Purchasing Energy-Efficient Residential Storm Windows

Related Covered Product Categories

The Federal Energy Management Program (FEMP) provides acquisition guidance for residential storm windows, a product category covered by ENERGY STAR efficiency requirements. Federal laws and requirements mandate that agencies purchase ENERGY STAR-qualified products or FEMP-designated products in all product categories covered by these programs and in any acquisition actions that are not specifically exempted by law.

FEMP's acquisition guidance and associated ENERGY STAR efficiency requirements for residential storm windows are technology neutral, meaning that one technology is not favored over another. However, ENERGY STAR's product specification requirements are limited to products that meet the definition of a residential storm window as specified in ENERGY STAR's storm window product specification information.

All other residential storm window types are excluded, including but not limited to components of interior or exterior storm windows, and storm windows without weep holes.

This acquisition guidance was updated in December 2021.

Find Product Efficiency Requirements

The U.S. Environmental Protection Agency (EPA) provides residential storm window efficiency levels and product specification information on its ENERGY STAR website. Manufacturers meeting these requirements are allowed to display the ENERGY STAR label on complying models. Get a list of ENERGY STAR-certified residential storm windows.

Claim an Exception to Federal Purchasing Requirements

Products meeting ENERGY STAR or FEMP-designated efficiency requirements may not be life cycle cost-effective in certain low-use applications or in locations with very low rates for electricity or natural gas. However, for most applications, purchasers will find that energy-efficient products have the lowest life cycle cost.

Agencies may claim an exception to federal purchasing requirements through a written finding that no FEMP-designated or ENERGY STAR-qualified product is available to meet functional requirements, or that no such product is life cycle cost-effective for the specific application. Learn more about federal product purchasing requirements.

Incorporate Federal Acquisition Regulation Language in Contracts

These mandatory requirements apply to all forms of procurement, including construction guide and project specifications; renovation, repair, energy service, and operation and maintenance (O&M) contracts; lease agreements; acquisitions made using purchase cards; and solicitations for offers. Federal Acquisition Regulation (FAR) Part 23.206 requires agencies to insert the clause at FAR section 52.223-15 into contracts and solicitations that deliver, acquire, furnish, or specify energy-consuming products for use in federal government facilities. To comply with FAR requirements, FEMP recommends that agencies incorporate efficiency requirements into technical specifications, the evaluation criteria of solicitations, and the evaluations of solicitation responses.

Buyer Tips: Make Informed Product Purchases

All qualifying units must be certified and labeled by the National Fenestration Rating Council (NFRC). When buying fenestration products through commercial sources, choose those that are ENERGY STAR-qualified for the climate zone where they will be installed. When fenestration products are provided as part of a construction or renovation contract, specify the Emissivity and Solar Transmission for the appropriate climate zone.

To select or specify energy-efficient storm windows properly, federal buyers must be familiar with the following terms and strategies.

Emissivity

The relative ability of a surface to reflect or emit heat by radiation. Emissivity ranges from 0 to 1. Storm windows with a low-e coating reflect heat back inside the house during the winter and reflect it outside during the summer, keeping the home more comfortable.

Solar Transmittance (Tsol)

The ratio of transmitted radiant flux in the solar spectrum (300–2,500 nanometers) to incident radiant flux in the solar spectrum.

Air Leakage

Although an air leakage rating is not required by ENERGY STAR, air leakage through fenestration can be a significant source of heat loss or gain in a building. The air infiltration of many fenestration products is reported in the NFRC Certified Products Directory and on NFRC labels. The air leakage rate is a measure of how much air leaks through cracks in a window under reestablished test temperatures and pressure differences. Although the air leakage is reported in cubic feet per minute per window area (cfm/ft2) in the NFRC

Certified Products Directory, some manufacturers report air infiltration in cubic feet per minute per linear foot of window edge (cfm/ft). A lower value means less air leakage. Minimizing the air infiltration through windows increases occupant comfort by reducing drafts and condensation.

Rebates and Incentives

Some utilities offer rebates or other incentives for the purchase of ENERGY STAR-qualified products. Use the ENERGY STAR Rebate Finder to see if your local utility offers these incentives.

User Tips: Use Products More Efficiently

Good installation practices will minimize air infiltration around storm windows. To minimize air infiltration when outside temperatures are extreme, keep windows tightly closed with all latches locked; this saves energy as well as minimizes uncomfortable drafts. Proper use of interior shades and blinds can reduce unwanted solar heat gain and maximize daylight to offset the need for interior electric lighting. The U.S. Department of Energy provides more information on storm windows.

Additional Considerations

The selection of a storm window includes other important factors that are not directly related to energy efficiency. Cost, aesthetics, durability, maintenance, sound control, ventilation, thermal comfort, fading, and glare control are all important criteria when selecting fenestrations.

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