

NFPA 285 COMPLIANCE

AtmoSeal VP System — Vapor-Permeable STPE Fluid-Applied Air and Water Barrier

Issued August 2026	Priest & Associates Consulting Engineering Evaluation Project No. 11480	Valid through May 7, 2029
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WHAT IS NFPA 285?

NFPA 285 is the Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components. It evaluates whether a complete exterior wall assembly will resist the vertical and lateral spread of flame when exposed to fire originating either inside the building or at the exterior face.

The International Building Code (IBC) requires NFPA 285 evaluation for exterior wall assemblies of Type I, II, III, or IV construction that contain combustible components — including fluid-applied water-resistive barriers, foam plastic insulation, and certain claddings. Triggering conditions differ by component: combustible water-resistive barriers are regulated where the building exceeds 40 feet in height above grade plane, while foam plastic insulation in exterior walls is regulated without a height threshold. Confirm the governing code edition and section for each project.

Key elements of the test

- Two-story wall assembly, minimum 18 feet tall by 13 feet 4 inches wide, with a window opening at the lower level.
- Interior burner and window burner produce a controlled 30-minute fire exposure.
- Thermocouples throughout the assembly monitor for flame propagation; pass/fail is determined by temperature thresholds and visual flame observation.
- Flames must not propagate more than 10 feet vertically above the window opening or 5 feet laterally from the centerline.
- Flames must not penetrate the wall cavity, reach the second story, or escape the assembly.

Because NFPA 285 tests the complete assembly — not individual products — compliance is established for specific combinations of base wall, sheathing, water-resistive barrier (WRB), insulation, and cladding. AtmoSeal VP is qualified for use in the assemblies listed in this document.

ATMOSEAL VP SYSTEM NFPA 285 COMPLIANCE

The AtmoSeal VP System has been independently evaluated by Priest & Associates Consulting, LLC (Engineering Evaluation Project No. 11480, issued May 7, 2026) for use in exterior wall assemblies complying with NFPA 285-19. The evaluation uses two NFPA 285 approvals as its base documents — UL ER16529-01 for Atlas ThermalStar EPS and DrJ Engineering TER 1306-03 for Atlas EnergyShield Polyiso — and concludes, based on ASTM E1354 cone calorimeter testing, that AtmoSeal VP is less flammable than at least one of the water-resistive barriers in those approvals. For bare water-resistive barrier use, the evaluation additionally cites UL NFPA 285 approval EWS0005.

AtmoSeal VP may therefore be substituted as the water-resistive barrier in the assemblies listed in the tables that follow. The evaluation is valid through May 7, 2029; confirm it remains current before submitting on a project.

Scope of the evaluation

NFPA 285 evaluates complete wall assemblies rather than individual products. Engineering Evaluation No. 11480 addresses AtmoSeal VP as the water-resistive barrier component within the assemblies listed in this document. AtmoFlash VP performs detailing and flashing at joints, seams, fastener heads, rough openings, penetrations, and transitions within these assemblies; the evaluation does not list detailing materials separately. For project-specific fire performance documentation, contact EPRO.

The scope of the evaluation is limited to flame propagation per NFPA 285. It makes no judgment on structural, sound transmission, or other performance criteria.

AtmoSeal VP also achieves ASTM E84 Class A surface burning characteristics (Flame Spread ≤ 25 , Smoke Developed ≤ 450), reported separately in the AtmoSeal VP Product Data Sheet.

APPROVED WALL ASSEMBLY OPTIONS

AtmoSeal VP is qualified for use in four distinct assembly pathways. Pathways A and B reference specific Atlas insulation products. Pathway C uses noncombustible mineral wool from any manufacturer. Pathway D permits AtmoSeal VP as a bare WRB with no exterior insulation. Components from one pathway cannot be mixed with another — each pathway must be used as a complete approval set.

WALL COMPONENT	APPROVED OPTIONS
Base Wall	20 GA min., 3-5/8 in. min. steel studs spaced 24 in. OC max., with 5/8 in. Type X gypsum wallboard interior — OR — base wall systems listed in the referenced approval, including cast concrete and CMU walls
Fire Stopping at Floor Lines	4 in. min., 4 pcf min. mineral wool installed friction-fit or with Z-clips — OR — firestopping listed in the referenced approval
Cavity Insulation	None; any noncombustible insulation per ASTM E136; mineral fiber (faced or unfaced); fiberglass (faced or unfaced); or any cavity insulation listed in the referenced approval
Exterior Sheathing	1/2 in. min. exterior gypsum sheathing — OR — sheathings listed in the referenced approval. Over stud base walls, sheathing is required as a substrate for AtmoSeal VP. Cast concrete and CMU base walls serve as the substrate directly and do not require sheathing.
Water-Resistive Barrier	AtmoSeal VP — applied at 20–25 mils (WFT = DFT), 20 mils minimum, directly to approved sheathing or to a cast concrete or CMU base wall. May be used bare (no exterior insulation) or under exterior insulation.

The tables in this document reproduce the component options of Engineering Evaluation No. 11480. Detailing at joints, openings, penetrations, and transitions is performed with AtmoFlash VP as described under Scope of the evaluation above.

PATHWAY A: ATLAS THERMALSTAR EPS

Reference: UL ER16529-01. Atlas EPS assemblies require the special window opening perimeter design shown in the engineering evaluation. The header treatment is mandatory; the mineral wool fire-safing at the jambs is a

Priest & Associates recommendation for added fire safety.

COMPONENT	APPROVED MATERIALS
Exterior Insulation	None; ThermalStar Type I up to 10.2 in.; Type II up to 7.2 in.; Type IX up to 5.4 in.; LWI 10 up to 10.2 in.; LWI 15 up to 7.2 in.; LWI 25 up to 5.4 in.; LCI 10 up to 10.2 in.; LCI 15 up to 7.2 in. — OR — 1 in. min., 4 pcf min. noncombustible mineral wool
Approved Claddings	Brick (nominal 4 in. clay brick or veneer, max. 2 in. air gap, ties/anchors 24 in. OC max.); concrete (min. 2 in. with max. 2 in. air gap); CMU (min. 4 in. with max. 2 in. air gap); limestone (min. 2 in.); natural stone veneer (min. 2 in.); precast artificial stone (min. 1-1/2 in., ICC-ES AC51); terra cotta (min. 1-1/4 in., solid); stucco (min. 3/4 in. exterior cement plaster and lath). Limestone, natural stone veneer, precast artificial stone, and terra cotta require a non-open joint installation technique such as shiplap.
Window Opening Detail	MANDATORY for all Atlas EPS assemblies. Header: 25 GA min. sheet metal (steel) flashing with 1 in. thick, 4 pcf mineral wool over the interior of the sheet metal — OR — any header design deemed more robust by analysis. Mineral wool fire-safing at the jambs is recommended by Priest & Associates for added fire safety; see the window opening drawing in the engineering evaluation.

PATHWAY B: ATLAS ENERGYSHIELD POLYISO

Reference: DrJ Engineering TER 1306-03. Polyiso assemblies offer the broadest range of approved cladding

options and do not require the special EPS window opening detail.

COMPONENT	APPROVED MATERIALS
Exterior Sheathing	1/2 in. or thicker exterior type gypsum sheathing; 2 in. thick precast concrete panels attached to structural elements; 7/16 in. min. FRT plywood panels per IBC Section 2303.2; NexGen Maxterra MgO 12, 16, or 20 mm. FRT plywood may only be used where insulation covers the membrane (Atlas polyiso or mineral wool), and is not permitted with EnergyShield XR. The “None” sheathing option is not available over stud base walls, where sheathing is required as a substrate for AtmoSeal VP; cast concrete and CMU base walls are themselves the substrate and need no sheathing.
Exterior Insulation	None; Atlas EnergyShield Pro up to 4 in.; EnergyShield CGF Pro up to 4 in.; EnergyShield Ply Pro up to 4-3/4 in. (with FRT plywood); Atlas EnergyShield XR up to 4 in. — OR — 1 in. min., 4 pcf min. noncombustible mineral wool. Multiple layers permitted.
Z-Girts (if required)	Metallic Z-girts; Horizontal Smart Ci-GreenGirt; Horizontal Armatherm FRR Z-girt; Knight Wall ThermaZee; Strongirt (horizontal only); SFS NH3 (horizontal only); Cascadia Clip (horizontal only). Strongirt carries additional limits: claddings must be 8 mm minimum thickness, and Strongirt may not be used with ACM, uninsulated sheet metal building panels, stone/aluminum honeycomb composite panels, or Reynobond ZCM zinc. Girt spacing must comply with wind load per the manufacturer’s instructions.
Approved Claddings	A maximum air gap of 2-1/4 in., measured from the inner face of the cladding to the insulation, applies across this entire cladding list. Brick or CMU veneer; stucco (3/4 in. min.); limestone (2 in. min.); natural stone (2 in. min.); cast artificial stone (1-1/2 in. min.); terra cotta (1-1/4 in. min.); any ACM that has passed NFPA 285; uninsulated sheet metal panels (aluminum, steel, copper, zinc); fiber-cement siding (1/4 in. min.); stone/aluminum honeycomb composite; AAC panels (1-1/2 in. min.); Reynobond ZCM zinc; Terreal Zephir Evolution terra cotta rainscreen (9/16 in. min.); CERACLAD; CUPACLAD slate; Glen-Gery Thin Tech and Tru-Brix; Telling Corium thin brick; thin brick or stone (3/4 in. min. clay brick, fully adhered); Telluride stone (1 in. min.); Nichiha cladding (5/16 in. per Intertek CCRR 0258); ceramic or porcelain tile; one-coat stucco (3/8–1/2 in.); noncombustible cement board with NFPA 285-approved EIFS lamina; SwissPearl fiber cement (8 mm min.); SpeedyMason thin brick rainscreen (9/16 in. min.). Individual claddings carry further conditions on joint treatment, mortar type, attachment, and substrate; see the referenced approval for the full conditions on each.

COMPONENT	APPROVED MATERIALS
Flashing of Openings	No flashing restrictions where the wall design references NFPA 285-12 and gypsum sheathing is used on the exterior of the studs, or with Base Wall option 1 or 2. Where the design references NFPA 285-23 or older editions under those same conditions, use a 24-gauge steel header with 0.040 aluminum surrounding the steel. The evaluation's third flashing case — polyiso direct-attached to studs with no exterior sheathing — does not apply to this system, because sheathing is required as a substrate for AtmoSeal VP over stud base walls.

PATHWAY C: MINERAL WOOL (ANY MANUFACTURER)

Noncombustible mineral wool may replace the foam insulation in any qualified assembly. Four pcf minimum density, one inch thick minimum, may replace polyiso because it is noncombustible. Mineral wool is not manufacturer-specific — products from any supplier (Rockwool, Owens Corning Thermafiber, Knauf, Johns Manville, etc.) are acceptable provided they meet the density and thickness requirements. This pathway also unlocks the combined cladding list from both Pathways A and B.

COMPONENT	APPROVED MATERIALS
Exterior Insulation	Unfaced noncombustible mineral wool meeting ASTM E136. Minimum 1 in. thick, minimum 4 pcf density. Any manufacturer. Multiple layers permitted.
Approved Claddings	Any cladding listed in Pathway A or Pathway B may be used. Where the mineral wool is 2 in. or thicker and 4 pcf or greater in density, the air gap from the mineral wool surface to the back of the cladding is unlimited, except for ACM that has passed NFPA 285 and Reynobond ZCM zinc, which remain restricted to 2-1/4 in. Where the mineral wool is less than 2 in. thick or less than 4 pcf density, the air gap is restricted to the figure listed for that individual cladding.
Z-Girts (if required)	Any Z-girt listed in Pathway B is acceptable, subject to the same limits — including the Strongirt cladding restrictions. Girt spacing must comply with wind load per the manufacturer's instructions.
Window Opening Detail	Mineral wool pathways do not require the special EPS window opening detail. Standard flashing per the referenced approval applies.

PATHWAY D: BARE WRB (NO EXTERIOR INSULATION)

AtmoSeal VP may be used with no exterior insulation on a noncombustible sheathing substrate. This pathway is qualified because AtmoSeal VP is less flammable (per ASTM E1354) than the WRB in UL NFPA 285 approval EWS0005, which permits ACM cladding directly over a bare WRB. Any cladding superior to ACM may replace

ACM in this pathway. This pathway does not apply to FRT plywood sheathing.

COMPONENT	APPROVED MATERIALS
Exterior Insulation	None.
Exterior Sheathing	Gypsum board or other noncombustible sheathings listed in the referenced approvals. This allowance does not apply to FRT plywood sheathing in the polyiso approval.
Approved Claddings	Any cladding listed in Pathway A or Pathway B. The evaluation states that the claddings in both referenced approvals meet the criterion of being equal or superior to ACM in NFPA 285 performance. Optionally, covering the membrane with mineral wool further reduces the combustibility of the wall.

IMPORTANT NOTES FOR SPECIFIERS

- Components from one pathway cannot be substituted into another. Materials in each approval table must be used together and not mixed with those of another approval.
- Pathway C (Mineral Wool) offers the broadest cladding flexibility — when mineral wool is used, claddings from both Pathway A and Pathway B may be specified.
- Pathway D (Bare WRB) is well-suited to renovation, low-rise commercial, and masonry-veneer projects where continuous exterior insulation is not required.
- AtmoSeal VP may only be used UNDER exterior insulation or with NO exterior insulation. It is not qualified as a water-resistive barrier applied over exterior insulation.
- Over stud base walls, exterior sheathing is REQUIRED as a substrate for AtmoSeal VP; the “no sheathing” option in the base Atlas approvals is not available in that condition. Cast concrete and CMU base walls serve as the substrate directly.
- This NFPA 285 qualification applies only to flame propagation per NFPA 285. It does not extend to structural, sound transmission, or other performance criteria.
- For submittal requirements — including the Assembly Compliance Statement identifying every component of the proposed wall assembly — see Guide Specification Section 07 27 26, Article 1.5 B.

PROJECT-SPECIFIC ASSEMBLIES

For wall assemblies that fall outside the configurations listed above, including alternate insulation manufacturers, contact EPRO. Additional engineering evaluations and project-specific approvals can be developed using the existing ASTM E1354 cone calorimeter data for AtmoSeal VP.

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