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SEALTITE™ PRO NO TRIM 21 SPRAY-APPLIED POLYURETHANE FOAM PLASTIC INSULATION

CSI Section:
07 21 00 Thermal Insulation

1.0 RECOGNITION

SealTite™ PRO No Trim 21 spray-applied polyurethane foam plastic insulation described in this report has been evaluated for use as thermal insulation. The physical properties, thermal resistance, surface burning characteristics, water vapor transmission, fire-resistance-rating, attic and crawl space installations, and uses in Types I through V construction were evaluated for compliance with the following codes and regulations:

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

2.0 LIMITATIONS

Use of SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation recognized in this report is subject to the following limitations:

2.1 The insulation 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 Sections 4.5.1 and 4.5.2 of this report, the insulation shall be separated from the interior of the building by a code-complying thermal barrier.

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

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

2.5 The insulation shall be installed by professional spray polyurethane foam installers approved by Carlisle Spray Foam Insulation/or by the Spray Polyurethane Foam Alliance (SPFA).

2.6 Use of the insulation in areas of "very heavy" termite infestation probability shall be in accordance with IBC Section 2603.8 or IRC Section R318.4, as applicable.

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

2.8 Labeling and jobsite certification of the insulation and coatings shall comply with the following code sections as applicable:

- IBC Section 2603.2
- IRC Section R316.2
- IRC Section N1101.10.1.1
- IECC Sections C303.1.1.1 or R303.1.1.1

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

2.10 The insulation recognized in this report is produced by Carlisle Spray Foam Insulation in Cartersville, Georgia.

3.0 PRODUCT USE

SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation complies with IBC Section 2603, 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 assemblies or ceiling assemblies, and/or in attics and crawl spaces as nonstructural thermal insulation material. SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation 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.

4.0 PRODUCT DESCRIPTION

4.1 Properties: SealTite PRO No Trim 21 is a low density, open cell, spray-applied polyurethane foam plastic insulation in accordance with Section 3.1.1 and Table 1 of AC377. The insulation has a nominal in-place density of 0.75 pcf (12 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 maximum shelf life is six months.

4.2 Thermal Resistance (R-Values): SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation has 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.

TABLE 1 – Thermal Resistance (R-Values)	
Thickness (inch)	SealTite PRO No Trim 21 R-Value (°F•ft²•h/Btu)
1	4.4
1.75	7.6
2	8.6
3	13
3.5	15
4	17
4.5	19
4.75	20
5	21
5.25	22
5.5	23
7	30
7.5	32
8.25	35
9	39
9.5	40
11.5	49
14	59

For **SI:** 1 inch = 25.4 mm, 1°F·ft²·h/Btu = 0.176 110 K·m²/W.

4.3 Surface Burning Characteristics: At a maximum thickness of 4 inches (102 mm) and a nominal density of 0.75 pcf (12 kg/m^3) SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation yields a flame spread index of 25 or less and smoke-developed index of 450 or less when tested in accordance with ASTM E84.
Foam insulation thicknesses are not limited when covered by a code complying thermal barrier and installed in accordance with Section 4.5.1.1 of this report.

4.4 Fire-Protective Coatings and Coverings: Fire protective coatings, for use as part of alternative thermal barrier assemblies or alternative ignition barrier assemblies, shall be in accordance with Tables 2 or 3 of this report, as applicable, and installed in accordance with Section 4.5 of this report.

4.5 Installation: SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation shall comply with IECC Sections C402.1 or R402.1, as applicable.

The manufacturer's published installation instructions for SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation and this report shall be available on the jobsite during installation. Where conflicts occur, the most restrictive governs.

SealTite PRO No Trim 21 shall be spray-applied on the jobsite 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 insulation 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.

4.5.1 Thermal Barrier

4.5.1.1 Application with a Prescriptive Thermal Barrier: SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation at 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 or 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 4.5.2 but shall be installed between the insulation and the interior of the building.

4.5.1.2 Alternative Thermal Barrier Assemblies: SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation may be installed without a prescriptive thermal barrier as defined in Section 4.5.1 of this report when installed with a fire-protective coating as described in Table 2 of this report.

4.5.2 Installation in Attics or Crawl Spaces: SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation may be installed in attics or crawl spaces when installed in accordance with this section.

When installed in attics or crawl spaces where entry is made only for the service of utilities, SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation 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 4.5.1.1 of this report.

4.5.2.1 Installation Using a Prescriptive Ignition Barrier: When installed within attics or crawl spaces where entry is made only for the service of utilities, SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation, shall be covered with a prescriptive ignition barrier in accordance with IBC Section 2603.4.1.6 or IRC Sections R316.5.3 and R316.5.4, as applicable.

Exception: The prescriptive ignition barrier may be omitted when installed with an alternative ignition barrier assembly in accordance with Section 4.5.2.2 and Section 4.5.2.3 of this report.

4.5.2.2 Installation Using an Alternative Ignition Barrier Assembly: SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation may be installed in attics and crawl spaces using an alternative ignition barrier assembly 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 shall not be interconnected.
c. Air from the attic or crawl space shall not be circulated to other parts of the building.
d. Attic ventilation is provided as required by 2021 or 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:
   - 2021 or 2018 IBC Section 1202.3
   - 2015 IBC Section 1203.3
   - IRC Section R806.5

   Crawl space ventilation is provided as required by the following code sections as applicable:
   - 2021 or 2018 IBC Section 1202.4
   - 2015 IBC Section 1203.4
   - IRC Section R408.1

e. The foam plastic insulation is limited to the maximum thickness and density tested.
f. In accordance with the Uniform Mechanical Code (UMC) Section 701.1 or IMC (International Mechanical Code®) Section 701, combustion air is provided.
g. For SealTite PRO No Trim 21 the installed coverage rate or thickness of coatings shall as described in Section 4.5.2.3 of this report.

4.5.2.3 Installation Using an Alternative Ignition Barrier Assembly with Application of Fire-Protective Coatings: SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation may be spray-applied in attics to the underside of roof sheathing or roof rafters, and vertical surfaces; and may be spray-applied in crawl spaces to the underside of floors and vertical surfaces as described in this section.

The SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation shall be covered with a fire-retardant intumescent coating described in Table 3 of this report and as referenced in IAPMO UES ER-499.

The coating shall be applied over the insulation using airless spray equipment, roller, or a brush in accordance with the coating manufacturer's published installation instructions and this report. The ambient and substrate temperatures shall be within a range of 50°F (10°) to 90°F (32°C), and the surface shall be dry, clean, free of dirt and loose debris, and any other substance that could interfere with adhesion of the coating.

4.6 Fire-resistance-rated Wall Assembly 4 (2-hr rated Load-bearing Double Stud Wall): Double stud wall construction where each wall leaf shall consist of nominal 2 x 4 wood studs, spaced a maximum of 16" OC, with blocking at mid-height. The double-wall assembly shall include a minimum 1-inch gap between the framing for the individual wall leaves. Each wall leaf of the assembly shall be covered with 2 layers of minimum ⅝" type X gypsum wallboard applied vertically or at right angles to the wall leaf framing. The base layers shall be secured to the framing using min. #6 - 1⅝" long type W screws spaced at 8" OC. along the perimeter and in the field of the gypsum wallboard. The face layers, with vertical panel joints staggered from the base layer, shall be secured to the framing using #8 - 2½" long type W screws spaced at 8" OC along the perimeter and in the field, with the face layer screws staggered from the base layer screws. All face layer joints shall be covered using paper joint tape and joint compound. All fastener heads shall be covered using joint compound. SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation shall be spray-applied into the stud cavities in any thickness from partial fill to fully filling the stud cavities.

4.7 Use in Exterior Walls of Types I, II, III or IV Construction (IBC)

4.7.1 General: When SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation is used in exterior walls of Types I, II, III or IV construction of any height, the insulation shall comply with IBC Section 2603.5 and Section 4.7 of this report.

4.7.2 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 Table 4 and Table 5 of this report.

4.8 Water Vapor Transmission Using SealTite PRO VRC-2:

4.8.1 SealTite PRO VRC-2: SealTite PRO VRC-2 is an interior latex waterborne, vapor retarder paint coating formulated for use on SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation. The coating has a shelf life of 12 months.

4.8.2 Application: When tested to the requirements of ASTM E96, desiccant method, SealTite PRO No Trim 21 spray-applied polyurethane foam plastic insulation at a minimum thickness of 1-inch, with SealTite PRO VRC-2 coating applied at a minimum coating thickness of 32 wet mils (17 dry mils), achieves a Class II vapor retarder rating.

5.0 IDENTIFICATION

The spray foam insulation is identified with the following:

a. Manufacturer's name (Carlisle Spray Foam Insulation)
b. address and telephone number,
c. the product trade name (SealTite PRO No Trim 21)
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-618)

i. the name or logo of the inspection agency

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

or

IAPMO UES ER-618

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Spray-applied Foam Plastic Insulation, AC377, dated April 2020, (Editorially revised July 2020) including Appendix X.

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

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

6.4 Flammability Testing to NFPA 286, Standard Methods of Fire Tests for Evaluation Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.

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

6.6 Report and evaluation of testing for water vapor transmission with ASTM E96, desiccant method.

6.7 Reports of fire tests in accordance with ASTM E119.

6.8 The 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 No Trim 21 to assess conformance to the codes and standards shown in Section 1.0 of this report and documents the product's certification. SealTite PRO No Trim 21 is manufactured at the location noted in Section 2.10 of this report under a quality control program with periodic inspections under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

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	CEILINGS AND OVERHEAD SURFACES
DC315 [2]	14 WFT (9 DFT)	0.87 gal/100 ft^2	8.5	14

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.

TABLE 3 - ALTERNATIVE IGNITION BARRIER ASSEMBLIES				
FIRE-PROTECTIVE COATING/COVERING[1]			MAXIMUM SPF THICKNESS (inch)	
TYPE	MINIMUM THICKNESS (mils)	THEORETICAL APPLICATION RATE (COATINGS ONLY)	WALLS AND VERTICAL SURFACES	CEILINGS AND OVERHEAD SURFACES
DC315 [2]	4 WFT (3 DFT)	0.25 gal/100 ft^2	14	14

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.

TABLE 4 – NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES WITH SEALTITE PRO NO TRIM 21 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 5/8-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 No Trim 21** 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. (see 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. (see 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. (see 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. (see 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. (See 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 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.

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 5. NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES WITH SEALTITE PRO NO TRIM 21 APPLIED IN WALL STUD CAVITY WITH SPRAY FOAM INSULATION APPLIED ON THE EXTERIOR OF WALL ASSEMBLY

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 No Trim 21** 3) Any noncombustible insulation per ASTM E136 4) Any fiberglass insulation (faced or unfaced)
Exterior Sheathing	Minimum ½ - inch thick exterior gypsum sheathing
Exterior Insulation Item 1 limited to cladding types 1 - 7	1) SealTite PRO Closed Cell, SealTite PRO One Zero, and SealTite PRO HFO– 4-inch nominal thickness (max) 2) SealTite PRO Closed Cell, SealTite PRO One Zero, and SealTite PRO HFO – 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 (16 mil WFT) with Top Coat Paint (8 mils WFT Sherwin Williams Sher-Cryl or equivalent) For Items 8-20, air gap cannot exceed 2$^1/_2$ inches. All claddings non-open joint. Panel claddings may use vertical or horizontal Z girt attachment. Panel claddings may be vertical or horizontal.	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. 8) Aluminum cladding – 0.030-inch minimum thickness – non-open joint. 9) Steel cladding – 0.0149-inch minimum thickness – non-open joint 10) Copper cladding – 0.0216-inch minimum thickness – non-open joint. 11) Zinc cladding – 0.040-inch minimum thickness – non-open joint. 12) Concrete – 1-inch-thick minimum thickness using any standard non-open joint installation technique. 13) One-coat Stucco – 3/8-inch minimum exterior cement plaster and lath – non-open joint 14) Thin brick adhered with noncombustible mortar to ¾-inch minimum stucco base – non-open joint. 15) CMU: Minimum 1-inch-thick concrete masonry unit. Any standard non-open joint installation technique may be used. 16) ¼-inch fiber cement cladding – non-open joint. 17) Stone veneer – minimum 1-inch thick – non-open joint. 18) Terreal Zephir Evolution Rainscreen System (or similar Terra Cotta) minimum 9/16-inch thick – non-open joint.[1] 19) SwissPearl Carat Panels (ER-551)– 0.315-inch minimum thickness – non-open joint 20) FunderMax M.Look (minimum ¼-inch) – non-open joint[1]
Window/Door Perimeters	The window opening perimeters shall be per UL Design Listings EWS0013, EWS0029, or EWS0054, as applicable where approved by the engineer and the local building official. For FRTW stud construction, openings are lined with 1$^1/_2$-inch-thick FRTW lumber.

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.