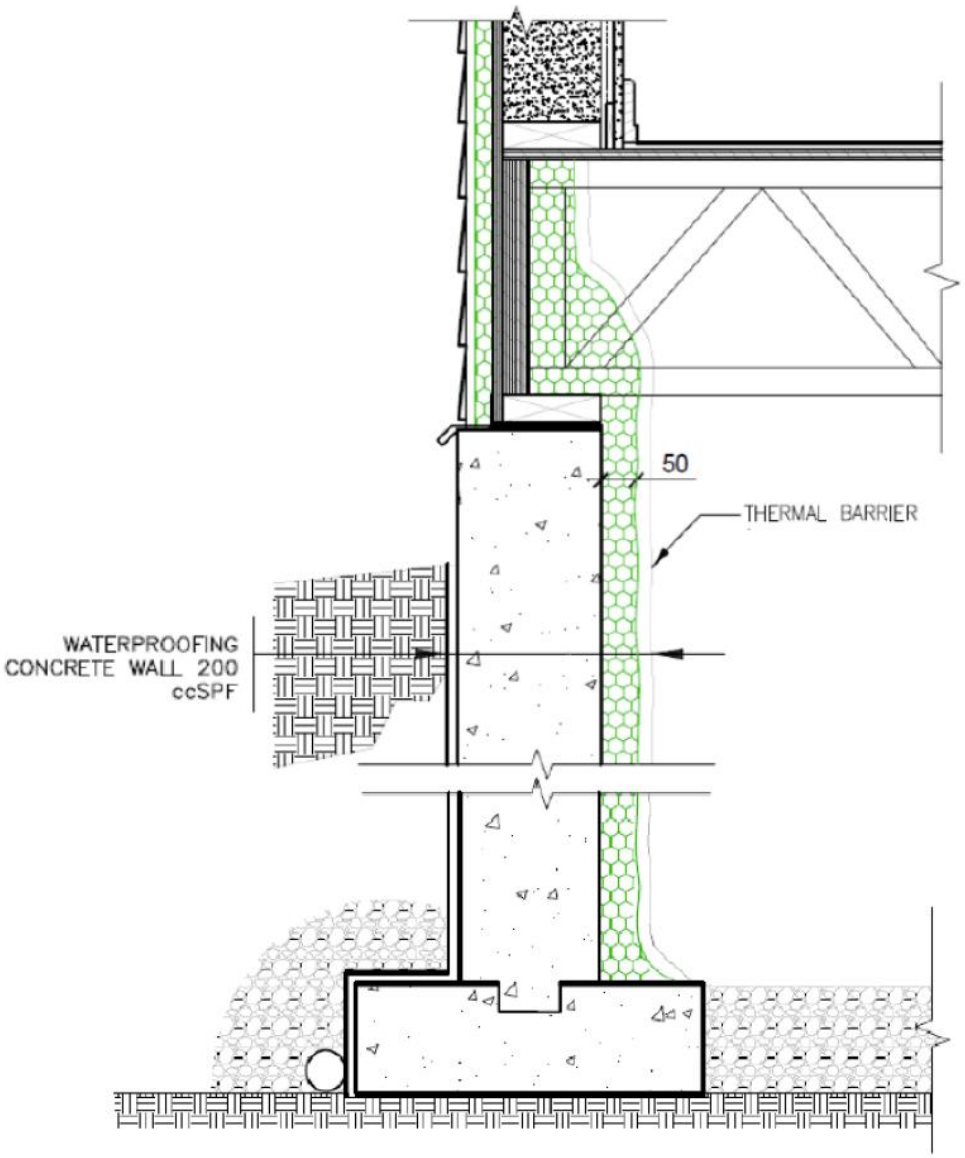
2x6 WALL - BRICK
RIM JOIST - FOUNDATION

HUNTSMAN BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:5
Page 5
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



NOTE:
LOOK TO THE APPLICABLE EVALUATION REPORT FOR THE APPROPRIATE HUNTSMAN ccSPF & ocSPF FOR EACH ASSEMBLY.

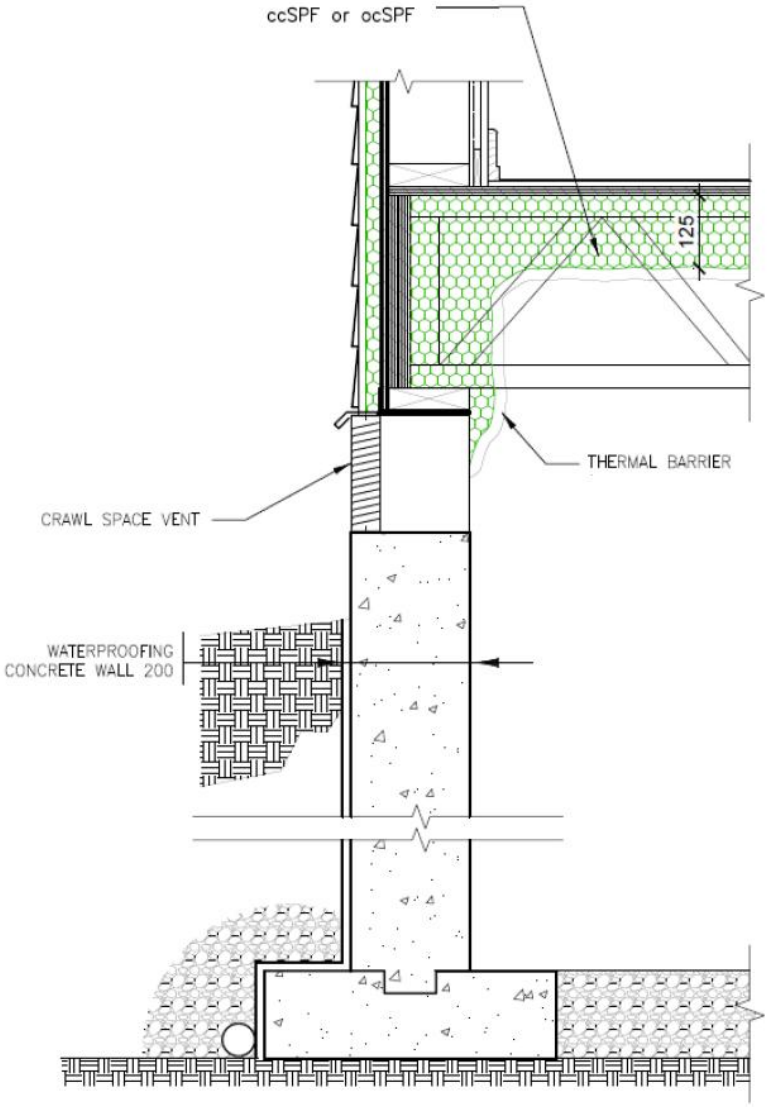
UNVENTED CRAWLSPACE

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:10
Page 6
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



NOTE:
LOOK TO THE APPLICABLE EVALUATION REPORT FOR THE APPROPRIATE HUNTSMAN ccSPF & ocSPF FOR EACH ASSEMBLY.

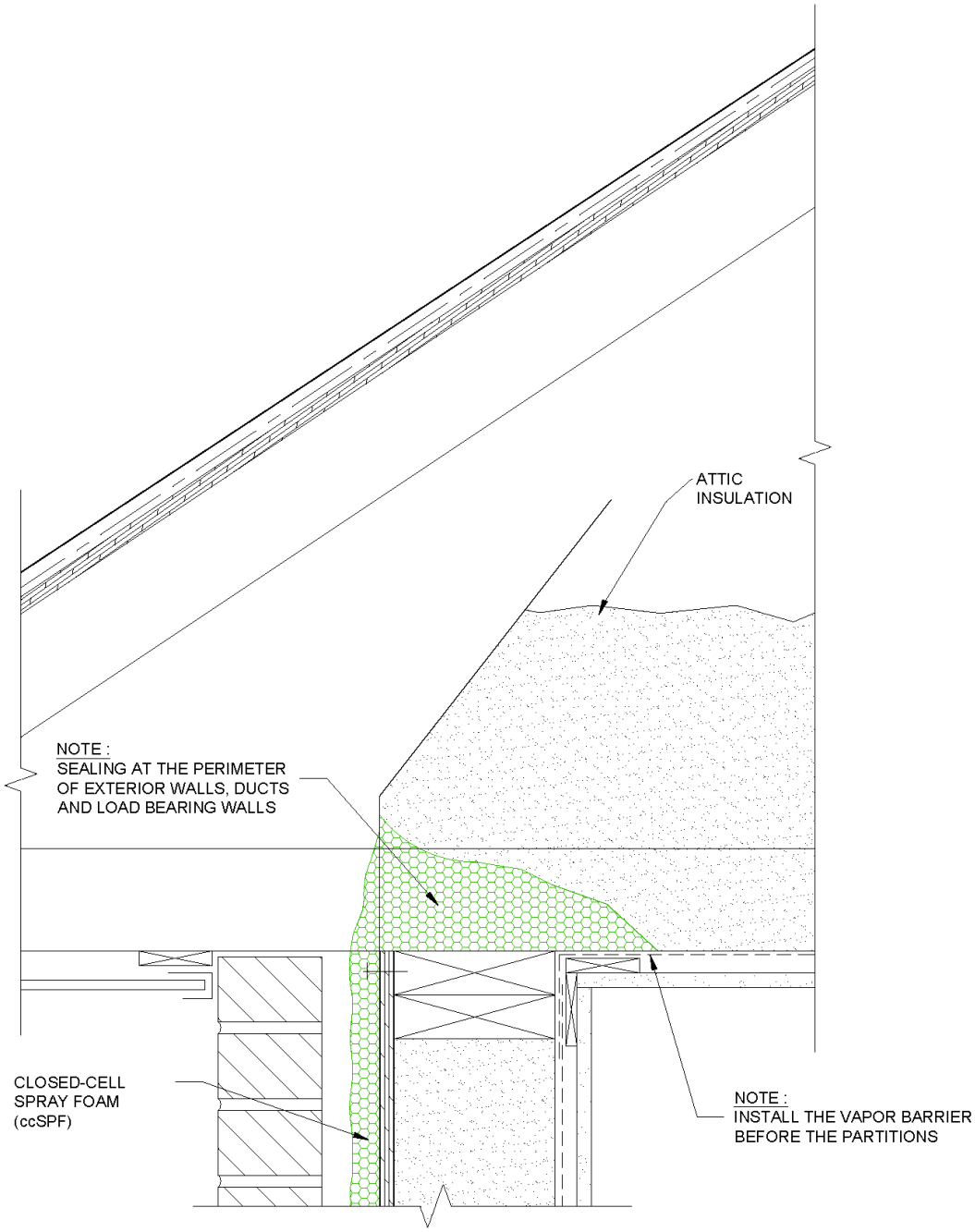
VENTED CRAWLSPACE CEILING

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:10
Page 7
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



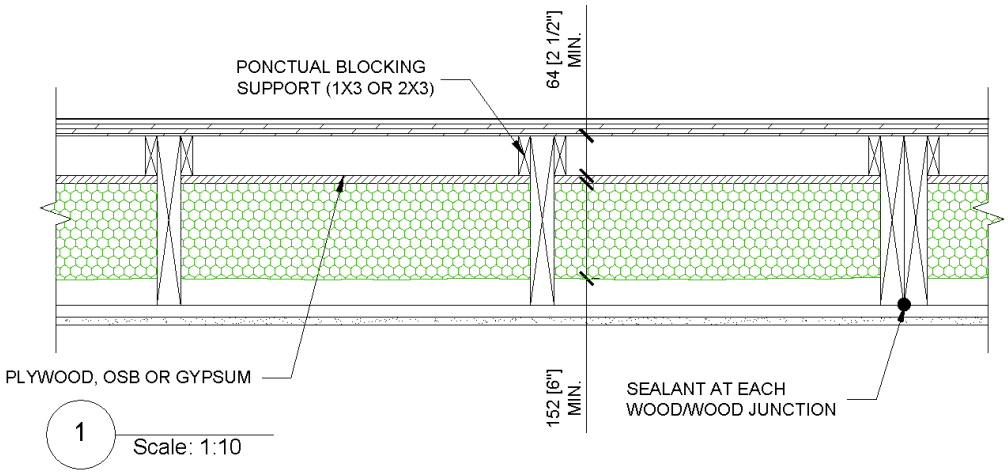
2x6 WALL - BRICK
ATTIC JUNCTION

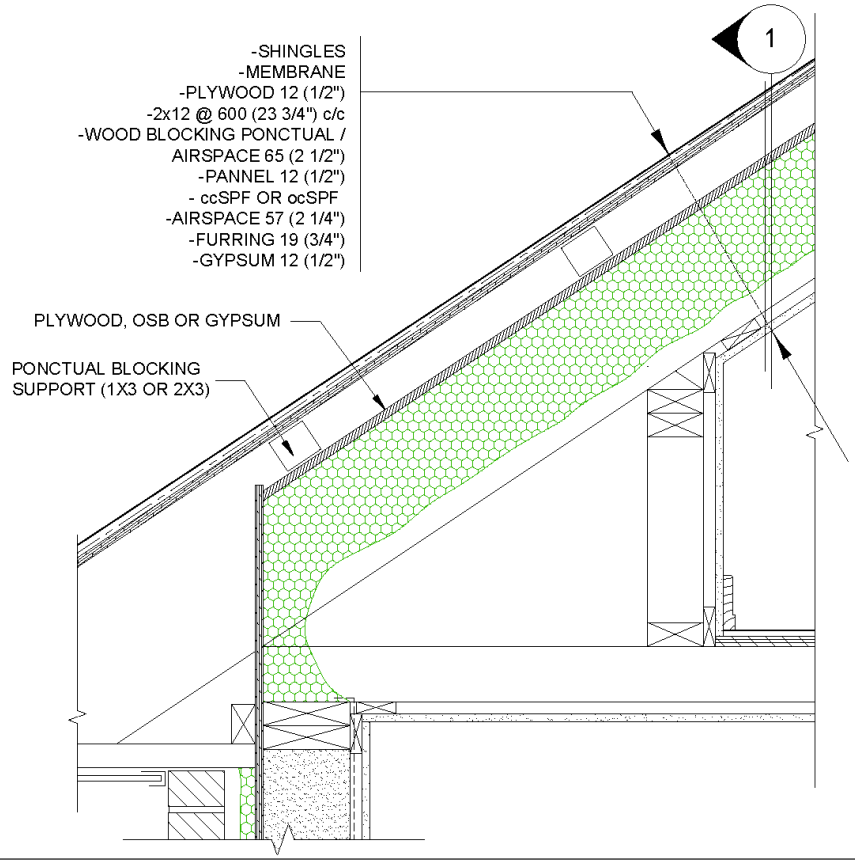
HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:5
Page 8
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.





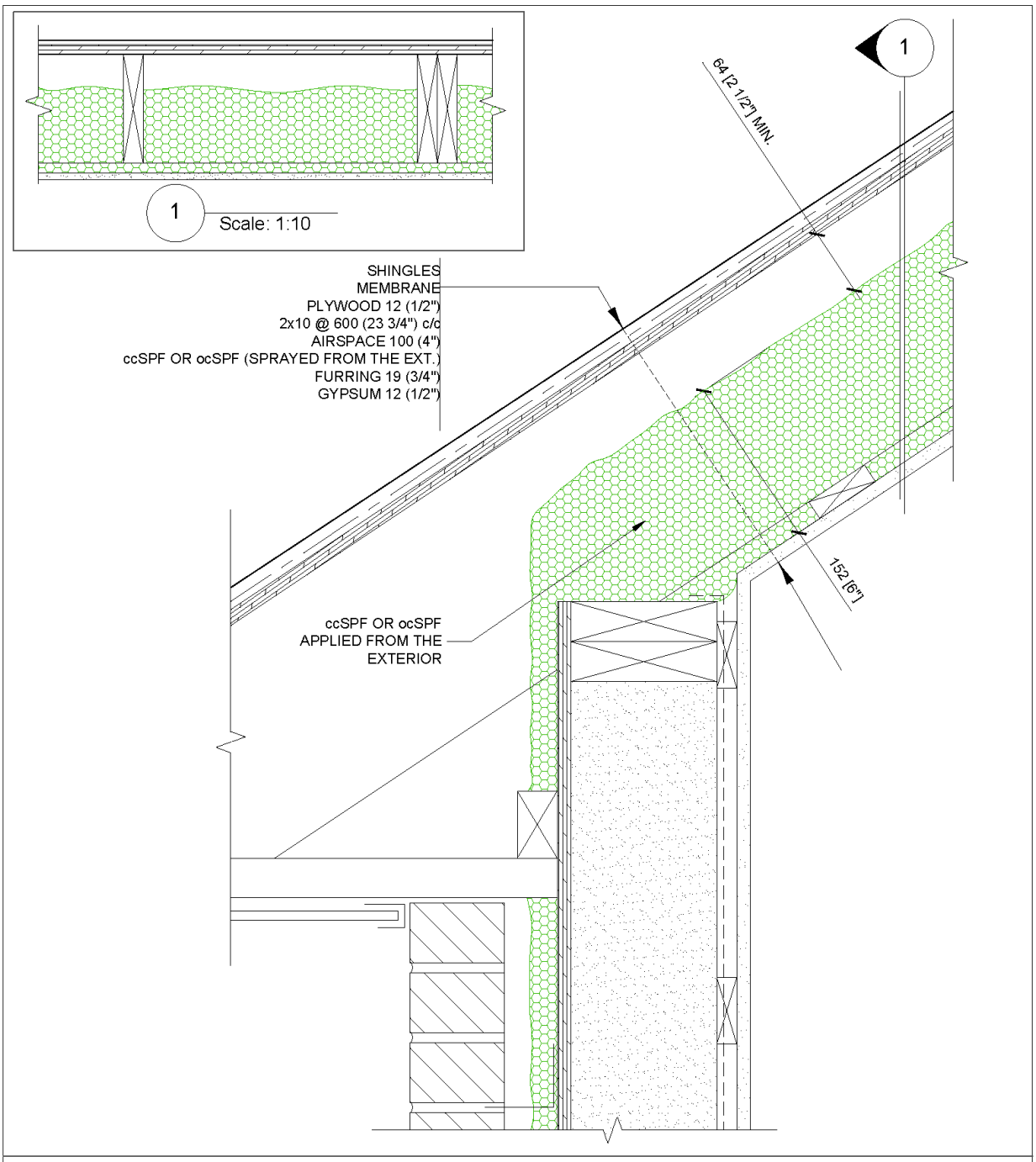
2x6 WALL - BRICK
CATHEDRAL VENTILATED -KNEE WALL

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:10
Page 9
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



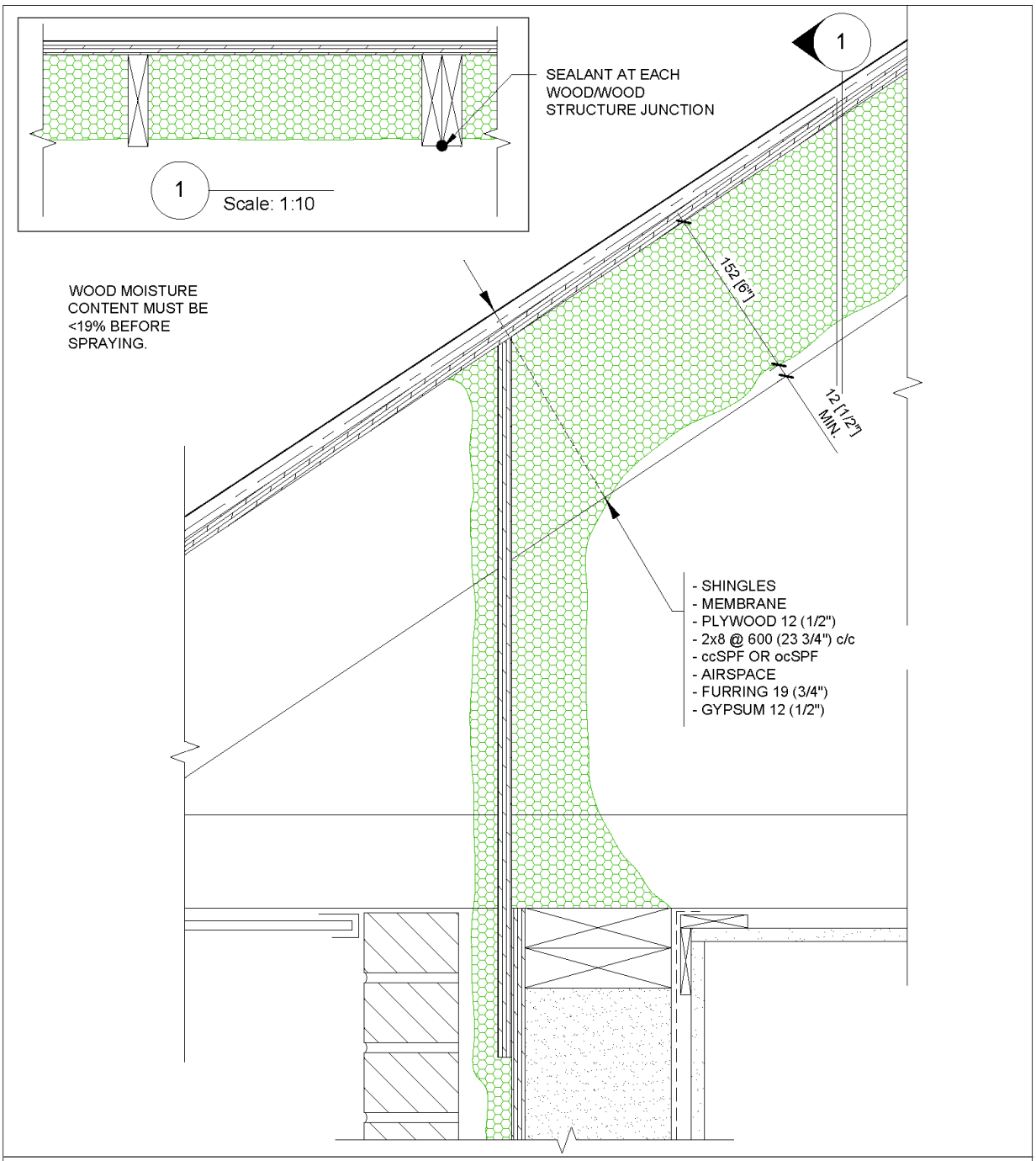
2x6 WALL - BRICK
VENTILATED CATHEDRAL ROOF EXT.

HUNTSMAN BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:5
Page 10
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



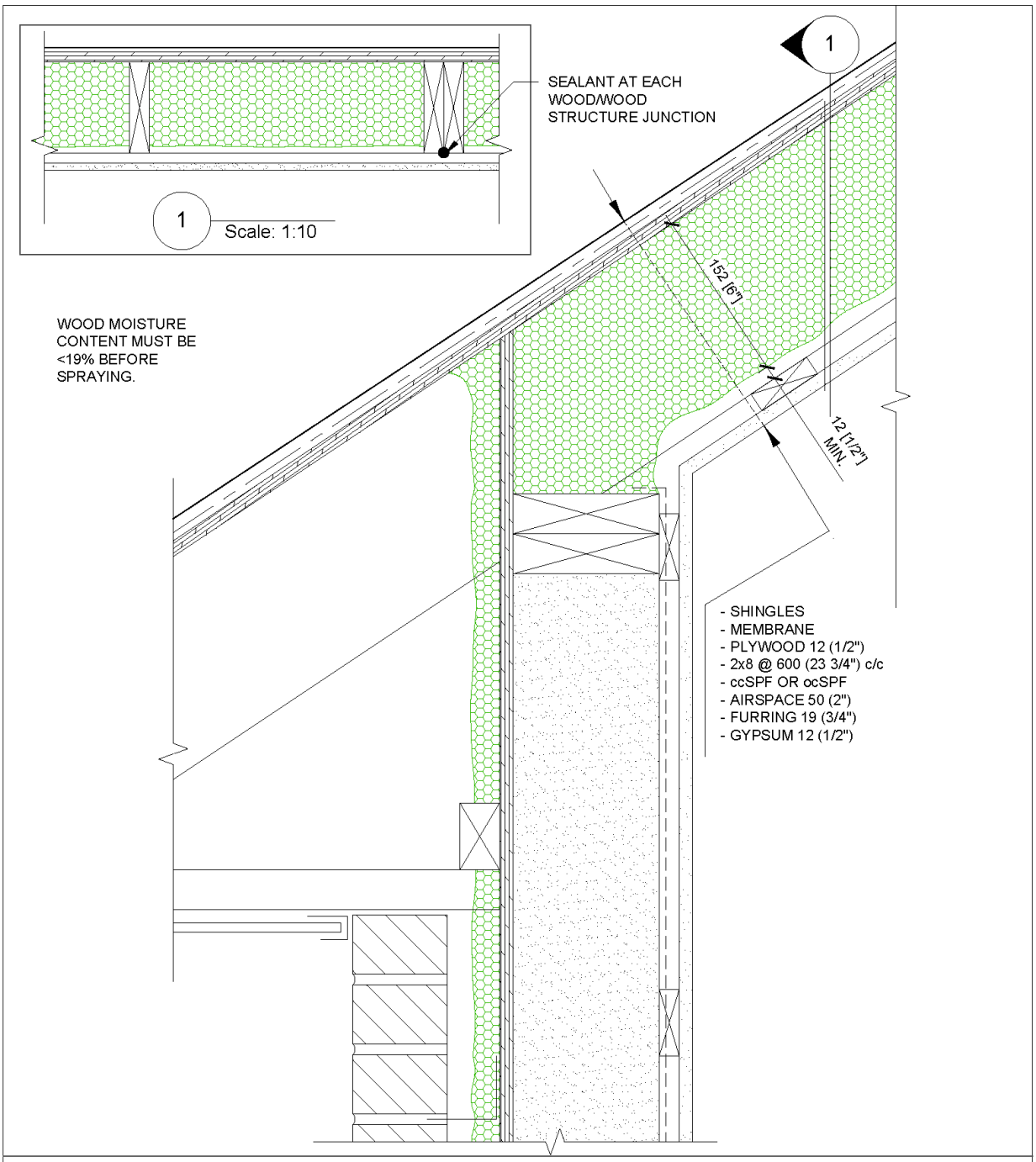
2x6 WALL - BRICK
UNVENTED ROOF

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:5
Page 11
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



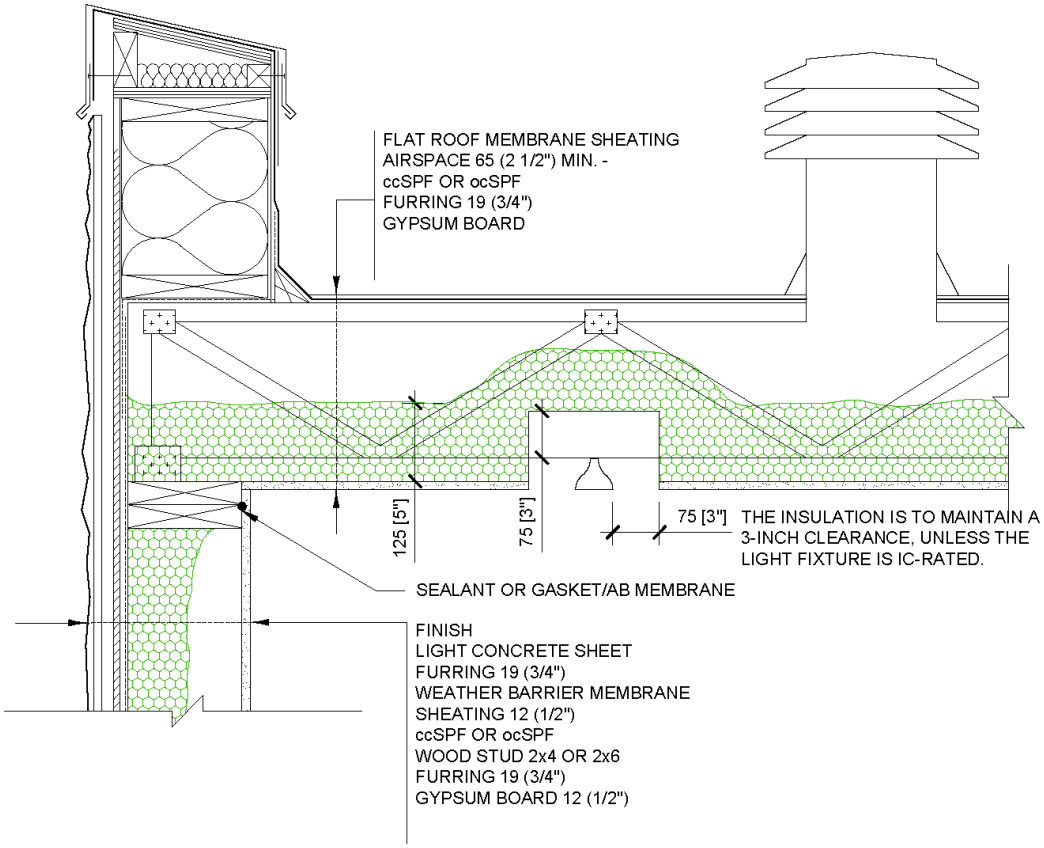
2x6 WALL - BRICK
UNVENTED CATHEDRAL ROOF

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:5
Page 12
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



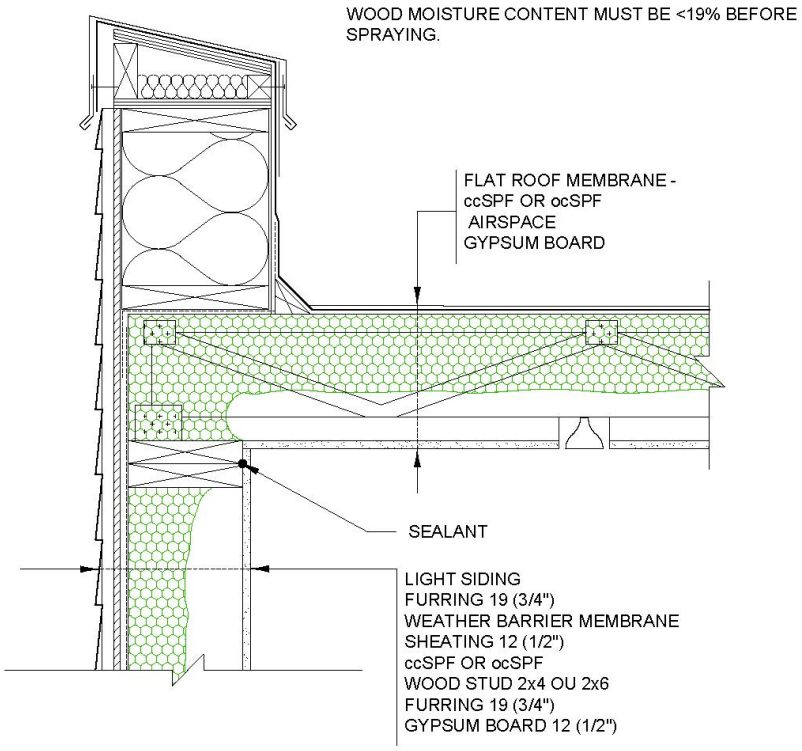
FLAT ROOF - VENTILATED

HUNTSMAN BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:10
Page 13
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



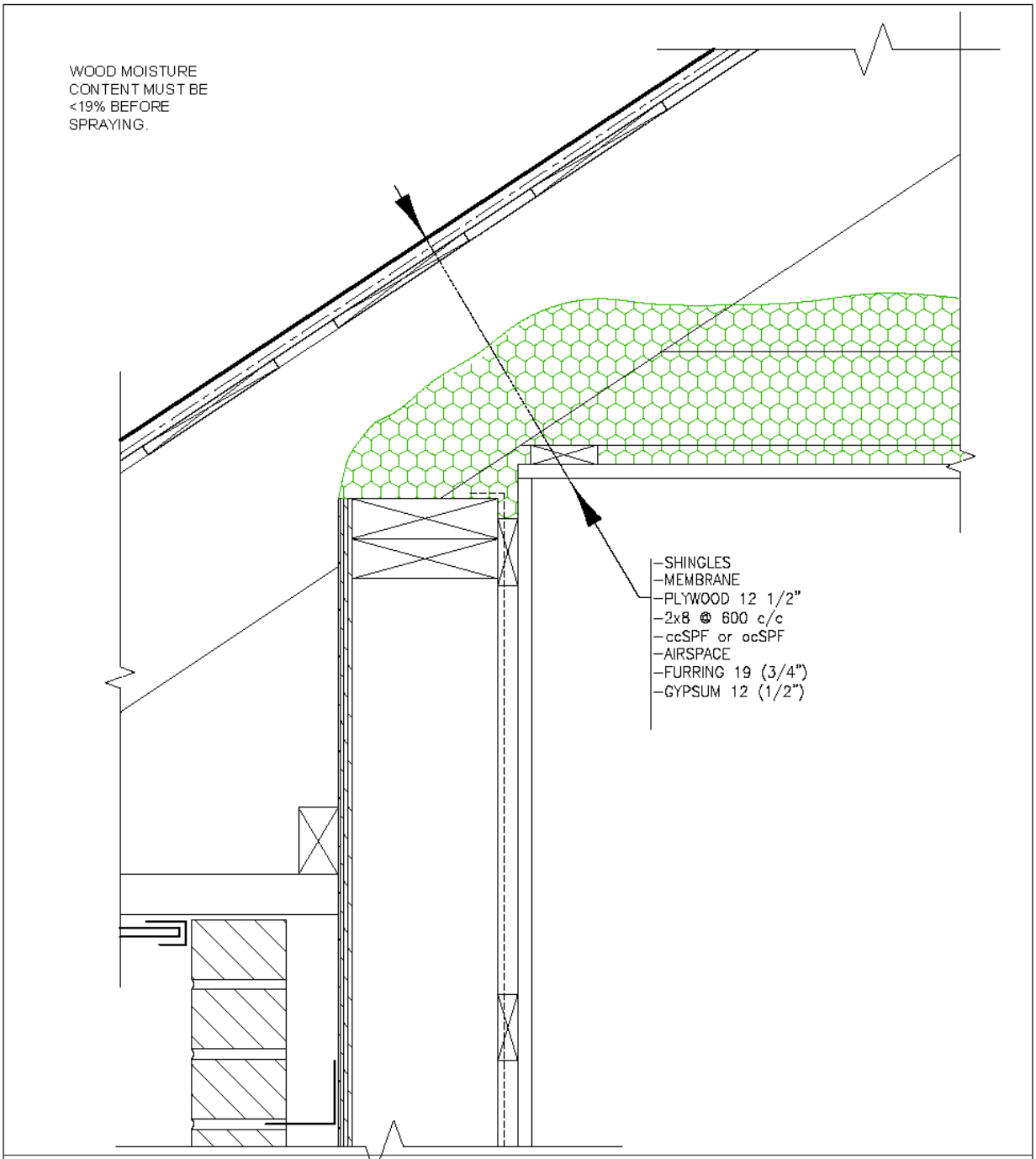
FLAT ROOF - UNVENTILATED

HUNTSMAN BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:10
Page 14
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.



INSULATION ON ATTIC FLOOR

HUNTSMAN
BUILDING SOLUTIONS
1-888-783-0751 www.huntsmanbuildingsolutions.com

TYPICAL DETAIL
WOOD FRAMING

Scale: 1:10
Page 15
08-09-2023

© HBS | 09 - 2023. Any partial or total reproduction of this information without consent is unauthorized.