Windows and doors

Energy efficient windows, doors and skylights help keep your home's temperature consistent by keeping heat out in the summer and inside in the winter, which lowers your energy bills. Most replacement windows are double pane and insulated to reduce heat loss. TVA EnergyRight® and your local power company make it easy to hire with confidence for your window and door improvements when you choose a TVA-approved contractor—trained, licensed and insured to upgrade your windows and doors the right way—through our Quality Contractor Network (QCN).

What kind of windows, doors and/or skylights should I purchase?

Once you've decided to upgrade your windows, doors and/or skylights, look for ENERGY STAR® qualified options. They're independently certified to perform at levels that meet or exceed U.S. EPA energy efficiency guidelines, which will vary by climate zone. Make sure to discuss product features with your contractor to select the best windows, doors and/or skylights for your needs. If you're looking for a lower-cost alternative, consider installing storm windows over your single-pane windows.

How is window and skylight energy efficiency rated?

Windows and skylights are rated by U-factor and Solar Heat Gain Coefficient (SHGC). The lower the U-factor, the greater the insulating value of the window or skylight. A lower SHGC means less solar heat will pass through the glass. This can significantly reduce your air conditioning costs. So, spending more for low-e glass is normally worth the extra price. It reflects or absorbs heat in the form of infrared light, improving both the U-factor and the SHGC.

What's the difference between argon and krypton gas-filled windows?

Argon and krypton are colorless, odorless and non-toxic gases often used between panes of window glass for insulation and energy efficiency. Krypton is more expensive and a better insulator than argon. But manufacturers will often blend argon, krypton and/or air to balance performance and cost. When shopping for replacement windows, it's more important to consider the U-factor, SHGC and ENERGY STAR status rather than what types of materials are being used.

How much money could I save?

Upgrading old windows and doors with ENERGY STAR qualified windows and doors can help you save up to 15% on your household energy bills.

TVA installation requirements for windows, doors and skylights*

General installation requirements

- Presence of lead-based paint to be assumed unless testing confirms otherwise; QCN member to comply with EPA lead requirements.
- Moisture issues to be resolved before work begins.
- Product must be new and meet ENERGY STAR criteria for the applicable climate zone.
- Product must have a National Fenestration Rating Council (NFRC) sticker with performance ratings for the window.
- Unit to be installed per manufacturer requirements and local codes.
- QCN member to advise customer to install a working carbon monoxide (CO) monitor if the home has any gas appliances or an attached garage.

Installation requirements for prime window replacement

- Existing single-paned and double-paned windows qualify for replacement.
- If the rough opening is exposed during installation, then a self-adhesive 4-inch flexible flashing should be installed to promote drainage from top down; the space between the window frame and rough opening should be filled with flexible insulation and sealed airtight with caulk or low expansion foam. Do not use expanding foam.
- Interior jambs to be caulked.

Installation requirements for prime door replacement

- A qualifying replacement door to separate conditioned from unconditioned or buffered space.
- Doors with sidelights may have single-pane glass up to 10% of the total door and sidelight area; glass to be tempered if 18 inches or lower from floor, or if glass faces bottom of a stairway.
- Door to have new jambs and new threshold shipped with door from manufacturer; transoms are treated as replacement windows unless built into door frame; installation to allow for expansion and contraction.
- Three ¼-inch lines of caulk to be applied between threshold and subfloor.
- Low expansion foam or silicone caulk (not expanding foam) to be used to seal gaps between door frame and rough opening.
- Door to properly fit jamb, and operate and lock easily.

Installation requirements for skylight replacement

- New skylights may be installed to replace existing damaged skylights or if replacement is recommended to improve energy efficiency.
- Skylight to be mounted above roof surface with a curb and flashing, and all joints sealed; manufacturer's guidelines to be followed.

RECOMMENDED BEST PRACTICES FOR WINDOWS

- Caulk interior window trim to wall surface to reduce air leakage.

RECOMMENDED BEST PRACTICES FOR SKYLIGHTS

- Apply a layer of sheet waterproofing over the flanges/ flashing of the skylight and under the finish roofing material.
- Avoid water diversion devices, like roof crickets or diverter strips, which often create more problems than they solve.

RECOMMENDED BEST PRACTICES FOR DOORS

- Use shims only on the bottom and sides of door as needed to ensure door is properly aligned in the rough opening.
- Use rot-proof shims at the bottom of the door.
- Steel doors should be sealed with a high-quality exterior grade paint within a week after installation; apply a second layer of primer over the base primer before adding exterior paint.

Go to **EnergyRight.com** to register your home and connect to the Quality Contractor Network.

**This sheet is not a substitute for the TVA Standards.*