

## LEED® for Homes

### HOW WEATHER SHIELD PRODUCTS MAY CONTRIBUTE

The purpose of this document is to help residential designers and builders achieve the highest possible energy efficiency in their buildings or homes. Our products not only meet the testing guidelines of the National Fenestration Rating Council, the ANSI ICC 700-2008 and the ENERGY STAR® program, but exceed them by enough to gain extra credits! LEED is a standard that was consensus based to manage the development of environmentally responsible buildings. A LEED for Homes certified home must obtain a minimum of 45 points out of 136 (Silver 60 pt., Gold 75 pt., Platinum 90 pt). Additional benefits can be in the form of Tax and marketing incentives. More information is available through the USGBC at [www.usgbc.org](http://www.usgbc.org). Under LEED for Homes, fenestration falls under the Energy & Atmosphere PERFORMANCE path under the 3rd party HERS Index rating.

### EA: OPTIMIZE ENERGY PERFORMANCE EA 1 PERFORMANCE TEST (1–34 points)

**Intent:** Improve the overall energy performance of a home by meeting or exceeding ENERGY STAR® requirements.

#### EA: 4 WINDOWS (Maximum 3 points)

**Intent:** Maximize the energy performance of windows.

**Weather Shield Solutions:** Zo-e-shield® 5, 6 or 7 glazing systems and Low E<sup>2</sup> with inert gas exceed ENERGY STAR prerequisites by 25 to 100% (see Table 703.3.1).

**Aluminum Clad Wood/All-Wood Product Lines: Weather Shield®, Legacy Series® and Collections®:** Zo-e-shield 5 with inert gas can offer U-factor of 0.29 and Zo-e-shield 6 glazing systems have a U-factor of 0.30, SHGC of 0.20; Zo-e-shield 7 has a U-factor of 0.26 and a SHGC of 0.19 with an R-factor of 5.88. They also offer the industry's highest Condensation Rating (CR) of 62. Please see individual product performance data for more information.

**EnduraShield™ Fiberglass Clad/Wood/All-Fiberglass Product Lines:** Zo-e-shield 5 achieves a U-factor of 0.26 and Zo-e-shield 6 achieves a U-factor of 0.29 both with an SHGC of 0.20. Zo-e-shield 7 has a U-factor of 0.22 and an SHGC of 0.18 with a Condensation Rating (CR) of 67. Please see individual product performance data for more information.

**Vinyl Clad/All-Vinyl Product Lines: Proshield®, Visions 2000® and Visions 3000®:** Zo-e-shield 5 and 6 with inert gas can offer U-factors of 0.26 and SHGC of 0.20. LowE<sup>2</sup>/Argon gas, Bronze or Gray has a U-factor of 0.27, exceeding the required ENERGY STAR minimum of 0.35 (North) and 0.55 (South), and an SHGC of 0.19 vs 0.45 (North) and 0.35 (South). Additional strategies might include use of gray tinted glass to cut Visible Transmission of light for southern exposure walls or diffused glazing for transoms and/or daylighting of interior spaces. Please see individual product performance data for more information.

**For Coastal Areas and Weather Penetration: Lifeguard® and LifeGuard IG®:** LifeGuard IG impact-resistant products with similar U-factor and SHGC ratings, but have the additional protection of impact-resistance in hurricane-prone areas. LifeGuard single glazed units are tested for Florida Building Code and Dade County for winds up to 190 mph – almost 50 mph higher than the required standard test for impact for Missile Level D.

## NATIONAL GREEN BUILDING STANDARD ANSI ICC-700-2008

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Overview: The National Green Building Standard™ (ANSI ICC-700-2008) is verified by Accredited Verifiers via the NAHB Research Center. It is the

industry standard for residential, multi-family/mixed use and renovation projects. Performance levels for points are: Bronze (222), Silver (406), Gold (558) and Emerald (697). Projects must meet a minimum threshold in each Lot Design, Resource Efficiency, Energy Efficiency, Indoor Environmental Quality & Operation Maintenance/Education of Building Owner. The Green Remodel Path awards performance levels for reduction of energy and water by 20%, 34%, 43% and 50% for each of the color designations. Builders/developers seeking certification via the NGBS may apply via [www.NAHBGreen.org](http://www.NAHBGreen.org) website and use the "Green Scoring Tool" to see if the home qualifies and apply for verification.

### 604 RECYCLED CONTENT

**Intent:** Building material content per Table 604.1.

Table 604.1  
RECYCLED CONTENT

Material Percentage Recycled Content	Points Per 2 Minor	Points Per 2 Major
25% to less than 50%	1	2
50% to less than 75%	2	4
More than 75%	3	6

**Weather Shield Solutions:** Weather Shield products have high recycled content from 9% pre-consumer on vinyl, 60% on glass and up to 65% on aluminum extrusions (see schedule below).

Assembly Type	Recycled by Weight
Alum/Wood/Glass LoE	60%
Vinyl/Wood/Glass LoE	40.5%
Vinyl/Vinyl/Glass LoE	51%
Fiberglass/Glass LoE	49.3%

### 606 RENEWABLE MATERIALS

**Intent:** Building materials derived from renewable resources.

606.2 Wood products are certified by ATFS, CSA, FSC, PERC, FSC, SFI.

#### 606.2(2) MAJOR ELEMENTS (4 points)

**Weather Shield Solutions:** Collections, Legacy and Weather Shield lines come with wood options in Pine, Cherry, Oak, Maple, Mahogany, Fir and Character Alder. Wood makes up approximately 50-75% of the weight of the product (depending on size) and up to 75% of the cost. Letter of certification or source on invoice are available for verification process.

### 609 LIFE CYCLE ANALYSIS

**Intent:** Provide Life Cycle Assessment tool, comparing the environmental impact. (3 pt per product)

**Weather Shield Solutions:** The recycled content of most of the materials are 60% value to the window for glass, aluminum, vinyl, wood and packaging. Our products are 95 to 100% recyclable. Since products vary in materials, please request a specific LCA for your specific product/project.

#### 610.1 INNOVATIVE PRACTICES

(Manufacturer's environmental management systems)

**Intent:** Production facility is ISO 14001 certified or equivalent. Product(s) is 1 percent or more of total building cost (1 point per %).

**Weather Shield Solutions:** Our Park Falls Division in North Central Wisconsin stands as a shining example of Weather Shield's commitment to environmental protection. The manufacturing facility, parking lots,

loading docks and access roads required approximately 20 acres of land. Because more than one acre of wetlands was to be impacted during construction, Weather Shield underwent both “on-site” and “off-site” wetland compensatory mitigation. Weather Shield has a unique chemical recycling of paint materials, which diverts 95% of chemicals from landfills. Weather Shield products have high recycled content from 9% pre-consumer on vinyl, 60% on glass and up to 65% on aluminum extrusions (see schedule below).

## 701.4.4.1 FENESTRATION

**Intent:** Meets ENERGY STAR® for U-factor and SHGC (mandatory).

Table 701.4.4.1  
MAXIMUM FENESTRATION SPECIFICATIONS  
Windows & Exterior Doors

Climate Zone	U-Factor	SHGC
1 & 2	.65	.40
3	.40	.40
4 to 8	.35	ANY

Skylights and TDDs

Climate Zone	U-Factor	SHGC
1 to 3	.75	.40
4 to 8	.60	ANY

**Weather Shield Solutions:** Zo-e-shield® 5, 6 or 7 glazing systems and Low E<sup>2</sup> with inert gas exceed ENERGY STAR prerequisites by 25 to 75%, a possible contribution to energy design for Optimization Energy Performance to meet performance levels required under 702.2.

**Aluminum Clad Wood/All-Wood Product Lines: Weather Shield®, Legacy Series® and Collections®:** Zo-e-shield 5 with inert gas can offer U-factor of 0.29 and Zo-e-shield 6 glazing systems have a U-factor of 0.30, SHGC of 0.20; Zo-e-shield 7 has a U-factor of 0.26 and an SHGC of 0.19 with an R-factor of 5.88. They also offer the industry’s highest Condensation Rating (CR) of 62. Please see individual product performance data for more information.

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**Vinyl clad/all-vinyl lines: Proshield®, Visions 2000® and Visions 3000®:** Zo-e-shield 5 and 6 with inert gas can offer U-factors of 0.26 and SHGC of 0.20. LowE<sup>2</sup>/Argon gas. Bronze or Gray has a U-factor of 0.27, exceeding the required ENERGY STAR minimum of 0.35 (North) and 0.55 (South), and an SHGC of 0.19 vs 0.45 (North) and 0.35 (South). Additional strategies might include use of gray tinted glass to cut Visible Transmission of light for southern exposure walls or diffused glazing for transoms and/or daylighting of interior spaces. Please see individual product performance data for more information.

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## 702.2 EXCEED ENERGY: PERFORMANCE PATH

(Points cannot be claimed in both 702 & 703)

**Intent:** Provide analysis of ICC IECC performance.

15% better than	30 points
30% better than	60 points
50% better than	100 points
60% better than	120 points

## 703 EXCEED ENERGY: PERSCRIPTIVE PATH

(Points cannot be claimed in both 702 and 703)

**Intent:** Enhanced Fenestration per Table.

Table 703.3.1(b)  
ENHANCED FENESTRATION SPECIFICATIONS  
Windows & Exterior Doors

Climate Zone	U-Factor	SHGC
1 & 2	.45	.30
3	.35	.30
4 to 8	.30	ANY

Skylights and TDDs

Climate Zone	U-Factor	SHGC
1 to 3	.54	.35
4 to 8	.55	ANY

**Points**

Zones 1-3	8
Zones 4-5	5
Zones 6-8	6

Table 703.3.1(a)  
ENHANCED FENESTRATION SPECIFICATIONS  
Windows & Exterior Doors

Climate Zone	U-Factor	SHGC
1 & 2	.45	.25
3	.35	.25
4 to 8	.25	ANY

Skylights and TDDs

Climate Zone	U-Factor	SHGC
1 to 3	.50	.30
4 to 8	.50	ANY

**Points**

Zones 1-3	10
Zones 4-5	10

