



ENERGY STAR®

Program Requirements for Residential Windows, Doors, and Skylights – Version 5.0

Partner Commitments

Eligible Organizations:

Manufacturers (and private labelers) of Residential Windows, Doors, and Skylights;
Manufacturers of Residential Window, Door, and Skylight Components

Commitment

The following are the terms of the ENERGY STAR Partnership Agreement as it pertains to the manufacturing and marketing of ENERGY STAR qualified windows, doors, and skylights. The ENERGY STAR PARTNER must adhere to the following program requirements:

- Comply with the current ENERGY STAR Eligibility Criteria defining the requirements that must be met for use of the ENERGY STAR on windows, doors, and skylights and specifying the National Fenestration Rating Council (NFRC) certification requirement for windows, doors, and skylights. The U.S. Department of Energy (DOE) may, at its discretion, conduct tests on products that are referred to as ENERGY STAR qualified. These products may be obtained on the open market or voluntarily supplied by PARTNER at DOE's request;
- Comply with current [ENERGY STAR Identity Guidelines](#), [ENERGY STAR Marks, Maps, and Messaging: Simplified Marketing Guidelines for Partners](#), and other guidelines specific to the program area. These guidelines describe how the ENERGY STAR name, marks, and labels may be used. PARTNER is responsible for adhering to these guidelines and for ensuring that its authorized representatives, such as advertising agencies, dealers, and distributors are also in compliance;
- Offer at least one ENERGY STAR qualified model of a window, door, or skylight or manufacture components that are used in the construction of qualified windows, doors, or skylights before activating this agreement. Windows, doors, or skylights must appear under the PARTNER's name in the National Fenestration Rating Council's (NFRC) Certified Product Directory (CPD);
- Provide clear and consistent labeling of ENERGY STAR qualified windows, doors, and skylights and display units for these products. When PARTNER labels the product, it must meet the specification in effect at that time. The ENERGY STAR for Windows, Doors, and Skylights Product Qualification Label must be clearly displayed on ALL qualified windows, doors, and skylights. ALL display units for qualified products must display the ENERGY STAR for Windows, Doors, and Skylights Display Unit Label. Labeling qualified products and display units is not optional. Components may not carry an ENERGY STAR label or logo. The appropriate ENERGY STAR mark must be clearly displayed on the manufacturer's Internet site and in product literature (e.g., catalogues, user manuals, spec sheets, etc.) where information about ENERGY STAR qualified models is displayed;
- Provide a [Qualified Product Information form \(QPI\)](#). Once PARTNER submits its QPI form, PARTNER's company name will be featured in the product search for ENERGY STAR qualified windows, doors, and skylights on the ENERGY STAR Web site. PARTNER is responsible for submitting a new QPI form at least once per year. TDD manufacturer partners must also submit a copy of the NFRC Certification Authorization Report documenting the computer simulated U-factor ratings for their qualified products. Component manufacturers do not need to provide QPI forms;
- Notify DOE of a change in the designated responsible party or contacts for windows, doors, and skylights within 30 days and update all contact and organization information at least once per year.

Performance for Special Distinction

In order to receive additional recognition and/or support from DOE for its efforts within the Partnership, the ENERGY STAR PARTNER may consider the following voluntary measures and should keep DOE informed on the progress of these efforts:

- May provide to DOE or its contractor for ENERGY STAR for Windows, Doors, and Skylights, on an annual basis, unit shipment data to assist in determining the market penetration of ENERGY STAR qualified windows, doors, and skylights. Specifically, PARTNER may submit the total number of ENERGY STAR qualified units shipped and the total number of units shipped to U.S. destinations broken down by product category (window, door, skylight) and state or regions specified by DOE.

The data for each calendar year may be submitted to DOE or its contractor, in electronic format, no later than March 31 of the following year and may be provided directly by PARTNER or through a third party. Data submitted to the DOE contractor for ENERGY STAR for Windows, Doors, and Skylights will be aggregated before it is transferred to DOE. The data will be used by DOE only for program evaluation purposes and will be closely controlled. If requested under the Freedom of Information Act (FOIA), DOE will argue that the data is exempt. Any information used will be masked by DOE so as to protect the confidentiality of PARTNER.

- Consider energy efficiency improvements in company facilities and pursue to benchmark their buildings through the ENERGY STAR Buildings program;
- Purchase ENERGY STAR qualified products. Revise the company purchasing or procurement specifications to include ENERGY STAR. Provide procurement officials' contact information to DOE for periodic updates and coordination. Circulate general ENERGY STAR qualified product information to employees for use when purchasing products for their homes;
- Ensure the power management feature is enabled on all ENERGY STAR qualified monitors 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 qualified product models;
- Feature the ENERGY STAR mark(s) on PARTNER web site and in other promotional materials. If information concerning ENERGY STAR is provided on PARTNER web site, DOE may provide links where appropriate to PARTNER web site;
- Provide a simple plan to DOE outlining specific measures PARTNER plans to undertake beyond the program requirements listed above. By doing so, DOE may be able to coordinate, communicate, and/or promote PARTNER's activities, provide a DOE representative, or include news about the event in the ENERGY STAR newsletter, on the ENERGY STAR web pages, etc. The plan may be as simple as providing a list of planned activities or planned milestones for which PARTNER would like DOE to be aware. For example, activities may include:
 - (1) Increase the availability of ENERGY STAR qualified products by converting the entire product line within two years to meet ENERGY STAR guidelines;
 - (2) Demonstrate the economic and environmental benefits of energy efficiency through special in-store displays twice a year;
 - (3) Provide information to users (via the web site and user's manual) about energy-saving features and operating characteristics of ENERGY STAR qualified products, and
 - (4) Build awareness of the ENERGY STAR Partnership and brand identity by collaborating with DOE on one print advertorial and one live press event;
- Provide quarterly, written updates to DOE as to the efforts undertaken by PARTNER to increase availability of ENERGY STAR qualified products and to promote awareness of ENERGY STAR and its message.



ENERGY STAR® Eligibility Criteria for Residential Windows, Doors, and Skylights

Below are the product criteria for ENERGY STAR qualified residential windows, doors, and skylights. A product must meet all of the identified criteria to be labeled as ENERGY STAR qualified by its manufacturer.

1) Definitions:

- a) 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.
- b) Door: A sliding or swinging entry door system designed for and installed in a vertical wall separating conditioned and unconditioned space in a residential building. ENERGY STAR recognizes three categories of doors:
 - i) Opaque: A door with no glazing.
 - ii) ≤ 1/2-lite: A door with ≤ 29.8 percent glazing (based on NFRC 100-2004 or the most recent procedure available from NFRC). Includes 1/4- and 1/2-lite doors.
 - iii) ≥ 1/2-lite: A door with > 29.8 percent glazing (based on NFRC 100-2004 or the most recent procedure available from NFRC). Includes 3/4-lite and fully glazed doors.
- c) Skylight: A window designed for sloped or horizontal application in the roof of a residential building, the primary purpose of which is to provide daylighting and/or ventilation. May be fixed or operable. Skylights have their own set of ENERGY STAR criteria. Tubular Daylighting Devices are included under the skylight criteria.
- d) Sliding Entry Door: A door that contains one or more manually operated panels that slide horizontally within a common frame. Sliding doors are included under the door criteria and definition.
- e) Swinging Entry Door: A door system having, at a minimum, a hinge attachment of any type between a leaf and jamb, mullion, or edge of another leaf or having a single, fixed vertical axis about which the leaf rotates between open and closed positions. Swinging entry doors are included under the door criteria and definition.
- f) Tubular Daylighting Device (TDD) or tubular skylight: A non-operable device primarily designed to transmit daylight from a roof surface of a residential building to an interior ceiling surface via a tubular conduit. The device consists of an exterior glazed weathering surface, a light transmitting tube with a reflective inside surface and an interior sealing device, such as a translucent ceiling panel. TDDs are included under the skylight criteria.
- g) Dynamic Glazing Product: Any fenestration product that has the fully reversible ability to change its performance properties, including U-factor, SHGC, or Visual Transmittance. This includes, but is not limited to, shading systems between the glazing layers and chromogenic glazing.
 - i) Switch-able Glazing Product: An electrochromic glass system that can be tinted or untinted in response to an electronic control signal or environmental change.
 - ii) Internal Shading System: A fenestration product that includes blinds or shades positioned between glass panes that can open or close.
- h) Window, door, and skylight components: Components used by an ENERGY STAR partner in the construction of an ENERGY STAR qualified window, door, or skylight including, but not limited to, coated glass, frame profiles, and warm-edge spacers.
- i) 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.
- j) Insulating Glass (IG) Unit: A preassembled unit, comprising lites of glass, which are sealed at the edges and separated by dehydrated space(s). The unit is used in glazed fenestration products.
- k) Private labeler: A company that has joined the NFRC private labeler program in order to market under its own name windows, doors, or skylights manufactured by a different company.
- l) U-Factor: The heat transfer per time per area and per degree of temperature difference. The U-factor multiplied by the interior-exterior temperature difference and by the projected fenestration product area yields the total heat transfer through the fenestration product due to conduction, convection, and long wave infra-red radiation. Expressed here in units of Btu/h·ft²·°F.

- m) Solar Heat Gain Coefficient (SHGC): The ratio of the solar heat gain entering the space through the fenestration product to the incident solar radiation. Expressed as a value between 0 and 1.
 - n) National Fenestration Rating Council (NFRC): NFRC provides product and energy performance data for windows, doors and skylights.
 - o) NFRC 2004 Procedures: Product testing and simulation procedures officially released by NFRC in 2004.
 - p) ENERGY STAR Climate Zone: See ENERGY STAR Climate Zone Map on page 5. A complete list of ENERGY STAR Climate Zones by state and county or, where applicable, zip code will be available from DOE or its contractor.
- 2) Eligible Products: Windows, doors, skylights, and dynamic glazing products (while in the minimum tinted state for switch-able glazing products or the full "OPEN" position for internal shading systems) for residential applications that appear in the NFRC CPD, meet the definitions specified above, and meet the testing, certification, and ENERGY STAR criteria specified on the next page.
 - 3) Testing and Certification Criteria: The performance of windows, doors, and skylights must be independently tested and certified in accordance with National Fenestration Rating Council (NFRC) procedures for U-Factor (NFRC 100) and Solar Heat Gain Coefficient (NFRC 200). All products containing insulating glass (IG) units must have them certified according to NFRC procedures when such procedures are established. TDDs must meet the skylight U-factor criteria using U-factor ratings certified under the NFRC computer simulation procedure.
 - 4) Effective Date: The effective date of this version of the Program Requirements, Version 5.0, is January 4, 2010, and supersedes all previous versions.
 - 5) 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. Keeping with current policy, industry/stakeholder discussions determine revisions to the criteria.
 - 6) ENERGY STAR Criteria: To qualify for ENERGY STAR, products must have NFRC certified U-Factor and, where applicable, Solar Heat Gain Coefficient (SHGC) ratings at levels which meet or exceed the minimum qualification criteria specified in the table on the following page. Windows and skylights must meet the criteria for a given ENERGY STAR Climate Zone. Window, door, and skylight products must be rated under the NFRC 2004 procedures or the most recent procedures available from NFRC.

Equivalent Energy Performance: Allows windows and sliding doors with energy performance equivalent to the prescriptive criteria to qualify in the Northern climate zones. Equivalent performance criteria are not applicable to the North-Central, South-Central, or Southern climate zones or to swinging entry doors or skylights.

ENERGY STAR® Qualification Criteria for Residential Windows, Doors, and Skylights

Windows

Climate Zone	U-Factor ¹	SHGC ²	
Northern	≤ 0.30	Any	Prescriptive
	≤ 0.31	≥ 0.35	Equivalent Energy Performance
	≤ 0.32	≥ 0.40	
North-Central	≤ 0.32	≤ 0.40	
South Central	≤ 0.35	≤ 0.30	
Southern	≤ 0.60	≤ 0.27	

Doors

Glazing Level	U-Factor ¹	SHGC ²
Opaque	≤ 0.21	No Rating
≤ ½ Lite	≤ 0.27	≤ 0.30
> ½ Lite	≤ 0.32	≤ 0.30

Skylights

Climate Zone	U-Factor ¹	SHGC ²
Northern	≤ 0.55	Any
North-Central	≤ 0.55	≤ 0.40
South Central	≤ 0.57	≤ 0.30
Southern	≤ 0.70	≤ 0.30

¹ Btu/h.ft².°F

² Fraction of incident solar radiation

