

Madico® Window Films

A comprehensive range of more than 50 window films for a variety of applications including:

- solar control
- privacy screening
- safety
- energy control
- architectural enhancement
- security
- low mirror films for architecturally sensitive applications
- advanced coatings to selectively reflect heat while transmitting light
- translucent privacy films in several colours
- 235 micron multi-laminate combined solar/safety/security films
- scratch resistant coatings
- new Duralux 500 exterior films
- higher levels of UV control for museums

Particular specialisations include:

- low mirror films for architecturally sensitive applications
- advanced coatings to selectively reflect heat while transmitting light
- translucent privacy films in several colours
- 235 micron multi-laminate combined solar/safety/security films



Madico Duralux 500™ SDSS220X-Kynar, externally applied at a London NHS Trust headquarters

GENERAL

Introduction Madico is a leading international manufacturer of window films, and has supplied the UK market for over twenty years. The current range of films covers a wide variety of applications and specifiers should identify their requirements in one or more of the different ranges listed here and described in detail in the following pages.

It is the responsibility of the specifier/user to ensure that the film is suitable for the intended use.

There are film variants not listed and special films can be manufactured to order. Product types described on this Data Sheet are:

- solar control films**
- clear safety and security films**
- combined solar/safety/security films**
- privacy, graphics and manifestation films**
- tinted and decorative films**

Solar Control Films

Madico Reflecto-Shield® - reflective films for particular use in alleviating severe solar gain and glare problems. Can also give daytime privacy, uniform appearance and winter heating savings.

Madico Insulux® - low mirror films that offer a balanced year round performance for solar heat rejection, light transmission and winter heat-saving, and give a pleasing architectural appearance.

Madico Neutralux® - non-reflective solar control films for use where a neutral appearance is required. These films are especially useful for architecturally sensitive applications such as listed buildings.

Madico Viewlux™ - combines excellent heat rejection properties with a high light transmission. It is designed for retail display windows, showrooms, museums, restaurants etc., where visibility from the outside must be retained while cutting down heat and glare to a more acceptable level. Viewlux film also helps control UV transmission and the fading of display merchandise, exhibits etc.

Madico SuperScreen™ - UV control films for museum conservation and retail use, helping to protect exhibits, displays and furnishings from UV radiation.

Madico Designer Series - reflective films with similar applications to Reflecto-Shield® but for interior or exterior use - the latter particularly in conjunction with rooflights, double glazed sealed units, patterned and tinted glass, and where access is difficult or the internal environment hostile.

Madico Duralux 500™ - high performance exterior grade window films manufactured with a polyvinylidene fluoride (PVDF) coating for maximum weatherability. These films are more resistant to airborne pollutants, acid rain, jet fuels, etc and carry the manufacturer's 10 year limited warranty for approved applications.

PERFORMANCE

Heat and light The table below gives the performance characteristics as supplied to 6 mm clear glass. All Madico films reduce UV radiation to between 0 and 4% up to 380 nanometers. Definitions of terms used are available on request. All shading systems alter the thermal stresses within a glazed pane and trial applications are recommended where appropriate; externally applied film virtually eliminates this risk.

Certain films will also be available in a low-E version for improved heat saving.



A typical exterior application of Designer Series film to rooflights

important: When specifying solar control film for DOUBLE-GLAZING, use an exterior film such as DURALUX 500™ wherever possible.

EXTERIOR APPLICATION

Majority of solar heat is reflected away from outermost surface of glazing unit.



Glazing unit remains cool and the risk of thermal fracture is reduced. High performance films such as SDSS220X-K or DBB220X-K may be considered.

INTERIOR APPLICATION

Large proportion of solar heat is trapped in the glazing unit.



Glazing units heats up and acts as a storage radiator. It may be at risk from thermal stress so only consider a lighter density film such as RS440XSR.

Any given film performs up to 25% better for solar heat rejection when fitted to the exterior of a double glazed unit than when fitted to the interior.

A higher performance film such as SDSS220X-K fitted to the exterior surface performs up to 50% better for solar heat rejection than a light density film such as RS440XSR fitted to the inside surface.

Film code	Colour	Solar heat rejected	Solar glare reduction	Visible light transmitted (550 nm)	Solar energy reflected	Solar energy absorbed	Shading coefficient	Mirror index
Madico Reflecto-Shield - maximum solar heat and glare reduction, mirrored finish giving daytime privacy depending on light levels; scratch resistant.								
SRS220XSR	silver	79%	83%	16%	51%	36%	0.26	3.6
SRS330XSR	medium silver	72%	72%	25%	45%	37%	0.32	2.2
RS440XSR	light silver	66%	59%	36%	40%	40%	0.39	1.3
RB320XSR	bronze	69%	82%	16%	29%	53%	0.35	0.9
RG321XSR	grey	71%	81%	17%	24%	62%	0.34	1.1
Madico Insulux - low mirror, high light transmission energy control films with selective filtering of sun's rays; scratch resistant.								
SB341XSR	medium bronze	64%	66%	30%	34%	39%	0.41	0.8
SB551XSR	light bronze	49%	43%	50%	22%	36%	0.51	0.3
Madico Neutralux - unobtrusive films achieving good solar heat and glare control. Ideal for listed buildings, etc; scratch resistant.								
NG35XSR	medium grey	61%	59%	38%	26%	46%	0.45	0.8
NG50XSR	light grey	48%	52%	43%	14%	46%	0.60	0.3
Madico Viewlux - a light film combining good solar heat rejection with high light transmission; scratch resistant.								
XIR70XSR	v light green-grey	52%	26%	66%	24%	37%	0.55	0.6
Madico SuperScreen - uv control films for museum conservation, display windows, etc; scratch resistant.								
CLS200XSR	clear	19%	3%	85%	10%	12%	0.93	n/a
SGS550XSR	light grey	42%	43%	50%	11%	43%	0.66	0.4
Madico Designer Series - coloured to both sides for matching interior and exterior decor and may be applied to the exterior surface of the glass.								
SDSS220X	silver	79%	83%	16%	51%	36%	0.26	3.6
SDSS330X	medium silver	74%	72%	25%	45%	37%	0.30	2.2
DBB220X	bronze	70%	78%	18%	35%	48%	0.33	2.0
DBB430X	medium bronze	61%	74%	23%	20%	53%	0.47	0.7
DGG431X	medium grey	62%	72%	25%	23%	52%	0.44	0.8
DAA221X	gold	78%	84%	13%	45%	44%	0.25	3.4
Madico Duralux 500 - high performance exterior films with a PVDF-based finish for better durability. Other - K versions cab be manufactured to order.								
SDSS220X-K	silver	79%	83%	16%	51%	36%	0.26	3.6
SDSS330X-K	medium silver	73%	72%	25%	46%	36%	0.32	2.2
SB340X-K	bronze	66%	55%	40%	35%	41%	0.39	0.9
SG340X-K	grey	50%	55%	40%	15%	48%	0.57	0.4

Where performance data has been measured, calculated and reported in accordance with ASTM, ASHRAE and AINCAL standards, the data is subject to variation within industry standards. It is the user's responsibility to determine whether the product is suitable for the intended use. If the specific conditions of use are critically dependent on any of the properties of the product, contact Madico direct.

Safety, Solar/Safety and Security Films

Madico Protekt® - single-ply and multi-laminate films of various thicknesses, which when correctly installed give enhanced shatter resistant and safe breakage qualities to existing glass. Designed to help protect personnel and property from shattered glass. May be combined with Neutralux® and Reflecto-Shield®.

Madico Protekt® 400 micron multi-laminate clear security film - typically specified for ground floor windows of high security buildings, and in other high security areas considered to be at risk.

Madico Protekt® 195 micron and 235 micron multi-laminate clear safety and security films - typically specified for corporate, government and defence bomb blast and security type applications.

Madico Protekt® 235 micron multi-laminate combined solar/safety/security films - as for the clear version above but for applications requiring higher performance safety and security combined with solar control, privacy or aesthetic tinting. Combinations currently available as standard are shown in the table below, but special versions can be manufactured to order, subject to quantity.

Madico Protekt® 215 micron exterior grade clear safety film - a tough weatherable safety film of greater strength than standard film, for exterior applications where required.

Madico Protekt® 175 micron standard clear safety film - typically used to meet BS6206 Class A requirements for safety or bomb blast.

Madico Protekt® 100 micron standard clear safety film - typically used to upgrade existing glass to a safer specification. Widely used to help organisations address some of the objectives of the Workplace Health, Safety & Welfare Regulations (1992) where costly large scale replacement of existing glazing is not a viable option. Tested to BS 6206: 1981 Class B on 3 mm, 4 mm, 6 mm and patterned glass types.

Madico Protekt® 100 micron combined solar/safety films - combine the benefits of standard clear safety film with the benefits of Reflecto-Shield® or Neutralux® solar control films. Combinations currently available are shown in the table below.

PERFORMANCE

Impact resistance - Madico Protekt® film specimens have been tested to BS 6206: 1981 classes A, B and C on 4 mm glass as shown below. These tests are indicative only on the performance achieved under test conditions. Protekt® films are subject to an ongoing process of product testing and improvement and the specifications available may be updated without prior notice. If the impact performance characteristics are critical to the application proposed, the user should contact Madico. For multi-laminate films of 195 microns or more, thicknesses are quoted including adhesives.



Madico Protekt clear safety film undergoing steel ball impact test



Madico Protekt Neutralux 100 micron combined solar/safety film to Grade 2 listed building

Film code	Colour	Structure	Film thickness (microns)	Peel strength (kg/25mm width)	Description and solar performance
Madico Protekt - thicker grade clear safety films; scratch resistant where suffixed 'SR'.					
LCL1400XSR	clear	multi-laminate	400	>2.25	
LCL800XSR	clear	multi-laminate	235	>2.25	tested to BS 6206 Class A and EN 12600
LCL600XSR	clear	multi-laminate	195	>2.25	tested to BS 6206 Class A and EN 12600
LCLW700X	exterior grade clear	multi-laminate	215	>2.25	
Madico Protekt - thicker grade combined solar/safety/security films; scratch resistant.					
SRS220XSR-8mil	silver	multi-laminate	235	>2.25	as for Reflecto-Shield
RS440XSR-8mil	light silver	multi-laminate	235	>2.25	as for Reflecto-Shield
NG50XSR-8mil	light grey	multi-laminate	235	>2.25	as for Neutralux
Madico Protekt - standard clear safety films; scratch resistant.					
CL700XSR	clear	single ply	175	>2.25	tested to BS 6206 Class A and EN 12600
CL400XSR	clear	single ply	100	>2.25	tested to BS 6206 Class A and EN 12600
Madico Protekt - standard combined solar/safety/security films; scratch resistant.					
NB50XSR-4mil	light bronze	multi-laminate	100	>2.25	as for Neutralux
NG50XSR-4mil	light grey	multi-laminate	100	>2.25	as for Neutralux
NG70XSR-4mil	very light grey	multi-laminate	100	>2.25	as for Neutralux
RS220XSR-4mil	silver	multi-laminate	100	>2.25	as for Reflecto-Shield
RS440XSR-4mil	light silver	multi-laminate	100	>2.25	as for Reflecto-Shield
RB320XSR-4mil	bronze	multi-laminate	100	>2.25	as for Reflecto-Shield
RG321XSR-4mil	grey	multi-laminate	100	>2.25	as for Reflecto-Shield
Safety films of 100-micron thickness or more can, in some circumstances, take several weeks to dry out and attain their full protective strength.					



24 hour security provided by Protekt 195 micron multi-laminate clear safety film

Privacy Screening, Graphics and Manifestation Films

Madico Privacy Screening - finely textured translucent matt privacy films for new or existing glass. Allows freedom in initial glass specification allowing privacy to be added later.

Graphics and Manifestation - these films are also used to produce window graphics, for decoration using corporate logos, etc, and for manifestation marking of glazed doors and partitions.

Film code	Colour	Solar heat rejected	Solar glare reduction	Visible light transmitted (550 nm)	Solar energy reflected	Solar energy absorbed	Shading coefficient	Mirror index
Madico Privacy Screening - finely textured, translucent matt films giving privacy from both sides.								
MT200X-W	pearl white	30%	26%	62%	12%	25%	0.80	0.2
MT200X-B	bronze matt	45%	72%	25%	11%	48%	0.63	0.3
MT200X-G	grey matt	48%	76%	21%	9%	55%	0.59	0.3
RMS220X	silver matt	77%	83%	15%	46%	42%	0.26	3.4

Tinted and Decorative Films

Madico Tint - gives the appearance of tinted glass. Mainly used for aesthetic reasons but also to control glare and UV radiation. TA81XSR is a specialist film for UV-sensitive industrial and

scientific applications. TG8XSR black film is often used for privacy screening requirements.

Film code	Colour	Solar heat rejected	Solar glare reduction	Visible light transmitted (550 nm)	Solar energy reflected	Solar energy absorbed	Shading coefficient	Mirror index
Madico Tint - non-reflective tinted films allowing two way visibility and giving varying degrees of glare and heat control; scratch resistant.								
TB21XSR +	bronze	44%	78%	20%	7%	51%	0.64	0.3
TB21XSR	medium bronze	33%	60%	36%	7%	36%	0.73	0.2
TB21XSR	light bronze	28%	45%	48%	9%	26%	0.83	0.1
TB21XSR +	grey/black	44%	88%	11%	7%	52%	0.64	0.5
TB21XSR +	dark grey	43%	78%	19%	8%	48%	0.66	0.3
TB21XSR	medium grey	39%	69%	28%	7%	44%	0.70	0.2
TB21XSR	light grey	30%	35%	57%	7%	32%	0.80	0.2
TB21XSR	very light grey	25%	24%	68%	8%	23%	0.86	0.1
TB21XSR	blue	29%	36%	56%	9%	28%	0.81	0.2
TB21XSR	green	32%	36%	56%	8%	28%	0.82	0.2
TB21XSR	rose	29%	48%	47%	8%	35%	0.77	0.1
TB21XSR	amber	26%	35%	57%	9%	23%	0.85	0.1

Films marked + are also available in exterior versions.

COMMON INFORMATION

Fire Resistance Film specimens have been tested to BS 476: Part 5, achieving designation 'P' (Pass) for ignitability; Part 6, achieving 'Zero' fire propagation index, and Part 7, achieving 'Class 1' surface spread of flame, and complying with the requirements of a 'Class O' surface, as defined in Appendix A12(b) of Approved Document B, Fire Safety, The Building Regulations 1991.

SITWORK

Installation Madico films are applied on site by specialist window film contractors trained and experienced in the fitting of window films. Madico films may be installed to the inside or outside surface of the glass depending on the film type and requirement. The installation process involves minimal disruption to other personnel.

MAINTENANCE

Cleaning Careful window cleaning should be undertaken with non-abrasive materials and clean soapy water. Considerable control should be exercised in the cleaning of external films. It may be viable to leave Duralux 500™ films with their PVDF surface as virtually self-cleaning, depending on the particular environment involved.

ECONOMICS

Guarantee Madico films are covered by manufacturer's limited warranty against peeling, cracking, crazing or demetalizing for a period of up to ten years depending on film type and application.

SERVICES

Madico films are supplied through specialist dealers who provide a comprehensive service including installation and maintenance.