

# Technical Evaluation Report™

**TER 1306-03**

Fire Performance of EnergyShield® Products in Buildings of Type I-V Construction

**Atlas® Roofing Corporation**

**Product:**

**EnergyShield® Pro, and  
EnergyShield® CGF Pro,  
EnergyShield® Ply Pro**

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SECTION: 07 21 00 - Thermal Insulation

## 1 Product Evaluated<sup>1,2</sup>

- 1.1 EnergyShield® Pro, and EnergyShield® CGF Pro, EnergyShield® Ply Pro
  - 1.1.1 EnergyShield® CGF Pro was formerly known as Rboard® Pro

## 2 Applicable Codes and Standards<sup>3</sup>

### 2.1 Codes

- 2.1.1 *IBC—15, 18, 21: International Building Code®*
- 2.1.2 *IRC—15, 18, 21: International Residential Code®*
- 2.1.3 *IECC—15, 18, 21: International Energy Conservation Code®*
- 2.1.4 *FBC-B—17, 20: Florida Building Code – Building<sup>4</sup>*
- 2.1.5 *FBC-R—17, 20: Florida Building Code – Residential<sup>4</sup>*

### 2.2 Standards and Referenced Documents

- 2.2.1 *ASTM C1289: Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board*
- 2.2.2 *ASTM D1929: Standard Test Method for Determining Ignition Temperature of Plastics*
- 2.2.3 *ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials*
- 2.2.4 *ASTM E119: Standard Test Methods for Fire Tests of Building Construction and Materials*
- 2.2.5 *ASTM E136: Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750°C*
- 2.2.6 *ASTM E1354: Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter*
- 2.2.7 *NFPA 259: Standard Test Method for Potential Heat of Building Materials*

<sup>1</sup> For more information, visit [drjcertification.org](http://drjcertification.org) or call us at 608-310-6748.

<sup>2</sup> This TER is a code defined research report provided by an approved source (see IBC Section 1703.4.2) and an approved agency (see IBC Section 1703.1). Given that this TER is for new materials, as defined in IBC Section 1702, for which there are no approved rules or standards, IBC Section 1707.1 states that, "In the absence of approved rules or other approved standards, the building official shall accept duly authenticated reports (i.e., research reports) from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in IBC Section 104.11". A professional engineer is approved as an approved source when that professional engineer is properly licensed to transact engineering commerce.

<sup>3</sup> Unless otherwise noted, all references in this TER are from the 2021 version of the codes and the standards referenced therein. This material, design, or method of construction also complies with the 2000-2018 versions of the referenced codes and the standards referenced therein.

<sup>4</sup> All references to the FBC-B and FBC-R are the same as the 2018 IBC and IRC unless otherwise noted in the Florida Supplement at the end of this TER.



- 2.2.8 *NFPA 285: Standard Fire Test Method for the Evaluation of Fire Propagation Characteristics of Exterior Nonload-bearing Wall Assemblies Containing Combustible Components*
- 2.2.9 *NFPA 286: Standard Methods of Fire Test for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*
- 2.2.10 *UL 263: Standard for Fire Tests of Building Construction and Materials*
- 2.2.11 *UL 723: Test for Surface Burning Characteristics of Building Materials*

### 3 Performance Evaluation

- 3.1 Testing and related engineering evaluations are defined as intellectual property and/or trade secrets.
- 3.2 EnergyShield® Pro, EnergyShield® CGF Pro, and EnergyShield® Ply Pro were evaluated to determine:
  - 3.2.1 Performance for use in buildings of Type V construction in accordance with [IBC Section 2603](#) and [IRC Section R316](#).
  - 3.2.2 Performance for use in buildings of Type I-IV construction in accordance with [IBC Section 2603.5](#).
    - 3.2.2.1 Use in fire-resistance-rated wall assemblies in accordance with [IBC Section 2603.5.1](#).
    - 3.2.2.2 Use without a thermal barrier in accordance with [IBC Section 2603.4](#) and [IBC Section 2603.5.2](#).
    - 3.2.2.3 Use without an ignition barrier in accordance with [IBC Section 2603.4.1.6](#) and [IBC Section 2603.5.7](#).
    - 3.2.2.4 Potential heat generated by the foam plastic insulating sheathing (FPIS) in accordance with [IBC Section 2603.5.3](#).
    - 3.2.2.5 Surface-burning characteristics in accordance with [IBC Section 2603.3](#) and [IBC Section 2603.5.4](#).
    - 3.2.2.6 Performance with regard to vertical and lateral fire propagation in accordance with [IBC Section 2603.5.5](#).
    - 3.2.2.7 Performance with regard to ignition in accordance with [IBC Section 2603.5.7](#).
- 3.3 Engineering evaluations are conducted with DrJ's ANAB [accredited ICS code scope](#), which are also its areas of professional engineering competence.
- 3.4 Any regulation specific issues not addressed in this section are outside the scope of this TER.

### 4 Product Description and Materials

- 4.1 EnergyShield® Pro, EnergyShield® CGF Pro, and EnergyShield® Ply Pro are proprietary FPIS.
  - 4.1.1 EnergyShield® Pro is a polyisocyanurate (polyiso) insulation board that includes a coated aluminum foil facer material on the front side and a reflective aluminum facer on the backside (ASTM C1289 Type I, Class 1 and 2). The products are considered Class I vapor retarders at all thicknesses.
  - 4.1.2 EnergyShield® CGF Pro is a polyiso insulation board that includes a coated glass facer material on both sides (ASTM C1289 Type II, Class 2 sheathing).
  - 4.1.3 EnergyShield® Ply Pro is a polyiso insulation board that includes glass facers on both sides and is bonded on one side to an APA-TECO rated exposed fire retardant treated plywood (ASTM C1289 Type V).

## 4.2 Material Availability

### 4.2.1 EnergyShield® Pro and EnergyShield® CGF Pro:

4.2.1.1 Thickness: ½" (13 mm) through 4" (76 mm).

### 4.2.2 EnergyShield® Ply Pro:

4.2.2.1 Available with either a ⅝" or ¾" fire retardant treated plywood bonded to 1" through 4" coated glass faced polyiso.

4.2.2.2 Total thickness with ⅝" plywood: 1.6" through 4.6".

4.2.2.3 Total thickness with ¾" plywood: 1.7" through 4.7".

### 4.2.3 Standard product width: 48" (1219 mm).

4.2.3.1 Panels can also be supplied in nominal 16" and 24" widths for use in cavity wall applications.

### 4.2.4 Standard lengths: 96" (2,438 mm) and 108" (2,743 mm)

## 5 Applications

### 5.1 General

5.1.1 The insulation boards are FPIS in compliance with [IBC Section 2603](#).

5.1.1.1 EnergyShield® Pro complies with [IRC Section R316](#).

5.1.2 The insulation boards are used in buildings of Type I-IV construction in accordance with [IBC Section 2603.5](#).

5.1.2.1 EnergyShield® Pro is also used in buildings of Type V construction in accordance with [IBC Section 2603.4](#), [IBC Section 2603.5](#), [IBC Section 2603.10](#), and in residential construction, in accordance with [IRC Section R316](#).

5.1.3 Environmental Product Declarations (EPD) for EnergyShield® Pro, EnergyShield® CGF Pro, and EnergyShield® Ply Pro are available at [polyiso.org](http://polyiso.org).

### 5.2 Fire-Resistance-Rated Walls

5.2.1 EnergyShield® Pro was tested to assess its performance with regard to fire-resistance-rated walls in accordance with UL 263 (or ASTM E119) and [IBC Section 2603.5.1](#).

5.2.1.1 EnergyShield® Pro, and EnergyShield® CGF Pro have been accorded a UL BRYX listing per UL 723, which allows them to be used in UL 263 tested assemblies permitting products classified in accordance with the UL BRYX classification. Therefore, EnergyShield® Pro, EnergyShield® CGF Pro and EnergyShield® Ply Pro are approved for the following UL assemblies:

5.2.1.1.1 1-hour: [BXUV.W307](#)

5.2.1.1.2 2-hour: [BXUV.W307](#)

5.2.1.2 Additionally, EnergyShield® Pro, EnergyShield® CGF Pro and EnergyShield® Ply Pro are listed by name in the following designs:

- 5.2.1.2.1 45 Minutes: [BXUV.U424](#), [BXUV.U425](#), [BXUV.V321](#), [BXUV.V499](#), [BXUV.W456](#)
- 5.2.1.2.2 1-hour: [BXUV.U026](#), [BXUV.U326](#), [BXUV.U330](#), [BXUV.U354](#), [BXUV.U355](#), [BXUV.U364](#), [BXUV.U424](#), [BXUV.U425](#), [BXUV.U460](#), [BXUV.V499](#), [BXUV.V454](#), [BXUV.V455](#), [BXUV.W417](#), [BXUV.W429](#), [BXUV.W456](#)
- 5.2.1.2.3 1.5-hour: [BXUV.U424](#), [BXUV.U425](#), [BXUV.V499](#), [BXUV.W456](#)
- 5.2.1.2.4 2-hour: [BXUV.U424](#), [BXUV.U425](#), [BXUV.V499](#), [BXUV.U905](#), [BXUV.U906](#), [BXUV.U939](#), [BXUV.V455](#), [BXUV.W456](#)
- 5.2.1.2.5 3-hour: [BXUV.U904](#), [BXUV.U907](#), [BXUV.U939](#), [BXUV.W429](#)
- 5.2.1.2.6 4-hour: [BXUV.U902](#), [BXUV.U907](#), [BXUV.U939](#)

5.3 Thermal Barrier

5.3.1 EnergyShield® Pro insulation boards were tested in accordance with NFPA 286 on walls and on ceilings and have met the acceptance criteria of [IBC Section 803.1.1.1<sup>5</sup>](#) and [IRC Section R302.9.4](#) for use on either walls only or ceilings only without a thermal barrier, in accordance with [IBC Section 2603.4](#), [IBC Section 2603.5.2](#), [IBC Section 2603.9](#), [IRC Section R316.4](#) and [IRC Section R316.6](#).

5.4 Ignition Barrier

5.4.1 EnergyShield® Pro insulation boards were tested in accordance with NFPA 286 on walls and on ceilings and have met the acceptance criteria of [IBC Section 803.1.1.1<sup>6</sup>](#) and [IRC Section R302.9.4](#) for use on either walls only or ceilings only without an ignition barrier, in accordance with [IRC Section 316.5.3](#), [IRC Section 316.5.4](#), [IRC Section R316.6](#), [IBC Section 2603.4.1.6](#), [IBC Section 2603.5.2](#) and [IBC Section 2603.9](#).

5.4.2 EnergyShield® CGF Pro insulation boards were tested in accordance with NFPA 286 on walls and on ceilings and have met the acceptance criteria of [IBC Section 803.1.1.1<sup>7</sup>](#) and [IRC Section R302.9.4](#) for use on walls and ceilings without an ignition barrier, in accordance with [IRC Section 316.5.3](#), [IRC Section 316.5.4](#), [IRC Section R316.6](#), [IBC Section 2603.4.1.6](#), [IBC Section 2603.5.2](#) and [IBC Section 2603.9](#).

5.5 Potential Heat

5.5.1 The insulation boards were tested to assess the potential heat generated by the FPIS in accordance with [IBC Section 2603.5.3](#) and are shown in Table 1.

**Table 1. Potential Heat**

Product	Potential Heat (Btu/lb) <sup>1</sup>	Potential Heat (Btu/ft <sup>2</sup> /in)
EnergyShield® Pro	12,000	2,000
EnergyShield® CGF Pro		
EnergyShield® Ply Pro <sup>2</sup>		
SI: 1 Btu/lb = 2.326 kJ/kg, 1 Btu/ft <sup>2</sup> /in = 4.471 kJ/m <sup>2</sup> /cm 1. Tested in accordance with NFPA 259. 2. EnergyShield® Ply Pro foam only.		

<sup>5</sup> [2015 IBC Section 803.1.2.1](#)  
<sup>6</sup> [2015 IBC Section 803.1.2.1](#)  
<sup>7</sup> [2015 IBC Section 803.1.2.1](#)



5.6 Surface Burn Characteristics

5.6.1 The EnergyShield® products have the surface burn characteristics listed in Table 2 in accordance with IBC Section 2603.5.4.

**Table 2.** Surface Burn Characteristics

Product <sup>1</sup>	Flame Spread	Smoke Developed
EnergyShield® Pro	< 25	< 450
EnergyShield® CGF Pro		
EnergyShield® Ply Pro		
1. Foam core tested in accordance with UL 723. Flame spread and smoke developed numbers are shown for comparison purposes only.		

5.7 Vertical and Lateral Fire Propagation

5.7.1 EnergyShield® Pro was tested to assess its performance with regard to vertical and lateral fire propagation in accordance with NFPA 285 and IBC Section 2603.5.5.

5.7.1.1 Engineering analysis has also been conducted to assess substitution of other products within the approved wall assemblies, including EnergyShield® CGF Pro and EnergyShield® Ply Pro.

5.7.1.2 The wall assemblies listed in Table 3 are approved for use in buildings of Type I-IV construction.

5.7.2 The use of firestopping as described in Table 3 is required. The use of additional firestopping extending from the base wall through EnergyShield® products and terminating at the backside of the cladding is not approved.

**Table 3.** Approved NFPA 285 Wall Assemblies<sup>1</sup>

Wall Component	Materials
<b>Base Wall</b> Use any of these items No Sheathing is needed for 1 and 2.	1. Cast Concrete Walls (1" minimum) 2. CMU Concrete Walls (1" minimum) 3. 20 ga. (min.) 3 <sup>5</sup> / <sub>8</sub> " (min.) steel studs with 5/8"-thick Type X gypsum wallboard on interior 4. FRT wood studs spaced at a maximum of 24" o.c. with 5/8"-thick Type X gypsum wallboard on interior
<b>Floor Line Fire-Stopping</b> Use any of these items	1. None – only with exterior sheathing option 1, 3, or 4 (gypsum wallboard, concrete, or DensElement®) 2. 4 inch thick, 4 pcf mineral fiber (wool) safing insulation (e.g., Thermafiber®) installed with Z-clips or equivalent 3. 1½" FRT lumber for use with FRT studs
<b>Cavity Insulation</b> Use any of these items  Note: SPF cavity insulations 5 - 17 must use fire stopping at floor lines (compliant with Item 2) and 5/8" exterior gypsum sheathing.	1. None 2. Any noncombustible insulation per ASTM E136 3. Any mineral fiber (Board Type Class A ASTM E84 faced or unfaced) 4. Any fiberglass (Batt Type Class A ASTM E84 faced or unfaced) 5. 5½" (max.) Icynene LD-C-50 spray foam in 6" deep studs (max.) full fill without an air gap 6. 5½" (max.) Icynene MD-C-200™, 2 pcf spray foam in 6" deep studs (max.) full fill without an air gap 7. 5½" (max.) Icynene MD-R-210, 2 pcf spray foam in 6" deep studs (max.) full fill without an air gap 8. 6" (max.) SWD Urethane Quik-Shield (QS) 112, 2 pcf spray foam in 6" deep studs (max.) or partial fill with a maximum 2½" air gap 9. 3½" (max.) Gaco™ Western 183M spray foam in 3 <sup>5</sup> / <sub>8</sub> " deep studs (max.) 10. 3½" (max) Gaco™ Western F1850 with 5/8" exterior sheathing in 3 <sup>5</sup> / <sub>8</sub> " deep studs (max.) 11. 3 <sup>5</sup> / <sub>8</sub> " (max.) Demilec Sealection® 500 with 5/8" exterior sheathing in 3 <sup>5</sup> / <sub>8</sub> " deep studs (max.) 12. 3 <sup>3</sup> / <sub>8</sub> " (max.) Demilec HeatLok Soy 200 Plus® with 5/8" exterior sheathing in 3 <sup>5</sup> / <sub>8</sub> " deep studs (max.) 13. 3" (max.) Bayer Bayseal® with 5/8" exterior sheathing 14. 3" (max.) Lapolla FoamLok™ FL 2000 with 5/8" exterior sheathing in 3 <sup>5</sup> / <sub>8</sub> " deep studs (max.) 15. 3 <sup>5</sup> / <sub>8</sub> " (max.) BASF SprayTite® 81206 or WallTite® (US & US-N) with 5/8" exterior sheathing in 3 <sup>5</sup> / <sub>8</sub> " deep studs (max.)

Wall Component	Materials
<p><b>Exterior Sheathing</b> Use any of these items</p> <p>Note: when Items 4 or 5 (integrated sheathing WRBs) are used, WRBs listed below may not be added on top of the sheathing.</p> <p>Sheathings 1-6 are only used for stud base walls.</p> <p>No sheathing is needed for Base Walls 1 or 2.</p>	<p>16. 3<sup>5</sup>/<sub>8</sub>" (max.) Accella (Premium Spray Products) Foamsulate™ 220 with 5/8" exterior sheathing in 3<sup>5</sup>/<sub>8</sub>" deep studs (max.)</p> <p>17. JM Corbond III – Full stud Cavity depth or less for use with 5/8" exterior gypsum sheathing.</p> <p>1. 1/2" or thicker exterior type gypsum sheathing</p> <p>2. None – when cavity SPF insulation is not used</p> <p>3. 2" precast concrete panels attached to structural elements of building</p> <p>4. 1/2" or thicker GP DensElement® sheathing with integrated water-resistive barrier (WRB)</p> <p>5. 1/2" or 5/8" thick USG Securock® ExoAir 430</p> <p>6. 7/16" (min.) FRT plywood panels complying with IBC Section 2303.2 and installed following code allowances for Types I, II, III, or IV construction</p> <p>When SPF is used in the cavity, exterior sheathing must be used. See specific sheathing thicknesses above.</p>
<p><b>WRB over Base Wall</b> Use any of these items</p>	<ol style="list-style-type: none"> <li>1. None</li> <li>2. DuPont™ Tyvek CommercialWrap® or CommercialWrap® D or other Tyvek Wraps in ESR 2375 – stapled (one or two layers)</li> <li>3. Henry Air-Bloc® 32MR (75 wet mils) - Discontinued</li> <li>4. Any WRB which has been tested per ASTM E1354 (at a minimum 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 those listed above.<sup>2</sup> Examples of such are listed below:</li> <li>5. BASF Enershield® HP, Enershield®-I</li> <li>6. CCW 705, Fire Resist 705 VP, Fire Resist Barritech NP, VP, or VP LT</li> <li>7. Dow Chemical DefendAir 200 Low Temp or DefendAir 200 C (Charcoal)</li> <li>8. Dryvit Backstop® NT™, NT™ Smooth, NT™ Spray, NT™ Texture</li> <li>9. DuPont™ Fluid Applied (0.8 mm)</li> <li>10. GE Momentive Elemax 2600</li> <li>11. Grace Perm-A-Barrier® PAB VPL LT, PAB NPL 10, PAB NPL, PAB NPS, PAB VPS, PAB VPL, PAB AWM or PAB VPL 50</li> <li>12. Henry Air-Bloc® 21FR and Air-Bloc® VP 160</li> <li>13. Hohmann &amp; Barnard Enviro-Barrier™ VP, X Barrier™, Enviro-Barrier™</li> <li>14. Jumpstart HWW-65A, HWW-65B, HWHP-80A, HWMP-90A, HWD2-72A, HWHPT-92A, HWMPC-110A</li> <li>15. Parex WeatherSeal Spray and Roll On</li> <li>16. Prosoco R-Guard® Spray Wrap, Spray Wrap MVP, R-Guard® MVP, R-Guard® VB, R-Guard® Cat-5, or Cat-5 Rainscreen</li> <li>17. Sto Emerald Coat® or Gold Coat®</li> <li>18. STS Wall Guardian® FW 100A</li> <li>19. Tremco ExoAir® 230 (31.5 mils), ExoAir® 130, ExoAir® 111</li> <li>20. Vaproshield Wrapshield SA®, Revealshield SA®</li> <li>21. WR Meadows Air-Shield™ LMP (Gray), Air-Shield™ LMP (Black), Air-Shield™ TMP, Air-Shield™ LSR, Air-Shield™ SMP</li> <li>22. Soprema® LM 204 VP, Sopraseal® Stick VP, Sopraseal® 1100T, Soprasolin HD</li> <li>23. Siga Majvest 500 SA</li> <li>24. Dörken Systems Inc. DELTA®-STRATUS SA</li> <li>25. Fortifiber WeatherSmart, WeatherSmart Drainable, WeatherSmart Commercial</li> <li>26. Pecora XL-Perm<sup>ULTRA</sup> VP, XL-Perm<sup>ULTRA</sup> NP, ProPerm VP</li> <li>27. NaturaSeal NS-A-250LP, NS-A-250HP</li> <li>28. Master Wall Rollershield-RS</li> <li>29. Siplast WALLcontrol Modified Silicone (STPE) VP Liquid AWB</li> <li>30. Siplast WALLcontrol Reinforced Aluminum Butyl Adhered AWB</li> <li>31. Siplast FT Block-Aide</li> </ol>



Wall Component	Materials
<p><b>Z Girts</b> Use any of these items for claddings requiring girts</p>	<ol style="list-style-type: none"> <li>1. Metallic Z Girts</li> <li>2. Horizontal Smart Ci-GreenGirt</li> <li>3. Horizontal Armatherm FRR Z Girt</li> </ol> <p>Note: Girt spacing should be to comply with wind load per manufacturer instructions.</p>
<p><b>Exterior Insulation</b> Use any of these items</p> <p>Items 1-3 may be multiple layers of 1 inch thick (minimum)</p> <p>Items 1, 2, and 3 may be multiple layers of thinner product with facers on each side.</p>	<ol style="list-style-type: none"> <li>1. 4" (max.) Atlas® EnergyShield® Pro</li> <li>2. 4" (max.) EnergyShield® CGF Pro (or RBoard Pro)</li> <li>3. 4¾" (max.) EnergyShield® Ply Pro (4" Energyshield® CGF Pro with 5/8" or ¾" FRT Plywood)</li> </ol> <p>Note: ½" (min.) exterior gypsum sheathing may be attached to exterior side of any item listed above. 5/8" (min) FRT plywood may be attached to exterior side of Item 1 or 2 listed above.</p> <p>Note. GP DensGlass (min. ½") and GP DensElement (min. ½") may be installed exterior to ES Pro &amp; ES Pro CGF.</p> <p>Note. The listed sheathing products as installed over Items 1 &amp; 2 may only be covered with the WRB products listed to be used over insulation (see WRB list below this section) but are now used over the sheathing covering the insulation unless others are justified via Fire Engineering Evaluation. DensElement already has a WRB. No WRB goes over this product except the sheathing joint flashing listed in ICC ESR 3786.</p>
<p><b>WRB Over Exterior Insulation</b> Use any of these items</p> <p>Note – Item 2 is an insulation joint tape, not full coverage.</p> <p>Items 15 and 16 may only be used with claddings 1 - 6</p>	<ol style="list-style-type: none"> <li>1. None</li> <li>2. Atlas® 3" IPG Cold Weather Foil Tape</li> <li>3. CCW 705FR-A, Barritech NP, Barritech VP, VP LT, 705 VP</li> <li>4. Dow Chemical DefendAir 200 Low Temp or DefendAir 200 C (Charcoal)</li> <li>5. Dryvit Backstop® NT™, NT™ Smooth, NT™ Spray, NT™ Texture</li> <li>6. GE Momentive SEC 2500 Silshield, SilShield SEC2600 AWB (aka Elemax 2600)</li> <li>7. Grace Perm-a-Barrier® PAB AWM, PAB VPL, PAB VPS, PAB NPS, PAB NPL, PAB VPL LT</li> <li>8. Henry Foilskin, Metal Clad, Air-Bloc® 21FR, VP 160, AB 17</li> <li>9. Jumpstart HWW-65A, HWW-65B, HWHP-80A, HWMP-90A, HWD2-72A, HWHPT-92A, HWMPC-110A</li> <li>10. Parex WeatherSeal Spray and Roll On</li> <li>11. Prosoco R-Guard® VB, R-Guard® Cat-5, R-Guard® Cat-5 Rainscreen, Spraywrap MVP</li> <li>12. Sto EmeraldCoat®</li> <li>13. Vaproshield Wrapshield SA®, Vaproshield Revealshield SA®</li> <li>14. Soprema® Soprasolin HD (with any cladding)</li> <li>15. Soprema® Sopraseal Stick VP (only with claddings 1-6)</li> <li>16. Siga Majvest® 500 SA (only with claddings 1-6)</li> <li>17. DuPont™ Tyvek® CommercialWrap or CommercialWrap D or other Tyvek Wraps in ESR 2375</li> <li>18. WR Meadows Air-Shield SMP</li> <li>19. Fortifiber WeatherSmart, WeatherSmart Drainable, WeatherSmart Commercial</li> <li>20. Pecora XL-Perm<sup>ULTRA</sup> VP, XL-Perm<sup>ULTRA</sup> NP, ProPerm VP</li> <li>21. Master Wall Rollershield-RS</li> <li>22. Fortifiber 2 layers Super Jumbo Tex (only with Cladding #2 ¾" min. of stucco and 3½" max of Atlas® Polyiso listed in Section 1.1 and "Exterior Insulation" above)</li> </ol>
<p><b>Flashing of Opening Perimeter (Windows, Doors, etc.)</b></p>	<p>No restriction - except as noted below.</p> <p>When the Atlas® polyiso is directly attached to studs with no sheathing over the exterior side of studs, 24 GA. steel flashing shall be used.</p> <p>Exception - When the Atlas® polyiso is directly attached to studs and is covered with ½" (min.) gypsum sheathing, GP DensGlass, or DensElement, the 24 GA. steel flashing restriction is waived if the studs are firestopped at every floor line with mineral wool.</p>



Wall Component	Materials
<p><b>Exterior Cladding</b> Use any of these items</p> <p>Note: Cladding 8 (zinc) may only be used with EnergyShield® Pro or EnergyShield® Ply Pro.</p> <p>Max. Air Gap: 2-1/4"</p>	<ol style="list-style-type: none"> <li>1. Brick – nominal 4" clay brick or CMU veneer (hollow or solid) with maximum 2¼" air gap behind the brick or CMU. Brick ties/anchors 24" o.c. (max.)</li> <li>2. Stucco – minimum ¾" thick exterior cement plaster and lath. A secondary WRB (WRB items above allowed over foam) can be installed between the insulation and lath and must not be full-coverage asphalt or self-adhered membranes, but may be stapled asphalt paper or stapled grade D paper with no adhesive.</li> <li>3. Limestone – minimum 2" thick</li> <li>4. Natural stone veneer – minimum 2" thick</li> <li>5. Cast artificial stone – minimum 1½" thick complying with ICC-ES AC 51</li> <li>6. Terracotta cladding – minimum 1¼" thick</li> <li>7. Any ACM that has successfully passed NFPA 285</li> <li>8. Uninsulated sheet metal building panels including aluminum, steel, copper, or zinc (see note)</li> <li>9. Uninsulated fiber-cement cladding siding minimum ¼" thick</li> <li>10. Stone/aluminum honeycomb composite building panels that have successfully passed NFPA 285 criteria</li> <li>11. Autoclaved-aerated-concrete (AAC) panels (minimum 1½" thick)</li> <li>12. Reynobond® ZCM zinc metal composite panel</li> <li>13. Terreal Zephir® Evolution Rainscreen System (terra cotta), minimum 9/16" thick</li> <li>14. FunderMax® M.Look using the manufacturer standard installation technique. The air gap between the cladding and insulation or WRB must not exceed 1½".</li> <li>15. CERACLAD using the manufacturer standard installation technique with an air gap not exceeding 0.59" (15 mm).</li> <li>16. CUPACLAD Slate: 101 Logic, 101 Random, 101 Parallel, 210 Vanguard</li> <li>17. Glen-Gery Thin Tech Masonry Veneer (only with optional noncombustible mortar)</li> <li>18. Glen-Gery Tru-Brix (only with optional noncombustible mortar)</li> <li>19. Telling Corium Thin Brick System (only with steel or aluminum brick tray and optional noncombustible mortar)</li> <li>20. Thin brick (min. ¾-inch thick clay brick) fully adhered with cementitious mortar (standard or polymer-modified) to min. ½-inch thick cement backer board or gypsum sheathing. A secondary water-resistive barrier can be installed between the exterior sheathing and the brick. The secondary water-resistive barrier shall not be full-coverage asphalt or butyl-based self-adhered membranes.</li> <li>21. Telluride Stone (minimum 1") applied to the base wall (with Atlas® approved WRB or WRB in Cladding #20) using plaster/lath.</li> </ol>
<p>SI: 1 inch = 25.4 mm</p> <ol style="list-style-type: none"> <li>1. The assemblies combinations created herein and the various substitutions of products are based on testing and professional thermal engineering analysis by Jensen Hughes, Inc. and Priest and Associates.</li> <li>2. Acceptance criteria for ASTM E1354 testing have not been well established in the referenced building codes and foam sheathing related sections. The criteria stated here for substitution of products is based on testing and professional thermal engineering analysis by Priest and Associates. T<sub>ign</sub> is the time to ignition from the start of the test until the sheathing ignites. Pk. HRR is the peak heat release rate during the test.</li> </ol>	

## 5.8 Ignition

5.8.1 The insulation boards were evaluated to assess performance with regard to ignition in accordance with IBC Section 2603.5.7.

5.8.1.1 The insulation boards comply with this section when the exterior side of the sheathing is protected with one or more of the following materials:

5.8.1.1.1 A thermal barrier complying with IBC Section 2603.4.

5.8.1.1.2 A minimum 1" (25 mm) thickness of concrete or masonry.

5.8.1.1.3 Glass-fiber-reinforced concrete panels of a minimum thickness of 3/8" (9.5 mm).

5.8.1.1.4 Metal-faced panels having minimum 0.019" thick (0.48 mm) aluminum or 0.016" thick (0.41 mm) corrosion-resistant steel outer facings.

5.8.1.1.5 A minimum 7/8" (22.2 mm) thickness of stucco complying with IBC Section 2510.

5.9 Where the application falls outside of the performance evaluation, conditions of use and/or installation requirements set forth herein, alternative techniques shall be permitted in accordance with accepted engineering practice and experience. This includes but is not limited to the following areas of engineering: mechanics or materials, structural, building science, and fire science.

## 6 Installation

- 6.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this TER and the applicable building code.
- 6.2 In the event of a conflict between the manufacturer installation instructions and this TER, the more restrictive shall govern.
- 6.3 *Installation Procedure*
  - 6.3.1 All required wall bracing shall be installed prior to insulation board installation.
  - 6.3.2 The insulation boards should be oriented with the printed side facing the exterior side of the building.
  - 6.3.3 Insulation boards shall be installed horizontally with sheathing edges bearing directly on framing members and edges of abutting panels in moderate contact with each other.
  - 6.3.4 Secure the insulation boards to framing members with fasteners capable of resisting the imposed loads. Fasteners will vary, depending on the substrate and cladding materials.
    - 6.3.4.1 Fastener heads shall be a minimum of  $\frac{3}{8}$ " diameter. Do not allow the fastener head to penetrate the insulation board facer. Use of washers at the fastener head is recommended.
    - 6.3.4.2 Space fasteners a maximum of 12" o.c. at the perimeter and 16" o.c. in the field.
    - 6.3.4.3 For steel construction, fasteners shall be corrosion resistant, self-drilling screws with a minimum  $\frac{3}{4}$ " diameter cap washer. Fasteners shall be of sufficient length to penetrate through the framing a minimum of three (3) threads.
  - 6.3.5 Cladding materials shall be installed in accordance with the cladding manufacturer installation instructions.
  - 6.3.6 Additional information on the installation and detailing of foam sheathing can be found on the American Chemistry Council's Foam Sheathing Committee website at [americanchemistry.com](http://americanchemistry.com).

## 7 Substantiating Data

- 7.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:
  - 7.1.1 Contribution of materials to room fire growth in accordance with NFPA 286.
  - 7.1.2 Potential heat in accordance with NFPA 259.
  - 7.1.3 Flame spread and smoke developed ratings in accordance with ASTM E84 and UL 723.
  - 7.1.4 Fire performance criteria in accordance with NFPA 285.
  - 7.1.5 Ignition temperature in accordance with ASTM D1929.
- 7.2 Engineering analysis comparing the fire resistance properties of EnergyShield® Pro by Jensen Hughes, Inc.
- 7.3 Engineering analysis assessing the substitution of products within the approved NFPA 285 tested wall assemblies by Jensen Hughes, Inc.
- 7.4 Engineering analysis assessing the substitution of products within the approved NFPA 285 tested wall assemblies by Priest & Associates Consulting, LLC.
- 7.5 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies (i.e., ANAB accredited agencies), approved sources (i.e., registered design professionals [RDP]), and/or professional engineering regulations. Accuracy of external test data and resulting analysis is relied upon
- 7.6 Where pertinent, DrJ's analysis is based upon provisions that have been codified into law through state or local adoption of codes and standards. The developers of these codes and standards are responsible for the reliability of published content. DrJ's engineering practice may use a code-adopted provision as the control sample. A control sample versus a test sample establishes a product as being equivalent to the code-adopted provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.

- 7.7 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, Listings, certified reports, duly authenticated reports from approved agencies, and research reports prepared by approved agencies and/or approved sources provided by the suppliers of any raw materials. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this TER, may be dependent upon published design properties by others.
- 7.8 Testing and engineering analysis: The strength, rigidity and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.<sup>8</sup>

## 8 Findings

- 8.1 As delineated in Section 3, EnergyShield® Pro, and EnergyShield® CGF Pro, EnergyShield® Ply Pro have performance characteristics that were tested and/or meet pertinent standards and is suitable for use pursuant to its specified purpose.
- 8.2 When used and installed in accordance with this TER and the manufacturer installation instructions, EnergyShield® Pro, and EnergyShield® CGF Pro, EnergyShield® Ply Pro shall be approved for the following applications:
- 8.2.1 EnergyShield® Pro is approved for use in exterior or interior walls only or ceilings only without a thermal barrier in accordance with IBC Section 2603.9. However, installation on walls and ceilings in the same room is not approved.
- 8.2.2 EnergyShield® Pro may be installed at a maximum thickness of 4 inches (102 mm) to either walls only or ceilings only of attics and crawl spaces. The insulation boards are permitted to be installed exposed in attics and crawl spaces without a covering applied to the attic or crawl space side of the insulation boards provided all of the following conditions apply:
- 8.2.2.1 Attic ventilation is provided when required by IBC Section 1202.2.1<sup>9</sup> or IRC Section R806, except air-impermeable insulation is permitted in unvented attics in accordance with IRC Section R806.5.
- 8.2.2.2 Under-floor (crawl space) ventilation is provided when required by IBC Section 1202.4<sup>10</sup> or IRC Section R408.1, as applicable.
- 8.2.2.3 Combustion air is provided in accordance with IMC (International Mechanical Code) Section 701 EnergyShield®
- 8.2.3 CGF Pro & EnergyShield® Ply Pro Insulation Boards may be installed at a maximum thickness of 4 inches (102 mm) on walls and ceilings of attics and crawl spaces. The insulation boards are permitted to be installed exposed in attics and crawl spaces without a covering applied to the attic or crawl space side of the insulation boards provided all of the following conditions apply:
- 8.2.3.1 Entry into the attic is only for service to utilities, and no storage is permitted.
- 8.2.3.2 There are no interconnected attic areas or crawl space areas.
- 8.2.3.3 Air in the attic or crawl space is not circulated to other parts of the building.
- 8.2.3.4 Attic ventilation is provided when required by IBC Section 1202.2.1<sup>11</sup> or IRC Section R806, except air-impermeable insulation is permitted in unvented attics in accordance with IRC Section R806.5
- 8.2.3.5 Under-floor (crawl space) ventilation is provided when required by IBC Section 1202.4<sup>12</sup> or IRC Section R408.1, as applicable.

<sup>8</sup> See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition.

<sup>9</sup> 2015 IBC Section 1203.2

<sup>10</sup> 2015 IBC Section 1203.4

<sup>11</sup> 2015 IBC Section 1203.2

<sup>12</sup> 2015 IBC Section 1203.4

- 8.2.4 Combustion air is provided in accordance with IMC (International Mechanical Code) Section 701 EnergyShield® Pro, and EnergyShield® CGF Pro and EnergyShield® Ply Pro are approved for use in exterior walls of buildings of Type I-IV construction in accordance with [IBC Section 2603.5](#).
- 8.2.5 EnergyShield® Pro, EnergyShield® CGF Pro, and EnergyShield® Ply Pro are approved for use in exterior walls of buildings of Type I-IV construction in accordance with [IBC Section 2603.5.1](#) for fire-resistance-rated walls per the assemblies listed in Section 5.8.
- 8.2.6 EnergyShield® Pro, EnergyShield® CGF Pro, and EnergyShield® Ply Pro are approved for use in wall assemblies meeting the requirements of NFPA 285 testing when constructed in accordance with Table 3.
- 8.2.7 EnergyShield® Pro, EnergyShield® CGF Pro, and EnergyShield® Ply Pro described in this TER comply with, or are a suitable alternative to, the applicable sections of the codes listed in Section 2.
- 8.3 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from Atlas® Roofing Corporation.
- 8.4 [IBC Section 104.11](#) ([IRC Section R104.11](#) and [IFC Section 104.10](#)<sup>13</sup> are similar) in pertinent part states:
- 104.11 Alternative materials, design and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.
- 8.5 Approved:<sup>14</sup> Building codes require that [the building official shall accept duly authenticated reports](#)<sup>15</sup> or [research reports](#)<sup>16</sup> from [approved agencies](#) and/or [approved sources](#) (i.e., licensed RDP) with respect to the quality and manner of use of new products, materials, designs, services, assemblies, or methods of construction.
- 8.5.1 [Acceptability of an approved agency](#), by a building official, is performed by verifying that the agency is accredited by a recognized accreditation body of the [International Accreditation Forum](#) (IAF).
- 8.5.2 [Acceptability of a licensed RDP](#), by a building official, is performed by verifying that the RDP and/or their business entity is listed by the [licensing board](#) of the relevant [jurisdiction](#).
- 8.5.3 Federal law, [Title 18 US Code Section 242](#), requires that where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved, as denial without written reason deprives a protected right to free and fair competition in the marketplace.
- 8.6 DrJ is an engineering company, employs RDPs and is an ISO/IEC 17065 [ANAB-Accredited Product Certification Body – Accreditation #1131](#).
- 8.7 Through ANAB accreditation and the [IAF Multilateral Agreements](#), this TER can be used to obtain product approval in any [jurisdiction](#) or country that has [IAF MLA Members & Signatories](#) to meet the [Purpose of the MLA](#) – “*certified once, accepted everywhere.*”

## 9 Conditions of Use

- 9.1 Material properties shall not fall outside the boundaries defined in Section 3.
- 9.2 As defined in Section 3, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.

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<sup>13</sup> 2018 IFC Section 104.9

<sup>14</sup> Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC [Section 201.4](#) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

<sup>15</sup> <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1707.1>

<sup>16</sup> <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1703.4.2>



- 9.3 EnergyShield® Pro is approved for use in both interior and exterior walls.
- 9.4 When the insulation boards are used on exterior walls of buildings of Type I, II, III, or IV, construction must be as described in Table 3.
- 9.5 In areas where the probability of termite infestation is very heavy, in accordance with [IBC Section 2603.8](#), the product must not be placed on exterior walls located within 6" (152 mm) of the ground.
- 9.6 EnergyShield® Ply Pro may be used as an attachment for cladding per [IRC Section R703.3.3](#).
  - 9.6.1 Reductions for fasteners in fire retardant treated (FRT) material must be accounted for in accordance with the FRT manufacturer requirements.
- 9.7 As listed herein, EnergyShield® Pro, and EnergyShield® CGF Pro, shall not be used:
  - 9.7.1 As a nail base for claddings.
  - 9.7.2 To resist lateral loads.
    - 9.7.2.1 Walls shall be braced by other materials in accordance with the applicable code, and the exterior wall covering shall be capable of resisting the full design wind pressure.
- 9.8 The wall assemblies listed in Table 3 are based on compliance with the fire provisions of the codes listed in Section 2. Consideration of wall assembly performance with regard to other attributes, such as water vapor control, condensation, energy code requirements, etc. are outside the scope of this TER.
- 9.9 When required by regulation and enforced by the [building official](#), also known as the authority having jurisdiction (AHJ) in which the project is to be constructed:
  - 9.9.1 Any calculations, incorporated into the construction documents that are required to show compliance with this TER, shall conform to accepted engineering practice, and shall be approved when requirements of the relevant regulations are met.
  - 9.9.2 This TER and the installation instructions shall be submitted at the time of [permit](#) application.
  - 9.9.3 These products have an internal quality control program and a third-party quality assurance program.
  - 9.9.4 At a minimum, these products shall be installed per Section 6 of this TER.
  - 9.9.5 The review of this TER, by the AHJ, shall be in compliance with [IBC Section 104](#) and [IBC Section 105.4](#).
  - 9.9.6 These products have an internal quality control program and a third party quality assurance program in accordance with [IBC Section 104.4](#), [IBC Section 110.4](#), [IBC Section 1703](#), [IRC Section R104.4](#) and [IRC Section R109.2](#).
  - 9.9.7 The application of these products in the context of this TER is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by [IBC Section 110.3](#), [IRC Section R109.2](#) and any other regulatory requirements that may apply.
- 9.10 [Design loads](#) shall be determined in accordance with the building code adopted by the [jurisdiction](#) in which the project is to be constructed and/or by the building designer (i.e., [owner](#) or RDP).
- 9.11 The actual design, suitability, and use of this TER, for any particular building, is the responsibility of the [owner](#) or the owner's authorized agent.



## 10 Identification

- 10.1 The products listed in Section 1.1 are identified by a label on the board or packaging material bearing the manufacturer name, product name, TER number, and other information to confirm code compliance.
- 10.2 Additional technical information can be found at [atlasrwi.com](http://atlasrwi.com).

## 11 Review Schedule

- 11.1 This TER is subject to periodic review and revision. For the most recent version, visit [drjcertification.org](http://drjcertification.org).
- 11.2 For information on the current status of this TER, contact [DrJ Certification](http://DrJ Certification).

## 12 Approved for Use Pursuant to US and International Legislation Defined in Appendix A

- 12.1 EnergyShield® Pro, and EnergyShield® CGF Pro, EnergyShield® Ply Pro are included in this TER published by an approved agency that is concerned with evaluation of products or services, maintains periodic inspection of the production of listed materials or periodic evaluation of services, and whose TER Listing states either that the material, product, or service meets identified standards or has been tested and found suitable for a specified purpose. This TER meets the legislative intent and definition of being acceptable to the AHJ.



## 1 Appendix A: Legislation that Authorizes AHJ Approval

- 1.1 **Fair Competition:** State legislatures have adopted Federal regulations for the examination and approval of building code referenced and alternative products, materials, designs, services, assemblies and/or methods of construction that:
- 1.1.1 Advance Innovation,
  - 1.1.2 Promote competition so all businesses have the opportunity to compete on price and quality in an open market on a level playing field unhampered by anticompetitive constraints, and
  - 1.1.3 Benefit consumers through lower prices, better quality, and greater choice.
- 1.2 **Adopted Legislation:** The following local, state, and federal regulations affirmatively authorize EnergyShield® Pro, and EnergyShield® CGF Pro, EnergyShield® Ply Pro to be approved by AHJs, delegates of building departments, and/or delegates of an agency of the federal government:
- 1.2.1 Interstate commerce is governed by the Federal Department of Justice to encourage the use of innovative products, materials, designs, services, assemblies and/or methods of construction. The goal is to “protect economic freedom and opportunity by promoting free and fair competition in the marketplace.”
  - 1.2.2 Title 18 US Code Section 242 affirms and regulates the right of individuals and businesses to freely and fairly have new products, materials, designs, services, assemblies and/or methods of construction approved for use in commerce. Disapproval of alternatives shall be based upon non-conformance with respect to specific provisions of adopted legislation, and shall be provided in writing stating the reasons why the alternative was not approved, with reference to the specific legislation violated.
  - 1.2.3 The federal government and each state have a public records act. In addition, each state also has legislation that mimics the federal Defend Trade Secrets Act 2016 (DTSA).
    - 1.2.3.1 Compliance with public records and trade secret legislation requires approval through the use of listings, certified reports, Technical Evaluation Reports, duly authenticated reports and/or research reports prepared by approved agencies and/or approved sources.
  - 1.2.4 For new materials<sup>17</sup> that are not specifically provided for in any building code, the design strengths and permissible stresses shall be established by tests, where suitable load tests simulate the actual loads and conditions of application that occur.
  - 1.2.5 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design using accepted engineering practice.<sup>18</sup>
- 1.3 **Approved**<sup>19</sup> **by Los Angeles:** The Los Angeles Municipal Code (LAMC) states in pertinent part that the provisions of LAMC are not intended to prevent the use of any material, device, or method of construction not specifically prescribed by LAMC. The Department shall use Part III, Recognized Standards in addition to Part II, Uniform Building Code Standards of Division 35, Article 1, Chapter IX of the LAMC in evaluation of products for approval where such standard exists for the product or the material and may use other approved standards, which apply. Whenever tests or certificates of any material or fabricated assembly are required by Chapter IX of the LAMC, such tests or certification shall be made by a testing agency approved by the Superintendent of Building to conduct such tests or provide such certifications. The testing agency shall publish the scope and limitation(s) of the listed material or fabricated assembly.<sup>20</sup> The Superintendent of Building roster of approved testing agencies is provided by the Los Angeles Department of Building and Safety (LADBS). The Center for Building Innovation (CBI) Certificate of Approval License is TA24945. Tests and certifications found in a CBI Listing are LAMC approved. In addition, the Superintendent of Building shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in the California Building Code (CBC) Section 1707.1.<sup>21</sup>

<sup>17</sup> <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1706.2>

<sup>18</sup> IBC 2021, Section 1706.1 Conformance to Standards

<sup>19</sup> See section 8.3 for the distilled building code definition of Approved.

<sup>20</sup> Los Angeles Municipal Code, SEC. 98.0503. TESTING AGENCIES

<sup>21</sup> <https://up.codes/viewer/california/ca-building-code-2022/chapter/17/special-inspections-and-tests#1707.1>

- 1.4 **Approved by Chicago:** The Municipal Code of Chicago (MCC) states in pertinent part that an Approved Agency is a Nationally Recognized Testing Laboratory (NRTL) acting within its recognized scope and/or a certification body accredited by the American National Standards Institute (ANSI) acting within its accredited scope. Construction materials and test procedures shall conform to the applicable standards listed in the MCC. Sufficient technical data shall be submitted to the building official to substantiate the proposed use of any product, material, service, design, assembly and/or method of construction not specifically provided for in the MCC. This technical data shall consist of research reports from approved sources (i.e., MCC defined Approved Agencies).
- 1.5 **Approved by New York City:** The NYC Building Code 2022 (NYCBC) states in pertinent part that an approved agency shall be deemed<sup>22</sup> an approved testing agency via ISO/IEC 17025 accreditation, an approved inspection agency via ISO/IEC 17020 accreditation, and an approved product evaluation agency via ISO/IEC 17065 accreditation. Accrediting agencies, other than federal agencies, must be members of an internationally recognized cooperation of laboratory and inspection accreditation bodies subject to a mutual recognition agreement<sup>23</sup> (i.e., ANAB, International Accreditation Forum (IAF), etc.).
- 1.6 **Approved by Florida:** Statewide approval of products, methods, or systems of construction shall be approved, without further evaluation, by 1) A certification mark or listing of an approved certification agency, 2) A test report from an approved testing laboratory, 3) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, from an approved product evaluation entity; 4) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a professional engineer or architect, licensed in Florida. For local product approval, products or systems of construction shall demonstrate compliance with the structural wind load requirements of the Florida Building Code (FBC) through one of the following methods; 1) A certification mark, listing, or label from a commission-approved certification agency indicating that the product complies with the code; 2) A test report from a commission-approved testing laboratory indicating that the product tested complies with the code; 3) A product-evaluation report based upon testing, comparative or rational analysis, or a combination thereof, from a commission-approved product evaluation entity which indicates that the product evaluated complies with the code; 4) A product-evaluation report or certification based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a Florida professional engineer or Florida registered architect, which indicates that the product complies with the code; 5) A statewide product approval issued by the Florida Building Commission. The Florida Department of Business and Professional Regulation (DBPR) website provides a listing of companies certified as a Product Evaluation Agency (i.e., EVLMiami 13692), a Product Certification Agency (i.e., CER10642), and as a Florida Registered Engineer (i.e., ANE13741).
- 1.7 **Approved by Miami-Dade County (i.e., Notice of Acceptance [NOA]):** A Florida statewide approval is an NOA. An NOA is a Florida local product approval. By Florida law, Miami-Dade County shall accept the statewide and local Florida Product Approval as provided for in Florida legislation 553.842 and 553.8425.

<sup>22</sup> New York City, The Rules of the City of New York, § 101-07 Approved Agencies

<sup>23</sup> New York City, The Rules of the City of New York, § 101-07 Approved Agencies

- 1.8 **Approved by New Jersey:** Pursuant to Building Code 2018 of New Jersey in [IBC Section 1707.1 General](#),<sup>24</sup> it states: “In the absence of approved rules or other approved standards, the building official shall accept duly authenticated reports from [approved agencies](#) in respect to the quality and manner of use of new materials or assemblies as provided for in the administrative provisions of the [Uniform Construction Code \(N.J.A.C. 5:23\)](#)”.<sup>25</sup> Furthermore N.J.A.C 5:23-3.7 states: Municipal approvals of alternative materials, equipment, or methods of construction. **(a) Approvals:** Alternative materials, equipment, or methods of construction shall be approved by the appropriate subcode official provided the proposed design is satisfactory and that the materials, equipment, or methods of construction are suitable for the intended use and are at least the equivalent in quality, strength, effectiveness, fire resistance, durability and safety of those conforming with the requirements of the regulations.
1. A field evaluation label and report or letter issued by a nationally recognized testing laboratory verifying that the specific material, equipment, or method of construction meets the identified standards or has been tested and found to be suitable for the intended use, shall be accepted by the appropriate subcode official as meeting the requirements of (a) above.
  2. Reports of engineering findings issued by nationally recognized evaluation service programs, such as, but not limited to, the Building Officials and Code Administrators (BOCA), the International Conference of Building Officials (ICBO), the Southern Building Code Congress International (SBCCI), the International Code Council (ICC), and the National Evaluation Service, Inc., shall be accepted by the appropriate subcode official as meeting the requirements of (a) above. The [New Jersey Department of Community Affairs](#) has confirmed that technical evaluation reports, from any accredited entity listed by [ANAB](#), meets the requirements of item 2 given that the listed entities are no longer in existence and/or do not provide “reports of engineering findings”.
- 1.9 **Approved by the Code of Federal Regulations Manufactured Home Construction and Safety Standards:** Pursuant to Title 24, Subtitle B, Chapter XX, [Part 3282.14](#)<sup>26</sup> and [Part 3280](#),<sup>27</sup> the Department encourages innovation and the use of new technology in manufactured homes. The design and construction of a manufactured home shall conform with the provisions of Part 3282 and Part 3280 where key approval provisions in mandatory language follow: 1) “All construction methods shall be in conformance with accepted engineering practices”; 2) “The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur.”; and 3) “The design stresses of all materials shall conform to accepted engineering practice.”
- 1.10 **Approved by US, Local, and State Jurisdictions in General:** In all other local and state jurisdictions, the regulations require approval per Section 8 above.
- 1.11 **Approved by International Jurisdictions:** The [USMCA](#) and [GATT](#) agreements provide for approval of innovative materials, products, designs, services, assemblies and/or methods of construction through the [Technical Barriers to Trade](#) agreements and the [International Accreditation Forum \(IAF\) Multilateral Recognition Arrangement \(MLA\)](#), where these agreements:
- 1.11.1 Permit participation of [conformity assessment bodies](#) located in the territories of other Members (defined as GATT Countries) under conditions no less favourable than those accorded to bodies located within their territory or the territory of any other country,
  - 1.11.2 State that [conformity assessment procedures](#) (i.e., ISO/IEC 17020, 17025, 17065, etc.) are prepared, adopted, and applied so as to grant access for suppliers of like products originating in the territories of other Members under conditions no less favourable than those accorded to suppliers of like products of national origin or originating in any other country, in a comparable situation.
  - 1.11.3 State that conformity assessment procedures are not prepared, adopted, or applied with a view to or with the effect of creating unnecessary obstacles to international trade. This means that conformity assessment procedures [shall not be more strict](#) or be applied more strictly than is necessary to give the importing Member adequate confidence that products conform to the applicable technical regulations or standards.

<sup>24</sup> [https://up.codes/viewer/new\\_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1](https://up.codes/viewer/new_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1)

<sup>25</sup> <https://www.nj.gov/dca/divisions/codes/codreg/ucc.html>

<sup>26</sup> <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14>

<sup>27</sup> <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280>



1.11.4 **Approved:** The purpose of the IAF MLA is to ensure mutual recognition of accredited certification and validation/verification statements between signatories to the MLA, and subsequently acceptance of accredited certification and validation/verification statements in many markets based on one accreditation for the timely approval of innovative materials, products, designs, services, assemblies and/or methods of construction. Accreditations granted by IAF MLA signatories are recognised worldwide based on their equivalent accreditation programs, therefore reducing costs and adding value to businesses and consumers.



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Subject to Renewal: April 1, 2024

## FBC Supplement to TER 1306-03

### 1 Evaluation Subject

- 1.1 EnergyShield® Pro, EnergyShield® CGF Pro, EnergyShield® Ply Pro

### 2 Purpose and Scope

#### 2.1 Purpose

- 2.1.1 The purpose of this Technical Evaluation Report (TER) supplement is to show EnergyShield® Pro, EnergyShield® CGF Pro, EnergyShield® Ply Pro, recognized in TER 1306-03, has also been evaluated for compliance with the codes listed below as adopted by the Florida Building Commission.

#### 2.2 Applicable Code Editions

- 2.2.1 FBC-B—17, 20: Florida Building Code – Building
- 2.2.2 FBC-R—17, 20: Florida Building Code – Residential

### 3 Conclusions

- 3.1 EnergyShield® Pro, EnergyShield® CGF Pro, EnergyShield® Ply Pro, described in TER 1306-03, complies with the FBC-B and FBC-R and is subject to the conditions of use described in this supplement.
- 3.2 Where there are variations between the IBC and IRC and the FBC-B and FBC-R applicable to this TER, they are listed here:
  - 3.2.1 FBC-B Section 104.4 and Section 110.4 are reserved.
  - 3.2.2 FBC-R Section R104 and Section R109 are reserved.
  - 3.2.3 FBC-B Section 803.1.2.1 replaces IBC Section 803.1.1.1.
  - 3.2.4 FBC-R Section R703.3.2 replaces IRC Section 703.3.3.

### 4 Conditions of Use

- 4.1 EnergyShield® Pro, EnergyShield® CGF Pro, EnergyShield® Ply Pro, described in TER 1306-03, must comply with all of the following conditions:
  - 4.1.1 All applicable sections in TER 1306-03
  - 4.1.2 The design, installation, and inspections are in accordance with additional requirements of FBC-B Chapter 16 and Chapter 17, as applicable.