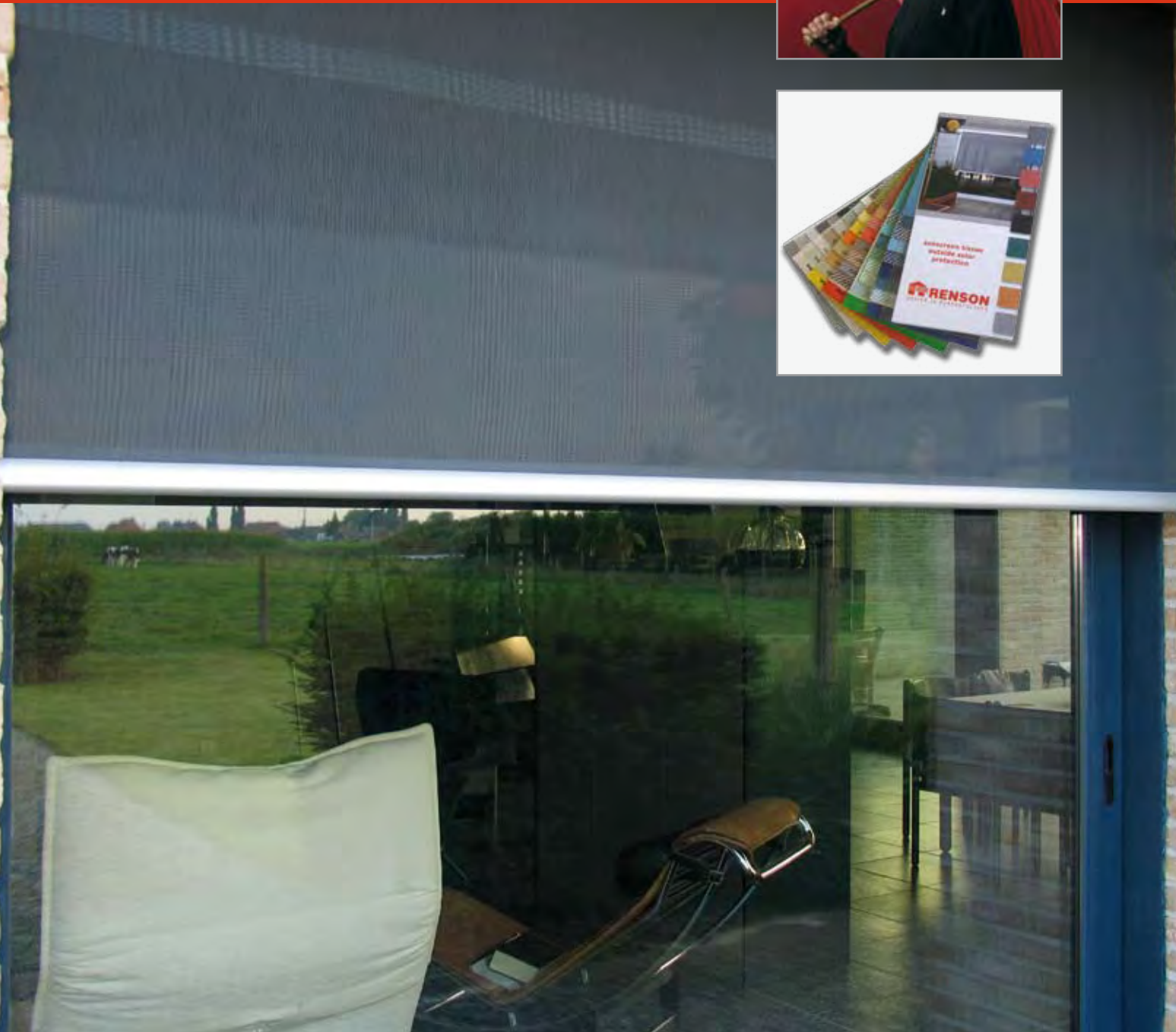


# SCREEN FABRIC

# TECHNICAL BROCHURE



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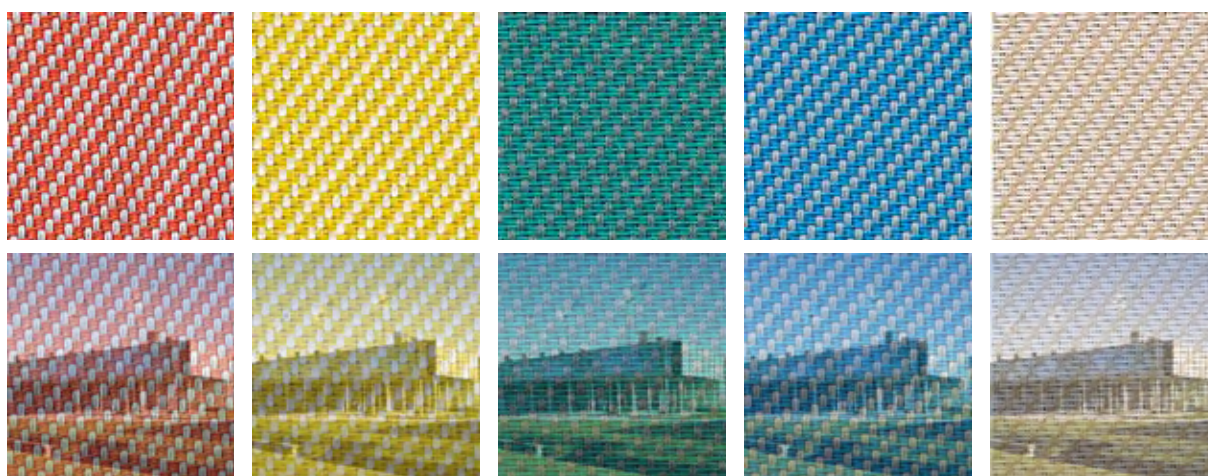
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## GENERAL

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Sun blind fabrics have technical properties to help prevent both solar gain, excessive light gain and glare. By installing them externally the benefits are significantly improved as the screens prevent heat and light before they reach the glazing.

As well as being functional external screens can also have a decorative role, although colour does play an important part in the performance of the fabric. The gentle filtering and control of light and the protection against harmful UV rays helps to create a much more pleasant internal environment.



*Example of how the fabric colour influences on your environment*

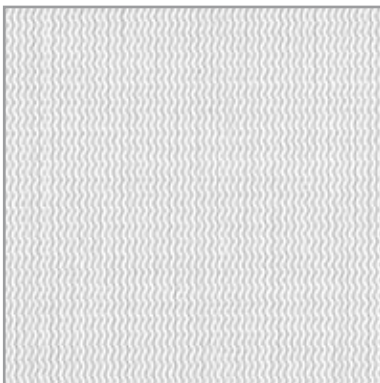
A suitable sun blind fabric will:

1. Protect against the sun and harmful effects of UV rays such as fading of furnishings
2. Protect you against heat and sunlight during the day and also against cold in the evening
3. Help to control the internal environment and reduce energy consumption
4. Prevent glare on computers and/or television screens
5. Provide partial or total room darkening
6. Enhance decor or can be used to make a style statement

## TYPES OF FABRIC



Sun blind fabrics are heavy duty, external grade materials with a proven pedigree. They are dirt and water repellent, rot, mould and UV resistant, colourfast, weatherproof and allow air to pass through.



### WOVEN POLYACRYLIC FABRIC

Often just called acrylic fabrics these are woven with polyacrylic yarn (polyacryl nitrate), coloured in bulk and are highly resistant to UV radiation. After weaving the fabric is subjected to a chemical treatment which makes it water and dirt repellent.

The fabric is woven in widths of approximately 120cm and is seamed all round and joined together by stitching. The widths of the seams and overlaps may vary depending on the fabric and the specific application. These fabrics are tightly woven so offer no view-through and are ideal for external sun awnings but not vertical sun screening.

Fabric Ranges we offer:

- SWELA
- DICKSON Orchestra
- ...

## TYPES OF FABRIC

### SCREEN FABRIC MADE OF WOVEN COATED GLASS FIBRE YARN, GENERALLY KNOWN AS GLASS FIBRE

This fabric is made from a woven glass fibre yarn which is individually coated in a durable PVC layer. This manufacturing process produces flexible fabrics. The screen fabric is heavy and extremely strong making it ideal for use in external, vertical roller blind systems.

Ref.	AS	RS	TS	TV	G/tot. ext. * EN 13363-1	OF = 5 %
SC0103	63,8	28,9	7,3	6,3	0,12	
SC0140	76,0	18,4	5,6	4,7	0,12	
SC2040	61,0	30,0	9,0	5,0	0,09	
SC0703	50,6	39,1	10,3	7,1	0,14	
SC0740	61,5	31,0	7,5	4,4	0,12	
SC4040	61,7	26,2	12,1	4,9	0,16	
SCM01	74,0	21,0	6,0	5,0	0,07	
SCM02	39,0	45,0	16,0	14,0	0,13	
SC0150	70,1	23,5	6,5	6,0	0,12	
SC2050	70,6	21,1	8,3	7,8	0,14	
SC0750	55,4	36,4	8,2	6,3	0,12	
SCM16	74,3	21,0	4,6	3,7	0,11	
SCM17	71,0	22,0	7,0	7,0	0,08	
SCM18	54,0	37,0	9,0	6,0	0,09	
SCM19	39,0	45,0	16,0	14,0	0,13	
SCM30	51,0	40,0	9,0	7,0	0,09	
SC0109	65,6	27,7	6,8	5,7	0,12	
SC0708	49,3	40,8	9,9	7,8	0,13	
SC0709	49,8	39,6	10,6	7,3	0,14	
SC0909	37,7	45,0	17,3	8,3	0,18	
SCM47	65,0	29,0	6,0	6,0	0,08	
SCM48	54,0	37,0	9,0	7,0	0,09	
SCM56	51,0	40,0	9,0	7,0	0,09	
SC0816	63,4	26,1	10,5	8,4	0,15	

\* double glazing 4/12/4 EN 14501

Ref.	As	Rs	Ts	Tv	G/tot. ext. * EN 13363-1	OF = 5 %
SC0105	64,6	29,0	6,4	6,2	0,12	
SC0108	65,5	29,5	4,9	4,3	0,11	
SC0205	26,0	56,0	18,0	17,0	0,13	
SC0505	28,8	49,7	21,5	20,2	0,21	
SC0808	35,4	48,6	16,0	9,4	0,17	
SCM64	54,0	37,0	9,0	7,0	0,09	
SCM65	46,3	43,2	10,6	7,0	0,13	
SCM73	44,0	44,0	12,0	10,0	0,11	
SC0102	56,2	37,2	6,7	6,6	0,11	
SC0110	68,8	26,5	4,7	4,5	0,11	
SC0202	13,2	65,9	21,0	21,2	0,19	
SC0207	39,0	45,0	16,0	17,0	0,13	
SC0707	51,7	38,3	10,1	8,4	0,13	
SC1002	39,1	49,2	11,7	10,2	0,14	
SC1010	54,1	36,5	9,4	7,7	0,13	
SC2002	26,4	58,2	15,5	13,7	0,15	
SC2020	32,5	52,5	14,9	12,9	0,16	
SC0101	81,3	15,1	3,5	3,6	0,11	
SC0130	86,5	9,9	3,6	3,6	0,11	
SC0606	88,0	8,1	3,9	3,8	0,12	
SC1006	73,2	21,1	5,7	5,0	0,12	
SC3030	91,4	5,0	3,6	3,6	0,12	
SCM31	63,0	33,2	3,9	3,6	0,09	
SCM33	73,4	23,0	3,6	3,0	0,10	
SCM36	27,7	59,8	12,4	11,6	0,13	
SCM45	39,0	45,0	16,0	14,0	0,13	

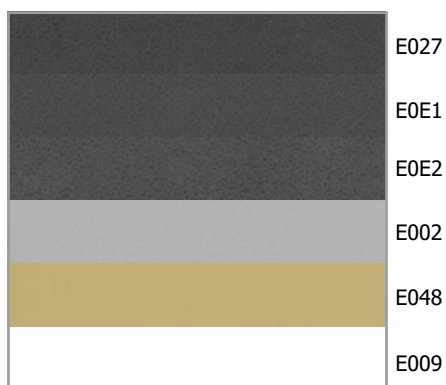
\* double glazing 4/12/4 EN 14501

## TYPES OF FABRIC

### Technical specification of glass fibre fabric:

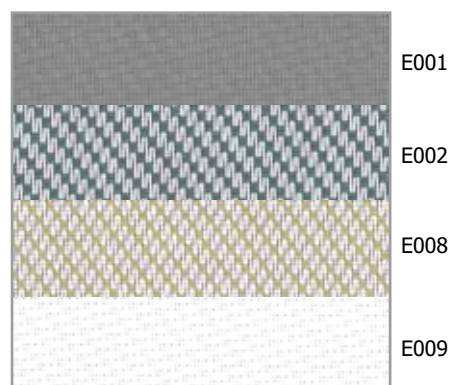
	<b>Screen Sergé</b> (see our fabric swatch or overview p. 4 & 5)	<b>Opaque Classic Collection 13137</b>	<b>Opaque Classic Collection 21154</b>
Description	Sun blind fabric for external sun blinds	Sun shading fabrics for internal and external sun blinds	
Composition	Glass fibre yarn (42%) with PVC coating (58%)	Glass fibre yarn (33%) with PVC coating (67 %)	
Available width	From 1350 to 2700 mm depending on colour	1400 mm	
Fire resistance	M1		
Thickness	Approx 0.75 mm	Approx 0.50 mm	Approx 0.75 mm
Weight	Approx 525 g/m <sup>2</sup>	Approx 800 g/m <sup>2</sup>	Approx 800 g/m <sup>2</sup>
Warp tear resistance according to NF GO7.146	10/12 daN	1,5 daN	5 daN
Weft tear resistance	-	3 daN	5 daN
Warp breaking strength	> 295 daN/ 5 cm	200 daN/ 5 cm	300 daN/ 5 cm
Weft breaking strength according to NF G7-001	160 daN/5 cm	210 daN/5 cm	240 daN/5 cm

OF = 0 %



Colours Opaque Classic Collection 13137

OF = 0 %



Colours Opaque Classic Collection 21154

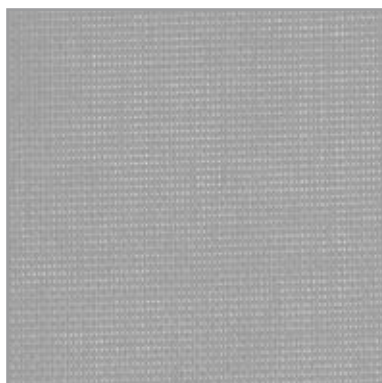
## SCREEN FABRICS BASED ON COATED PRE-STRESSED POLYESTER CLOTH (SOLTIS)

Generally known as polyester fabrics these are made from high strength polyester yarn (HTP). After the weaving process the fabric is pulled in both directions under high tension and is fixed with liquid PVC to ensure the fabric retains its shape. In high tension applications, this fabric is ideal because of its excellent dimensional stability and as it has so little sag it is perfect for shading large areas too. This fabric is used in both horizontal and vertical applications where transparency is required.

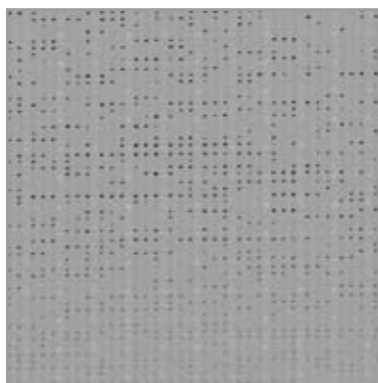
### Technical specification:

	<b>Soltis 86</b>	<b>Soltis 92</b>	<b>Soltis 93</b>	<b>Soltis B92 blackout fabric</b>
Description	Sun blind fabrics for external sun blinds, ideal for facades, verandas, sun lounges and glass roofs			
Composition	Polyester textile fabric manufactured according to PRECONTRAI NT FERRARI technology			
Available width	1770 mm	1770 mm	2700 mm	1700 mm
Fire resistance	M1	M1	M1	M2
Thickness	Approx 0.43 mm	Approx 0.45 mm	Approx 0.45 mm	Approx 0.60 mm
Weight according to EN ISO 2286-2	Approx 380 g/m <sup>2</sup>	Approx 4200 g/m <sup>2</sup>	Approx 420 g/m <sup>2</sup>	Approx 650 g/m <sup>2</sup>
Warp tear resistance according to DIN 53.363	45 daN	40 daN	40 daN	45 daN
Weft tear resistance according to DIN 53.363	20 daN	20 daN	30 daN	25 daN
Warp breaking strength according to EN ISO 1421	230 daN/5 cm	310 daN/5 cm	300 daN/5 cm	330 daN/5 cm
Weft breaking strength according to EN ISO 1421	160 daN/5 cm	210 daN/5 cm	240 daN/5 cm	220 daN/5 cm

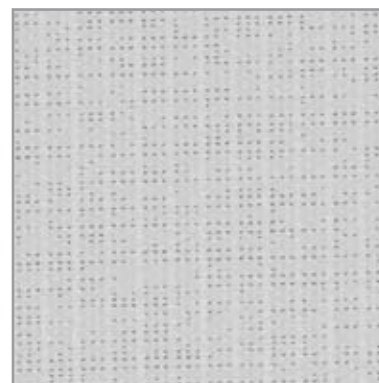
Range of colours on request



SOLTIS® 86



SOLTIS® 92



SOLTIS® B92 black out

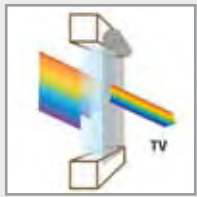
## TECHNICAL CHARACTERISTICS OF SUN BLIND FABRICS



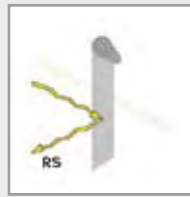
OF: % openness



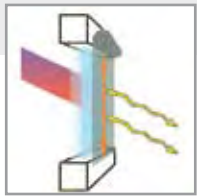
TS: sun transmittance in %



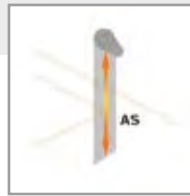
TV: visible light transmission in %



RS: sun reflection in %



G/tot: shading coefficient (SC)



AS: sun absorption in %

TS + RS + AS = 100% of the incident energy

External sun blinds reduce the g-value to 0.08, which means that 92% of the solar energy is blocked out and only 8% left to enter through the glazing. Measurements also show that sun blinds transmit less light as they block the heat more efficiently.

### Shading coefficient (SC or G/tot)

SC is the total percentage of the energy which enters through a window, possibly equipped with sun blinds. It is a measure of the efficiency of sun blinds.

g-value of sun blinds = fraction of solar energy which is allowed in through a combination of sun blinds + glazing  
=  $g(g+C, \text{perpendicular}) = G/\text{tot}$

g-value of glazing = fraction of solar energy which is allowed in through glazing  
=  $g(g, \text{perpendicular})$

### Shading factor F

= fraction of solar energy which is allowed through sun blinds alone.

$$F = \frac{\text{g-value sun blinds}}{\text{g-value glazing}} = \frac{g(g+C, \text{perpendicular})}{g(g, \text{perpendicular})} = \frac{G/\text{tot}}{g(g, \text{perpendicular})}$$

The g-value and shading factor F of a sun blind thus depends on the type of glazing.

Type of fabric	F
Glass fibre fabric	0,31
Acrylic fabric	0,50
Polyester fabric	0,50

### Sun transmission factor $\tau_{e,dir,h}$ of sun blinds not parallel to the surface of the window

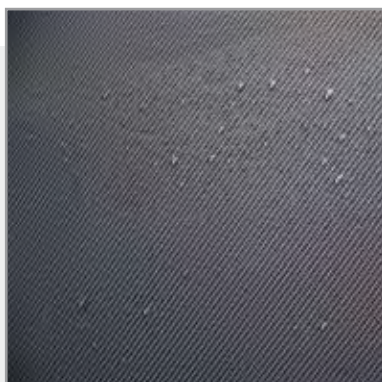
= fraction of solar energy which is allowed through the sun blinds with perpendicular incidence of light.

### U-value or heat transmittance coefficient of glazing (no sun blinds)

= amount of heat which is allowed in between the external and internal environment per unit surface and temperature difference, expressed in  $W/m^2/K$ .

Example: Glazing conforms to the Flemish EPB legislation and must have a central U-value  $\leq 1.6 W/m^2/K$ . Typical air-filled double glazing has a U-value of  $\pm 3 W/m^2/K$ .

## PRODUCT CHARACTERISTICS OF FABRICS



### WATER TIGHTNESS

Woven polyacrylic and screen fabrics can never be completely waterproof. However, polyacrylic fabrics are made resistant to water, dirt and oil by a special treatment which has been developed specifically for external applications so that water cannot ingress into the new fabric under normal circumstances. This barrier treatment prevents absorption so that drops of water will slide off the fabric like a bead.

### VERTICALLY SUSPENDED FABRIC, WITHOUT SPRING TENSION

Where no tension system can be used, these fabrics are kept taut by the weight of the bottom bar. In suspended position these fabrics may therefore be more susceptible to a kind of slight waviness.



### THE INFLUENCE OF WIND

Wind affects fabric and manufacturers of fabric tension systems cannot guarantee that their systems will completely absorb the blowing or suction effects caused by the wind. In fact it is beneficial for the sun blind fabric to slightly give way under wind load in order to prevent tears in the fabric.

The best, most commonly used way to stow away the fabric compactly is by winding it on a round spindle. As previously mentioned, sun blinds are often very large while storage of the assembly in the smallest possible container is a commonly pursued objective. The selected winding shaft diameter is very important because this determines whether the spindle will bend or not. A minimum level of bending cannot be avoided.

Stripes may also appear at the point where the fabric is secured onto the winding shaft.



### ROT AND MOULD FREE

All sun blind fabrics are made from plastic fibres which will not biologically degrade making them inherently rot proof. However, hydrocultures may develop on areas which are exposed to humidity and these may create the basis for moss forming. Moss and mould can thus grow on the particles and impurities which are drawn onto the fabric. This can even occur on the polyacrylate fabrics which are, in principle, more resistant due to their special protective treatment.

If the fabric is rolled up in a damp condition, the moisture between and within the material is unable to dry out. In this situation it is possible for mould to occur in the form of black dots which cannot be removed. This has no effect whatsoever on the quality or function of the fabric and will not cause the fabric to rot.

Consequently if the fabric becomes wet due to an unexpected shower, it can be retracted but it must be lowered again to allow it to dry once the weather is better. Avoiding having the wet fabric rolled up for more than three days will help prevent the formation of mould spots.

## FABRIC MAKING UP

### MAKING UP

Fabrics are mechanically, thermally or ultrasonically cut.  
The fabrics are thermally or high frequency welded.

### MAKING UP SIDE

Making up side 1 = top side of the fabric sample = outer view of screen fabric  
Making up side 2 = bottom side of the fabric sample = outer view of screen fabric

### WELD

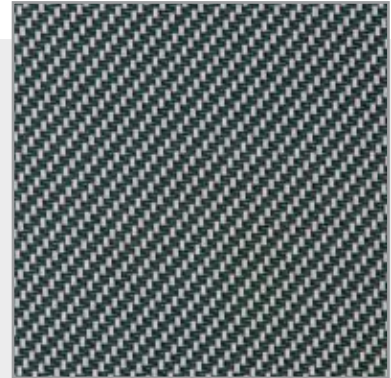
- The weld height is always calculated from the lowest point of the framework
- For typical glass fibre fabric: horizontal weld at 2.70 m high.
- For glass fibre darkening fabric: horizontal weld at 1.40 m high.
- For SOLTIS® 86 - 2xxx series: horizontal weld at 1.70 m
- For SOLTIS® 86 - 3xxx series: horizontal weld at 2.70 m unless similar screens from the 2xxx series are processed on the same project in which case the horizontal weld for all screens is placed at 1.70 m.
- For SOLTIS® 92: horizontal weld at 1.70 m
- For SOLTIS® 93: horizontal weld at 2.70 m

### FINISHING

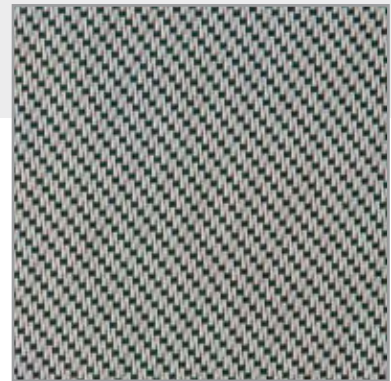
- The fabric is fixed top and bottom with an extruded strip in a fabric hem or with a fixed strip (braid)
- Side edges of glass fibre fabrics are sealed by means of a transparent reinforcement band to prevent fraying
- Side edges of wind resistant screens (e.g. FIXSCREEN® ) are provided with a zip

### PRINTING

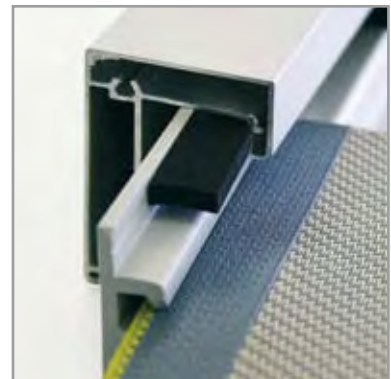
- It is possible to have logos, designs and text printed on the fabrics



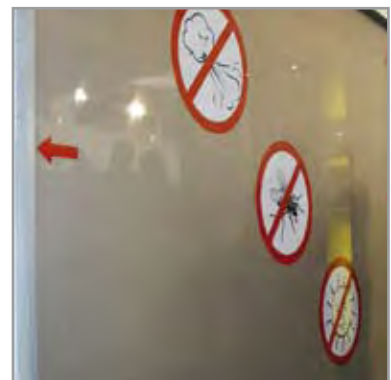
Making up side 1



Making up side 2



Detail of the FIXSCREEN® sideguide



Printing

## MAINTENANCE INSTRUCTIONS

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### REGULAR MAINTENANCE

Keep the sun blind fabric free of dust and surface particles by vacuuming, blowing, gently beating or brushing.

### FOR EXTERNAL SUN BLINDS IN ACRYLIC FIBRE

For weather stains: sponge down with lots of water and rub with a damp cloth.

Do not use soap solutions, cleaning agents, abrasives or a high pressure water cleaners to clean your fabric.

Contact your sun blinds specialist for more information about suitable cleaning products.

### FOR VERTICAL SUN BLINDS IN MICRO PERFORATED FABRIC

Roll out the whole fabric. Remove dust and dirt from the fabric with a soft non-metallic brush by scrubbing both sides with clean water.

It is recommended to start with the side which is most exposed to dirt. If you use a soap solution only do so in accordance with the instructions. Thoroughly rinse the fabric with clean water and allow it to dry outside in an unwound position if weather conditions allow.

Note that cleaning methods such as abrasives, high pressure washers, chemicals both organic and inorganic, are strictly prohibited.

If the fabric has become wet due to an unexpected shower the blind can be retracted but it must be lowered again to dry as soon as the weather improves. Avoid having the wet fabric rolled up for more than three days to prevent formation of mould spots.

## RENSON - YOUR PARTNER FOR VENTILATION AND SOLAR SHADING

RENSON, WITH ITS RICH TRADITION IN INNOVATION AND EXPERIENCE SINCE 1909, IS PROFILING ITSELF AS THE UNDISPUTED EUROPEAN MARKET LEADER IN NATURAL VENTILATION AND SOLAR SHADING. OUR HEADQUARTERS ARE LOCATED IN A REMARKABLE BUILDING IN WAREGEM (BELGIUM). THE BUILDING IS A WORKING EXAMPLE OF OUR HEALTHY BUILDING CONCEPT AND FUNCTIONS AS A PROTOTYPE, EXHIBITING OUR TECHNOLOGICAL STRENGTHS.

RENSON'S MISSION IS THE ONGOING DEVELOPMENT, PRODUCTION AND SELLING OF UNIQUE AND INNOVATING PRODUCTS FOR NATURAL VENTILATION AND SOLAR SHADING. OUR MAIN OBJECTIVE IS TO IMPROVE THE LIVING CONDITIONS OF PEOPLE AND AT THE SAME TIME CUT ENERGY COSTS. OUR SYSTEMS ARE ENVIRONMENTALLY FRIENDLY; SOUND ABSORBING AND GOOD FOR THE HEALTH OF ALL ITS USERS.

### RENSON HAS IT ALL :

- Our multidisciplinary R&D department is co-operating with leading European research organizations. The result of that is a complete range of innovative concepts and products.
- Our automatic powdercoating installation, anodisation unit, moulding centre, plastic injection moulding facilities, assembly department and warehouse are all accommodated within an area of 75,000m<sup>2</sup>. This degree of vertical integration allows RENSON to ensure the quality consistency of its products.
- RENSON's headquarters, sales and marketing department and production plant are located in Belgium, but we also have plants and offices in France and in the UK. RENSON has sales representatives active all over Europe and has set up a network of distributors throughout the world.
- The diversity and capability of our staff are our warranty for correct solutions for each individual building project. The creation of constructive long term relationships with construction specialists is our priority.



As we have a policy of continuous product and process improvement we reserve the right to change the specification of our products without prior notice. The most recent brochures are available for download at [www.renson.eu](http://www.renson.eu).

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**RENSON**  
DESIGN IN SUNPROTECTION