



External Roller Blinds

HunterDouglas® External Roller Blinds offer high performance solutions for sun control. Our systems are engineered for durability and ease of application and our exterior fabrics are colour fast, rot and heat resistant and dimensionally stable.

HunterDouglas

WINDOW COVERINGS



External Roller Blinds

Elegance in Heat and Light Control

DESIGN

HunterDouglas® External Roller Blinds are especially designed for long lasting durability with discrete design and refined details. Flexible solutions for classic and contemporary building design which consist of a variety window sizes, shapes and positions.

EASY INSTALLATION

HunterDouglas® External Roller Blinds have flexible systems with a wide range of mounting possibilities. Easy installation with coupling and disconnecting techniques and the electrical plug integrated in the head box (type 105 and 115) and for easy service access.

FUNCTIONALITY & COMFORT

HunterDouglas® External Roller Blinds are the most efficient and most flexible form of heat and light control. A comfortable and pleasant indoor environment is the goal of any building designer, as it will increase the productivity of the occupants. The transfer of heat to the interior is minimal with External Roller Blinds and results in the lowest shading coefficient of any window treatment with External Roller Blinds. The blinds control light diffusion and eliminate glare.



ENERGY & LIGHT

HunterDouglas® External Roller Blinds are designed to improve indoor environmental quality and conserve energy. These systems help create built environments that are comfortable, healthy, productive, and sustainable. Our engineering and production processes minimize embodied environmental impact while meeting the highest standards for commercial, hospitality, industrial, institutional, and commercial applications. In order to obtain the optimal shading performance for a building and its occupants we developed compute simulation and calculation tools. Our project support team can analyze, visualize and optimize Window Covering Solutions with the HunterDouglas® Energy and Light Tool.

CONTENT	Page
Systems	2 - 3
System Properties	4
System Drawings	5
Side Guiding	6
Specials	7
Dimensions	8
Wind loads	9
Indoor Environmental Quality & Productivity	10
Energy and Light Tool	11

Innovative Products Make Innovative Projects



HunterDouglas

Systems

HunterDouglas® External Roller Blinds are specially designed for long lasting external use and offer a range of appealing properties for the designing architect and end user. The HunterDouglas® External Roller Blind system is available in 5 different modules. The head boxes provide maximum protection against weather influences and have removable covers for easy access to the system.

HEAD BOX 65: SIZE 65 x 72 MM

Self supporting head box, made of extruded aluminium, anodized or powder coated, housing the complete mechanism and screen fabric.

- Fixed to the wall with mounting plate
- Installed on top of side tracks
- Available in side tracks and cable guiding
- Manual (crank) control

Not available in motorized control.



Head box 65 with side channel

HEAD BOX 80: SIZE 80 x 86 MM

Self supporting head box, made of extruded aluminium, anodized or powder coated, housing the complete mechanism and screen fabric

- Manual (crank) and motorized control option
- Fixed to the wall with mounting plate or installed on top of side tracks

Available in side guide channel and cable guiding.



Head box 80 with side channel

Systems

HEAD BOX 105: SIZE 105 x 115 MM

Self supporting head box, made of extruded aluminium, anodized or powder coated, housing the complete mechanism and screen fabric.

- Fixed to the wall with mounting plate
- Installed on top of side tracks
- Available in side guide channel and cable guiding
- Manual (crank) and motorized control option

When motorized: electric plug hidden inside the head box.



Head box 105 with side channel



HEAD BOX 115: SIZE 115 x 105 MM

A self supporting head box, made of extruded aluminium, anodized or powder coated, housing the complete mechanism and screen fabric.

- Fixed to the wall with mounting brackets
- Installed on top of side tracks
- Available in side guide channel and cable guiding

Manual (crank) and motorized control option. When motorized the electric plug hidden inside the head box.



Head box 115 with side channel

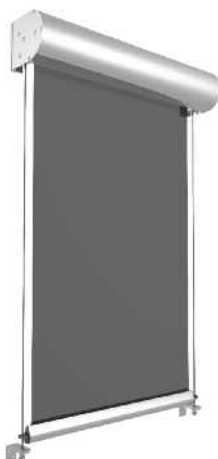


ROUND HEAD BOX: Ø 105 MM

Self supporting round head box, made of extruded aluminium, anodized or powder coated, housing the complete mechanism and fabric.

- Fixed to the wall with a mounting plate
- Installed on top of the side tracks
- Fixed to the wall with mounting brackets (when motorized)
- Available in side guide channel and cable guiding

Manual (crank) and motorized control option.



Head box 105 with cable guiding



System Properties

END PLATES

The end plates are made of die cast alloy to support the end bearings, made from POM or PVC and arbor for mounting into the side guides or for attaching the stainless steel guide cables.

SIDE TRACKS

Channels/Profiles

Extruded aluminium side guide channels with a PVC insert for noise reductions in round or square shapes and in single or double version for coupled blinds in different dimensions. The side guide channels are fixed 'in recess' or 'on face' of the window and will support the roller system to guide and keep the system in position.

Cable

Guiding by a stainless steel cable, suspended from the head box to guide cable brackets. Tensioned by a special tensioning bolt at sill level.

BOTTOM BAR

The bottom bar is made of extruded aluminium. The bottom bar houses the lead inserts for maximum tension on the fabric. The design is in such a way that it can disappear to a great extent into the head box, thus limiting the total height of the construction. The elegant design gives the same appearance in all positions.

SURFACE TREATMENT

All profiles and end plates are anodized or polyester powder coated to a standard RAL colour.

OPERATION

- Gearbox and crank rod for all types
- Electrical tubular motor, 220 V-50 Hz, incorporated in the roller tube (except for the head box 65). Head box 105 & 115 (rectangular) allows the electrical plug to be clipped inside the box.

SCREEN FABRIC

HunterDouglas® Screen Fabrics with Enduris™ Glass Core technology are a proprietary combination of superior-quality coatings and glass yarns, fully tested production techniques, and proven performance characteristics, which are at the core of all their glass-core shading fabrics.

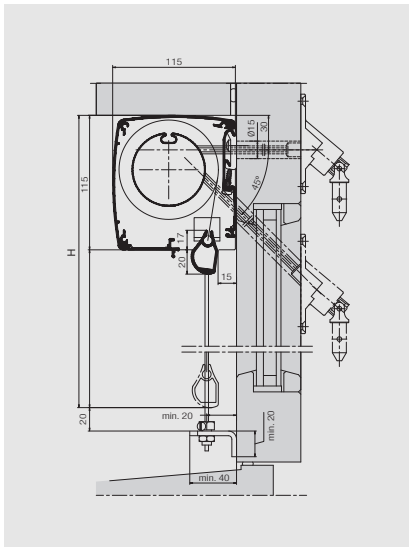
Fabrics with Enduris™ Glass Core technology ensure outstanding strength, durability, performance and transparency for outdoor and indoor shade applications, including even the largest shades. Designed and tested for the highest levels of performance, with a wide palette of attractive designs. The screen fabrics are colourfast and provide excellent protection against UV radiation, resistant to damage from water, rot, heat and remain dimensionally stable to prevent sagging and stretching.

HunterDouglas® Enduris™ fabrics have been installed in offices and executive suites, educational and health-care facilities, public spaces, hotels, restaurants, residential spaces and more...

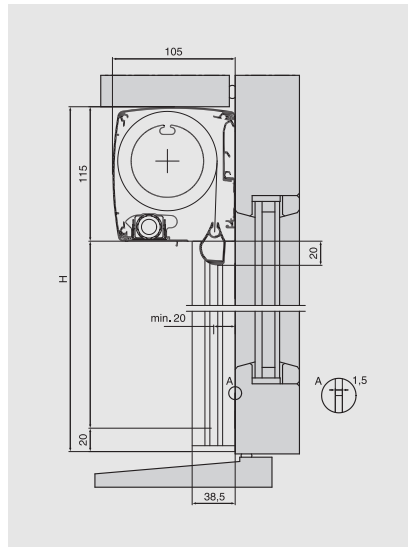
Solar-shading fabrics ('screens') made with Enduris™ Glass Core technology are highly efficient at protecting against solar heat gain, contributing to sustainable buildings by effectively managing solar heat, diffusing incoming natural light, enhancing interior comfort and increasing occupant productivity.



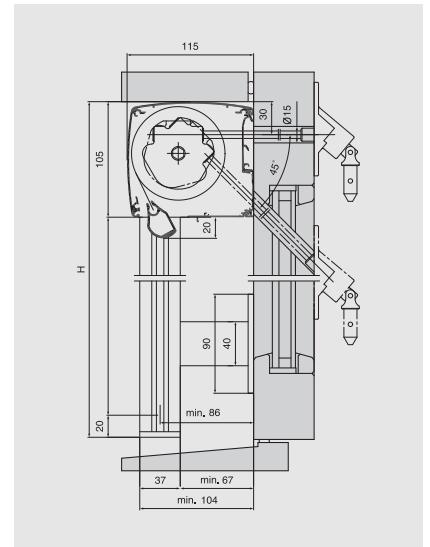
System Drawings



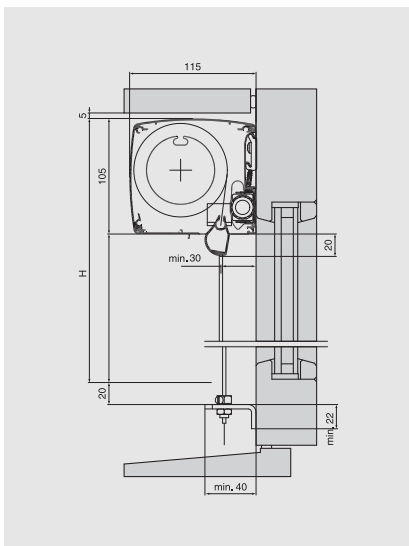
Head Box 115 mm, cable, crank operated



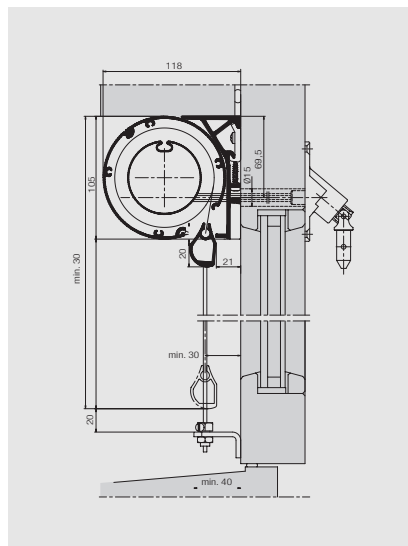
Head Box 115 mm, channel, motorized



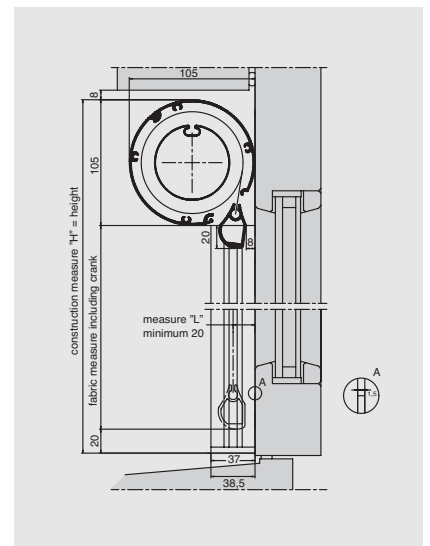
Head Box 105 mm, channel, crank operated



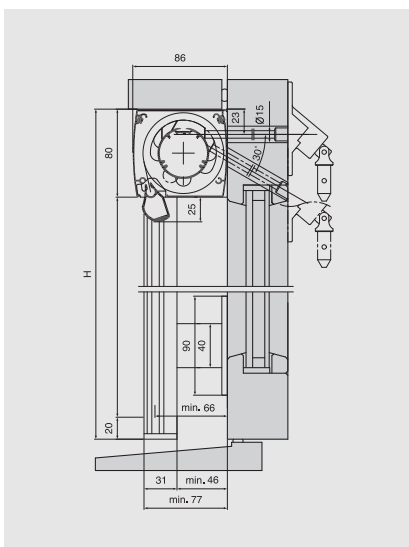
Head Box 105 mm, cable, motorized



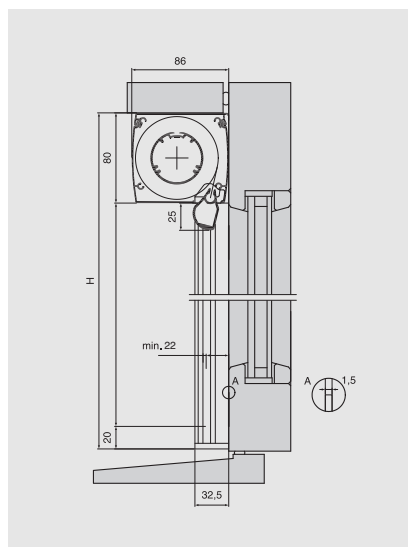
Round Head Box 105 mm, cable, crank operated



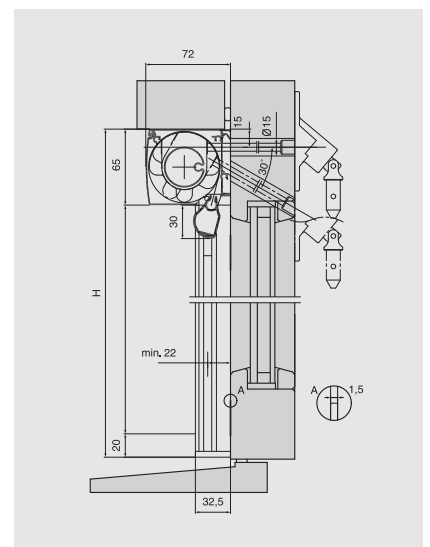
Round Head Box 105 mm, channel, motorized



Head Box 80 mm, channel, crank operated



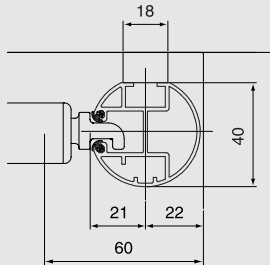
Head Box 80 mm, channel, motorized



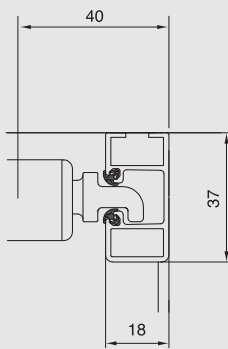
Head Box 65 mm, channel, crank operated

Side Guiding

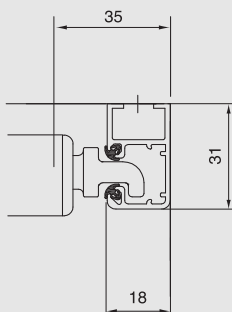
SINGLE SIDE GUIDE CHANNEL



Round side guide

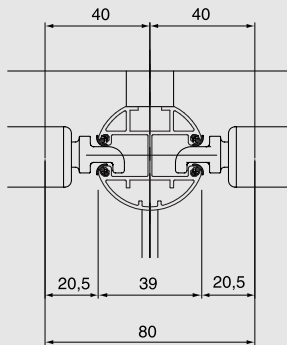


Rectangular Side guide
Type 105 & 115

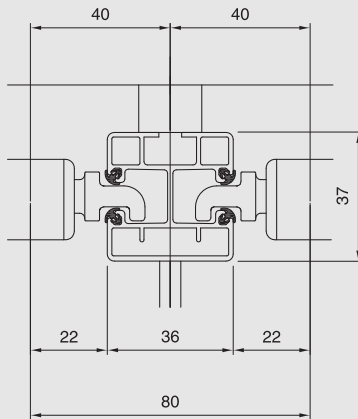


Rectangular Side guide
Type 80 & 65

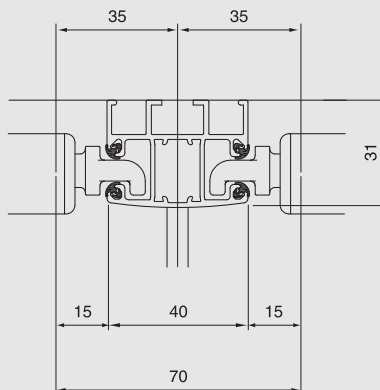
DOUBLE SIDE GUIDE CHANNEL



Round side guide

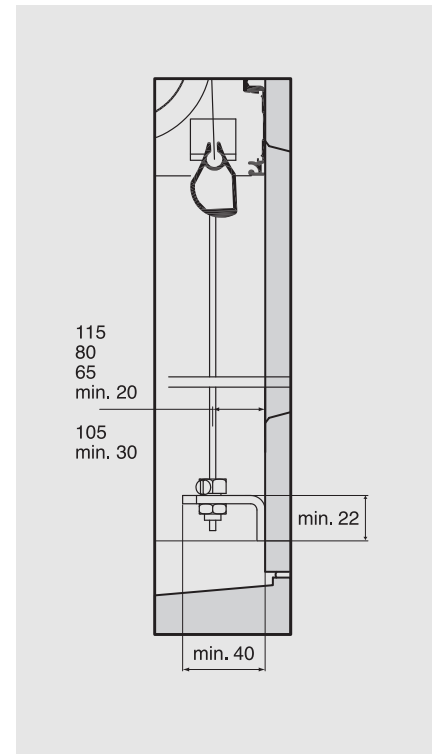


Rectangular Side guide
Type 105 & 115



Rectangular Side guide
Type 80 & 65

CABLE SIDE GUIDING



Cable guiding for all types

Specials

MARKISOLETTE

HunterDouglas® Markisolette system with screen fabrics offers both an excellent solar shading as well as an unobstructed view to the outside.

HEAD BOX

Slightly curved head box, size 115 x 105 mm. Made of extruded aluminium, housing the complete system, including the intermediate roller tube, which completely disappears in the head box when the blind is retracted. Installed on top of the side tracks. Manual (crank) and motorized control option.

OPTION

Self supporting round head box, diameter 105 mm, made of extruded aluminium, anodized or powder coated, housing the complete mechanism and fabric. Installed on top of side tracks. Manual (crank) and motorized control option.

END PLATES

End plates of die cast alloy supporting the whole system on top of the side guides. Intermediate roller tube made of extruded aluminium, 30 mm diameter, fitted in between the slide bars by spring loaded end plugs, allowing the tube to roll freely during movement of the fabric.

FRONT BAR

Made of extruded aluminium, in a specially designed shape to have maximum stiffness and optimal freedom of the bar when lowering the blind.

SLIDE BARS

Made of stainless steel. Supporting the intermediate roller tube and the drop arms.

DROP ARMS

Tubular section, made of extruded aluminium, 600 mm long, to provide for the required projection, as well as housing the wind resistance device. Connected to the slide bars and the front bar by high performance plastic components.



Markisolette 115 with side channel



WIND RESISTANCE

Heavy duty stainless steel cable incorporated in the hinge of the arm profile, combined with a gas cylinder in the arm profile. Provides high tension on the fabric resulting in optimal resistance to wind load and minimum movement of the fabric.

SIDE GUIDING

Aluminium side guides, with PVC insert for noise reduction, rectangular or round as an option.

OPERATION

- Gearbox and crank rod
 - Electric tubular motor, incorporated in the roller tube. 220 Volt - 50 Hz.
- The electrical plug can be clipped inside the head box.

SURFACE TREATMENT

All profiles are anodised or polyester powder coated according to a standard RAL colour. End plates are polyester powder coated to match the head box.

SCREEN FABRIC

HunterDouglas® Screen Fabrics with Enduris™ Glass Core technology.

For more information check the Screen Brochure



Dimensions

Order number	Type	Unroll direction	Type of guiding	Operation	Measure of the head box (mm)	Fabric type	CONSTRUCTION LIMITS						OPTIONS:
							Min. width (mm)	Max. width (mm)	Max. height (mm)	Max. surface (m ²)	Max. qty. coupled Screens	Max. surface/width coupled Screens (m ² /mm)	Round side tracks
5001	SMA 65 K	L	cable	Crank	65 x 72	Screen	600	2100	2200	3	2	6/4200	
5005	SMS 65 K		side tracks										
5002	SMA 80 K	L	cable	Crank	80 x 86	Screen	600	2500 (b)	2700 (b)	5	2	5/4500	
5006	SMS 80 K	L / R	side tracks					2500	2700 (c)				
5010	SMA 80 EL	L	cable	Motor		Screen	700	2500 (b)	2700 (b)	5	3	10/6000 (a)	
5013	SMS 80 EL	L / R	side tracks					2500	2700 (c)				
5003	SMA 105 K	L	cable side tracks	Crank	105 x 115	Screen	600	2800 (b)	3200 (b)	8	2	6/4000	x
5007	SMS 105 K	L / R						2800	2700 (d)				
5011	SMA 105 EL	L	cable side tracks	Motor		Screen	700	2800 (b)	3200 (b)	8	3	20/6500	
5014	SMS 105 EL	L / R						2800	2700 (d)				
5018	SMA-R K	L	cable side tracks	Crank	Ø105	Screen	600	2800 (b)	3200 (b)	8	2	6/4000	x
5019	SMS-R K							2800	2700 (d)				
5017	SMA-R EL		cable side tracks	Motor		Screen	700	2800 (b)	3200 (b)	8	3	20/6500	
5016	SMS-R EL							2800	2700 (d)				
5004	SMA 115 K	L	cable side tracks	Crank	115 x 105	Screen	600	2800 (b)	3200 (b)	8	2	6/4000	x
5008	SMS 115 K							2800	2700 (d)				
5012	SMA 115 EL		cable side tracks	Motor		Screen	700	2800 (b)	3200 (b)	8	3	20/6500	
5015	SMS 115 EL							2800	2700 (d)				

Markisolette

5020	M 115 K	L	side tracks	Crank	115 x 105	Screen	600	2500 (b)	3000 (b)	7	-	-	x
				Motor				2500	2700 (d)				
5021	M 115 EL			Crank	115 x 105	Screen	600	2500 (b)	3000 (b)	7.5	2	15/5000	x
		Motor	2500	2700 (d)				6.75					
50230	M-R K	L	side tracks	Crank	115 x 105	Screen	600	2500 (b)	3000 (b)	7	-	-	x
				Motor				2500	2700 (d)				
5022	M-R EL			Crank	Ø105	Screen	700	2500 (b)	3000 (b)	7.5	2	15/5000	x
		Motor	2500	2700 (d)				6.75					

Explanation of the codes:

SM = Vertical Blind
M = Markisolette
SMA = Vertical Blind with cable guiding
SMS = Vertical Blind with side guiding channels
SMA/S-R = Round head box Ø 105

K = Crank operation
EL = Motor operation
L = Unroll direction left, towards the façade
R = Unroll direction right, towards the outside
X = Option possible

Remarks:

- (a) When continuous head box (only head box type 65 and 80): max. width = 5 m
(b) Screen fabric: > 2500 mm width and 2500 mm height fabric must be welded
(c) Acrylic with stripes, head box 80: max. height = 1600 mm
(d) Acrylic with stripes, head box 105 and 115: max. height = 2000 mm

For variances of the construction limits which are outside the specification, please contact us.
For standard colours please check our valid colour selector.

Wind loads

WIND LOAD LIMITS EXTERNAL ROLLER BLIND

Type	Surface (m ²)	Class	Max. width (mm)	Max. height (mm)
SMA 65 K, SMS 65 K	≤ 3	3	2100	2200
SMA 80 K, SMS 80 K, SMA 80 EL, SMS 80 EL	≤ 5	3	2500	2700
SMA 105 K, SMS 105 K, SMA 105 EL, SMS 105 EL, SMA 115 K, SMS 115 K, SMA 115 EL, SMS 115 EL SMA-R EL, SMS-R EL, SMA-R K, SMS-R K	≤ 8	3	2800	3200
M 115 K, M-R-K	≤ 7	3	2500	3000
M 115 EL, M-R EL	≤ 7.5	3	2500	3000

In order to prevent damage to external sun protection products, it is advisable to specify a central control system that lifts the products automatically in case of high wind speeds. The maximum wind speed Hunter Douglas allow for External Roller Blind is 10 m/sec.

WIND FORCES ON THE BEAUFORT SCALE OR IN M/SEC.

Beaufort Scale	Description	Average wind strength		Effects on land
		m/s	km/h	
0	Calm	0 - 2	<1	Smoke rises vertically
1	Light air	0.3 - 1.4	1 - 5	Smoke drifts in the wind
2	Light breeze	1.5 - 3.4	6 - 12	Leaves rustle. Wind felt on face
3	Gentle breeze	3.5 - 5.4	13 - 19	Small twigs in constant motion. Light flags extended
4	Moderate wind	5.5 - 7.4	20 - 27	Dust, leaves and loose paper raised. Small branches move
5	Fresh wind	7.5 - 10.4	28 - 37	Small trees sway
6	Strong wind	10.5 - 13.4	38 - 48	Large branches move. Whistling in phone wires. Difficult to use umbrellas
7	Very strong wind	13.5 - 17.4	49 - 62	Whole trees in motion
8	Gale	17.5 - 20.4	63 - 73	Twigs break off trees. Difficult to walk
9	Sever gale	20.5 - 24.4	74 - 87	Chimney pots and slates removed
10	Storm	24.5 - 28.4	88 - 102	Trees uprooted. Structural damage
11	Severe storm	28.5 - 32.4	103 - 117	Widespread damage
12	Hurricane force	>32.5	>118	Widespread damage. Very rarely experienced on land

The standards by external products are specified in the European Standards EN 13659

Indoor Environmental Quality & Productivity

PRODUCTIVITY

Energy saving strategies and natural resources like daylight, can create a comfortable and productive environment for occupants. Smart, sustainable design that provides good indoor environmental quality is a proven and profitable investment.

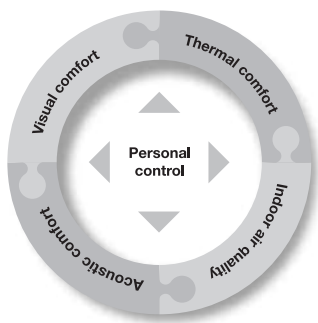
Seemingly small increases of as little as 1% in productivity could result in a much higher payback than the reduced cost of energy.

COMFORT

Comfort can be described as 'the state of mind that expresses satisfaction with the surrounding environment'.

Indoor environmental quality has essentially four dimensions:

1. Thermal comfort;
2. Visual comfort;
3. Acoustic comfort;
4. Indoor air quality.



It is an accepted fact that people prefer to experience daylight through visual contact with the outside world. This is therefore, generally recognized as an important factor in influencing people's positive emotional state.

Situations that cause visual discomfort can frequently arise. The light, glare or reflection levels are just too bright and contrasts too large for optimal working conditions.

Workspaces which are comfortable, naturally lit and allow occupants to connect with outdoor space can improve productivity and reduce absenteeism. Research on the relationship between day lighting and productivity shows that the use of daylight without glare resulted in productivity gains in the order of 4%. To fully optimise the benefits of daylight, control systems can be integrated in the sun control solution.

SUSTAINABILITY & INDOOR ENVIRONMENTAL QUALITY

The environmental footprint of a building includes such factors as the use of energy, water, materials and resources. HunterDouglas® Sun Control Systems and Window Covering products can play an excellent role in reducing the environmental footprint, whilst at the same time enhancing the thermal and visual dimensions of indoor environmental quality.



Energy and Light Tool

The function of Window Coverings is to provide visual comfort and heat control. The primary function of interior window coverings is to reduce glare levels and diffusing daylight. The primary function of External Window Coverings is heat control.

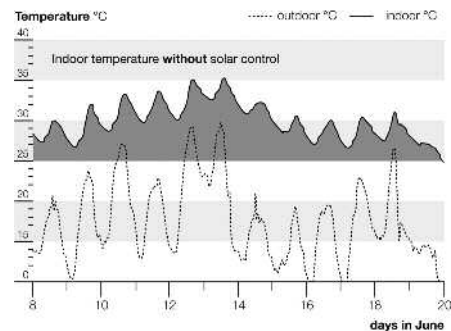
THERMAL COMFORT

External Window Coverings will prevent excessive solar heat gain and reduce the need for cooling in the summer. Moreover, it will also reduce - if not eliminate - the high capacity of cooling equipment needed, resulting in a reduction in the initial investment cost.

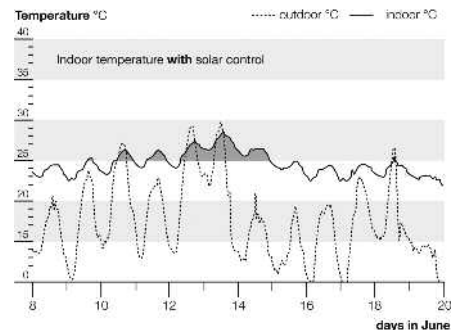
In colder climates, External Window Coverings will enable the use of solar energy to help heat the building in winter. This is often overlooked when solar control glass is selected for heat control.

Thermal comfort at a minimal environmental impact calls for a careful matching of glazing, Sun Control and HVAC equipment.

The Hunter Douglas Energy Tool helps finding an optimum solution by quantifying the effects of various External Window Coverings. The pay-off will be reduced energy costs and often reduced investment cost, and on top of that: reduced greenhouse gas emission during the operation phase of the building.



Indoor and outdoor temperature without External Window Covering



Indoor and outdoor temperature with External Window Covering

VISUAL COMFORT

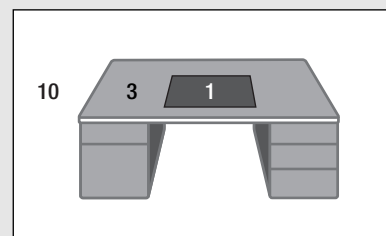
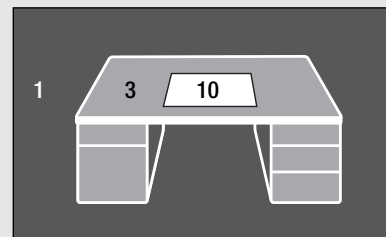
Interior Window Coverings enable the use of free renewable daylight to the maximum extent, so significantly reducing the need for artificial lighting and avoiding the associated cooling loads.

The accepted factor in creating visual comfort states that the contrast within the field of view should not exceed a factor of 10. The contrast between the central visual task and its direct surroundings should not exceed a factor of 3.

When designing an office space, questions often arise around what measures should be considered to guarantee the right level of visual comfort?

The Hunter Douglas Light Tool makes the assessment of visual comfort tangible by calculating luminance levels for a model office with and without window coverings. The amount and type of glass, the orientation of the façade, the geographical location, weather, season and time of day are all taken into account before recommendations are made.

The Light Tool helps client's assess which window covering provides the aesthetic and performance levels needed to create visual comfort for their particular project.



Contrast factor 1:3:10

Light Tool calculations are based on Radiance (Lawrence Berkeley Laboratories). The scene model consists of approximately 20,000 polygons. Colours and reflection values were measured in an actual model office.



HUNTER DOUGLAS ARCHITECTURAL PRODUCTS

Over 40 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, developing new, innovative 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.

Innovative Products Make Innovative Projects



Promoting sustainable
forest management
www.pefc.org

© Registered trademark - a HunterDouglas® product Pats. & Pats. Pend. - Technical data subject to change without notice.
© Copyright Hunter Douglas 2009. No rights can be derived from copy, text pertaining to illustrations or samples. Subject to changes in materials, parts, compositions, designs, versions, colours etc., even without notice. **MX912W00**



ARCHITECTURAL SERVICES

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 mounting drawings. Our services to installers range from providing detailed installation drawings and instructions to training installers and advising on the building site.

HunterDouglas

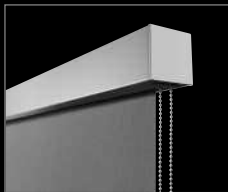
WINDOW COVERINGS



Learn More

- Contact our Sales Office
- www.hunterdouglascontract.com

Roller Blinds



Austria
Belgium
Bulgaria
Croatia / Slovenia

Czechia
Denmark

France
Germany
Greece

Hungary
Ireland

Italy

Kazakhstan

the Netherlands

Norway

Poland

Portugal

Romania

Russia

Serbia

Slovakia

Spain

Sweden

Switzerland

Turkey

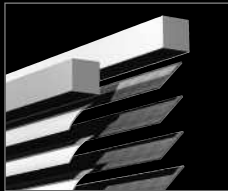
Ukraine

United Kingdom

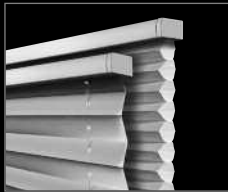
Africa

Middle East

Venetian & Wood Blinds



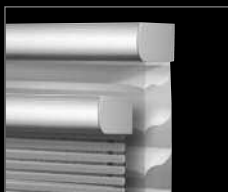
Plissé & Duette® Shades



Vertical Venetian Blinds



Facette® & Silhouette® Shades



External Venetian Blinds



Asia

Australia

Latin America

North America

External Roller Blinds



HUNTER DOUGLAS EUROPE B.V.

2, Piekstraat

P.O. Box 5072 - 3008 AB Rotterdam

Tel. +31 (0)10 - 4869911

Fax +31 (0)10 - 4847910

www.hunterdouglascontract.com

HunterDouglas

WINDOW COVERINGS

CEILING

SUN CONTROL

FAÇADES