



Options for various wall system configurations without exterior insulation judged to be capable of meeting the performance requirements of NFPA 285 are summarized below. These options are based on Icynene NFPA 285 test results and related fire performance assessments detailed in Priest & Associates Consulting Engineering Evaluation (EEV) 10236B, Revision 2<sup>1</sup>. Window and door opening details appropriate to the specific system must be used.

**Table 1. Wall Assemblies with SPF in Stud Wall Cavity**

Wall Component	Materials
<b>Base Wall</b> – Use either 1, 2, 3 or 4	<ol style="list-style-type: none"> <li>1) Cast Concrete Walls.</li> <li>2) CMU Concrete Walls.</li> <li>3) 20 GA (min.), 3<sup>5</sup>/<sub>8</sub> in. (min.) up to 8 in. (max.) deep steel studs spaced 24 in. OC (max.).               <ol style="list-style-type: none"> <li>a. 5/8 in. type X Gypsum Wallboard Interior.</li> <li>b. 1/2 in. (min.) Exterior Gypsum Sheathing.</li> <li>c. Lateral bracing every 4 ft required for 3<sup>5</sup>/<sub>8</sub> in. studs.</li> </ol> </li> <li>4) FRTW studs: size and spacing as required by structural design, braced as required by code, with:               <ol style="list-style-type: none"> <li>a. 5/8 in. type X Gypsum Wallboard Interior</li> <li>b. 1/2 in. (min.) Exterior Gypsum Sheathing</li> </ol> </li> </ol>
<b>Fire-Stopping in Stud Cavity at floor-lines</b>	Any approved mineral fiber based safing insulation in each stud cavity at floor-line. Safing thickness must match stud cavity depth.
<b>Cavity Insulation</b> – Use either 1, 2, 3, 4, 5 or 6	<ol style="list-style-type: none"> <li>1) None</li> <li>2) ProSeal ECO, MD-C-200, ProSeal, ProSeal LE, Classic, Classic Max, Classic Plus, Classic Max Select (8 in. max. thickness, max. 2 in. air gap.).</li> <li>3) Any noncombustible insulation per ASTM E136.</li> <li>4) Any Mineral Fiber (Board type Class A, ASTM E84 faced or unfaced).</li> <li>5) Any Fiberglass (Batt Type Class A, ASTM E84 faced or unfaced).</li> <li>6) Any cavity insulation which has been tested per ASTM E1354 (at a min. of 20 kW/m<sup>2</sup> heat flux) and shown by analysis to be less flammable (improved T<sub>ign</sub>, Pk. HRR) than ProSeal ECO. Additionally, the cavity insulation shall represent a thickness such that the total heat release (THR) is less than or equal to the THR of the exterior insulations listed above.</li> </ol>
<b>Exterior Sheathing</b> – Use either 1 or 2	<ol style="list-style-type: none"> <li>1) None (for base wall systems 1 or 2 above).</li> <li>2) Min. 1/2 in. exterior gypsum sheathing.</li> </ol>
<b>WRB Membrane Over Sheathing</b> – Use either 1, 2 or 3 installed per mfr's application instructions.  Note for item 3. For all claddings, use the WRB membrane approved for use for	<ol style="list-style-type: none"> <li>1) None.</li> <li>2) Any WRB membrane shown in Table 2 ( for use with claddings 1-8)</li> <li>3) Any WRB membrane approved for use for each Cladding listed. See note.</li> </ol>

<sup>1</sup> Priest & Associates Consulting EEV 10236B, **Revision 2**, "Engineering Extensions for NFPA 285 Tests of Icynene Wall Designs With SPF in Stud Wall Cavity," .

that cladding in NFPA 285 assemblies	
<b>Exterior Insulation –</b>	1) None
<p><b>Exterior Claddings</b></p> <p>Use cladding 1-8 with WRB's in Table 2 or,</p> <p>Use any cladding listed. If a WRB is required, use the WRB approved for use for that cladding in NFPA 285 assemblies.</p>	<ol style="list-style-type: none"> <li>1) Brick – Nominal 4 in. clay brick or veneer with max. 2 in. air gap behind the brick. Brick Ties/Anchors 24 in. OC (max.).</li> <li>2) Stucco – min. ¾ in. thick exterior cement plaster and lath.</li> <li>3) Limestone – min. 2 in. thick using any standard non-open joint installation technique such as shiplap, with max. 2 in. air gap behind the cladding.</li> <li>4) Natural Stone Veneer – min. 2 in. thick using any standard non-open joint installation technique such as shiplap or grouted/mortared stone, with max. 2 in. air gap behind the cladding.</li> <li>5) Cast Artificial Stone – min. 1½ in. thick complying with ICC-ES AC 51 using any standard non-open joint installation technique such as shiplap.</li> <li>6) Terra Cotta Cladding – min. 1¼ in. thick (solid or equivalent by weight) using any standard non-open joint installation technique such as shiplap. Max. 1 in. air gap behind the cladding.</li> <li>7) Autoclaved-aerated-concrete (AAC) Panels – min. 1½ in. thick using any standard non-open joint installation technique such as shiplap, with max. 2 in. air gap behind the cladding.</li> <li>8) Precast Concrete Panels – min. 1½ in. thick using any standard non-open joint installation technique such as shiplap, with max. 2 in. air gap behind the cladding.</li> <li>9) Stone/Aluminum honeycomb composite building panels that have successfully passed NFPA 285 criteria</li> <li>10) Uninsulated sheet metal building panels including steel, copper and aluminum</li> <li>11) Uninsulated Fiber Cement siding, including lap and panel siding</li> <li>12) Any ACM or MCM that has successfully passed NFPA 285</li> <li>13) EIFS systems that have successfully passed NFPA 285</li> <li>14) Any cladding/WRB combination not listed here that is approved for NFPA 285</li> </ol>

**Table 2. Allowable Weather-Resistive Barrier Membranes for Table 1 (with claddings 1-8)**

<b>WRB Membrane – Applied to Sheathing</b>
W.R. Grace Perm-A-Barrier® VPS W.R. Grace Perm-A-Barrier® VPL W.R. Grace Perm-A-Barrier® Aluminum Wall Membrane (AWM) W.R. Grace Perm-A-Barrier® NPL
Carlisle (CCW) Fire Resist 705FR-A w/Primers Carlisle (CCW) Fire Resist Barritech™ NP Carlisle (CCW) Fire Resist Barritech™ VP
Henry Air Bloc® 31MR Henry Air Bloc® 33MR Henry Air Bloc® 21 FR Henry EnviroCap Henry Foilskin® Henry MetalClad™
Prosoco R-Guard Spray Wrap (NLA No longer Available) Prosoco R-Guard MVP (NLA) Prosoco Spraywrap MVP
VaproShield RevealShield® SA VaproShield WrapShield® SA

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