Integrated building solutions optimize interior brightness and glare levels

# SUN CONTROL

Optimize energy efficiency and comfort

**HunterDouglas** 

SUN CONTROL

# EXCLUSIVE CONTROL

HunterDouglas® Sun Control Systems

# APPEARANCE AND PERFORMANCE

Hunter Douglas is the world market leader in daylight regulation and solar heat control solutions with window covering and architectural products. We are dedicated to continually improving and broadening our product portfolio by developing innovative proprietary products. We offer an extensive range of interior and exterior applications in Window Covering and Sun Control.



Our Luxacote® finish for rollformed products was specifically designed to withstand severe external conditions. The topcoat contains a solid UV filter, which guarantees perfect colour and gloss stability. This topcoat provides resistance against scratches and abrasion while the alloy and pre-treatment ensure corrosion resistance. Hunter Douglas products have been subjected to extensive laboratory and real-world testing to ensure the highest quality.





Cover : Mokotów Residence apartment building,

Warsaw, Poland Architect : Ergo Architekci Product : Sliding Shutters





HunterDouglas®
Sun Louvres, Shutters,
Venetian Blinds and Roller
Blinds Systems blend
style and functionality,
bringing a distinct look to
a building's exterior and
interior while providing
shade and comfort to the
people inside. The use
of high quality materials
ensures reliable systems
adding to sustainable
buildings.

# Design, Functionality and Comfort

With over 40 years of experience with exterior Sun Control Systems, Hunter Douglas provides architects with the knowledge and expertise to integrate Sun Control Systems into the building architecture, enhancing the façade while providing highly effective sun protection. From made-to-measure external venetian blinds to custom made folding shutters, Hunter Douglas' engineering team will develop innovative and specific Sun Control solutions to meet the aesthetic and performance requirements of any project.

### DESIGN

Our Sun Control Systems are engineered for a wide range of applications including fixed, operable and automated solutions to meet the requirements of any building design. Various system principles and materials are available, as well as a variety of shapes, sizes and finishes.

# **FUNCTIONALITY**

Our systems are tested in real life conditions against wear and tear, as well as for performance in wind and snow conditions. Our Sun Control Systems are made in high quality materials and are easy to maintain, ensuring the product continues to look and perform well over time.

# COMFORT

Modern buildings are so well insulated that they have little need for heating. Heat gain caused by the sun however creates a need for large cooling capacities to ensure the comfort of a building's occupants. Sun Control Systems stop excess heat on the outside of the building so that the required cooling capacity is greatly reduced. Good working conditions for the occupants of a building are provided with less use of energy, thereby supporting a sustainable building.

To make sure that worker comfort and energy efficiency are both optimised the sun control systems can be motorised and controlled automatically via sensors or a building management system.



By automating the sun control systems they are always applied in time when necessary, before solar radiation has had the chance to raise the interior temperature.

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# EXCLUSIVE CONTROL External Blinds, Internal Comfort





# EXCLUSIVE CONTROL

# Optimum Flexibility

HunterDouglas® External Venetian blinds and Roller blinds require minimum space for maximum efficiency. External blinds are a highly functional and cost effective sun control solution for lowrise buildings or in areas with an average windload. Keeping out solar radiation on the outside, external blinds are the most effective for the reduction of heat gain.

HunterDouglas® External Blind Systems offer excellent design, functionality and comfort;

- Performance Being retractable external blinds can offer optimal shading or an optimal outside view
- Economic value High quality products designed for fast and efficient installation
- Green characteristics Our shading systems decrease energy consumption with a minimum of material use
- Aesthetic product Incorporated in the window design and available in a variety of colours the system coordinates with the design of the building
- Ease of use The blind system can be operated manually or controlled by the building management system



: Administration Centre 'De Vuurmolen', Overijse, Belgium

Architect: A2D Architects

Product : External Roller Blinds, motorised



: 'Josef Gasser' Gymnasium, Bressanone, Bozen Italy

Architect: Peters & Keller Architekten

Product: External Venetian Blinds, 80 mm, Motorised

# EXTERNAL VENETIAN AND ROLLER BLINDS





Previous page: Statoil regional and international offices,

Fornebu, Bærum, Norway

Architect : a-lab (Arkitekturlaboratoriet AS) Product : Exterior Venetian Blinds

Below : Warsaw Business Garden office buildings, Warsaw, Poland Architect : JSK

 $Product \ : External \ Roller \ Blinds, \ motorised, \ side \ guiding \ channels \ integrated \ with \ facade \ mullions$ 



# Functionality and appearance



Above : 'Josef Gasser' Gymnasium, Bressanone, Bozen Italy Architect : Peters & Keller Architekten Product : External Venetian Blinds, 80 mm, Motorised

### **EXTERNAL VENETIAN BLINDS**

External Venetian Blind Systems are an extremely discrete, effective and flexible solar shading solution. Its slim design ensures a subtle appearance, which contributes to the overall building aesthetic without overpowering it. A variety of colours and slat type ensures the perfect match for any project.

# **EXTERNAL VENETIAN BLINDS**

REGULATE, OPTIMISE AND REDUCE

- Roll formed aluminium slats of 50, 60, 80, 88 or 100 mm wide
- Available in a range of "best of contract" colours, any other colour on request
- All profiles are extruded and anodized or powder coated into different colours
- Two operation options:
  - Manual with crank rod
  - Motorized (suitable for central control systems)
- Slat angle can be adjusted, optimising light entering the building and reducing glare on computer screens
- Transfer of heat to interior is minimal, up to 90% of solar radiation on the window is kept out of the building.



Above : Siemens office, Moscow, Russia

Architect : ABD architects
Product : External Venetian Blinds



Above : Hotel Hedegaarden, Denmark
Product : External Venetian Blinds 80 mm flex

# **EXTERNAL ROLLER BLINDS**

External Roller Blinds offer effective solar control and add to the facade appearance. Filtering solar radiation the system reduces glare and the amount of light and heat that enters. Hunter Douglas offers two ranges of External Roller Blind systems: ProScreen as the basic cost-effective roller blind and Ultimate Screen Zip as wind resistant system with continuous side guiding of the fabric. Both systems use high quality glass fibre screen fabrics allowing large product dimensions.



Above : Sandakerveien 114, Norway Product : Ultimate Screen ZIP

Below: Asia Express Food, Kampen, The Netherlands

Architect : Denc - Bussum Product : Ultimate Screen ZIP

# **PROSCREEN**

BASIC AND COST-EFFECTIVE

- · Crank or motor operated
- Four cassette types allow large fabric dimensions
- Cable or profile side guiding
- Bottom rail with patented damper to reduce wind vibration noises
- Also suitable for recess installation
- Easy assembly and installation.

# **ULTIMATE SCREEN ZIP**

WIND RESISTANT WITH A SLEEK APPEARANCE

- Continuous side guiding via zipper construction holds fabric tightly in place
- Guaranteed wind resistant to 17 m/s wind speed, tested to 27 m/s wind load equivalent
- Motor operated
- · Easy front installation
- Large fabric dimensions, even with high wind loads.



# Internal comfort



Above : Il Sole 24 Ore, Milan, Italy Architect : Renzo Piano Product : External Roller Blind

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# SHUTTERS

# The Modern side of Classic

Shutters are a mainstay of traditional construction and were relied upon for their insulation and shading. As high-performance glass became available, the extra insulation was no longer necessary, leading architects to move away from their use. However, with the abundance of glass in modern architecture, proper sun protection and a certain amount of privacy are important to create an internal comfort. Our sliding and folding shutters provide these elements while creating distinct looks which add to the building appearance.

HunterDouglas® Shutters offer excellent design, functionality and comfort:

- Performance Optimal choice in shading performance and privacy control
- Economic value Highly durable products with a life span equal to that of the facade. Installed, the system requires very little maintenance
- Green characteristics Increase personal comfort level and decrease energy consumption
- Aesthetic product Shutters can be part of the building design and with the choice of different materials and colours we offer an unparalleled design freedom
- Ease of use The shutters can be operated electrically or manually and a choice of fixed and adjustable fins can be made.



Above : Residential building Architect : Make-it 3D

Product : Sliding Shutters Screen

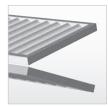
# SLIDING SHUTTERS



FOLDING SHUTTERS



CUSTOM SHUTTERS



Previous page: Ex Comparto Milano, Brescia, Italy

Architect : 5+1 AA

Product : Sliding Shutters Flat Bar

Below: Kings Cross Arthouse, London, United Kingdom Architect: dRRM and Weedon Partnership Product: Sliding Shutters, manual and motorised



# Shading & Privacy



Above : Residence Hoog Banka, The Hague, The Netherlands Architect : De Architektenkombinatie Bos Rosdorff Wiebing Product : Sliding Shutters, motorised

### **SLIDING SHUTTERS**

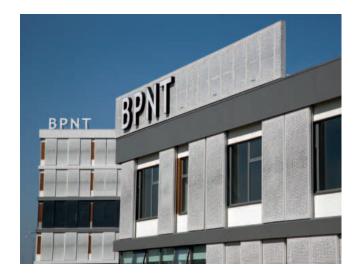
This popular design element vertically mounts to the façade and gives the architect the opportunity to focus not only on solar control and privacy, but also on the façade's visual enhancement.

Sliding Shutters are manufactured from high quality materials and are suitable for many different types of buildings. Sliding shutters add a dynamic aspect to the facade while still providing a uniform appearance.

# **SLIDING SHUTTERS**

INFILL OF FINS, METAL SHEET OR FABRIC

- The fins in the aluminium extruded frame are available in aluminium and Western Red Cedar wood, in various shapes and as fixed or adjustable application
- The perforated sheet shutter is frameless and comes in two perforations of 5% and 10% openness for good shading functionality. Custom perforations also possible.
- The screen shutter uses a hidden frame with conceiled tensioning of the durable glass fibre screen fabric.
- Finishing options:
  - Aluminium frames and fins can be anodised or powder coated in a wide range of colours
  - Western Red Cedar is a durable wood, which can be used untreated or oiled
  - Glass fibre fabric is available in a wide range of colours
  - Perforated sheet can be powdercoated in any colour
- Sliding shutters can be manually operated or motorized with a 24V belt drive system
- Top and bottom rails, runners and necessary hardware are part of the system.



Above : Technology Park (BPNT), Bialystok, Poland

Architect : Industria Project
Product : Perforated Sliding Shutters



Above : Milton House, Bratislava, Slovakia Architect : SPACIO arch, Martin Németh

Product : Sliding Shutters

# **FOLDING SHUTTERS**

Folding shutters provide the architect with an even more dramatic way to use sun control for a dynamic building appearance. Flush with the facade in closed position and projecting out in open position, folding shutters transform the facade from a monolithic shape to a transparant structure in seconds.



Above : De Nieuwe Heikant, Tilburg, The Netherlands

Architect: Oomen Architecten
Product: Folding Shutters, motorised

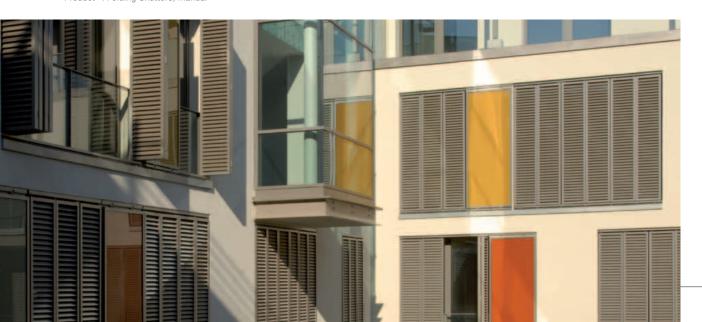
Below : Palazzo Dorottya apartment house, Budapest, Hungary

Architect: Közti, Mr Peter Pottyondy Product: Folding Shutters, manual

# **FOLDING SHUTTERS**

INFILL IN FINS OR METAL SHEET

- The fins in the aluminium extruded frame are available in aluminium and Western Red Cedar wood and in various shapes
- Sheet metal is available in two perforations with 5% and 10% openness. Custom perforations also possible
- Folding shutters can be manually operated or motorized with the unique HunterDouglas<sup>®</sup> flat folding hinge mechanism
- Finishing options:
  - Aluminium frames and fins can be anodised or powder coated in a wide range of colours
  - Western Red Cedar is a durable wood, which can be used untreated or oiled
  - Perforated sheet metal can be powdercoated in any colour.



# Solar Control and Privacy



Above : Stadsgehoorzaal, Leiden, The Netherlands Architect : Architecten van Mourik Product : Folding Shutters, motorised

# Creative solutions



Above : Garden Pavillion, The Netherlands
Architect : Ivo de Bruin (Studio Puur NL)
Product : Folding Shutter, motorised, with CorTen steel cladding

# **CUSTOM SHUTTERS**

Customised Shutters create eye-catching façade details, allowing for light and heat control while also ensuring privacy. Based on our proven principles of sliding or folding shutters and an extenstive experience in project solutions, the application of custom shapes and materials offers maximum design flexibility.

# **CUSTOM SHUTTERS**

MATERIAL, TECHNOLOGY AND DESIGN

Hunter Douglas has had experience for many years in assisting architects in the application of special designs or materials in shutters. This has included vertically folding shutters, custom laser cut patterns in sheet metal, printed glass, copper stretch metal and much more.



Above : Malburgen Lupinestraat, Arnhem, The Netherlands

Architect : Groosman Partners

Product : Sliding Shutters with steel frame filled with glass

Below : Altis Belém Hotel, Doca do Bom Sucesso, Lisbon, Portugal

Architect: Risco Architects

Product : Multiple Folding Shutter, motorised, with custom design sheet cladding







# SUN LOUVRES

# Designed to Impress

HunterDouglas Sun Louvre Systems are based on roll formed or extruded aluminium panels and are fully integrated with a variety of support structures. With both horizontally projected and vertically mounted applications as well as a variety of different panel sizes and pitches, an optimal choice can always be found.

HunterDouglas® Sun Louvre Systems offer excellent design, functionality and comfort:

- Performance Optimal shading performance and easy to adapt to specific project requirements
- Economic value Highly durable products, designed for fast and efficient installation
- Green characteristics Our systems increase personal comfort level and decrease energy consumption
- Aesthetic product Colours, shapes and details offer great design freedom
- Ease of use All louvre systems require very little maintenance.



Above : Janmor Office Building, Pabianice, Poland

Architect: C-13 Architektura Stosowana

Product : Sun Louvres 84R, External Venetian Blinds

# SUN LOUVRE SYSTEMS











Previous page: Toyota Car Showroom, Warsaw, Poland

Architect : MCA

Product : Sun Louvre 84R

Below : Mathematics Science Institut, Madrid, Spain Architect : Intecsa-Inarsa Product : Sun Louvre 84R and 100R



# **ROLLFORMED SUN LOUVRE SYSTEMS**

Hunter Douglas has a long history in the rollforming of architectural products. Made in durable coil coated aluminium these products are flexible and highly efficient. 84R Sun Louvre system is a real classic, used for applications on straight, curved or angled façades. The product has an elegant, light appearance and nicely curved edges. 70S and 132S Sun Louvre Systems consist of Z-shaped sturdy panels. These panels are used in order to achieve a crisp exterior appearance.



Above : Management University (WSM), Warsaw, Poland

Architect : Czuba Latoszek

Product : Sun Louvre 84R applied as open facade

Below: Kielce Fiar, Kielce, Poland

Architect: BSOP

Product : Sun Louvre 132S

# 84R:

# A REAL CLASSIC

- Roll formed C-shaped panels 84 mm wide
- Highly reflective white coating at inside
- 17 colours available as standard
- Coil coated with a UV and scratch resistant Luxacote<sup>®</sup> coating
- Colour matches on request
- Can be curved to follow the shape of the building
- Endless linear appearance by connecting the panels
- Span at 1000 N/m<sup>2</sup> wind load: 1.2 m.

# 70S/132S:

# FOR SHADING EFFICIENCY

- Z-shaped roll formed panels 70 mm or 132 mm high
- Highly reflective white coating at inside
- Coil coated with a UV and scratch resistant Luxacote<sup>®</sup> coating
- 17 standard colours available
- Colour matches on request
- Span at 1000 N/m² wind load: 1.3 m for 70S and 1.8 m for 132S
- 132S optimized for low sun angle façade system.



# **EXTRUDED SUN LOUVRE SYSTEMS**

Sun louvres in extruded aluminium allow large panel spans and high freedom of design. They can withstand considerable wind loads and impacts. The 100R Sun Louvre is a fixed system with strong, durable C-shaped panels. The product has an open and sturdy appearance. The 110HC/110HF panels are fit within a frame resulting in a compact system with low over all height.

### 100R:

# CRISP AND DURABLE

- Extruded C-shaped panels of 100 mm wide
- Finish: Anodized or powder coated to specifications
- Connected panels achieve visually continuous lines
- Span at 1000 N/m<sup>2</sup> wind load: 2.4 m
- Optional fascia profile matching with panel shape.

# 110HC/110HF:

THE COMPACT SOLUTION

- Extruded C-shaped or Wing shaped panels of 110 mm wide
- Shallow system as the panels are mounted between the supports
- Finish: Anodized or powder coated to specifications
- Optimized for horizontal or angled projected system
- Span at 1000 N/m<sup>2</sup> wind load: 1.8 m
- Fascia: U-shaped or bull nose profile.



Above : Office Building, Eindhoven, The Netherlands

Product : Sun Louvre 110HF



Above : Horizon College, Alkmaar, The Netherlands

Architect: AGS Architecten & Planners B.V

Product: Sun Louvre 100R

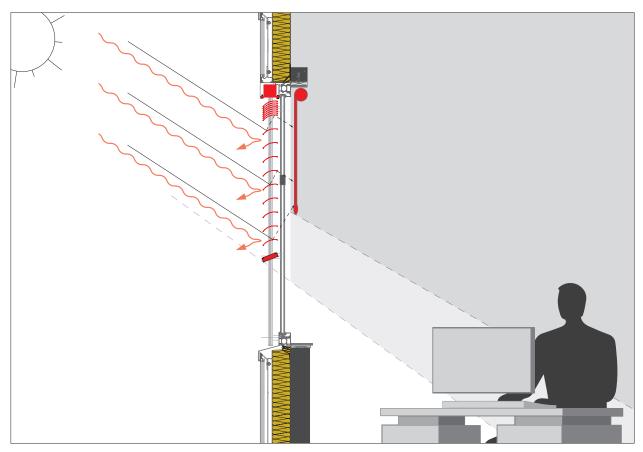
# LIGHT, HEAT AND ENERGY

# The power of knowledge

Using the right sun control system can greatly influence the thermal and visual indoor climate. Effective reduction of solar radiation entering the building immediately decreases the amount of energy needed to cool the building. By blocking, transmitting or reflecting direct sunlight and daylight HunterDouglas® Sun Control Systems can optimize the interior brightness and glare levels and maintain the visual contact with the outdoors.

Providing good thermal and visual comfort at a minimum energy cost calls for a careful matching of façade walls, glazing, sun control, lighting and HVAC equipment. This is a distinctly non-trivial exercise. Choices made in the early design phases can have a huge impact on the energy use of a building.

Hunter Douglas engineers can assist in this process by providing you with fenestration data for specific project situations and products. This information can be incorporated in the energy analysis of the building.



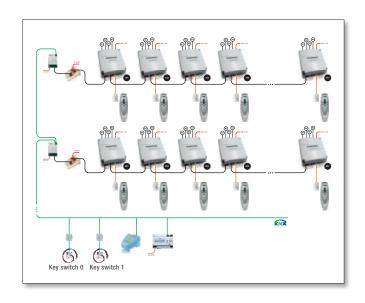
Solar reflectance: solar control and natural ventilation can reduce air-conditioning

# Control systems

Adjustable sun control systems offer the advantage of reducing heat gain and glare in sunny conditions and allowing uninhibited outward view and maximum daylighting when the weather is cloudy. This effect is however dependent on the actual deployment; if a blind is not lowered when the sun appears, it will be totally ineffective. Ease of use will help to increase the efficiency. Automation by weather sensors will greatly improve this. Integration in a building management system will allow real optimisation between sun control, cooling and heating systems and lighting, creating maximum comfort with minimum energy use.

# **CONTROL SYSTEMS**

Hunter Douglas can offer basic and advanced control systems and can advise about the integration of Sun Control Systems in building management systems. All HunterDouglas motorised systems can be incorporated in BMS infrastructures like KNX or EIB/LON.



# BASIC CONTROL SYSTEMS

# ADVANCED CONTROL SYSTEMS

# INTEGRATED CONTROL SYSTEMS



Basic control systems respond to an on-off switch. This switch can be a fixed or a remote controlled unit. The adjustable Sun Control System can be positioned in any angle and therefore this is the optimum personal controllable system.



Advanced control systems respond to a range of controls, including switches and timers. This system supports sun and wind sensors in an automated shading and light regulation and allows central control of all sun control systems in a building.



Connected to the building management system, sun control systems can be controlled in combination with cooling and heating and even the lighting levels. This allows creating interior comfort with minimum building energy use.

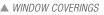
# HUNTER DOUGLAS

# ARCHITECTURAL PROJECTS

For 50 years, Hunter Douglas has been dedicated to innovation. As the field of Sun Control grows, we pride ourselves on leading the way as pioneers in the area. We're working alongside architects and designers throughout the globe, discovering new, inventive methods of managing heat, light and energy.

We've committed ourselves to crafting products that meet the highest standards of materials, construction and performance because we believe that you need the right tools to create projects that inspire.









▲ CEILINGS



**Innovative Products** Make Innovative Projects









We support our business partners with a wide range of technical consulting and support services for architects, developers, and installers. We assist architects and developers with recommendations regarding materials, shapes and dimensions, colours and finishes. We also help creating design proposals, visualisations, and installation drawings. Our services to installers range from providing detailed installation drawings and instructions to training installers and advising on the building site.

# Learn More

- Contact our Sales office
- www.hunterdouglascontract.com



Promoting sustainable forest management www.pefc.org



Hunter Douglas products and solutions are designed to improve indoor environmental quality and conserve energy, supporting built environments that are comfortable, healthy, productive, and sustainable.



Our paint and aluminium melting processes are considered to be one of the industry standards in terms of clean production processes. All aluminium products are 100% recyclable at the end of their lifecycle.









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