

3M Window Films

Vince Foster & John Stiebel

3M Fasara Films

- ▶ Decorative glass films
- ▶ Provides Privacy
- ▶ Enhances in esthetics of interior glass
 - ▶ Unlimited possibilities. Consider 3M™ Decorative Glass Finishes for these spaces and more
 - ▶ : • Entrances • Shower doors • Bathroom windows • Kitchen cabinets • Partitions • Glass railing

Privacy and decorative films are flexible and have many design options

Flexibility

- Can adjust as the space use changes
- Update the look by changing films, leaving the glass intact

Design Options

- Many different options
- Can easily pattern



Imprinted films decorate
and provide privacy



3M Di Noc Films

- ▶ Di Noc is an Architectural Finish used to redesign any new space quickly, easily, and sustainably from an existing space almost overnight.
- ▶ Architectural Finishes that bring you the beauty of hundreds of
- ▶ natural elements.
 - ▶ Wood, Textile, Stone, Leather, Metal
- ▶ Target
- ▶ Markets
 - ▶ • Hospitality
 - ▶ • QSR & Cafe
 - ▶ • Other Commercial Facilities
 - ▶ • Retail
 - ▶ • Office

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Easy to Clean



3M
DI-NOC
Architectural Finishes





Why Buy Window Film

- ▶ Energy Savings
 - ▶ Save energy/reduce cooling costs by lowering amount of solar heat entering the home or building
 - ▶ More efficient HVAC operation by reducing hot spot/cool spot variability
- ▶ Occupant Comfort
 - ▶ Minimize imbalances between sunny and shaded areas of the home or building
- ▶ Glare Reduction
 - ▶ Reduce eye discomfort and strain
- ▶ Fade Protection
 - ▶ Slow the process of fading (carpets, furniture, hard woods, art work) by addressing the three major causes of fading
- ▶ Safety Protection
 - ▶ Help hold broken glass in place
 - ▶ Protect skin from harmful UV rays
- ▶ Security Protection
 - ▶ Safety and security films provide impact resistance in cases of attempted break-ins, severe weather, earthquakes and explosions
- ▶ Home /Building Aesthetics
 - ▶ Improve or provide a more uniform exterior appearance to the building



Where is 3M™ Window Film?

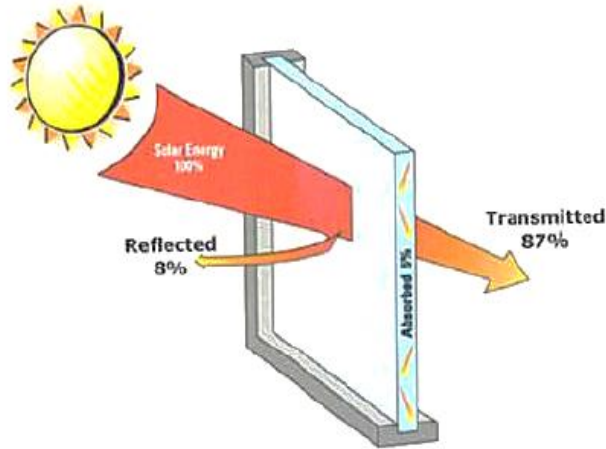


Stay cool, comfortable & energy efficient.

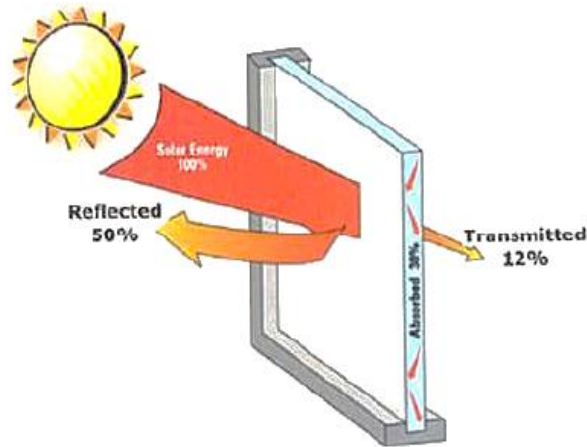


How do energy films work?

Unprotected
Glass



Glass with
Appropriate
Window Film



Window film reflects the sun's heat away from the building's interior while allowing visibility through the window from inside.

How Solar Control Films Work

- ▶ Films consist of an abrasion resistant hard coat, single or multiple film substrates, mounting adhesive and protective liner
- ▶ Typically installed on the interior surface of the glass
- ▶ Installed with a water-based “slip” solution
- ▶ Filmed glass can be cleaned with standard glass cleaning solution or soapy water



Window films have been proven to effectively improve energy savings

Department of Energy (FEMP) Study Results

- Window films have a **maximum cost effectiveness rating**
- Window films have a **maximum probability of success**
- Window films are considered “top-tier technology”
- Window films have a typical **payback of:**

less than **3** years

CONSOL Energy Study Results

- Window films **pay back in <3 years**
- Window films **save up to:**

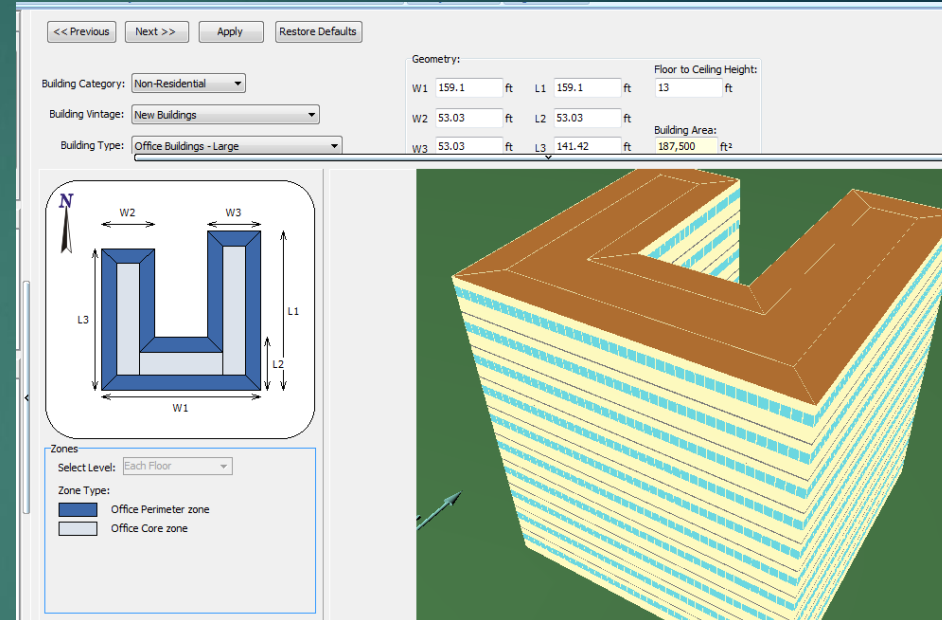
12 kWh/ft² on a **single pane**
or

19 kWh/ft² on a **double pane**

E-Film Energy Analysis Simulation

E-Film Calculations

- ▶ Project potential energy savings
- ▶ Project potential energy peak demand reduction
- ▶ Project potential ROI or payback
- ▶ Project potential carbon emission reduction
- ▶ If the project qualifies for power company incentives



Our Energy Products

3M™ Sun Control Products

- ▶ Prestige Series – Best Performance
- ▶ Night Vision Series – Better Performance
- ▶ Traditional Series – Good Performance

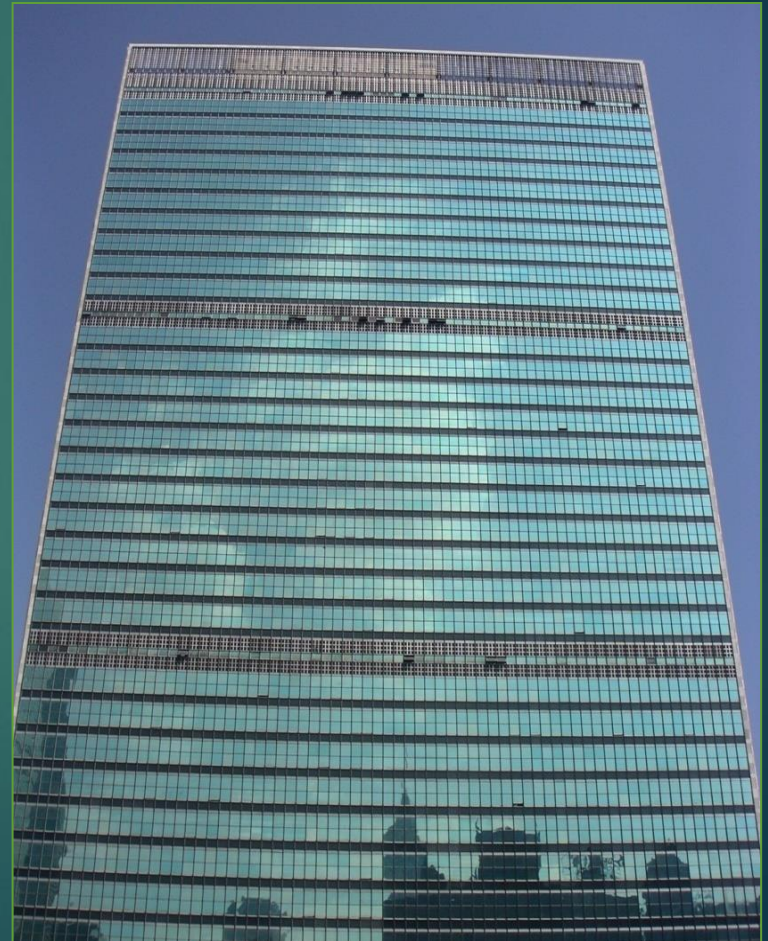
Key Features of our Sun Control Films:

- ▶ High visible light transmission providing excellent aesthetics
- ▶ Great heat rejection helps provide energy savings and improved comfort
- ▶ Non-metalized film options with natural tones for amazing clarity
- ▶ Comprehensive warranties



Provide a uniform and “polished” appearance

Meaning the building looks updated, newer





Sun Control Case Studies

Governors Mansion in MN
Thinsulate™ Series



Rock & Roll Hall of Fame
Prestige Series



Wayne Newton Museum
Night Vision Series



Clinton Street High-rise in MD
Ceramic Series



Century Plaza Towers in CA
Neutral Series



Solar Film Benefits



▶ Energy savings

- Save energy/reduce cooling costs by lowering amount of solar heat entering the building
- More efficient HVAC operation by reducing hot spot/cool spot variability
- Peak load shedding

▶ Occupant comfort

- Minimize imbalances between sunny and shaded areas of the building

▶ Glare reduction

- Reduce eye discomfort and strain

▶ Fade protection

- Slow the process of fading (carpets, furniture, hard woods, art work) by addressing the three major causes of fading

▶ Building aesthetics

- Improve or provide a more uniform exterior appearance to the building

Clarity.

Keep outside dangers securely outside with 3M™



How Safety and Security Films Work

- Film + strong adhesive forms a protective membrane on the glass
- Film is applied on interior side
- Opposite attack face
- Protected from elements
- Does not prevent glass from breaking, but holds broken glass fragments together
- Film attachment systems applied along perimeter to anchor the film to the window frame
- Forces intruder to create opening through center of broken glass



Ultra Series



- ▶ Patented microlayer technology
- ▶ Provides tremendous strength and tear resistance compared to standard PET films
- ▶ Absorbs energy effectively
- ▶ Unique adhesive system
- ▶ Easier to install vs. thicker monolithic PE
- ▶ Ultra 800 Clear
- ▶ Ultra Night Vision 25
- ▶ Ultra Prestige 50 & 70
- ▶ Comprehensive Warranty



Safety & Security



**Blast
Mitigation**



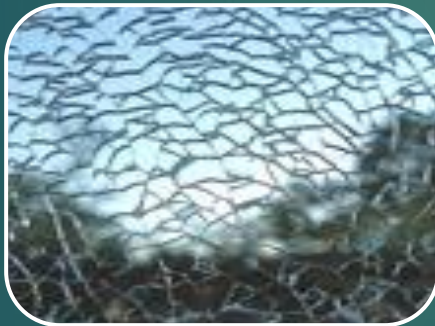
Windstorm



**Safety
Glazing**



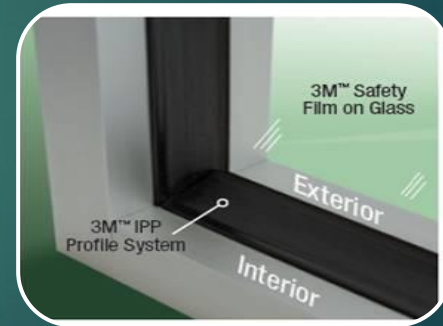
**Break &
Entry**



**Fragment
Retention**



Anti Graffiti



**Attachment
Systems**

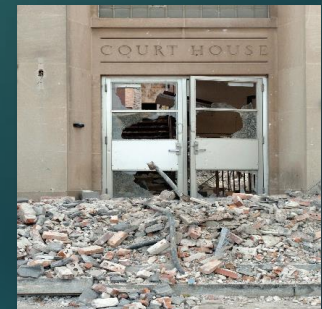
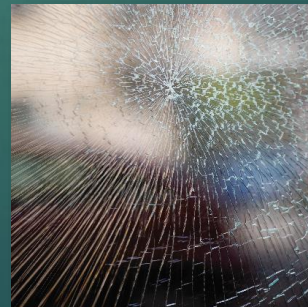
Our Safety Products

3M™ Safety & Security Products

- ▶ Ultra Safety Series – Best Performance
- ▶ Standard Safety Series – Good Performance
- ▶ Anti-Graffiti Series – Specified Need
- ▶ Privacy Film Series – Visual Performance

Key Features of our Safety Films:

- ▶ Micro-layered, tear-resistant film for enhanced protection
- ▶ Increases security and helps provide added protection against smash and grab burglaries
- ▶ Mitigates hazards from shattered glass due to natural disasters
- ▶ Comprehensive warranties



AMS



3M Ultra 800 Security Film

