

## Bespoke Solutions

Although Levolux offers a comprehensive range of shading solutions, architects and designers continue to look for something different. The aim of the next section is to give a flavour of the kinds of bespoke shading systems that Levolux is able to offer, by either developing an existing standard system or by starting afresh.

Levolux has a team of CAD trained designers using up to date technology, to progress the design development of non standard bespoke solutions for specific project requirements.

Levolux structures this process to respond to the demands of each project design team, which in turn proves invaluable in terms of efficiency and flexibility.

To ensure co-ordination, design skills are brought into play at the appropriate time throughout the project to provide accurate information for these bespoke solutions to be evaluated and accepted.

Each section gives a short overview of specific projects where Levolux design and manufacturing expertise has been effectively utilised to provide a unique shading solution .

Levolux experience in the bespoke solar shading market is unrivalled in the UK and Europe. Shading systems are exported to many European countries, the USA, Canada, Hong Kong and many other parts of the world.

As building design and customer requirements vary for each project, Levolux specialist designers become involved as early as possible in the planning process to ensure that light, heat and glare control is addressed in the most effective and suitable manner to satisfy both technical and aesthetic requirements.

## Energy Screens



CAE

Levolux Energy Screens exclude solar heat gain during the day and help insulate buildings at night. They are generally large in scale, motorised and solar controlled to take full advantage of heat gain reductions by their use.

Energy Screens are constructed from a combination of steel, aluminium extrusions, perforated and solid aluminium sheets. Glass and timber screens are also available.

Energy Screens can be installed at a fixed angle, or can be operable with a centre or side pivot. The body of the screen can be fully enclosed or single skinned, with "skeletonised" support ribs with flat or curved facings.

Due to their size Energy Screens are generally manufactured in component form and assembled on site. However this may vary dependent upon individual project conditions.

At the CAE project the screens are side pivoted, motorised, with solar controls. Also included are automatic safety strips that stop the shutters moving when pressed to avoid trapping anyone or anything between the screen and the windows.

### Bespoke Fabric Panels



Wimbledon Number One Court

Bespoke fixed fabric solutions can be designed for both internal and external shading solutions to protect against solar heat gain and to control glare and light.

These systems comprise of a fixed fabric panel which is attached to a rigid framework to create an effective shading device. The framework is generally manufactured from extruded aluminium sections, either from our standard range or designed specifically for the project. The high performance fabrics are generally fibreglass based with a PVC coating to the yarn, although other fabrics are also available. In all cases a man made fabric is preferred as these are rot resistant, colour fast and extremely stable.

As these solutions are installed on a fixed system, great care must be taken to ensure they are designed in such a way to give maximum protection throughout the year. Levolux designers have access to the empirical data that plots the position of the sun throughout the year, day to day, hour to hour.

At Wimbledon Number One Court, the shades are designed to provide protection for the two weeks of the year the building is used.

### Bespoke Matrix - I



Procession House

When faced with the requirements of a louvered system, that needed to be “curved” rather than faceted, a total rethink of the Levolux Matrix Brise Soleil system was required. As a result, a new extruded “I” louvre profile was created to complement the existing range of “Z” and “J” sections.

The louvres can be formed into panels by framing, welding or using the unique Levolux “figure 8” connectors, incorporating stainless steel rods and aluminium spacers to connect them together.

Bespoke Matrix Brise Soleil can be installed with a continuous appearance, as individual units and can be curved or faceted to follow the façade. Curved panels can be formed to radii as small as 240mm yet still maintain their robustness to cope with the imposed wind and snow loadings. The Brise Soleil can be multi tiered incorporating other building features such as window cleaning cradle tracks, planters and lighting.

On this particular project the panels were completely bespoke and specifically designed to achieve the exacting requirements of the project as well as fulfilling their solar shading function.

## Bespoke Walkways



Pacific Bars

Levolux Brise Soleil System can provide an exciting exterior appearance to a building, whilst providing efficient control of the solar heat gain that is generally associated with large areas of glazing.

For buildings where access is difficult, the use of walk-on panels integrated into the design allows window cleaners and maintenance technicians a sturdy and safe working platform.

Levolux have invested heavily over many years in profile dies and injection moulds and are able to produce custom dies and moulds if required. Coupled with extensive use of specialised manufacturing procedures including CNC profiling, laser cutting and water jet profiling, Levolux systems are able to satisfy the most demanding of design criteria.

In the case of the above project, the challenge was to take an economical proprietary walkway panel and incorporate it into a complete façade shading system.

Levolux used bespoke horizontal and vertical extruded aluminium cruciform sections to create a unique system for this particular project.

## Motorised Light Reflectors



Thames Court

A key feature of many new buildings is a large atrium with glazed roof and walls. Where the atrium is occupied or where it adjoins open plan office space, the control of light and glare will be of utmost importance. A variety of solutions exist, however bespoke alternatives can be provided, not only to control glare, but also to act as light reflectors to make maximum use of daylight or to create effects with artificial lighting.

Once installed they can be operated by a simple switch control. However, for optimising performance and to make best use of natural daylight, bespoke software in Levolux controllers is the best solution.

Levolux designed and installed one of the most complex fabric blind solutions ever undertaken in the UK at the award winning Thames Court building in the City of London.

Each element in the system comprises of two tensioned fabric blinds - one pulling upwards and the other pulling down, and a motorised fabric light reflector.

The system is operated by Levolux solar controls which automatically adjust the different components of the system, to make the best use of daylight whilst providing glare protection.

The motorised light reflectors are also a major architectural feature in the atrium.

### Bespoke Internal & External Fabric Blinds



New Grandstand at Lords

Fabric blinds and shading systems can provide stunning solutions to even the most complex of architectural shading problems. Effective shading control can be created by taking standard systems either, tensioned or gravity controlled, or by developing a bespoke solution.

External systems can be housed in extruded aluminium headboxes to protect against the weather, which can be incorporated within the building envelope.

A vast range of fabrics are available to cope with the demands of glare control, privacy or blackout. These fabrics are available in a wide choice of colours to enhance or complement building finishes.

Retractable fabric solutions have an advantage when compared to fixed systems, in that they can be raised when they are not required, to make the best use of natural daylight. These systems can be manually operated (although this is generally not recommended for external use) or motorised, often with solar control. A variety of methods of motorisation exist, allowing a series of blinds to be driven together, if appropriate.

On the new Grandstand at Lords Cricket Ground the motorised tensioned blinds at the upper level are used to provide additional shading for the spectators, whilst the folding arm awnings on the lower level are edged in Marylebone Cricket Club colours.

### Perforated Aluminium Panels



British Telecom Edinburgh

Levolux are able to provide bespoke aluminium shading systems that can achieve striking and stunning design whilst minimising the transfer of solar heat gain into the building.

The systems are generally fixed externally to make dramatic reductions in heat load and become architectural features of the building.

From a combination of aluminium extrusions, plate and perforated sheet, Levolux can design and construct systems to suit all conditions. These systems can be larger than extruded shading systems that generally stop at a width of 500mm. Perforated sheet can also be used to give a lighter appearance and to allow better use of natural daylight .

The panels can be formed into curved or flat units and can be suspended on either plate or tubular structures or even clamped onto tensioned wires.

The components that make up the systems can be coated to any required finish to ensure that they cope with the prevailing weather conditions, or to complement the building design.

In Edinburgh, Levolux was selected on merit and innovation due to their designers' ability to interpret architect's specifications to produce a light yet sufficiently rigid structure to achieve the shading requirements of the building.

To help identify suitable systems for your sunscreening needs consider the following criteria and use the product summary table below.

## Application

Levolux systems cover all possible applications: whether for internal or external use; vertical, horizontal or sloped glazing; mid-pane or room darkening solutions.

## To Control

**Solar heat gain:** Internal shading systems can reduce solar heat gain by up to 45% whilst external systems can reduce heat gain by up to 90%.

**Light:** The ability to raise, lower and tilt louvres ensures best use of light conditions. Fabric systems can also greatly control light levels whilst allowing maximum outward visibility using openweave suncreening fabrics. Dim-out and room darkening solutions can be achieved with opaque materials.

**Glare:** Many systems are particularly suitable for reducing glare and are ideal for VDU users.

## Operation

**Manual:** Options include cord, wand, beadchain, gearbox and handle.

**Motorised:** By means of switch or infra-red remote control. Group control is by use of integrated relays.


**Automatic:** Microprocessor technology uses a time programme or changes in light levels, temperature or wind speed to control systems.

For total energy control motorised systems should be designed to integrate with intelligent building controls.

Always ensure the correct operational methods are specified by assessing the needs of the individual building and its occupants.

**Levolux offers site visits and free advice to help design the best solutions.**

Product	Application					To Control			Operation		
	Internal	External	Mid Pane	Room Darkening	Sloped Glazing	Solar Heat Gain	Light	Glare	Manual	Motorised	Automatic
Matrix	●	●			●	●	●				
External Fabric Systems	●	●			●	●	●	●	●	●	●
External Venetian Blinds	●	●			●	●	●	●	●	●	●
Aerofoil Fins	●	●			●	●	●	●	●	●	●
Walk-on Brise Soleil	●	●				●	●				
Ventilation Louvres	●	●			●	●	●				
Rackarm/Skyvane	●	●		●	●	●	●	●	●	●	●
Tensioned Fabric Systems	●	●		●	●	●	●	●	●	●	●
Internal Venetian Blinds	●		●				●	●	●	●	●
Internal Roller Blinds	●		●		●		●	●	●	●	●
Room Darkening Blinds	●			●	●		●	●	●	●	●
Vertical Louvre Blinds	●		●				●	●	●	●	●
Curtains & Tracks	●			●			●	●	●	●	●
Hospital Cubicle Tracks	●								●		



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