

What are Window Films?

Window films are transparent layers of high quality polyester, which can be metalised, laminated and coated using special adhesives, ultraviolet inhibitors and protective scratch resistant coatings, or made as 'sputtered' films which is the manufacturing process whereby metal particles such as gold, titanium, stainless steel, copper and aluminium are embedded into rather than onto, the polyester film. Select concentrations of metal particles allow for varying degrees of colour and solar energy rejection capability. Window films are mainly applied to the inside surface of smooth glass and some dedicated for external usage. They are available in clear, tinted, reflective and an array of decorative patterns. Because the interactive relationship between an applied film and the existing glass in-situ is so important in achieving a client's requirements without any detriment to their existing glass or the applied films performance we recommend that our clients have their premises surveyed, by us, prior to specifying all applications.

We act as an approved installer and distributor for two of the world's leading manufacturers of these products.

General Benefits of Window Film

Window films can reject over 75% of the sun's total solar energy and block out almost 100% of harmful and damaging ultraviolet. You can experience a variety of benefits after installation, depending on the choice of film:-

- Reduced interior heat gain/heat loss.
- Reduced energy costs.
- Improved occupant comfort.
- Reduced glare.
- Increased privacy/visual security.
- Extended air conditioning equipment life and capacity.
- Increased fade protection.
- Shatter protection from accidents, explosions and burglars.

SOLAR HEAT GAIN, GLARE & INSULATION

Heat and glare in the workplace or at home can result in a poor working environment, unusable rooms or offices. This can cause low productivity and discomfort for personnel. Our range of solar control films can help to even-out excessively high and low temperatures in most glazed buildings.

In summer, films can reject solar energy and reduce glare, so improving working conditions. In winter, low-e (low emissivity) films have an all year round benefit by



reducing expensive heat loss through glass. This helps the environment and compliance towards the revised Document 'L' of the Building Regulations.

Our films can produce dramatic energy savings in air conditioning, heating costs and can also assist in complying with European Workplace Legislation for Thermal Comfort (Regulation 7) and Display Screen Regulations (89/654/EEC) for visual comfort against glare. Too high or too low a temperature meant that you can be breaking the law. Our range of window films offer multi-solution glass management, solving heat, glare and aesthetic problems and the combination solar control films are able to provide solar and shatter protection in one application complying with the latest CEN 12600 standards. Included in our range are films suitable for both new/contemporary and listed/heritage buildings. Keep cool without altering the aesthetics.

FADE PROTECTION

Exposure to direct sunlight can cause many materials to fade. Damage due to fading is caused by UV light, visible light, heat (including infra-red light), artificial lighting indoors, humidity, and poor dye anchorage. The first three can cause about 90% of the fading generally observed. UV, visible light, and heat all pass through ordinary glass and can cause expensive damage to goods in the home, office, shop window, or museum.

Our range of fade protection window films is specially designed to filter out at least 98% of the harmful UV, reject infra-red heat, reduce visible light transmission, and still leave a pleasantly lit living or display environment. Whilst no film can completely eliminate the effects of fading due to the solar spectrum, up to 100% of UV, and over 80% of infra-red, and visible light can be rejected with our films.

Our range includes films which are clear (once installed, the film is virtually unnoticeable), tinted, or reflective to offer a choice of fade protection performance and visual characteristics.

PROTECTION ON A ROLL

The primary function of our safety and security films is to help reduce the risk of damage and injury caused when glass breaks. These specially constructed window films are designed to help keep dangerous shards of glass in one place. Though safety and security films are similar to solar films, there are two basic differences between the two. To increase strength and resistance from breakage and puncture, safety & security films are thicker and they have stronger adhesives. These films are coated with thicker and stronger pressure-sensitive adhesive to provide elasticity or a shock absorbing property to retain glass shards.



Glass can be your weakest link in the event of vandalism, burglary, accidents or explosions, but film protects property, fabrics, furniture and merchandise from glass debris, which saves money and maintains business continuity. More importantly, it can protect people from flying glass fragments and so eliminate more serious accidents.

Our films are available from 4 mil (100 micron) to 14 mil (350 micron) thick, in both clear and some solar-safety combination versions. Different situations need different types of film. All safety and security films help reduce fading by removing at least 98% of harmful UV rays too. Our range has passed the impact requirements of British Standards and the new European CEN12600 Standards. Furthermore some meet GSA/ISC safety criteria for bomb blast, level C.

GLAZING IN THE WORKPLACE

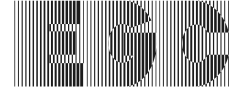
Workplace Health, Safety and Welfare Approved Code of Practice L24 Regulation 14 is a legal requirement, which took effect for all workplace buildings from the 1st January 1996. It stipulates that glazing should be of safety material in all non-domestic premises to at least waist height in all windows and shoulder height in or adjacent to doors. These regulations are also incorporated into Document N of the Building Regulations 1991, BS 6262 Part 4, Safety, and Human Impact.

You have the choice to reglaze relevant areas with safety-marked glass or have our safety film applied with minimal disruption. With a fully tested safety film (CEN 12600 Test shown), you will achieve the requirement quicker and at a far lower cost than reglazing.

- Lower cost to upgrade with every pane correctly marked.
- The convenience of existing glass being upgraded in situ with minimum disruption.
- A hard coated scratch resistant surface assisting durability with manufacturer warranty of up to 10 years.
- A choice of combined solar control and safety to enhance your building which can also provide visual security, remove excessive solar heat gain and annoying glare.
- Incorporation of a documented survey of the relevant glazing.

DECORATIVE FILMS & MANIFESTATIONS FOR GLASS

Our ranges of decorative films allows glass to be seen before it is felt, and to offer the ability to decorate your existing glass with your own logo/signwritings - all designed and fitted by us. They can be used to create a screen, breaking down large



office areas. It is an ideal solution where partitions or large expanses of glass are used. Decorative films applied to glass can produce many different effects:

- 24 hour visual privacy, yet allow daylight in.
- Black or White-out effect for almost total visible light rejection.
- Sand blasted or acid-etched glass effect in satin or sparkling effect.
- Mirrored striped for internal privacy.
- Cartoon characters designs adding a theme element in areas like hospitals or schools.
- Many geometric patterns to create designs onto glass for aesthetic appeal or as a manifestation. This providing compliance to building regulations and allowing people to be aware of the glass in front of them.
- These decorative films can also be combined on a dual application, with our solar and safety films to allow you to be as creative as you need.
- signwritings/logos/advertising.

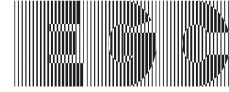
SOLAR VERTICAL BLINDS

Solar Vertical Blinds are a new effective method of solar control, particularly in situations where it is impossible to apply window films or flexibility is required. More attractive for larger windows, vertical solar blinds fit with most types of interior. The elegant design of a vertical blind will enhance your building interior whilst also improving the exterior facade.

The range incorporates plain or embossed window film, cut into either 89mm or 127mm vertical louvres, in a variety of colours and textures. One of our colour combinations on offer is a black finish on the inside and silver finish the exterior facing side. This will provide a dim out facility, which is useful when presentation equipment has to be used.

The headrail materials are of aluminium and specifically UV stable plastics. The gears, which rotate the louvres, can be self aligning or fixed. Vertical blinds are supplied with fixing brackets as standard. The wide range of brackets includes face, top and side fixing versions.

Once manufactured and installed they can remove up to 90% of excessive heat and glare, create visual privacy and security to sensitive areas. Whilst they cut out most of the light, some can still maintain a view out through the film material. An obvious flexibility factor is that blinds can be opened or closed depending on personal preference and climatic conditions. A full manufacturer's 12-month warranty is issued for all components.



GRAFFITI PROTECTIVE FILMS

Our anti-graffiti protection films are designed to be a tough, clear sacrificial barrier, applied internally or externally to most smooth surfaces including glass, metal, stonework and more. The thickness of the film helps stop the surface being defaced while the film's durable coating allows vandals to think they were able to cause damage. The adhesive system enables it to be applied and removed by professionals, when unwanted etching or damage has occurred.

Applications:

- Public transport vehicles and transit shelters
- Shopping areas
- Subways and high traffic corridors
- Lift doors
- Toilets including mirrors and partitions

Prevents:

- Permanent etching of surfaces
- Spray painting original surfaces
- Fading, having UV inhibitors in it's construction

Our film is a 7 mil (175 micron) thick polyester base film with a pressure sensitive adhesive. It has a three year warranty against peeling, cracking, crazing and discolouration.

Satisfaction Guaranteed

Whatever of our films you choose, we back them all with one of the strongest warranties in the industry, subject to correct installation and aftercare. Most of our films are scratch resistant and when applied internally have a life expectancy of over 10 years. And though window films are not fire proof, they satisfy the requirements of British Standards BS 476 parts 6 and 7 for fire tests on building materials when correctly installed on glass.