JCMT
ASSOCIATES, PLLC

211 Stone Drive
Pilot Mountain, NC 27041
336-399-6277

July 21, 2026

Five-N-Two Food Pantry
17246 NC Hwy 27
Sanford, NC 27332

RE: Closed Cell Foam Usage

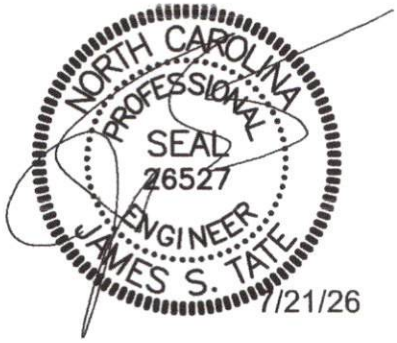
Dear Sir

As discussed, it is acceptable to apply closed cell foam to the metal structure and decking. The building will support the additional loads from the closed cell foam as well as the gravity and lateral loads that are imposed on it per the building code.

If you have any questions or concerns, please contact us.

Sincerely,
JCMT ASSOICATES, PLLC

James S. Tate, PE



Ignacio Loeza

EVALUATION REPORT

Number: 720

Originally Issued: 02/08/2021 Revised: 02/03/2026 Valid Through: 02/28/2027

CARLISLE SPRAY FOAM INSULATION
100 Enterprise Drive
Cartersville, GA 30120
Phone: (770) 607-0755
www.CarlisleSFI.com

SEALTITE™ PRO HFO SPRAY-APPLIED POLYURETHANE FOAM PLASTIC INSULATION

ADDITIONAL COMPANY

HENRY A CARLISLE COMPANY
336 Cold Stream Rd.
Kimberton, PA 19442
(800) 468-1278
www.Henry.com

HENRY HFO CLOSED CELL SPRAY FOAM

CSI Section:
07 21 00 Thermal Insulation

1.0 RECOGNITION

The SealTite™ PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations described in this report have been evaluated for use as thermal insulations. The physical properties, thermal resistance, surface burning characteristics, air permeability, water vapor transmission, attic and crawl space installations, and uses in Types I through V construction were evaluated for compliance with the following codes and regulations:

- 2024, 2021, 2018, and 2015 International Building Code® (IBC)
- 2024, 2021, 2018, and 2015 International Residential Code® (IRC)
- 2024, 2021, 2018, and 2015 International Energy Conservation Code® (IECC)
- 2023 Florida Building Code, Building (FBC, Building) – Supplement attached
- 2023 Florida Building Code, Residential (FBC, Residential) – Supplement attached
- 2023 Florida Building Code, Energy Conservation (FBC, Energy Conservation) – Supplement attached

2.0 LIMITATIONS

Use of SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations recognized in this report are subject to the following limitations:

2.1 The insulations shall be installed in accordance with the manufacturer's published installation instructions, this evaluation report, and the applicable code. If there are any conflicts between the manufacturer's published installation instructions and this report, the more restrictive shall govern.

2.2 In accordance with Section 4.6.1 of this report, the insulations shall be separated from the interior of the building by a code-complying thermal barrier.

2.3 The insulations shall not exceed the nominal density and thickness for the installation conditions described in this report.

2.4 During application, the insulations shall be protected from exposure to weather.

2.5 The insulations shall be installed by professional spray polyurethane foam installers approved by Carlisle Spray Foam Insulation, Henry A Carlisle Company, or by the Spray Polyurethane Foam Alliance (SPFA).

2.6 Use of the insulations in areas of "very heavy" termite infestation probability shall be in accordance with IBC Section 2603.8, or IRC 2024 Section 305.4, or 2021, 2018, or 2015 IRC Section R318.4, as applicable.

2.7 When required by the applicable code, a Class I vapor retarder shall be installed.

2.8 Labeling and job site certification of the insulations and coatings shall comply with the following code sections as applicable:

- IBC Section 2603.2
- IRC Section R316.2
- 2024 IRC Sections 303.2, N1101.10.1, or N1101.10.2
- 2021, 2018, and 2015 IRC Sections N1101.10.1.1, N1101.12.1.1
- IECC Sections C303.1.1.1 or R303.1.1.1

2.9 Foam plastic insulations used in plenums as interior finish or interior trim shall comply with Section 2603.7 of the IBC.

2.10 Fire-resistance ratings are beyond the scope of this review. Where fire-resistance rated assemblies are required by the IBC or IRC, documentation shall be provided to the building official showing compliance.

2.11 When used in exterior walls of Type I, II, III, or IV construction, application shall be as required in Section 4.8 of this report.

2.12 The insulations recognized in this report shall be produced by Carlisle Spray Foam Insulation in Cartersville, Georgia.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with Section 104.2.3 of the 2024 IBC and Section 104.11 of previous editions. This document shall only be reproduced in its entirety.

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3.0 PRODUCT USE

SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations comply with IBC Sections 2603; 2024 IRC Section R303; 2021, 2018, and 2015 IRC Section R316; and IECC Sections C303, C402, R303, and R402. When installed in accordance with Section 4.0 of this report, the foam plastic insulations may be used in wall cavities, floor or ceiling assemblies, interior or exterior sides of below-grade vertical foundations, the underside of on-grade slabs, and in attics and crawl spaces as nonstructural thermal insulation material. SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations can be used in Types I, II, III, IV, and V construction under the IBC and in one- and two-family dwellings under the IRC. SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations may be used as air impermeable insulation when installed in accordance with Section 4.4 of this report.

4.0 PRODUCT DESCRIPTION

4.1 Properties: SealTite PRO HFO and Henry HFO Closed Cell are medium-density, closed-cell, spray-applied polyurethane foam plastic insulations in accordance with Section 4.2 and Table 8.2 of IAPMO ES-1000, Section 301 of ICC 1100 and Section 3.1.1 and Table 1 of AC377. The insulations have a nominal in-place density of 2.0 pcf (32 kg/m^3). The two-component spray foam plastic is produced in the field by combining a polymeric isocyanate (A component) and a polymeric resin (B component). The liquid components shall be stored in 55-gallon (208 L) drums at temperatures between 50°F and 80°F (10°C and 27°C). When Component A and Component B are stored in factory-sealed containers at the recommended temperatures, the shelf life is six months.

4.2 Thermal Resistance (R-Values): SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations have thermal resistance (R-Value) at a mean temperature of 75°F±5°F (23.8°C ±2.8°C) as shown in Table 1 of this report. For thicknesses above 3.5 inches not listed in Table 1, a multiplier of 7.24/inch shall be used to calculate installed R value.

TABLE 1 - Thermal Resistance (R-Values)

Thickness (inch)	SealTite PRO HFO and Henry HFO Closed Cell R-Value (°F•ft^2•h/Btu)
1	7.2
2	14
3	22
3.5	25
4	29
5	36
5.5	40
6	43
7	51
7.5	54
8	58
9	65
10	72
11	80
11.5	83
12	87

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

4.3 Surface Burning Characteristics:

4.3.1 ASTM E84: At a maximum thickness of 4 inches (102 mm) and a nominal density of 2.0 pcf (32 kg/m^3), the SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations yield a flame spread index of 25 or less and smoke-developed index of 450 or less when tested in accordance with ASTM E84. Greater thicknesses, depending on the end use, are recognized when installed in accordance with this report.

4.3.2 Prescriptive Thermal Barriers: Foam insulations thicknesses are not limited when covered by a code complying thermal barrier and installed in accordance with Section 4.6.1.1 of this report.

4.3.3 ASTM E2768: When tested to ASTM E84/ASTM E2768, SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulation yielded a flame spread index of 25 or less and smoke-developed index of 450 or less. The flame front did not progress more than 10.5 feet (3.2 m) beyond the centerline of the burners during the 30-minute exposure.

4.4 Air Permeability: SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations are classified as air-impermeable insulations when tested in accordance with ASTM E2178 at a minimum thickness of 1 inch (25.4 mm), in accordance with 2024, 2021, and 2018 IBC Section 1202.3, and 2015 IBC Section 1203.3, and IRC Section R806.5.

4.5 Fire-Protective Coatings and Coverings: Fire protective coatings, for use as part of an alternative thermal

barrier assembly, shall be in accordance with Table 2 of this report and installed in accordance with Section 4.6 of this report.

4.6 Installation: SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations shall comply with Sections C402.1 or R402.1 of the IECC, as applicable.

The manufacturer's published installation instructions for SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations and this report shall be available on the job site during installation. Where conflicts occur, the most restrictive governs.

SealTite PRO HFO and Henry HFO Closed Cell shall be spray-applied on the job site using equipment specified in the manufacturer's published installation instructions. The maximum in-service temperature for all areas shall not exceed the maximum temperature stated in the manufacturer's published installation instructions. The insulations shall be sprayed onto a substrate that is protected and clean from any debris or weather-related conditions during and after application and shall not be used in electrical outlets or junction boxes or in contact with rain or water.

4.6.1 Thermal Barrier

4.6.1.1 Application with a Prescriptive Thermal Barrier: SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations, in any thickness, in ceiling cavities and in wall cavities, shall be separated from the interior by a prescriptive thermal barrier. The thermal barrier shall comply with and be installed in accordance with IBC Section 2603.4, 2024 IRC Section 303.4, or 2021, 2018, or 2015 IRC Section R316.4, as applicable.

Exception: The thermal barrier is not required when the insulation is installed in attics or crawlspaces as described in Section 4.6.2 but shall be installed between the insulation and the interior of the building.

4.6.1.2 Alternative Thermal Barrier Assemblies: SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations may be installed without a thermal barrier as defined in Section 4.6.1.1 of this report when installed with a fire-protective coating as described in Table 2 of this report based on testing in accordance with NFPA 286 or UL 1715.

4.6.2 Installation in Attics or Crawl Spaces: SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations may be installed in attics or crawl spaces when installed in accordance with this section. The insulations may be installed in unvented attics and unvented enclosed rafter spaces for use as air-impermeable insulation as described in Section 4.4 of this report.

When installed in attics or crawl spaces where entry is made only for the service of utilities, SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations may be installed in accordance with this section. SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations need not be surfaced with a thermal barrier. However, such attic and crawl space areas shall be separated from the interior of the building by a thermal barrier in accordance with Section 4.6.1 of this report.

4.6.2.1 Installation in Attics and Crawl Spaces Without an Ignition Barrier: SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations may be installed in attics and crawl spaces without a prescriptive ignition barrier or fire-protective coating provided:

a. Entry is only to service utilities in the attic or crawl space and no storage is permitted.
b. Attic or crawl space areas cannot be interconnected.
c. Air from the attic or crawl space cannot be circulated to other parts of the building.
d. Attic ventilation is provided as required by 2024, 2021, and 2018 IBC Section 1202.2, 2015 IBC Section 1203.2, or IRC Section R806 except where air-impermeable insulation is permitted in unvented attics and shall comply with the following code sections as applicable:

   For Unvented Attics:
   - 2024, 2021, and 2018 IBC Section 1202.3
   - 2015 IBC Section 1203.3
   - IRC Section R806.5

   Unvented crawl spaces shall meet the requirements of Section 4.6.2.2 of this report.

   Ventilated crawl spaces shall be provided with ventilation as required by the following code sections, as applicable:
   - 2024, 2021, and 2018 IBC Section 1202.4
   - 2015 IBC Section 1203.4
   - 2024 IRC Section R408.2
   - 2021, 2018, 2015 IRC Section R408.1

e. SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations may be applied at a nominal density of 2.0 pcf to the underside of roof sheathing or roof rafters and vertical surfaces of attics and in crawl spaces without a prescriptive ignition barrier or fire-protective coating. When applied to the underside of the top of the space, the thickness of the SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations shall not exceed $11^1/_2$ inches (292 mm), and when applied to vertical surfaces or floor, the maximum thickness shall not exceed $7^1/_2$ inches (191 mm).

f. In accordance with IMC (International Mechanical Code®) Section 701, combustion air is provided.

4.6.2.2 Installation in Unvented Crawl Spaces: SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations may be installed in unvented crawl spaces when using an alternative thermal barrier assembly meeting Section 4.6.1.2 of this report, when complying with IRC Section R408.3.

Exception: The alternative thermal barrier assembly may be eliminated in Item 2.4 of IRC Section R408.3 when installed in accordance with Section 4.6.2.1 of this report and when the crawl space does not include an air pathway to the common area.

4.7 Water Vapor Transmission: When tested to the requirements of ASTM E96, desiccant method, at a thickness of one inch, SealTite PRO HFO and Henry HFO Closed Cell have a Vapor Retarder Classification of Class II.

4.8 Use in Exterior Walls of Types I, II, III, and IV Construction (IBC)

4.8.1 General: When SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations are used in exterior walls of Types I, II, III, or IV construction of any height, the insulations shall comply with IBC Section 2603.5 and Section 4.8 of this report.

4.8.2 Complying Exterior Wall Assemblies: Wall assemblies that comply with Section 2603.5.5 of the IBC and this report that may be used in exterior walls of buildings of Type I, II, III, or IV construction of any height are described in Tables 3, 4, and 5 of this report.

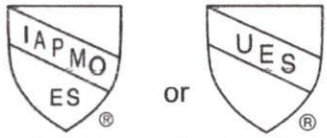
4.9 Potential Heat of Combustion: When tested to NFPA 259, SealTite PRO HFO and Henry HFO Closed Cell have a potential heat of combustion of 11,024 BTU/lb. (25,643 kJ/kg) (1,984 BTU/ft^2 per inch of thickness).

5.0 IDENTIFICATION

The spray foam insulations are identified with the following:

a. Manufacturer's name (Carlisle Spray Foam Insulation)
b. address and telephone number,
c. the product trade name (SealTite PRO HFO and Henry HFO Closed Cell, as applicable)
d. use instructions
e. density, flame-spread and smoke-development indices
f. date of manufacture or batch/run number
g. thermal resistance values
h. the evaluation report number (ER-720)
i. the name or logo of the inspection agency

Either IAPMO UES Mark of Conformity may also be used as shown below:



IAPMO UES ER-720

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Spray-applied Foam Plastic Insulation, AC377 June 2023, including Appendix X.

6.2 Report of room corner fire testing in accordance with NFPA 286.

6.3 Report of fire test of interior finish material in accordance with UL 1715.

6.4 Report of testing of air permeance in accordance with ASTM E2178.

6.5 Report of testing of water vapor transmission in accordance with ASTM E96.

6.6 Data in accordance with IAPMO/ANSI ES1000-2020, Standard for Building Code Compliance of Spray-Applied Polyurethane Foam.

6.7 Data in accordance with 2019 ICC 1100 Standard for Spray-applied Polyurethane Foam Plastic Insulation.

6.8 Reports of testing and evaluation of flame propagation in accordance with NFPA 285.

6.9 Testing to the requirements of NFPA 259.

6.10 Reports of testing to ASTM E2768.

6.11 Test Reports are from Laboratories in conformance with ISO/IEC 17025.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations to assess conformance to the codes and standards shown in Section 1.0 of this report and documents the product's certification. This spray foam is produced at locations noted in Section 2.12 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

TABLE 2 - ALTERNATIVE THERMAL BARRIER ASSEMBLIES				
FIRE-PROTECTIVE COATING/COVERING[1]			MAXIMUM SPF THICKNESS (inch)	
TYPE	MINIMUM THICKNESS (mils)	THEORETICAL APPLICATION RATE (COATINGS ONLY)	WALLS AND VERTICAL SURFACES	CEILING AND OVERHEAD SURFACES
DC315[2]	14 WFT (9 DFT)	0.87 gal/100 ft^2	7.5	11.5
Flame Control 60-60A[3]	14 WFT (9 DFT)	0.87 gal/100 ft^2	6	12
Fireshell F10E[4]	14 WFT (9 DFT)	0.87 gal/100 ft^2	6	10
No-Burn, Inc.[5]	14 WFT (9 DFT)	0.87 gal/100 ft^2	7.25	11.25

For **SI:** 1 inch = 25.4 mm, 1 gallon = 3.785 L, 1 ft^2 = 0.0929 m^2

[1] Fire-protective coatings and coverings shall be applied over all exposed SPF surfaces in accordance with the coating/covering manufacturer's instructions and this report.

[2] International Fireproof Technology, Inc, recognized in IAPMO UES ER-499 and tested to the requirements of NFPA 286.

[3] Flame Control Coatings, recognized in IAPMO UES ER-596 and tested to the requirements of NFPA 286.

[4] ICP Construction, tested to the requirements of NFPA 286.

[5] No-Burn, Inc., recognized in IAPMO UES ER-305 and tested to the requirements of UL 1715.

TABLE 3 – NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES
SEALTITE PRO HFO OR HENRY HFO CLOSED CELL APPLIED IN WALL STUD CAVITY

Wall Component	Material Description
Base Wall (BWS) Use either 1, 2, 3 or 4	1) Concrete Walls 2) Concrete Masonry Unit Walls 3) Steel Stud Wall - 1 layer of ⅝-inch Type X gypsum wallboard installed on the interior side of minimum 3⅝-inch deep No. 20 gauge steel studs spaced a maximum of 24 inches on center. 4) Fire-retardant-treated wood (FRTW) Stud Wall – 1 layer of ⅝-inch thick Type X gypsum wallboard on the interior, installed on 2x4 (min.) FRTW studs spaced a maximum of 24 inches on center.
Fire-Stopping in Stud Cavity at Floor Lines	1) 4-inch 4 pcf mineral wool (friction fit or installed with Z-Clips) 2) FRTW lumber -1.5 inches thick (minimum) (FRTW firestop shall only be used with FRTW framing)
Cavity Insulation Use Item 1, 2 or 3 when steel framing is used. Use Item 1 or 3 when FRTW framing is used.	1) None 2) Full stud cavity depth or less of SealTite PRO HFO or Henry HFO Closed Cell Spray Foam 3) Any noncombustible fiberglass insulation (faced or unfaced).
Exterior Sheathing	Minimum ½-inch thick exterior gypsum sheathing.
WRB over Base Wall Use Item 1 or 2	1) None 2) Any water-resistive barrier or air vapor barrier approved to be used in an NFPA 285 compliant assembly paired with mineral wool, polyisocyanurate, EPS, or XPS insulation or no exterior insulation for claddings approved for that WRB. Approvals shall be from an evaluation report by an approved evaluation entity.
Exterior Insulation Use Item 1, 2 or 3	1) None – only where the cladding is listed to be approved with specific water-resistive barriers. (Note 1) 2) Minimum 2-inch-thick, 4 pcf mineral fiber insulation allowed for use with any water-resistive barrier on the base wall surface. (Note 1) 3) Any polyisocyanurate, EPS, or XPS insulation approved (see note) to be used in an NFPA 285 compliant assembly paired with the water-resistive barriers in Item 2 above and claddings in Item 2 below. (Note 2)
Exterior Cladding Use Item 1 or 2	1) Claddings below may only be used with noncombustible exterior insulation Item 2 above (mineral fiber). a. Any noncombustible cladding, such as brick, stone, terra cotta, fiber cement, concrete, sheet metal, etc. b. Combustible cladding. Use any cladding that has been successfully tested by the panel manufacturer (or fabricator) via the NFPA 285 test method. (Note 2) 2) Claddings below may be used with any approved (see note) combustible exterior insulation Item 3 above. Any cladding (combustible or noncombustible) approved to be used in an NFPA 285 compliant assembly paired with approved polyisocyanurate, EPS, XPS, or SPF insulation. Each insulation must be specifically approved for the exact cladding types listed in the approval. (Note 2) It is important to note the following item (Window/Door perimeter details) for specific insulation types that require unique detailing. Note: Approvals shall be by evaluation reports from approved evaluation entities.
Window/Door Perimeters	The approved design for the specific system being considered shall be used. Note: EPS and XPS required specific door/window header and jamb details to be compliant with NFPA 285. Polyisocyanurate and SPF may or may not require specific header/jamb details. Approvals from approved evaluation reports by approved evaluation entities for the header/jamb detail required for each insulation type.
(Notes to Table 3 continued on next page)	

Note 1: Examples for use with no exterior insulation or mineral wool insulation per the table above. Cladding Lists 1 and 2 below are for use with no exterior insulation. However, this will expose the substrate to moisture, in which case a water-resistive barrier shall be added to the system. For these applications, water-resistive barriers approved for use with each cladding shall be used.

(Notes to Table 3 continued)

1) Any combustible cladding that has passed NFPA 285 testing (examples below)
   a. NFPA 285 approved MCM/ACM Metal/Aluminum Composite building panels
   b. NFPA 285 approved stone/aluminum honeycomb composite
   c. NFPA 285 approved HPL High-pressure Laminate Panels.

2) Any noncombustible cladding such as (but not limited to):
   a. Brick – nominal 4-inch clay brick or veneer
   b. Stucco – $^{7}/_{8}$-inch exterior cement plaster and lath. A secondary water-resistive barrier can be installed between the insulation and lath. The secondary WRB may not be full coverage asphalt or butyl-based self-adhering membranes.
   c. Natural Stone (granite, limestone, marble, sandstone) – 2 inches thick
   d. Architectural Cast Stone – $2^{1}/_{2}$ inches thick
   e. Terra Cotta Cladding – $1^{1}/_{4}$ inches thick
   f. $^{1}/_{4}$-inch-thick glass-fiber-reinforced concrete panels (installed per manufacturer instructions)
   g. Concrete – 2 inches thick
   h. CMU blocks – 4 inches thick
   i. Sheet metals such as aluminum, copper, or zinc – any thickness

Note 2: Combustible WRB/Insulation/Cladding

If the base wall is covered with a combustible WRB/Insulation and various claddings (combustible or noncombustible), each insulation/WRB/cladding combination for approval shall have explicitly been tested or approved to be used with each other. Evaluation reports from approved evaluation entities may be used.

TABLE 4. NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES WITH SEALTITE PRO HFO OR HENRY HFO CLOSED CELL SPRAY FOAM APPLIED TO EXTERIOR OF WALL ASSEMBLY WITH OPTIONAL SPF IN WALL STUD CAVITY

Wall Component	Material Description
Base Wall System (BWS) – Use Item 1, 2, 3 or 4	1) Concrete Walls 2) Concrete Masonry Unit Walls 3) Steel Stud Wall - 1 layer of 5/8-inch Type X gypsum wallboard installed on the interior side of minimum 3 5/8-inch No. 20 gauge steel studs spaced a maximum of 24 inches on center. 4) Fire-retardant-treated wood (FRTW) stud wall – 1 layer of 5/8-inch thick Type X gypsum wall board on the interior, installed on 2x4 (minimum FRTW studs spaced a maximum of 24 inches on center.
Fire-Stopping at floor lines – Use Item 1 or 2	1) 4-inch 4 pcf mineral wool (friction fit or installed with Z-clips) 2) FRT lumber - 1 1/2 -inch thick (min) (FRT firestop shall only be used with FRT framing)
Cavity Insulation Use Item 1, 2, 3 or 4	1) None 2) Full stud cavity or less of SealTite PRO HFO, Henry HFO Closed Cell Spray Foam, SealTite PRO Closed Cell, SealTite PRO One Zero, SealTite PRO Open Cell, SealTite PRO High Yield, SealTite PRO No Mix, SealTite PRO No Trim 21, or SealTite PRO OCX 3) Any noncombustible insulation per ASTM E136 4) Any fiberglass insulation (faced or unfaced)
Exterior Sheathing	Minimum ½ - inch thick exterior gypsum sheathing
Girts Use Item 1,2, or 3	1) None 2) Metallic Z Girts 3) Smart Ci GreenGirt (Horizontal Only) Note: Use girts only when mineral wool is being used. Mineral wool thickness shall match the girt depth.
Exterior Insulation	SealTite PRO HFO or Henry HFO Closed Cell Spray Foam - 3.5-inch nominal thickness (max)
Exterior Cladding - Items 1-7 are allowed to be used without the DC315 coating system. Use of any of Items 1-20 when exterior SPF is coated with IFTI DC315 (17 mil WFT) with Top Coat Paint (8 mils WFT Sherwin Williams Sher-Cryl) For Exterior Insulation (SealTite PRO HFO or Henry HFO), Items 8 - 22, Air Gap cannot Exceed 3¼ in . Maximum ½-inch wide open joint. Panel claddings may use vertical or horizontal metallic Z girt or horizontal Green Girt attachment. Panel claddings may be vertical or horizontal.	**Claddings below for use without coating over foam** 1) Brick – Nominal 4-inch clay or concrete brick or veneer with maximum 2-inch air gap behind the brick. Brick Ties/Anchors 24 inches on center (maximum) 2) Precast Concrete Panels – minimum 1 1/2-inch-thick using any standard non-open joint installation technique such as shiplap, with maximum 2-inch airgap behind the cladding. 3) Concrete Masonry Units – Minimum 2-inch-thick with maximum 2-inch air gap between exterior wall insulation and concrete masonry units. 4) Stucco – minimum 7/8-inch-thick exterior cement plaster and lath. A secondary water-resistive barrier (WRB) may be installed between the exterior insulation and the lath. The secondary WRB shall not be full-coverage asphalt or butyl-based self-adhered membranes. 5) Natural Stone Veneer – minimum 2-inch-thick natural stone (granite, limestone, marble, sandstone). Any standard non-open joint installation technique may be used. 6) Cast Artificial Stone – minimum 1½-inch thick complying with ICC-ES AC 51 or ASTM C1670 using any standard non-open joint installation technique. 7) Terra Cotta Cladding – minimum 1¼-inch thick (solid or equivalent by weight) using any standard non-open joint installation technique such as shiplap. **Claddings below for use with coating over foam.** 8) Aluminum cladding – 0.030-inch minimum thickness – non-open joint or open joint. 9) Steel cladding – 0.0149-inch minimum thickness – non-open joint or open joint. 10) Copper cladding – 0.0216-inch minimum thickness – non-open joint or open joint. 11) Zinc cladding – 0.040-inch minimum thickness – non-open joint or open joint. 12) Concrete – 1-inch-thick minimum thickness using any standard non-open joint or open joint installation technique. 13) One-coat Stucco – 3/8-inch minimum exterior cement plaster and lath – non-open joint or open joint. 14) Thin brick adhered with noncombustible mortar to ¾-inch minimum stucco base – non-open joint or open joint. 15) CMU: Minimum 1-inch-thick concrete masonry unit. Any standard non-open joint or open joint.installation technique may be used. 16) ¼-inch fiber cement cladding – non-open joint or open joint.. 17) Stone veneer – minimum 1-inch thick – non-open joint or open joint..

	18) Terreal Zephir Evolution Rainscreen System (or similar Terra Cotta) minimum $^{9}/_{16}$-inch thick = non-open joint or open joint..[1] 19) SwissPearl Carat Panels (ER-551)– 0.315-inch minimum thickness – non-open joint or open joint. 20) FunderMax M.Look (minimum ¼-inch) – non-open joint or open joint.[1] 21) Any ACM or MCM that has successfully passed NFPA 285 with foam insulation of comparable thickness (only with SealTite PRO HFO coated with the DC315/Shercryl coating listed above). The tested ACM was 4 mm Reynobond FR ACM. 22) ¾ in (min .) GFRC (Glass Fiber Reinforced Concrete)
Window/Door Perimeters	The perimeter flashing may be 0.040-inch aluminum flashing or materials with higher melting points than aluminum.

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

Notes:

[1]Approval of this product is beyond the scope of this review. Documentation of code compliance of this product shall be provided to the building official.

TABLE 5. NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES WITH SEALTITE PRO HFO OR HENRY HFO CLOSED CELL SPRAY FOAM APPLIED DIRECTLY TO EXTERIOR INSULATION WITHOUT EXTERIOR SHEATHING
(Applicable for 2018, 2015, and 2012 IBC)

Wall Component	Material Description
Base Wall System (BWS) – Use Item 1, 2, 3 or 4	1) Concrete Walls 2) Concrete Masonry Unit Walls 3) Steel Stud Wall - 1 layer of 5/8-inch Type X gypsum wallboard installed on the interior side of minimum 3 5/8-inch No. 25 gauge steel studs spaced a maximum of 24 inches on center with lateral bracing every 4 feet. 4) Fire-retardant-treated wood (FRTW) stud wall – 1 layer of 5/8-inch thick Type X gypsum wall board on the interior, installed minimum 2x4 (nominal dimension) FRTW studs spaced a maximum of 24 inches on center with lateral bracing as required by the applicable code.
Fire-Stopping at Floor Lines – Use Item 1 or 2	1) Any approved mineral fiber-based safing insulation in each stud cavity at the floor line (safing thickness shall match stud cavity depth) 2) Solid FRT lumber in accordance with Type III Construction in the IBC (FRT firestop shall only be used with FRT framing)
Cavity Insulation	SealTite PRO HFO or Henry HFO Closed Cell Spray Foam – 1 1/2-inch minimum up to full cavity thickness.
Exterior Sheathing	None
Exterior Insulation Use Items 1 - 3 for all cladding types Items 4 - 8 limited to Cladding Types 1 - 6.	1) Hunter Panels Xci Foil (Class A) - 3½" (max.) 2) Hunter Panels Xci-286 - 3½" (max.) 3) CCW R2+ SHEATHE - 3½" (max.) 4) Hunter Panels Xci Foil (Class A) - 4" (max.) 5) Hunter Panels Xci-286 - 4" (max.) 6) CCW R2+ SHEATHE - 4" (max.) 7) Hunter Panels Xci CG or Xci CG (Class A) – 4" (max.) 8) CCW R2+ MATTE or R2+ MATTE (Class A) - 4" (max.)
Weather Resistant Barrier Over Exterior Insulation Use any item 1 – 9 For additional engineered solutions for WRB's contact CSFI Technical Service Department	1) None 2) Hunter Xci VP-SA WRB 3) Carlisle Fire Resist 705 RS 4) Fire Resist Barithane VP 5) Fire Resist 705 VP (with 702 WB, Cav-Grip, or Low VOC Travel-Tack adhesives) 6) Fire Resist 705 FR-A (with CCW 702, 702LV, 702 WB, CAV-Grip, and Low VOC Travel Tack adhesives) 7) Fire Resist Barritech VP 8) Fire Resist Barritech NP (or NP LT) 9) Henry Air-Bloc 21 S, AB 33MR, AB 31MR, AB 17MR, AB 16MR The exterior insulation may be used with or without CavClear® Masonry Mat over the insulation with a maximum 1" air gap between the CavClear and the cladding. When CavClear is used, this may only be used with Cladding 1 – 6 or with thin brick/thin stone adhered to stucco as long as total thickness is ¾" min.
Exterior Cladding Use any Item 1 -17 Item 7 may use any tested/approved installation technique Items 8, 9, or 12 may use any standard installation technique *Table cont'd on next page*	1) **Brick** - 4" (nom.) clay or concrete brick or veneer with maximum 2" air gap behind the brick. Brick Ties/anchors 24" (max.) O.C. 2) **Stucco** – ¾" (min.) - exterior cement plaster and lath 3) **Limestone** – 2" (min.) using any standard non-open joint installation technique such as shiplap 4) **Natural Stone** (granite, limestone, marble, sandstone) – 2" (min.) using any standard non-open joint installation technique such as grouted/mortared stone 5) **Artificial Cast Stone** - 1½" (min.) complying with ICC-ES AC 51 using any standard non-open joint installation technique such as shiplap 6) **Terracotta Cladding** - 1¼" (min.) - solid or equivalent by weight - using any standard non-open joint installation technique such as shiplap 7) **Metal Composite Material (MCM)** - any MCM that has successfully passed NFPA 285 8) **Metal Building Panels** - Uninsulated sheet metal building panels including steel, copper, aluminum, or zinc (zinc not permitted for use with Hunter Panels Xci-CG or CCW R2+ MATTE) 9) **Fiber-cement Siding, Porcelain,** or **Ceramic Tile** – ¼" (min.) uninsulated and mechanically attached 10) **Composite Building Panels** - Stone, porcelain, ceramic/aluminum honeycomb composite building panels that have successfully passed NFPA 285 criteria 11) **Autoclaved-aerated-Concrete (AAC) Panels** – any AAC panels that have successfully passed NFPA 285 criteria

	12) **Terra Cotta Cladding** = ½" (min.) rain-screen terracotta with ventilated shiplap 13) **One Coat Stucco** – ½" (min.) - any one coat stucco which meets AC11 acceptance criteria or is approved for use in Types I-IV construction or has been tested per NFPA 285 or stays in place when tested per ASTM E119 (stucco exposed to fire) for at least 30 minutes 14) **Thin Brick** or **Cultured Stone** – ¾" (min.) in thin-set adhesive and metal lath tested to ASTM E119 (brick exposed to furnace) and remains in place for a minimum of 30 minutes or has passed an NFPA 285 test. 15) **Glen Gery Thin Tech Elite Series Masonry Veneer or TABS II Panel System** - ½" thick bricks using TABS Wall Adhesive or Brick It MCS & CI Panel Systems 16) **Stone Veneer** – 1¼" (min.) using any standard installation technique 17) **FunderMax M.Look** – ¼" (min.) using any standard installation technique
Window/Door Perimeters	The window opening perimeters shall be per UL Design Listings EWS0013, EWS0029, or EWS0054, as applicable were approved by the engineer and the local building official. For FRTW stud construction, openings are lined with 1½-inch-thick FRTW lumber.

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

Note 1: The following adhesives may be used to attach the polyiosyanurate (polyiso) insulation

1) LM 800 XL or BarriBond or BarriBond XL: adhesive applied discontinuously at a rate of ⅜" thick by 3" diameter dabs, 16" O.C.
2) CAV-GRIP™ or Low VOC Travel-Tack aerosol adhesive: applied per manufacturers' instructions

Note 2: The following may be used as a gap-filler between insulation panels:

1) ICP HandiFoam Fireblock
2) TVM Fireblock
3) DuPont Great Stuff PRO Gaps & Cracks Insulating Foam

Note 3: These detailing materials may be used over the polyiso insulation and can be used alone or with any approved WRB for the assembly

1) Board Joint Treatments:
   a. BarriBond or Barribond XL: 2" x 40 mil ribbon
   b. 4" DCH Reinforcing Fabric embedded in Fire-Resist VP/NP/NP LT or Fire-Resist Barrithane VP
   c. 4" Foil-GRIP 1402*
   d. 4" AlumaGRIP 701*
2) Termination Mastic for Flashing/Membrane: 1" x 40 mil ribbon or tooled ⅜" bead of SURE-SEAL Lap Sealant, LM 800 XL, BarriBond, or BarriBond XL
3) Detail Flashing: 3" on each side at Openings, Terminations, Penetrations, Transitions, and Angle Changes
   a. Fire Resist 705 FR-A/XLT*
   b. SURE-SEAL P/S Elastoform* or SURE-SEAL P/S Cover Strip*
   c. LiquiFiber or DCH Reinforcing Fabric embedded in Barritech VP/NP/NP LT
   d. 40 mil application of BarriBond, BarriBond XL, or Barrithane VP

   *Prepare the surface as recommended by Carlisle using CCW-702, CCW-702 LV, CCW-702 WB, CCW-715, Low VOC Travel-Tack, CAV-GRIP, HP 250 Primer, or Low VOC EPDM Primer per the instructions on Product Data Sheets

Note 4: In the NFPA 285 test, flashings for fenestration, including through-wall flashing (TWF), are not considered part of the WRB (Ref: 2015 IBC Sec. 1403.5 and 2018 IBC Sec. 1402.5). Therefore, suitable combustible or non-combustible flashings are permitted for wall assemblies as required in Building Code (Ref: 2015 IBC Sec. 1405.4 and 2018 IBC Sec. 1404.4).

Through Wall Flashing (TWF) is permitted for use in wall assemblies clad with masonry or stone at the base of wall, head of wall, relieving angle, window head, windowsill, and at other interruptions in the exterior cavity. TWF shall be applied at a maximum of 8" onto the back-up wall and terminate at daylight or onto a drip edge. The following TWF products may be used:

1) CCW-705 TWF/XLT*
2) Pre-Kleened EPDM TWF loose-laid or adhered with SURE-SEAL 90-8-30A bonding adhesive or SURE-SEAL low VOC Bonding adhesive
3) Metal TWF by others

Note 5: BRT-801 tape may be used over Fire-Resist 705 RS at membrane splices, terminations, and penetrations. Fire-Resist 705 RS and the substrate may be treated with CCW-702, CCW-702 LV, CCW-702 WB, or Low VOC Travel-Tack to promote adhesion of BRT-801.

Note 6: Approval of this product is beyond the scope of this review. Documentation of code compliance of this product shall be provided to the building official.

FLORIDA SUPPLEMENT

CARLISLE SPRAY FOAM INSULATION
100 Enterprise Drive
Cartersville, GA 30120
Phone: (770) 607-0755
www.CarlisleSFI.com

SEALTITE™ PRO HFO SPRAY-APPLIED POLYURETHANE FOAM PLASTIC INSULATION

ADDITIONAL COMPANY

HENRY A CARLISLE COMPANY
336 Cold Stream Rd.
Kimberton, PA 19442
(800) 468-1278
www.Henry.com

HENRY HFO CLOSED CELL SPRAY FOAM

CSI Section:
07 21 00 Thermal Insulation

1.0 RECOGNITION

The SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations as evaluated and represented in IAPMO UES Evaluation Report ER-720 and with changes as noted in this supplement are a satisfactory alternative for use in buildings built under the following codes (and regulations) including locations in the High-velocity Hurricane Zone:

- 2023 Florida Building Code, Building, (FBC, Building)
- 2023 Florida Building Code, Residential (FBC, Residential)
- 2023 Florida Building Code, Energy Conservation (FBC, Energy Conservation)

2.0 LIMITATIONS

Use of SealTite PRO HFO and Henry HFO Closed Cell spray-applied polyurethane foam plastic insulations recognized in this report are subject to the following limitations:

2.1 The clearance between the foam insulations installed above grade and exposed earth shall be in accordance with Sections 1403.8 and 2603.8 of the FBC, Building or Sections R318.7 and R318.8 of the FBC, Residential.

2.2 Verification shall be provided that a quality assurance agency audits the manufacturer's quality assurance program and audits the production quality of products in accordance with Section (5)(d) of Florida Rule 61G20-3.008. The quality assurance agency shall be approved by the Commission (or the building official when the report holder does not possess an approval by the Commission).

2.3 This supplement expires concurrently with ER-720.