3M Science. Applied to Life.™

Protecting priceless treasures. Improving energy efficiency.

"The 3M Window Film was an easy decision. It protects our artifacts from UV rays, improves our visitor experience and reduces energy consumption."

— Brian Kenyon, CFO Rock and Roll Hall of Fame.

3M™ Sun Control Window Film Prestige Exterior Series

Rock & Roll Hall of Fame and Museum — Cleveland, Ohio

▸ Project Scope

Cleveland's Rock & Roll Hall of Fame and Museum is home to a number of iconic artifacts, including John Lennon's 1979 upright piano, Elvis Presley's custom motorcycle, Janis Joplin's psychedelic Porsche, and Keith Richard's "Rolling Stones" pinball machine. Since it opened in 1995, the Hall has been a destination for millions of fans, who come to the shores of Lake Erie to celebrate the role of music in popular culture.

▸ Situation

The Hall and Museum are housed in an iconic geometric building designed by renowned architect I.M. Pei. The main tower soars more than 160 feet (48.7 meters) into the air and supports a dual-triangular-shaped glass "tent" that contains more than 55,000 square feet (5,109 square meters) of exhibition space, along with administrative offices, shopping space and a cafe.

All of that glass allows the Hall to present priceless artifacts in natural light. However, protecting those treasures from the effects of ultraviolet (UV) rays and keeping the building cool on sunny days also presents a challenge to building managers.

▸ Solution

3M proposed the installation of 3M™ Sun Control Window Film Prestige Exterior Series, which uses nano-technology without metal, resulting in overall reflectivity that's actually lower than glass. These films selectively refract light from the spectrum and reject up to 97%* of the sun's heat-producing infrared light and 99.9% of UV rays to help keep tenants cool. A 3M Authorized Prestige Window Film Dealer installed the film in just six weeks.

The Rock & Roll Hall of Fame and Museum has always had a proactive approach to environmental initiatives, including an employee "Green Team" that promotes sustainable practices throughout the facility. So using 3M™ Window Film to reduce energy consumption was a natural fit with the Hall's philosophy.

▸ Result

Improved protection, aesthetics and efficiency.

"This window film is durable enough to give us years of performance while simultaneously enhancing the aesthetics and efficiency of the museum," said Kenyon. "After researching numerous options, 3M was the only solution that didn't contain any metal, preventing corrosion and thereby making it the only viable solution."

Despite the building's unique shape and cantilevered spaces, a 3M Authorized Prestige Dealer completed the window film installation in just six weeks. The Hall expects to begin seeing immediate energy savings to the tune of $20,000–40,000 a year. In addition, by shielding its exhibits from harmful UV rays, the film helps ensure that generation after generation will be able to see everything from Michael Jackson's suits to Chuck Berry's guitar in pristine condition.

Superior performance through 3M Science.

3M™ Prestige Series Films use non-metallized, multilayer optical film and nanotechnology to achieve what other films simply can't:

- Enhanced comfort and protection — The spectrally selective films reject up to 97%* of the sun's heat-producing infrared light, helping keep interiors cooler, reducing the load on cooling systems and saving energy. By blocking 99.9% of UV rays, the films help protect furnishings from the harmful effects of the sun. And according to the Skin Cancer Foundation, window film is one of several recommended safeguards against UV damage.
- Unsurpassed capabilities — What sets Prestige Series Films apart is the precision with which light waves are controlled as they pass through or reflect off of hundreds of layers of film. Compared to other films, the Prestige Series Films increase their performance at a faster rate as the sun's angle increases. That means greater protection and comfort when you need it the most. When the sun is working its hardest, so is 3M's Prestige Series.
- Enhanced views and aesthetics — Films that reject heat tend to have high reflectivity. Not with Prestige Series Films. These films are optically clear and can offer reflectivity that's in some cases lower than glass. That means the same visual clarity, inside and out.
- No corrosion. No signal interference. Being non-metallic, Prestige Series Films aren't susceptible to corrosion in coastal environments. They also don't interfere with electronic device signals.

"It truly is an architectural wonder. We've installed window film on many different styles of buildings before, but never a glass-enclosed building with this type of geometric design."

— Mark Keesling, marketing manager
3M Renewable Energy Division

Case Study Summary

Challenge: Provide protection to valuable exhibits while maintaining a cool temperature on sunny days.

Product Selection: 3M™ Sun Control Window Film Prestige Exterior Series

Benefits: By improving the ability to block UV rays and improve energy efficiency, this project's expected annual energy savings is approximately $20,000 to $40,000.

*3M Prestige Series Films block energy across the entire IR range. The 97% rejection value is based on performance in the 900-1000 nanometers (nm) range.

3M Commercial Solutions Division
3M Center, Building 220-12E-04
St. Paul, MN 55144-1000
3M.com/windowfilm

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