



**ARCHITEXTURAL™**

*Surface. Designed.*

# WINDOW FILMS



**3M**

**WHAT CAN 3M  
WINDOW FILMS DO  
FOR YOUR BUILDING?**

## SAVE ENERGY

When energy costs are increasing, 3M™ Window Films can significantly reduce the amount of heat coming through windows to help lower utility costs. Occupants of the building get a more comfortable environment, and building owners benefit from increased energy savings.

- Fast payback - as little as 3 years
- Reduce carbon emissions
- Save more money

## IMPROVE COMFORT

Help keep occupants comfortable. 3M™ Window Films can significantly increase the comfort level of a building by virtually eliminating hot spots and cold spots, reducing glare and increasing safety without changing its aesthetics.

- Reject heat and reduce hot spots
- Reduce annoying glare
- Increase insulation and reduce cold spots

## INCREASE SAFETY

Accidents and natural disasters can wreak havoc on building operations, but owners can be better prepared to cope with the aftermath. 3M™ Window Film can help to hold broken glass together, preventing flying glass shards, the leading cause of injuries and fatalities.

- Protect people and property
- Reduce damage and loss of data
- Lessen business disruptions

## STRENGTHEN SECURITY

Occupants want to know they're in a secure building, and owners want to protect valuable data and merchandise. 3M™ Window Films can help protect people and property from outside threats like forced entry, vandalism and even bomb blasts.

- Makes forced entry more difficult — can help to deter intruders for up to 2 minutes
- Helps mitigate loss of assets
- Reduces business disruptions

## SAFETY AND SECURITY FILMS

Windows are the weakest link in terms of the security of a building. 3M Safety and Security Films can help to transform windows into a source of strength. The films have been created to help hold glass fragments together, reducing potential injury from flying glass, helping to form a much stronger barrier in severe weather conditions.

Tips for choosing Safety and Ultra films:

- What type of glass do you want to apply the vinyl to?
- What type of frame is the glass held in?
- What type of explosion are you looking to protect against?
- What distance are you anticipating the explosion to happen at?
- What angle may the blast be at e.g. straight in front of building?
- What are you looking to achieve using a window vinyl?





## SECURITY

- Protect against forced entry, theft, breakage to deter entry from buildings
- Upgrade glass to meet safety standards for peace of mind
- Protect people, property and possessions against blasts
- Protect people from flying glass with in frame shatter retention
- Protect from scratching, gouging and other vandalism

## 3M SAFETY SERIES

3M Safety Series Films are transparent weather stable polyester films with a scratch resistant surface and strong acrylic adhesive. The external product also features a different hard coat. The films' high tensile strength and elongation at break increases its resistance of the overall glazing system to impact and pressure. They provide effective protection from injuries to people, or damage to items caused by the fragments of broken glass.

Combine with Impact Profile Protection attachment systems for added safety and security. This bonds the filmed glass to the frame so upon a blast the whole sheet does not blow out and stays in place, holding the shattered glass together.



Ideal Applications: Schools, Universities, Colleges, Commercial Buildings, Shops, Government Buildings

	S40	S70	S80	S140	S40EXT	S70EXT
Break and Entry	★	★★★	★★★	★★★★★	★★★★★	★★★★★
Safety Glazing	★★★	★★★★	★★★★★	★★★★★	★★	★★★
Seismic	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Blast Mitigation	★	★★★★	★★★★	★★★★		
Anti-Graffiti	★★	★★★	★★★	★★★★	★★★★★	★★★★



## PROTECTION

- Protect people from flying glass in the event of an explosion
- Protect against forced entry, theft, breakage to deter entry from buildings
- Upgrade glass to meet safety standards for peace of mind
- Keep glass fragments within the window frame to reduce potential injuries

## 3M ULTRA SERIES

3M Ultra Series Window Films utilise up to 42 micro-layers to provide immense strength and tear resistance compared to standard films. In the event of glass breaking, the fragments are held on to the film by the strong acrylic adhesive system. The film delivers superior performance over standard polyester films in blasts and impacts, yet still maintains a high level of optical clarity.

The Ultra S800 is constructed from multi-directional micro-layers, to increase it's strength and make it more tear resistant. The film also features the standard hard coat. For interior application only.

Combine with Impact Profile Protection attachment systems for added safety and security. This bonds the filmed glass to the frame so upon a blast the whole sheet does not blow out and stays in place, holding the shattered glass together.



Ideal Applications: Hospitals, Care Homes, Shopping Centres, Public Transport Buildings, Government Buildings

	S800
Blast Mitigation	★★★★★
Break and Entry	★★★★★
Safety Glazing	★★★★★
Seismic	★★★★★

## SUN CONTROL FILMS

Windows allow views and natural light into a building, however sunlight also causes negative effects. The sun also generates excessive heat, causing fading to valuable furnishings and containing harmful UV rays. Using 3M Sun Control Window Films allows you to welcome in the light, but without the negatives of excess heat and UV damage, all without changing the look of your building.

Tips for choosing Sun Control films:

- Code numbers represent the visible light transmission of each sun control film.
- All 3M Solar Control films carry a TSER rating. This is the Total Solar Energy Rejected.
- The G value is the coefficient commonly used in Europe to measure the solar energy transmittance of glass, which represents the amount of solar energy passing through. This is otherwise known as the SHGC (Solar Heat Gain Coefficient).
- The U value measures heat insulation. Check the winter U value to give an accurate display of heat loss.
- External window films will reject more heat than internal films, therefore reducing the amount of absorption in to the glass and heat through into the building.
- Fade is not 100% preventable, as it is not just caused by UV rays. However window film will certainly help slow fading.





## APPEARANCE

- Reject heat but let in light
- Retain building appearance
- Virtually invisible films
- Reduce reflection

## 3M PRESTIGE SERIES

3M Prestige Sun Control Films are 3M's premium solar window film product. The films are completely clear, with a unique high visual light transmission, whilst offering high reflection and heat reduction. Its technical advantage stems from its unique multilayer construction, using nanotechnology. As the film is also metal free, there is no risk of corrosion and no radio or phone interference.

- Clear appearance maintains the look of the building
- Reduce solar heat gain
- Reduce air conditioning costs
- High transparency and light transmission
- 15 year warranty

### Key benefits

- Reduce high energy costs and energy consumption
- Building aesthetics remain unchanged
- Increase comfort and protection
- Available in a range of VLT for both interior or exterior application



Ideal Applications: Hotels, Retail, Commercial Buildings, Residential

	PR20EX	PR40EX	PR70	PR70EX	PR90EX
VLT	18%	37%	62%	63%	78%
Heat Gain Reduction	66%	59%	21%	45%	21%
TSER	76%	61%	44%	61%	45%
G Value	0.24	0.29	0.56	0.39	0.56





## HEAT GAIN

- Thermal load reduction in building
- Energy conservation
- Insulation reduction in utilities costs
- Optimal building temperature
- Improved occupant comfort

## 3M SILVER SERIES

3M Silver Window Films manage light and heat. Designed for use on the interior surface of windows. Its metallised technology reflects the sun's rays while allowing optical clarity to be maintained and rejecting excess light. The films also reduce glare and block almost the entire amount of UVA and UVB rays which are the main cause of fading and skin damage. This also extends the life and vibrancy in furniture, fittings and fabrics.

### Key benefits

- Maintain comfortable temperatures
- Difficulty viewing computer screens due to glare from the sun
- Cost effective



Ideal Applications: Offices

	S15EX	S20	S35EX
VLT	15%	15%	33%
Heat Gain Reduction	80%	53%	60%
TSER	86%	67%	72%
G Value	0.14	0.33	0.28



## GLARE

- Improved occupant comfort and productivity
- Address issues of screen glare and eyestrain in office environment

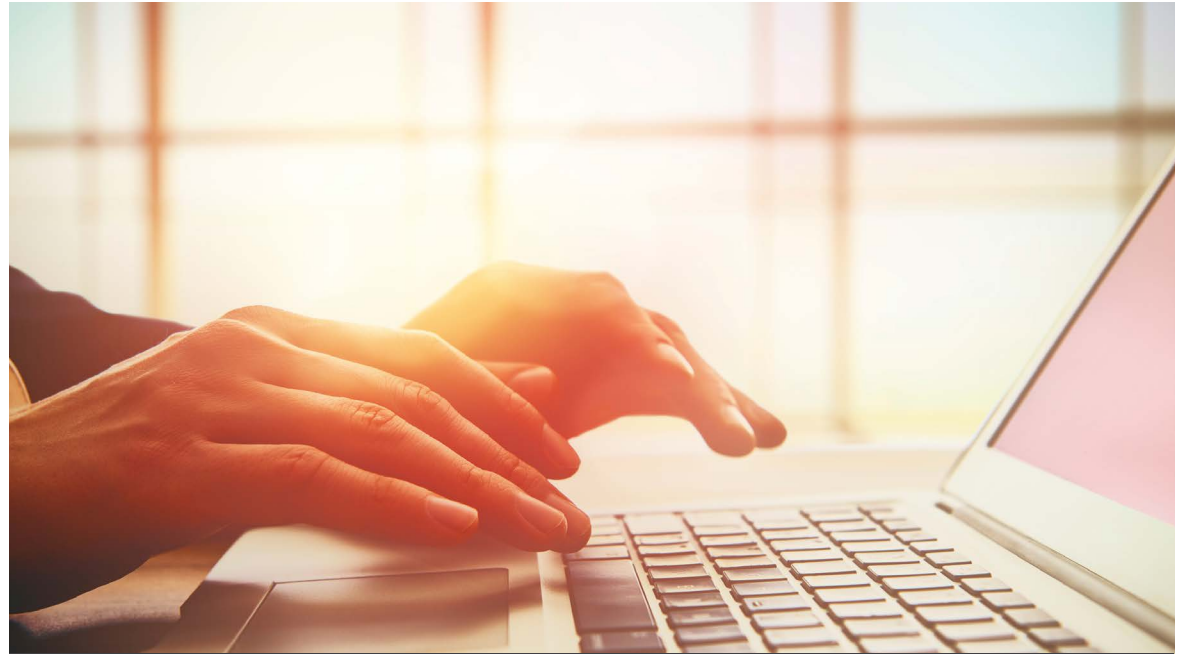
## 3M NIGHT VISION SERIES

3M Night Vision Films have low internal reflectance that enhances viewing, especially at night. Higher external reflectance provides privacy against prying eyes looking in, dependent upon light conditions.

They are ideal for residential housing because of their very low interior reflectivity or silvering while still offering very good reflectivity.

### Key benefits

- Reduce high energy costs and energy consumption
- Increase comfort and protection from direct sunlight



Ideal Applications: Residential, Retail

	NV15	NV25	NV35
VLT	14%	22%	32%
Heat Gain Reduction	43%	29%	21%
TSER	60%	51%	45%
G Value	0.40	0.49	0.55



## FADE

- Rejects UV light
- Reduce colour fading of furniture and objects

## 3M ALL SEASONS SERIES

This solar and insulating film combines sun protection in summer, by reducing solar heat gain, and provides insulation in winter, by reducing heat loss. Low energy films can make significant savings to energy costs.

### Key benefits

- Helps extend the life of furnishings by reducing UV, the largest cause of fading
- Increased insulation helps provide energy savings in the winter
- High heat rejection helps provide energy savings in the summer
- Improved comfort all year round



Ideal Applications: Retail, Museums, Conservatories

	ASS20	ASA35
VLT	20%	30%
Heat Gain Reduction	71%	69%
TSER	76%	75%
G Value	0.24	0.25

# COMBINATION

## 3M SAFETY SILVER SERIES

Designed for use on the inside surface of windows. The film has a single layer construction coated with a strong adhesive and a metalized layer for sun protection.

In the case of glass breakage, the fragments are held together by the strong acrylic adhesive. The film provides enhanced security whilst also rejecting UV light to reduce fading to fabrics and furnishings.

### Key benefits

- Reduce solar heat gain
- Protects against flying glass
- Single layer safety film with metalized layer for sun protection



Ideal Applications: Commercial Buildings, Retail

	S420
Break and Entry	★★★★★
Safety Glazing	★★★★
Seismic	★★★★★
Blast Mitigation	★★★★
Energy Savings	★★★★★
Glare Reduction	★★★★★
Visible Reflection	★★★★★
VLT	★★

## ULTRA PRESTIGE SERIES

The Combination Ultra Prestige Window Film can combat against fading on fabrics and furniture, a potential expensive problem for many businesses. The main cause of fading issues within a building is in large part down to UV rays getting into buildings through the window, an issue which the Ultra Prestige Series can fight against, with the film being able to reject up to 99% of UV rays.

Designed for use on the inside surface of windows, the film has a unique multi-layer construction to provide 32 times more resistance to tearing than other safety films. They have a high visual light transmission, whilst offering high heat reduction, whilst also reducing injury risk from flying glass.

### Key benefits

- To provide safety and security
- Maintaining comfortable temperatures
- Fading to fabrics and furniture

	PR S70
Break and Entry	★★★★★
Safety Glazing	★★★★★
Seismic	★★★★★
Blast Mitigation	★★★★★
VLT	★★★★★
Low Reflectance	★★★★★
Infrared Rejection	★★★★★

Ideal Applications: Retail, Museums, Commercial Buildings

## ULTRA NIGHT VISION SERIES

The Combination Ultra Night Vision Window Film can combat against fading on fabrics and furniture, a potential expensive problem for many businesses. The main cause of fading issues within a building is in large part down to UV rays getting into buildings through the window, an issue which the Ultra Night Vision Series can fight against, with the film being able to reject up to 99% of UV rays.

The film provides enhanced security whilst also reducing heat gain in a building. You can let natural light into your space by day and, with low interior reflectivity, still enjoy the view out at night.

### Key benefits

- To provide safety and security
- Maintaining comfortable temperatures
- Fading to fabrics and furniture

	NV S25
Break and Entry	★★★★★
Safety Glazing	★★★★★
Seismic	★★★★★
Blast Mitigation	★★★★★
Energy Savings	★★★★
Heat Rejection	★★★★
Glare Reduction	★★★★
Interior Visible Reflection	★★★★★

Ideal Applications: Retail, Museums, Commercial Buildings



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