

News 2 – Solar Protection

➔ Accomplishment

The high performance of Mermet serving the new Museum of Toulouse



On 26 January 2008, the Museum of Toulouse re-opened its doors to the public. After being closed for 10 years, the new architectural features impressed visitors. It is a unique creation of the practice of Jean Paul Viguier, which called on the international experience of Mermet, has once again shown its mastery and know-how in a large-scale project; 2,000 m² of fabrics, installed under the atrium windows and inside the double skin façade, protect the skeletons and other masterpieces of the Museum from light.

State-of-the-art technology in public places

Combining the requirements of the public with scenography requires the best possible design.

Transparency, control of natural light and glare, heat control, etc.... the Mermet® range allows for all possible effects to be achieved.

The Louvre Museum, the Museum of Roman Art (Lisbon), the Guggenheim Museum (Bilbao), the Prado Museum (Madrid), the Getty Museum (Los Angeles), etc. Thanks to the research carried out by its team, Mermet® has already become a first-choice partner in prestigious international projects.

New: a double skin envelope for floating skeletons

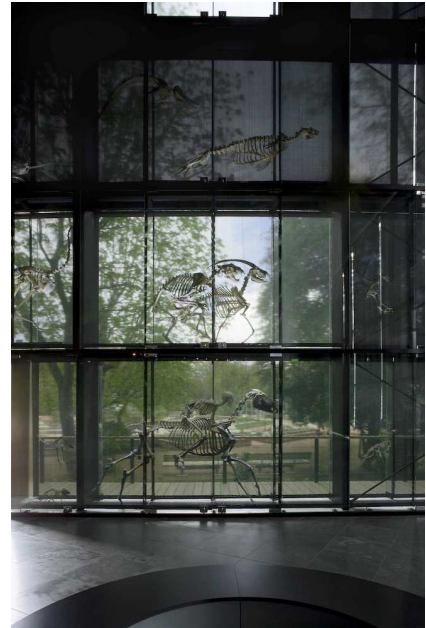
Bay windows enclose the bones of the skeletons that make up the façades of the exhibition halls. The architect designed a 'shop window' using Japanese walls in Mermet® fabric: fabrics which do not undulate and which express all the beauty of the great curved glassed-in windows.

With 2 lines of Mermet® fabrics installed inside the 'breathing' double-skin envelope, each 60 cm thick, the animal skeletons are: protected from damage by outside sunlight, visible from outside and inside alike (as a backlit image), thanks to the transparency of Mermet® fabrics, enhanced aesthetically by the choice of dark green coloring.

Mermet takes it one step further. A thermal study of the double skin façade, organised by the architectural practice, recommended the use of fabrics with different openings depending on their positions. Therefore a set of fabrics was proposed: from the most open at the bottom of the building (**E-Screen 7510**) to the most closed at the top (**M-Screen 8503**), all in the same 3051 Charcoal Huntergreen colour.

An atrium window in E-Screen 7510 in the room 'Le Grand Carré'

Made up of a 16-metre high atrium window, the ceiling of the Grand Carré is also supplemented by Mermet® fabrics, stretched on frames. This time, the **E-Screen 7510 0202 White** was selected for the enhancement of natural light. This great hall, with open access, needed to have excellent lighting while preventing glare.



With their **energy-saving properties, and stability over time**, Mermet® fabrics use various technologies for optimal efficiency and are adaptable to all requirements. Especially for architecture using glazed surfaces, Mermet's expertise has been an indispensable advantage, for which the Museum of Toulouse forms a remarkable shop window.



Technical characteristics of the M-Screen 8503 and E-Screen 7510

	M-Screen 8503	E-Screen 7510
Composition	36% Fibre glass – 64% PVC	36% Fibre glass – 64% PVC
Fire resistance classification	M1, BS 476 Pt6 Class 0, FR, AS, C UNO, B1 (China)	M1, BS 476 Pt6 Class 0, FR, AS, C UNO, B1 (China)
Openess factor	3%	10%
Ultraviolet block out	Up to 98%	Up to 90%
Widths	200 – 250 cm / 89 – 127 mm	200 – 250 – 310 cm
Weight per m ²	430 g	350 g
Thickness	0.55 mm	0.55 mm
Breaking strength	Warp > 150 daN/5cm Weft >150 daN/5cm	Warp > 190 daN/5cm Weft >100 daN/5cm
Colourfastness to light	7/8	7/8
Marking	Digital printing, silk-screen printing, painting, adhesive	Digital printing, silk-screen printing, painting, adhesive
Making-up	Welding (thermal, high frequency, ultrasound) or sewing	Welding (thermal, high frequency, ultrasound) or sewing

➔ **Product in the limelight**
K2 by Mermet: The double-sided, double effect fabric

Designer of technical fabrics for solar protection, tensile structures, signage and acoustics, Mermet gives a preview from its Mermet® 2009-2012 range, **a new double-sided high-tech Sunscreen® fabric: the K2.**

Two sides in highly contrasting colours for unequalled performance:

- A white window-facing side (exterior),
- A darker room-facing side (interior).



Accordingly the K2 offers:

- Thermal comfort: the white side reflects solar rays for **maximum heat protection.**
- Visual comfort: the dark side provides improved **glare control** and good vision to the outside.

These are two properties which can be experienced at the same time with the K2 fabric.

In reality, a fabric's "performance" in the area of glare control and heat protection is usually incompatible as it is linked to the chosen colour. A dark colour placed on the inside gives better glare control and good transparency but absorbs more solar rays and becomes a source of heat generation. On the other hand, a light colour which reflects solar rays provides better heat protection but increases light diffusion which leads to increased glare.

Mermet has therefore created a completely new fabric within the tradition of its Sunscreen® range: it provides a still unequalled **transparency** thanks to its unique woven coated fibreglass yarn technology and the balanced provision of **natural light**, essential to users' well-being. For example, in Mermet's choice selection system Modulight® Rapid'Selection (scale from 1 to 40), this light provision lies between 12 and 23 in the NL Natural Light grading, depending on the chosen colour and openness.



And finally, it's a high-tech woven fabric which offers many more advantages:

- Energy savings and a reduction in greenhouse gas emissions due to effective heat control: elimination of up to 67% of solar energy. Here, the HP Heat Protection index of the Modulight® Rapid'Selection varies between 18 and 28 (scale from 1 to 40),
- A perfect dimensional stability,
- Optimal Visual Transmission (TV),
- Up to 94% of UV rays screened out.

In line with Mermet's environmental policies, K2 conforms to the internationally renowned Oeko-Tex Standard 100 (no chemicals harmful for the health and safety of users) and to GREENGUARD® which guarantees interior air quality.

With 2 openness coefficients of 5% and 3% and 7 available colours, this aesthetic and printable fabric is suitable for all interiors, for the use of both professionals and public alike.

Technical characteristics of the K2

	K2 3%	K2 5%
Composition	36% Fibre glass – 64% PVC	36% Fibre glass – 64% PVC
Fire resistance classification	M1, BS 476 Pt6 Class 0	M1, BS 476 Pt6 Class 0
Fume classification	F4	F4
Openess factor	3%	5%
Ultraviolet block out	Up to 94%	Up to 93%
Widths	250 cm	250 cm
Weight per m ²	425 g	400 g
Thickness	0.59 mm	0.59 mm
Breaking strength	Warp > 125 daN/5cm Weft > 105 daN/5cm	Warp > 125 daN/5cm Weft > 105 daN/5cm
Colourfastness to light	7/8	7/8
Marking	Digital printing, silk-screen printing, painting, adhesive	Digital printing, silk-screen printing, painting, adhesive
Making-up	Welding (thermal, high frequency, ultrasound) or sewing	Welding (thermal, high frequency, ultrasound) or sewing

Regulations and Standards

GREENGUARD®, a new health and environment certificate for the Mermet

As an independent non-profit organization, the GREENGUARD® Environmental Institute (GEI) awards certificates that are among the most renowned and demanding in the world for indoor air quality by measuring the emissions of Volatile Organic Compounds (VOCs) from products installed in a sterile room.

Having been awarded this certificate for all of its Sunscreen® fabrics, Mermet, manufacturer of technical fabrics for solar protection and for tensile structures, is taking a further step towards implementing its ecological and environmental policy. The company therefore guarantees the health-promoting quality of its fabrics and their influence on the well-being and quality of life of the users.



Serious studies show that poor quality of indoor air may be detrimental to health: risks of asthma and allergies, irritations of all kinds (eyes, nose, etc.), difficulties in concentrating, tiredness, or even in an increase in the risk of cancer. The reason for these harmful effects: Volatile Organic Compounds (VOCs). The indoor pollution rate (due to VOCs) is on average 2 to 5 times higher than that of outdoor air, despite the fact that office workers or pupils and students spend 90% of their time indoors!

Therefore all GREENGUARD® certified products (furniture, floor coverings, bedding, insulation, textiles, general building materials, adhesives and mastics, cleaning systems, paints, etc.) are included in a rigorous programme of measurements of Volatile Organic Compound emissions.

Different levels of requirement are established according to the type of user:

- **The GREENGUARD® Indoor Air Quality Certified certificate**, a “generic” label, which means that the product is tested for over 2000 volatile organic compounds,
- **The GREENGUARD® Children & School Certificate**. Recognizing that children represent a population more vulnerable to pollution phenomena, GREENGUARD® has also established this specific level of requirement that conforms to more exhaustive, restrictive standards.

The award of this double certification in 2008 (GREENGUARD® Indoor Air Quality Certified + GREENGUARD® Children & School) is a deliberate policy pursued by Mermet which guarantees that the Sunscreen® fabrics display controlled, impeccable quality for use on any kind of site: office buildings, commercial premises, residences, schools. Re-evaluated and updated every year on the basis of new tests, the GREENGUARD certificate guarantees all users of Mermet® fabrics real safety.



Already granted the **Oeko-Tex Standard 100** (Europe) labels, and entered in the Ecospecifier (Australia) environmental product database, Mermet is demonstrating that health and the environment are the central focus of the company's development..



Did you know?

A new tool, dedicated to the calculation of energy savings

At a time when energy saving makes both financial and environmental sense the selection of window blinds becomes a major consideration.

Mermet, as an active member of the SNFPSA organization, took part in the development of a **very simple tool "Textinergie", for energy saving evaluation where textile solar protection is utilized.**

With just a few clicks this tool helps quantify the potential energy savings of an office equipped with solar protection.

On the www.textinergie.org website, the user can configure the simulation by specifying the climatic zone, the building's facade orientation, office and glazing types, blind positioning and colour of the fabric. Two levels of results are available:

- Streamlined results: only energy savings on air-conditioning, lighting and heating costs.
- Detailed results: meteorological data, internal temperatures and consumption by type of charge are given for summer, winter and over all year.

The aim of "Textinergie" is to promote the use of passive solar protection in the service sector, to demonstrate that **external solar protection is more efficient than internal and that the choice of shading material can make a big difference to performance.**

