



ENERGY STAR® Program Requirements for Exterior and Interior Storm Windows

Partner Commitments Draft 1 Version 1.0

Note: The Environmental Protection Agency (EPA) welcomes feedback on the following Draft 1 Partner Commitments (page 1-3) and Eligibility Criteria (page 4-7) documents for exterior and interior storm windows. EPA will provide a response to comment document on all feedback received from stakeholders and expects to release the final draft specification in the Fall of 2017, followed by another comment period. Please submit all comments and supporting information to windows@energystar.gov by August 31, 2017.

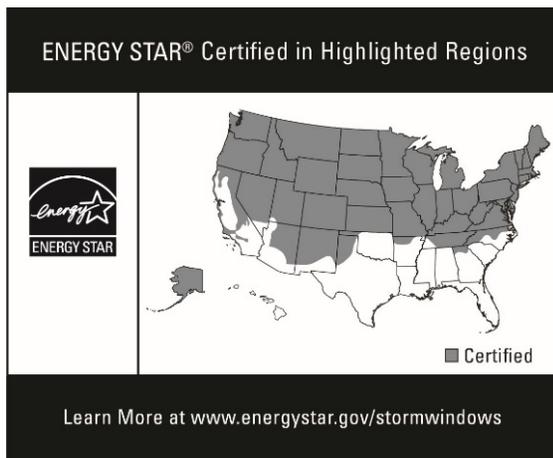
Following are the terms of the ENERGY STAR Partnership Agreement as it pertains to the manufacture and labeling of ENERGY STAR certified products. The ENERGY STAR Partner must adhere to the following partner commitments:

Certifying Products

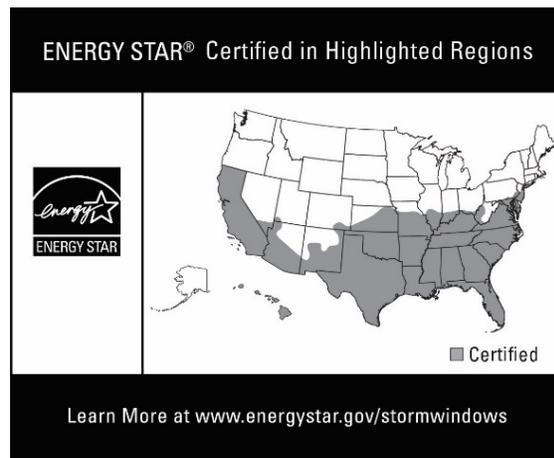
1. Comply with current ENERGY STAR Eligibility Criteria, which define performance requirements and test procedures for exterior and interior storm windows. A list of eligible products and their corresponding Eligibility Criteria can be found at www.energystar.gov/specifications.
2. **Prior to associating the ENERGY STAR name or mark with any product**, obtain certification from a third-party Certification Body recognized by EPA for storm windows. As part of this certification process, products must be tested in a laboratory recognized by EPA to perform storm windows testing. A list of EPA-recognized laboratories and Certification Bodies can be found at www.energystar.gov/testingandverification.

Using the ENERGY STAR Name and Marks

3. Comply with current ENERGY STAR Identity Guidelines, which define how the ENERGY STAR name and marks may be used. Partner is responsible for adhering to these guidelines and ensuring that its authorized representatives, such as advertising agencies, dealers, and distributors, are also in compliance. The ENERGY STAR Identity Guidelines are available at www.energystar.gov/logouse.
4. Use the ENERGY STAR name and marks only in association with certified products. Partner may not refer to itself as an ENERGY STAR Partner unless at least one product is certified and offered for sale in the U.S. and/or ENERGY STAR partner countries.
5. Provide clear and consistent labeling of ENERGY STAR certified storm windows.
 - 5.1. Use approved ENERGY STAR labels. Select the correct product label to indicate the climate zones in which the product meets the ENERGY STAR criteria. Use Label 1 if the product meets the requirements for the Northern and North-Central Zone and Label 2 if the product meets the requirements for the North-Central, Southern and South-Central Zone. Note that both labels are inclusive of the North-Central Zone.



Label 1: North/North-Central Zone



Label 2: North-Central/South-Central/South Zone

- 5.1.1. Place the label on the product packaging or affix a removable sticker directly to the product.
- 5.1.2. Labels must be either grayscale or cyan blue. The minimum size for product labels is 3" (width) X 2" (height), and width/height ratio of 3/2 must be maintained. The use of diagonal lines, crosshatching, dots or similar designs instead of shading to indicate climate zones is acceptable as long as state borders are clearly visible on the map.
- 5.2. The ENERGY STAR mark must be clearly displayed in product literature (i.e., spec sheets, catalogs, etc.), and on the manufacturer's website where information about ENERGY STAR certified models is displayed.

Verifying Ongoing Product Certification

6. Participate in third-party verification testing through a Certification Body recognized by EPA for storm windows, providing full cooperation and timely responses. EPA may also, at its discretion, conduct tests on products that are referred to as ENERGY STAR certified. These products may be obtained on the open market, or voluntarily supplied by Partner at the government's request.

Providing Information to EPA

7. Provide data on sales of ENERGY STAR certified storm windows to EPA at least once every 12 months.
8. Report to EPA any attempts by recognized laboratories or Certification Bodies to influence testing or certification results or to engage in discriminatory practices.
9. Notify EPA of a change in the designated responsible party or contacts within 30 days using the My ENERGY STAR Account tool (MESA) available at www.energystar.gov/mesa.

Performance for Special Distinction

To receive additional recognition from EPA for its efforts within the Partnership, the ENERGY STAR Partner may consider the following voluntary measures, and should keep EPA informed on the progress of these efforts:

- Provide quarterly, written updates to EPA as to the efforts undertaken by Partner to increase availability of ENERGY STAR certified products, and to promote awareness of ENERGY STAR and its message.
- Consider energy efficiency improvements in company facilities and pursue benchmarking buildings through the ENERGY STAR Buildings program.

- Purchase ENERGY STAR certified products. Revise the company purchasing or procurement specifications to include ENERGY STAR. Provide procurement officials' contact information to EPA for periodic updates and coordination. Circulate general ENERGY STAR certified product information to employees for use when purchasing products for their homes.
- Feature the ENERGY STAR mark(s) on Partner website and other promotional materials. If information concerning ENERGY STAR is provided on the Partner website as specified by the ENERGY STAR Web Linking Policy (available in the Partner Resources section of the ENERGY STAR website), EPA may provide links where appropriate to the Partner website.
- Ensure the power management feature is enabled on all ENERGY STAR certified displays and computers in use in company facilities, particularly upon installation and after service is performed.
- Provide general information about the ENERGY STAR program to employees whose jobs are relevant to the development, marketing, sales, and service of current ENERGY STAR certified products.
- Provide a simple plan to EPA outlining specific measures Partner plans to undertake beyond the program requirements listed above. By doing so, EPA may be able to coordinate, and communicate Partner's activities, provide an EPA representative, or include news about the event in the ENERGY STAR newsletter, on the ENERGY STAR website, etc. The plan may be as simple as providing a list of planned activities or milestones of which Partner would like EPA to be aware. For example, activities may include: (1) increasing the availability of ENERGY STAR certified products by converting the entire product line within two years to meet ENERGY STAR guidelines; (2) demonstrating the economic and environmental benefits of energy efficiency through special in-store displays; (3) providing information to users (via the website and user's manual) about energy-saving features and operating characteristics of ENERGY STAR certified products; and (4) building awareness of the ENERGY STAR Partnership and brand identity by collaborating with EPA on one print advertorial and one live press event.
- Join EPA's SmartWay Transport Partnership to improve the environmental performance of the company's shipping operations. The SmartWay Transport Partnership works with freight carriers, shippers, and other stakeholders in the goods movement industry to reduce fuel consumption, greenhouse gases, and air pollution. For more information on SmartWay, visit www.epa.gov/smartway.
- Join EPA's Green Power Partnership. EPA's Green Power Partnership encourages organizations to buy green power as a way to reduce the environmental impacts associated with traditional fossil fuel based electricity use. The partnership includes a diverse set of organizations including Fortune 500 companies, small and medium businesses, government institutions as well as a growing number of colleges and universities. For more information on Green Power, visit www.epa.gov/greenpower.



ENERGY STAR® Program Requirements for Exterior and Interior Storm Windows

Eligibility Criteria Draft 1 Version 1.0

Following is the Draft 1 Version 1.0 product specification for ENERGY STAR certified exterior and interior storm windows. A product shall meet all of the identified criteria to earn the ENERGY STAR certification.

Note: The rationale for these eligibility criteria is discussed in the Framework Document and Criteria Analysis Report, available for download from the ENERGY STAR website. EPA requests that stakeholders provide comments on the proposed Draft 1 Specification and Criteria Analysis Report. During the comment period, EPA will hold a webinar to review the proposal. EPA will provide a response to comment document on all feedback received from stakeholders and expects to release the final draft specification in the Fall of 2017, followed by another comment period. Please submit all comments and supporting information to windows@energystar.gov by August 31, 2017.

1) Definitions:

Below are the definitions of the relevant terms in this document.

Product Definitions

- A. **Exterior Storm Window:** A fenestration attachment product consisting of a frame component and one or more pieces of glazing, installed over the exterior of a primary window in a residential building.
- B. **Interior Storm Window:** A fenestration attachment product consisting of a frame component and one or more pieces of glazing, installed over the interior of a primary window in a residential building.
- C. **Primary Window:** An assembled unit consisting of a frame/sash component holding one or more pieces of glazing functioning to admit light and/or air into an enclosure and designed for a vertical installation in an external wall of a residential building.
- D. **Operator Type:** A designation used to distinguish between fenestration products based on the how and if the products open and close.
 - i. **Operable product:** A product with panels that may be opened and shut to accommodate ventilation needs.
 - ii. **Non-operable product:** A product with panels that do not open (also called “fixed”).
- E. **Low-E Coating:** A microscopically thin metal or metallic oxide composition that is deposited directly on a glazing surface to reduce its thermal infrared emittance.

Performance Metrics

- F. **Emissivity:** The ratio of the radiative energy emitted by a surface to that of a black body at the same temperature. The ratio varies between zero (0) and one (1).
- G. **Solar Transmittance (Tsol):** The fraction of solar energy that passes through a glazing material. The value is expressed as a number between zero (0) and one (1).

- H. **Visual Transmittance (VT):** The fraction of visible light that passes through a fenestration system, including the glazing material and frame. The value is expressed as a number between zero (0) and one (1).
- I. **U-factor:** The heat transfer per time per area and per degree of temperature difference (Btu/h ft² · °F). The U-factor multiplied by the interior-exterior temperature difference and the projected fenestration product area yields the total heat transfer through the fenestration product due to conduction, convection, and long-wave infrared radiation.
- J. **Solar Heat Gain Coefficient (SHGC):** The ratio of solar radiation that passes through a fenestration system due to incident solar radiation.
- K. **Air Leakage:** The volume of air flowing per unit time per unit area (cfm/ft²) through a fenestration system to the incident solar radiation.

Other Definitions

- L. **Residential Building:** A structure used primarily for living and sleeping that is zoned as residential and/or subject to residential building codes. For the purposes of ENERGY STAR, “residential building” refers to buildings that are three stories or less in height.
- M. **Climate Zone:** Geographic regions that share general climatic conditions, such as a range of heating degree days and cooling degree days. The climate zones referenced are defined in the ENERGY STAR Windows, Doors and Skylights program. These zones are based on the International Energy Conservation Code (IECC), with some modifications.
- N. **Weep Hole:** Small openings in the frame of an exterior storm window that allow water to drain out from between the storm window and primary window.
- O. **Thermal Break:** Low conductivity materials such as wood, plastic or other nonmetal material placed between two conductive materials to limit heat flow; in the context of storm windows, thermal breaks are used with metal frame windows.

2) Scope:

- A. **Included Products:** Products that meet the definition of an exterior and interior storm windows that are intended for use in residential buildings as specified herein are eligible for ENERGY STAR certification, with the exception of products listed under excluded products.
- B. **Excluded Products:** Products that are described below are ineligible for ENERGY STAR certification.
 - i. Exterior storm windows without weep holes or other features that allow moisture to drain from between the storm window and primary window.
 - ii. Storm windows that are intended for non-residential buildings.
 - iii. Partial components of exterior or interior storm window.

3) Certification Criteria:

- A. **Energy Efficiency Requirements:** To certify for ENERGY STAR, products shall have Emissivity and Solar Transmissions ratings certified by an approved third party certification body at levels which meet or exceed the certification criteria described in Table 1 and Table 2 for a given Climate Zone.

Table 1 Certification Criteria for Exterior Storm Windows

ENERGY STAR Climate Zone	Emissivity	Solar Transmission
Northern	≤ 0.22	> 0.55
North-Central	≤ 0.22	≤0.55 or > 0.55
South-Central	≤ 0.22	≤ 0.55
Southern	≤ 0.22	≤ 0.55

Table 2 Certification Criteria for Interior Storm Windows

ENERGY STAR Climate Zone	Emissivity	Solar Transmission
Northern	≤ 0.22	> 0.55
North-Central	≤ 0.22	> 0.55
South-Central	ENERGY STAR certification not available for Interior Storm Windows in these zones.	
Southern		

- A. **Air Leakage Requirements:** To certify for ENERGY STAR, products shall have Air Leakage ratings at levels which meet or exceed the certification criteria specified in Table 3.

Table 3 Air Leakage Requirements

Product	Air Leakage Rating
Exterior Storm Window	≤ 1.5 cfm/ft ²
Interior Storm Window	≤ 0.5 cfm/ft ²

- B. **Installation Instructions:** To certify for ENERGY STAR, storm window manufacturer shall provide installation instructions online (with web address on the package) or packaged with the product. The electronic versions of instructions may be provided on the website of retailer, manufacturer, and/or industry association. The instructions shall include:
- i. A list of hardware and tools required for installation.
 - ii. Diagrams and descriptions of product installation.
 - iii. Guidance on proper installation distance from primary window.
 - iv. Guidance on thermal breaks when installed over metal frame primary windows.
 - v. Guidance on properly sealed installation.
 - vi. Information on applicability of the storm window operator type to primary window operator type, especially with respect to any egress requirements.
 - vii. Provide a reference to safety requirements defined in local building codes

4) Test Requirements:

Test methods shown in Table 4 should be used to determine the ENERGY STAR certification for Exterior and Interior Storm Windows.

Table 4 Test Methods for ENERGY STAR Certification

ENERGY STAR Requirement	Test Method Reference
Emissivity	NFRC 301
Solar Transmission	NFRC 300
Air Leakage	ASTM E283 in accordance with AERC 1.2

5) Effective Date:

The ENERGY STAR Exterior and Interior Storm Windows specification shall take effect immediately upon publication. To be certified for ENERGY STAR, a product model must meet the ENERGY STAR specification in effect on the model's date of manufacturer. The date of manufacture is specific to each unit and is the date on which a unit is considered to be completely assembled.

6) Future Criteria Revisions:

ENERGY STAR reserves the right to change the specification should technological and/or market changes affect its usefulness to consumers, industry, or the environment. In keeping with current policy, revisions to the specification are arrived at through industry discussions. In the event of a specification revision, please note that the ENERGY STAR certification is not automatically granted for the life of a product model.