

Technical Hotline

Combustible AWRBs in Noncombustible Construction

Air and Water-resistive Barriers (AWRBs) such as peel and stick membranes, house wraps, and liquid applied membranes may be classified as “combustible” materials, depending on fire characteristics as measured in accordance with ASTM E1354¹ and ASTM E84². Use of combustible AWRBs is limited by the International Building Code (IBC)³ on noncombustible construction, with some exceptions. Combustible AWRBs may be used on noncombustible construction if any one of the following conditions are met:

1. Building height is less than or equal to 40-ft (12.2m) in height above grade plane.
2. The combustible AWRB is the only combustible component in the wall assembly and is protected with noncombustible cladding - brick, concrete, stone, terra cotta, stucco or steel - with minimum thickness as listed in the code.
3. The wall assembly (with the “combustible” AWRB) is tested in accordance with NFPA 285⁴ and meets NFPA 285 acceptance criteria or “has been evaluated for compliance by an approved agency based on an NFPA 285 tested assembly⁵.”

Proprietary wall assemblies developed by Sto Corp. with Sto AWRBs meet requirements for use on noncombustible construction of any height by following provision 2 or 3 above. For example, the StoPowerwall® Stucco System (Figure 1, p.2) protects the combustible AWRB with noncombustible cladding – stucco. The StoPowerwall® DrainScreen® System (Figure 2, p.2) has been evaluated for compliance with NFPA 285 acceptance criteria by ICC Evaluation Service. StoPowerwall® ci (Figure 3, p.2) was tested in accordance with NFPA 285 and met the conditions of acceptance.

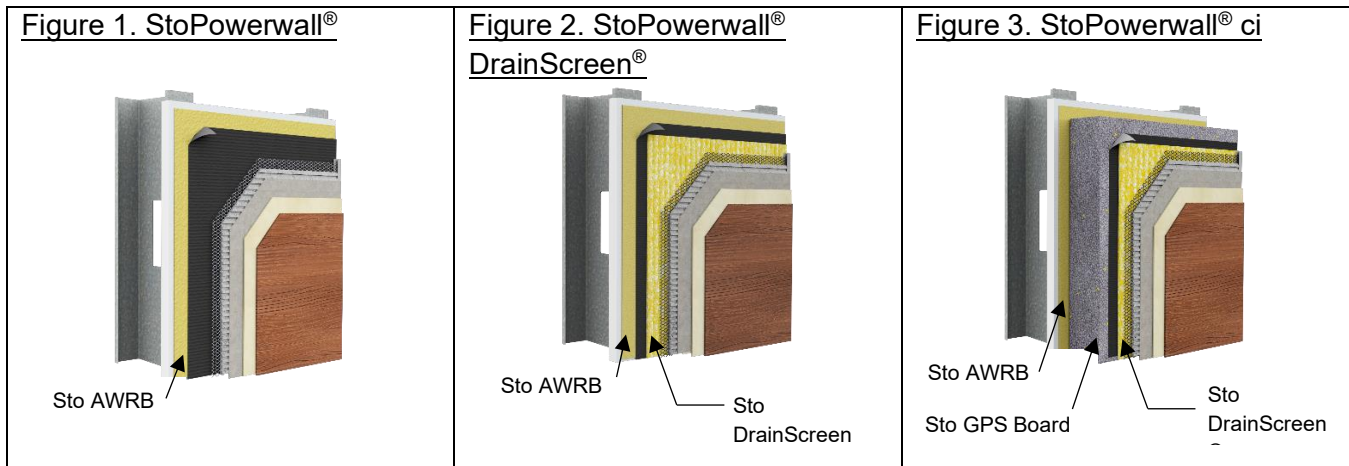
¹ ASTM E1354, *Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter*

² ASTM E84, *Standard Test Method for Surface Burning Characteristics*

³ See the 2021 IBC, Chapter 14, Section 1402.5.

⁴ NFPA 285, *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load Bearing Wall Assemblies Containing Combustible Components*. In some cases, analysis and an evaluation or engineering judgement can be used to qualify an assembly with a combustible AWRB. For example, if an assembly with combustible foam plastic insulation meets NFPA 285 acceptance criteria and the foam plastic is removed, the remaining assembly contains less combustible material and may be “judged” to be compliant with NFPA 285. Figures 2 and 3 above are identical, except for the absence of foam plastic insulation in Figure 2. All three illustrated assemblies are acceptable for use in noncombustible construction.

⁵ International Code Council, Inc., October 2020 *International Building Code (IBC)*, 2020, p. 14-1 – 14-2.



To facilitate selection of Sto AWRBs on noncombustible construction the table below lists Sto exterior wall systems and the Sto AWRB materials that can be used along with any limitations associated with NFPA 285 testing or evaluation.

Table 1: Sto Wall Systems and Use on Noncombustible Construction with Sto AWRBs

Sto Wall System		Tested or Evaluated for Compliance with NFPA 285		Sto AWRBs
EIFS			Limitations	
	StoTherm® ci EPS	Yes	Max 12-in EPS, Max 4-in EPS w Sto GoldSeal™ STPE	See Note 1
	StoTherm® ci GPS	Yes	Max 12-in GPS, Max 4-in GPS w Sto GoldSeal™ STPE	See Note 1
	StoTherm® ci XPS	Yes	Max 6-in XPS, Max 2-in XPS w Sto GoldSeal™ STPE	See Note 1
	StoTherm® ci MVES	Yes	Max 4-in EPS or GPS	Sto Gold Coat
	StoTherm® ci Mineral	Yes	(NFPA 285 not applicable)	Sto Gold Coat
Stucco	StoPowerwall®	Yes	None	See Note 2
	StoPowerwall® MVES	Yes	None	See Note 2
	StoPowerwall® DrainScreen®	Yes	None	See Note 2
	StoPowerwall® DrainScreen® MVES	Yes	None	See Note 2
	StoPowerwall® ci	Yes	Max 3-in GPS	See Note 2

	StoPowerwall® ci (Inbound)	Yes	Max 3-in GPS	See Note 2
Cement Board Stucco	StoQuik® Silver DrainScreen®	Not Tested	≤ 40-ft height per code requirement or EJ ³	Sto Gold Coat®
	StoQuik® Silver DrainScreen® MVES	Not Tested	≤ 40-ft height per code requirement or EJ ³	Sto Gold Coat®
Rainscreen	StoVentec® Glass	Yes	Mineral Wool ci required over AWRB	See Note 2
	StoVentec® Render	Yes	Mineral Wool ci required over AWRB	See Note 2
	StoVentec® MVES	Yes	Mineral Wool ci required over AWRB	See Note 2
	StoVentec® Fiber Cement	Yes	No additional combustible layers permitted (Mineral Wool ci not required over AWRB)	See Note 2

Notes:

1. All Sto AWRBs listed in ICC ESR-1748: Sto Gold Coat®, Sto AirSeal®, StoGuard® VaporSeal®. Listing of Sto GoldSeal™ STPE in ICC ESR-1748 is pending.
2. All Sto AWRBs: Sto Gold Coat®, Sto AirSeal®, StoGuard® VaporSeal®, Sto VaporSeal® R, Sto GoldSeal™ STPE, StoShield™ SA NP, StoShield™ SA VP
3. EJs, Engineering Judgements, are analyses that can be used to qualify wall assemblies that have not been tested in accordance with NFPA 285 but may closely resemble what was tested. An example of this is extension of results from an NFPA 285 tested EIFS wall assembly with a Sto AWRB to other Sto AWRBs based on comparative testing of the AWRBs in accordance with ASTM E1354.

Sto Americas Sto Corp. 3800 Camp Creek Parkway Building 1400, Suite 120 Atlanta, GA 30331 USA Toll Free: 1800 221 2397 www.stocorp.com	TH No. 0725_BSc Rev No. 000 Date: August 2025	<p style="text-align: center;">ATTENTION</p> <p>This product is intended for use by qualified professional contractors, not consumers, as a component of a larger construction assembly as specified by a qualified design professional, general contractor or builder. It should be installed in accordance with those specifications and Sto's instructions. Sto Corp. disclaims all, and assumes no, liability for on-site inspections, for its products applied improperly, or by unqualified persons or entities, or as part of an improperly designed or constructed building, for the nonperformance of adjacent building components or assemblies, or for other construction activities beyond Sto's control. Improper use of this product or use as part of an improperly designed or constructed larger assembly or building may result in serious damage to this product, and to the structure of the building or its components. <u>STO CORP. DISCLAIMS ALL WARRANTIES EXPRESSED OR IMPLIED EXCEPT FOR EXPLICIT LIMITED WRITTEN WARRANTIES ISSUED TO AND ACCEPTED BY BUILDING OWNERS IN ACCORDANCE WITH STO'S WARRANTY PROGRAMS WHICH ARE SUBJECT TO CHANGE FROM TIME TO TIME.</u> For the fullest, most current information on proper application, clean-up, mixing and other specifications and warranties, cautions and disclaimers, please refer to the Sto Corp. website, www.stocorp.com</p>
---	---	--