

3M Science.
Applied to Life.™

3M™ Commercial Window Films
Sun Control, Safety & Security, Daylighting and Decorative Solutions

Engineered to enhance your investment.



Protected by 3M™ Window Film

One company. Endless possibilities.

A building that's protected, comfortable, energy efficient and beautiful means greater tenant retention, potentially higher lease prices and a healthier bottom line for you.

Imagine if you could help:

- ▶ Shield yourself from high energy bills yet keep tenants cool, comfortable and satisfied
- ▶ Protect people and property from natural disasters, crimes, bomb blasts and even damaging ultraviolet rays
- ▶ Redirect sunlight deeper into rooms for greater tenant satisfaction and added energy savings
- ▶ Customize glass for elegance and privacy or to make bold architectural statements

All this is possible from one trusted source — 3M.

Outsmart the sun with superior protection.

Windows provide an abundance of beautiful natural light. They can also create problems such as cool or drafty areas, excessive heat from the sun and distracting glare — issues that can impact tenant comfort, occupancy rates, energy bills and profits. Choose clear films with reflectivity lower than glass for superior sun control and beautiful views inside and out.

Control sunlight on your terms with 3M™ Sun Control Window Films that are designed to provide:

- ▶ Fast paybacks — as short as 3 years
- ▶ Increased tenant comfort — hot spots, cold spots and glare
- ▶ Enhanced privacy
- ▶ UV and fade protection

Receive payback
in as little as

3 years

with 3M™ Window
Films

An estimated
28%
of cooling expenses
are due to solar heat
gain from windows

Simple retrofit. Fast payback.

Window film is considered a top-tier technology for energy conservation with one of the fastest paybacks — approximately three years. Consider making building envelope improvements before investing in major HVAC system upgrades to maximize profits.

Upgrading with 3M™ Sun Control Films can help reduce energy use by as much as 19 kWh per square foot (205 kWh/m²) of windows.¹

¹ www.consol.ws/index.php



Keep tenants comfortable. Keep them put.

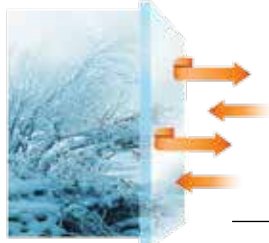
Nothing hurts tenant retention like an uncomfortable building. Throughout it all, your HVAC system is working overtime.

Reduce excessive heat.

Is your building hot in the summer? When the sun makes one side too hot, is the other side too cold?

3M™ Window Films reject up to 79% of the sun's heat to help keep rooms at more even, moderate temperatures. In fact, our films can reduce the temperature in direct sunlight by as much as 9°F (5°C), making your space more comfortable and usable.

Warm in the winter.
Thinsulate™ invisible insulation technology helps retain the heat and keep you warmer in the winter.

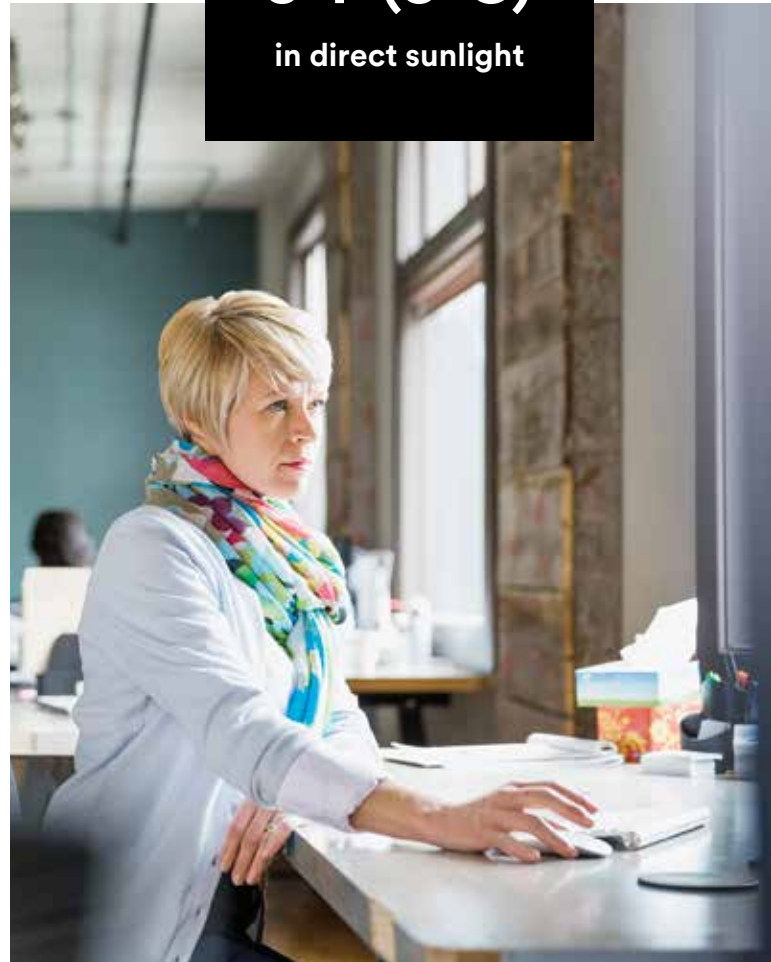


Cool in the summer.
Thinsulate™ invisible insulation solar reflecting technology helps block the sun's heat and keep you cooler in the summer.

Reduce indoor
temperatures by
as much as

9°F (5°C)

in direct sunlight



Reduce cold spots.

Did you know that your window can lose as much as 20X more heat in the winter than the same area in an adjacent wall? 3M™ Low Emissivity Window Films help improve the insulation value of a typical single-pane window close to that of a double pane, and a double pane close to that of a triple pane.

2 Cornell Cooperative Extension, Cornell University

Eliminate glaring problems.

Few things are as frustrating as viewing monitors in a sunlit room. 3M™ Window Films significantly reduce glare so tenants can get work done without added eyestrain or discomfort.

Need to merchandise? Our films even keep displays looking beautiful and true to life.

Fade & UV protection.

Museums and historic buildings such as the Rock and Roll Hall of Fame and Museum use 3M™ Window Films to help protect their treasured collections and furnishings from the damaging sun. Our films reject up to 99% of UV rays and reduce glare to help keep visitors cooler and more comfortable.



Keep it safe and operational 24/7/365.

Windows are among the weakest points in your building envelope.

Should the glass break, the space can become unsafe for occupants and even significantly disrupt daily operations.

3M™ Safety Window Film and 3M™ Impact Protection Attachment Systems are engineered to minimize injury to people and protect property from a range of safety concerns, including:

- ▶ Glass hazards
- ▶ Natural disasters
- ▶ Seismic events
- ▶ Spontaneous glass breakage



Installed 3M™
Window Film can
upgrade glass to
code for as much as

7X

less than new glass

A higher level of protection.

Combine 3M™ Safety Window Film with 3M™ Impact Protection Attachment Systems for an added level of security.

The attachment system bonds the filmed window to the frame with an adhesive or profile option.

The films are designed to keep broken glass together, and the attachment systems keep the glass safely in the frame.

Unlike many safety upgrades, 3M™ Safety Window Films can provide payback in as little as three years.

Protect people and upgrade to code.

Building code may specify that glass in certain hazardous locations, such as glazing near wet surfaces, doors, floors, ramps and stairs, meet certain safety glazing requirements. 3M™ Safety Window Films will help you quickly and easily meet safety glazing impact requirements at a fraction of the cost of replacement windows.³

³ According to 16 CFR 1201 Safety Standard for Architectural Glazing Materials. Local building codes vary. Consult a local code official for requirement and approval criteria.

DID YOU KNOW?

3M™ Safety Window Film lets you upgrade your glass to code for a fraction of the cost of replacing with tempered glass.

Fortify windows against natural disasters.

When windows break due to natural disasters, the cost to replace them could pale in comparison to other costs, including:

- ▶ Loss of business operations for you and your tenants
- ▶ Damaged electronics, lost data
- ▶ Water and debris damage

Fortify windows against seismic events.

During an earthquake, windows can be subjected to tremendous stress. They may shatter and fall out of window frames, causing dangerous openings in the building.

Falling shards of glass can also present serious risks to occupants, pedestrians and property.

3M™ Safety Window Film and Attachment Systems help reduce the risk of glass-related injuries during earthquakes. And with a barrier still in place, you can maintain operations while you replace the glass.

Protect against spontaneous glass breakage.

Tempered glass is stronger than standard annealed glass, but factors such as imprecise installation or impurities in the glass can cause it to spontaneously explode.

When that happens, it can create dangerous openings and even rain glass down on pedestrians.

3M™ Safety Window Film and Attachment Systems help secure tempered glass to minimize safety hazards while giving you the time to make repairs.



On average,
\$95B
in losses are due to
natural catastrophes
every year⁴

Security with a payback

Unlike many security upgrades, 3M™ Window Films can provide payback in as little as three years. 3M™ Security Window Film can include solar energy rejection, which helps reduce cooling costs to save you from high energy bills.

Tested for seismic JIS A5759

⁴ <http://www.iii.org/fact-statistic/catastrophes-global>

Security with tenacity.

3M™ Security Window Films and 3M™ Impact Protection Attachment Systems are engineered to protect people and property from a range of security concerns, including:

- ▶ Forced entry crimes and theft
- ▶ Bomb blasts
- ▶ Acts of vandalism

They include a special, thicker adhesive that helps hold broken glass together, hindering anyone trying to break and enter through a window.

They also help reduce the threat of flying glass in the event of an explosion.



Deter forced entry and theft.

A burglary is reported nearly once every second according to the United Nations Office on Drugs and Crime.⁵ Glass doors and windows are among the most vulnerable points of entry into your property. Help reduce losses due to smash-and-grab crimes by making entry more difficult.

⁵ Uniform Crime Report "Crime in the United States", 2012, completed by the US FBI. <https://www.unodc.org/unodc/en/data-and-analysis/statistics/crime.html>



3M™ Security Window Film has been shown to deter intruders for up to **2 minutes**⁶

A higher level of protection.

Combine 3M™ Security Window Films with 3M™ Impact Protection Attachment Systems for an added level of security.

The attachment system bonds the filmed window to the frame with an adhesive or profile option.

The films are designed to keep broken glass together, and the attachment systems are designed to keep the glass safely in the frame.

⁶ Performance is highly dependent on numerous factors. Results will vary.



Make your school safer.

The glass on windows and doors of a school can be a vulnerable entry point into the building. Most schools do not have fortified glass to prevent shattering, resulting in potentially easy access through the window. We are proud to say that 3M™ Security Films & Attachment Systems have already been incorporated into thousands of schools.

Mitigate blast hazards.

Accidental explosions are everyday risks for many industrial, lab and manufacturing facilities. Bomb threats often involve schools, government buildings and commercial facilities.

3M™ Security Window Films and 3M™ Impact Protection Attachment Systems have been tested to industry bomb blast standards and meet the performance requirements on numerous glazing types under a variety of blast loads.

Completed Testing (bomb blasts)

- ASTM F1642
- GSA TS01-2003



Say no to graffiti.

Whether applied to windows, public transportation, transit stops, or even bathroom mirrors and stalls, 3M™ Anti-Graffiti Window Film helps provide a strong first line of defense against paint, gouging, scratching and even acid etching.

If damage is done, simply replace the film for a fraction of what you would spend on repairing the damage.

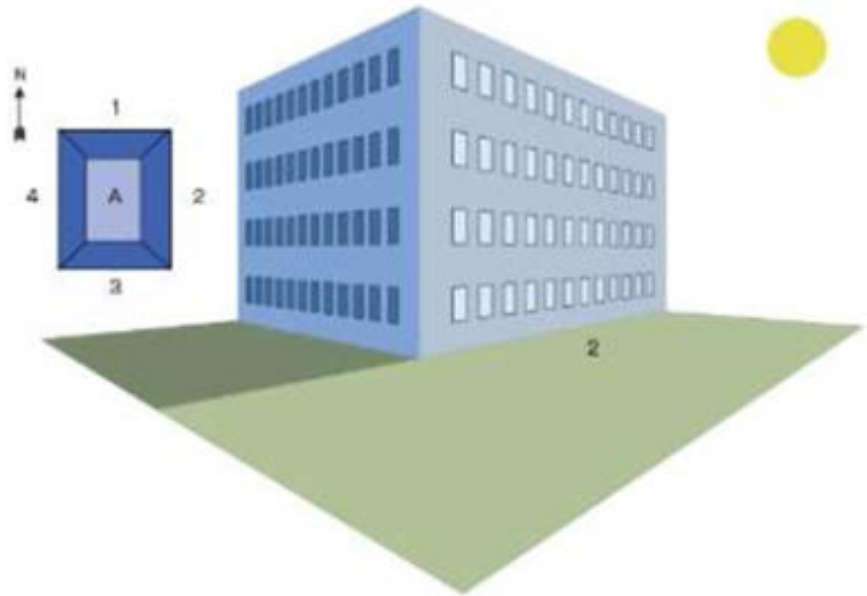


Environmental Product Declaration (EPD)

Example of Results on Prestige 70X Exterior

Building information

Building Type:	Office building
Building Shape:	Rectangular
Orientation:	East
No. of windows:	212
No. of Floors:	4
Floor height:	4.96 m
Area:	1,858 m ²
Glass:	725 m ²
Heating:	Natural gas
Cooling:	Electricity



The Impact is 8 kg CO₂ eq./m² of installed window film in each location. Extrapolating to the reference building the **impact** is ~5.7 t CO₂ eq./725 m².

Differences in savings between cities are due to **local weather conditions**, the Cities electricity grid mix and the type of Power used. As an example, for the building in **Sydney** 535 kg CO₂ eq./m² is saved after 10 years resulting in a potential net benefit of 528 CO₂ eq./m². For the reference building in Sydney ~387 t CO₂ eq./725 m² can be saved resulting in a **potential net benefits of ~383 t CO₂ eq./725m².**



3M™ Fasara™ Glass Finishes

Customize interior glass for elegance and privacy.

Decorative 3M™ Fasara™ Glass Finishes and 3M™ Crystal Window Finishes transform plain glass, so you can capture the look of cut or textured glass at a fraction of the cost.

The films are perfect for interior glass partitions and inside surfaces of exterior windows. Use them to help:

- ▶ Define interior spaces, while keeping an open feel
- ▶ Customize privacy without sacrificing light
- ▶ Create die-cut designs for branding purposes
- ▶ Hide unwanted spaces

Customize privacy. Let in the light.

With our many options in style, opacity and translucency, you can tailor the amount of privacy you want for a space without sacrificing light.

Simple application means they're easy to change based on tenant preference.



3M™ DICHROIC Glass Finishes

Be bold. Make a lasting impression.

Create one-of-a-kind architectural masterpieces at a fraction of the cost of color-shifting glass.

Depending on mounting surface color, viewing angle and lighting choice, 3M™ DICHROIC Glass Finishes can take on a completely different look, letting you define spaces in an altogether original way.

Shimmering textures are available in cool and warm tones.



3M™ DICHROIC Chill Multi-Color



In Transmission (Shown)

In Reflection

Yellow ▶ Magenta ▶ Blue

Gold (straight) Blue (angle)

3M™ DICHROIC Blaze Multi-Color



In Transmission (Shown)

In Reflection

Magenta ▶ Blue ▶ Aqua

Copper (straight) Bronze (angle)



Proven. Trusted. Guaranteed.

Proven: 3M™ Window Films are designed to resist peeling, bubbling, scratching and abrasion for long-lasting beauty and clarity. That's because we push beyond industry standards, subjecting our films to rigorous durability tests — even natural disasters and bomb blasts. We punish our films at the most advanced weathering facilities in the world, so you can count on superior performance, durability and confident protection.

Trusted: 3M is a global innovation company that never stops inventing. We earned the world's first patent for sun control window film in 1966. And today, there are millions of buildings with 3M™ Window Film installed around the world.

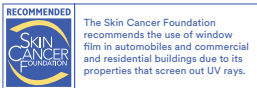
By sharing ideas across 40+ core technologies and combining them in imaginative ways, we continue to introduce new-to-the-world products that enhance your life. Helping to keep your environment protected, comfortable, energy efficient and beautiful.

Guaranteed: When you choose 3M, you choose peace of mind. We offer one of the most comprehensive warranties in the industry — from a trusted company you know will be around.

Put 3M Science to work for you.

3M™ Authorized Dealer Installers are skilled solution-providers for glass safety, security, comfort and privacy. From Buenos Aires to Beijing, you can count on 3M and our professional installers to identify the best solutions for you.

Contact your local 3M™ Authorized Dealer Installer for a free estimate. For more information or to find a dealer installer, please call 1-866-499-8857 or visit us at 3M.com/WindowFilm.



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