



CASE STUDY

Glazier

Eastern Solar Glass
West Berlin, N.J.

What's Window Film?

Polyester film typically made of Polyethylene Terephthalate (PET).

Did You Know?

Roughly 1/3 of a commercial building's power consumption is due to excess load placed on HVAC systems due to solar heat gain. Window films can reduce solar heat gain by 50-75% by controlling the transmission, absorption, and reflection of solar energy.



Storefront glass with (left) and without (right) solar control film (all images courtesy Eastern Solar Glass)

FILM SCHOOL

Eastern Solar Glass of West Berlin, N.J., specializes in commercial and residential window films for solar control, security, and decorative purposes. The company's geographic reach for window film projects extends from New York to Delaware.

"When most people think of window films, they think of dark tints on car windows," explains Eastern Solar Glass Owner and Partner Brian Ashcraft. "But window film is more than just a tint."

Window films block the sun's harmful UVA and UVB rays, reduce heat loads, decrease glare, and minimize fading on interior furnishings. They also keep building conditions more comfortable for occupants.

APPLICATION METHOD

Solar control films are applied from inside, making them appropriate for new construction or existing buildings. The

installer will clean the glass, frames, gaskets, and edges, and cut the film slightly larger than the window. Next, the glass is wet with water and the film applied by peeling off its protective backing and adhering it to the glass. The windows are squeegeed and wiped dry to begin curing the adhesive. Then, the film is trimmed on the glass to perfectly fit the frame. An average film installation takes 15 to 45 minutes per window depending on the size.

Window films have typical manufacturer warranties around 10-15 years but can last much longer. In cases where old films must be removed and replaced, the process requires patience and elbow grease. Old films must be scraped off – using stainless steel blades so as not to scratch or damage the glass. A combination of water and Johnson's Baby Shampoo or Joy detergent is used to gently remove the old adhesive. Once the glass has been restored to original condition, the new film application proceeds as usual.

FILM OPTIONS

Window films can be virtually clear or as dark as necessary to meet the client's aesthetic and solar control needs. Ashcraft likens even the lightest films to quality sunglasses. "The installers can feel the difference during installation. There's an instant cooling effect." This immediate heat load reduction translates to decreased demand – and expense – for air-conditioning or other building cooling systems. Film manufacturer 3M indicates its films reject up to 79 percent of the solar heat that may come through a window. Eastern Solar Glass is a Platinum Certified, 3M Authorized Window Film Dealer in the 3M Prestige Dealer Network.

ROI

Eastern Solar Glass regularly performs Return on Investment (ROI) reports for clients to show how the simple application of window film can reduce energy costs. Working in collaboration with their distributor, the team from Eastern Solar collects data related to the type of glass, setbacks, and other building conditions, and adds this to owner-provided data related to energy usage and HVAC breakdown costs. Using simulation software and analytics, a ROI report is generated that will tell an owner exactly how window film will impact his or her bottom line. The results can be impressive. According to BUILDINGS magazine's recent blog post, "Window Film – Separating Fact from Fiction," window film energy savings can offer a simple payback of two years or up to a 70 percent return on investment (ROI). Note that buildings with significant energy usage (e.g. data centers) may not have the same ROI because their energy expenditures outweigh the benefits of one energy-reduction method alone.

ADDED BENEFITS

Window film can contribute to points for LEED or Energy Star Building Certification. It can also support the natural light criteria for the WELL BUILDING STANDARD®, an evidence-based system for measuring, certifying, and monitoring the performance of building features that impact health and well-being administered by the International WELL Building Institute™.

RESOURCES

BUILDINGS | Window Film – Separating Fact from Fiction

<https://www.buildings.com/buzz/buildings-buzz/entryid/344/window-film-separating-fact-from-fiction>

BUILDINGS | New Low-E Glass or Window Film?

<https://www.buildings.com/news/industry-news/articleid/14300/title/new-low-e-glass-or-window-film-a-comparison-to-help-you-decide/viewall/true>

Whole Building Design Guide | Window Film Fundamentals

<https://www.wbdg.org/resources/window-film-fundamentals>



From top: Eastern Solar glaziers applying film at Cooper University Hospital, Voorhees, N.J. (note the privacy film on the left panels); H&M store, Atlantic City, N.J., with solar film applied; Blue Heron Pines Golf Club, Galloway, N.J., with film applied