

Glare Control

EN 14501



Roller Blind EOS[®] 500

HunterDouglas

WINDOW COVERINGS



Glare Control with Roller Blinds

What is glare?

Glare is difficulty seeing in the presence of hindering bright light such as direct or reflected sunlight. It is caused by a significant ratio of luminance between the task (that which is being looked at) and the glare source. Factors such as the angle between the task and the glare source and eye adaptation have significant impacts on the experience of glare.

HOW TO CONTROL GLARE?

In order to achieve high visual comfort in daylight conditions, it is very important to control glare, especially in rooms with computer screens or digital boards. A sensible strategy to prevent glare in a building is:

1. To install light controlling devices should be present in front of all glazings near the façade or atrium;
2. Applied systems for light control should allow full control by the individual user (partial or entire closure of the light transmitting surface);
3. Blinds should be compliant with EN 14501:2005 Glare class 3 or 4.

WHAT IS EN 14501?

European Norm 14501:2005 applies to the whole range of shutters, awnings and blinds defined in EN 12216, described as solar protection devices in this European Standard. It states properties that can be taken into account when comparing products. It also specifies the corresponding parameters and classifications to quantify the following properties:

FOR THE THERMAL COMFORT

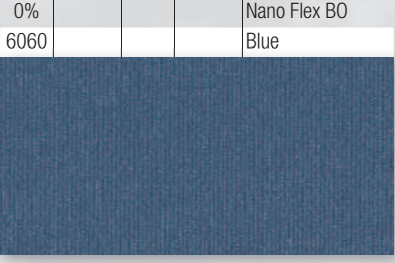
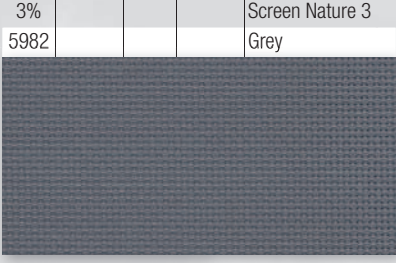
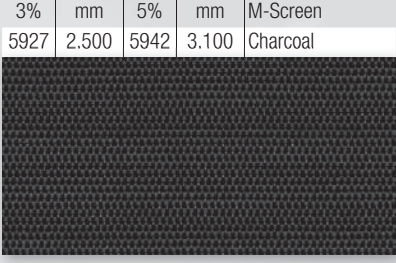
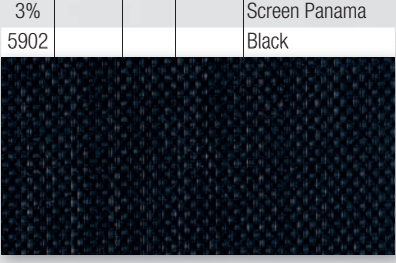
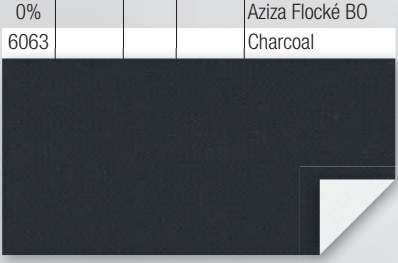
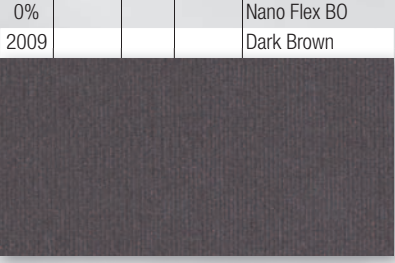
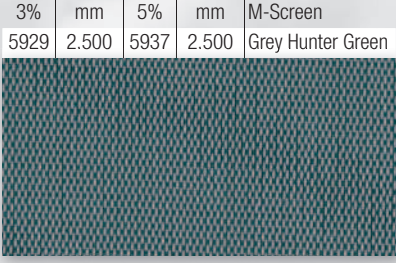
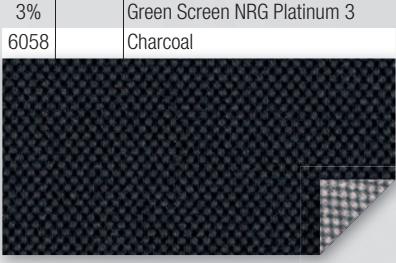
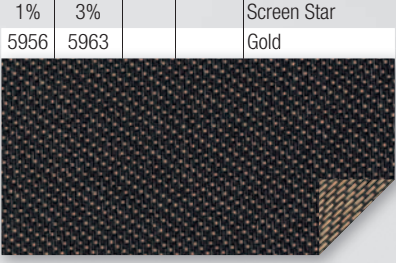
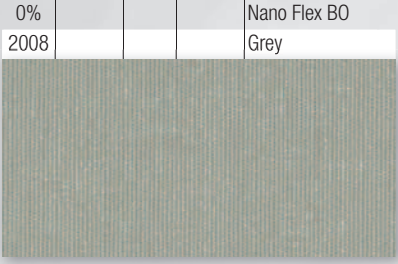
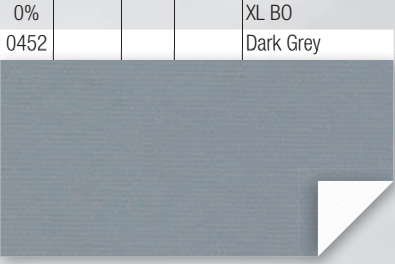
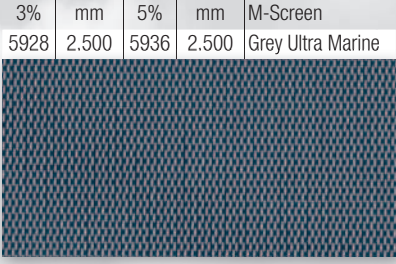
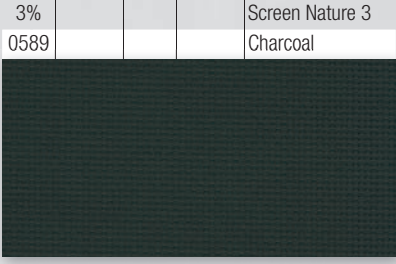
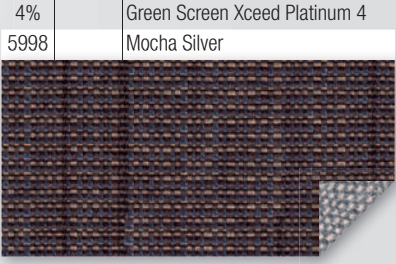
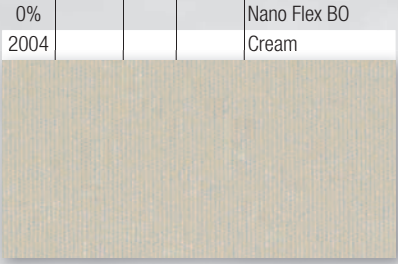
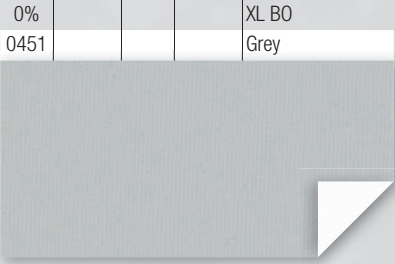
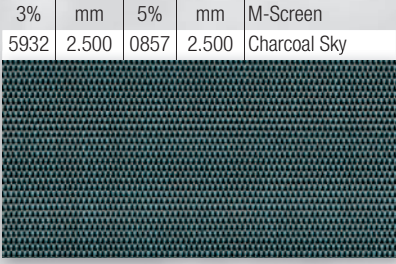
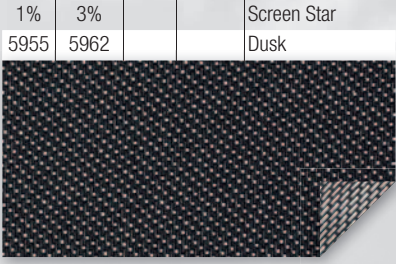
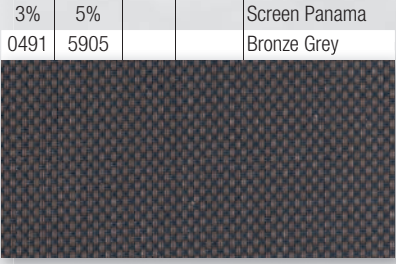
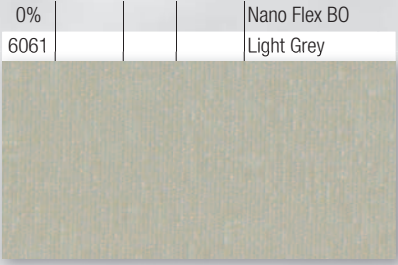
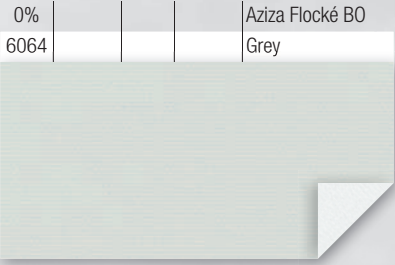
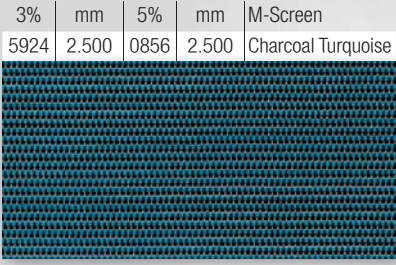
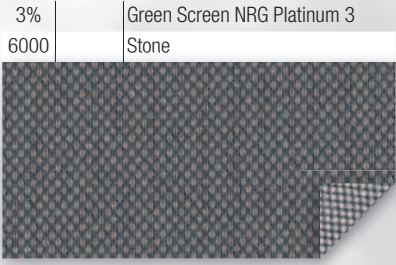
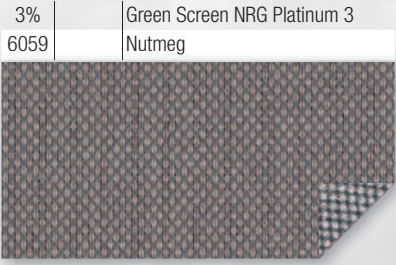
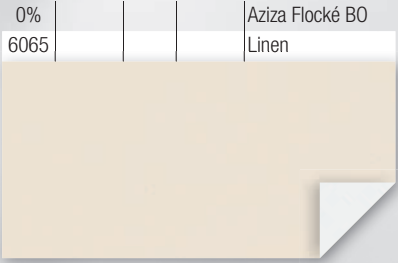
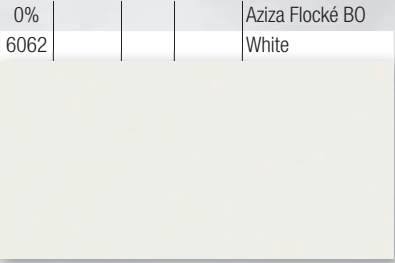
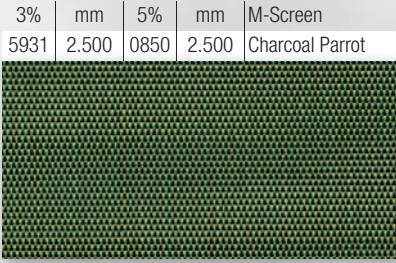
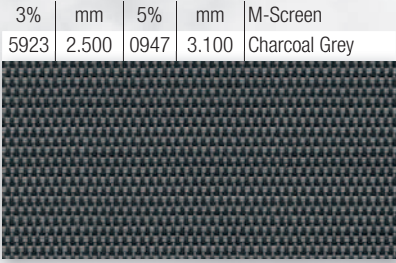
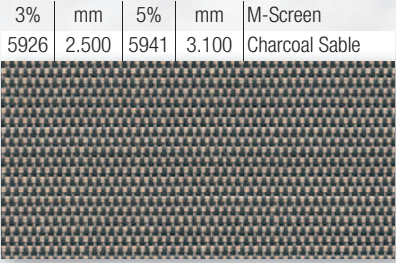
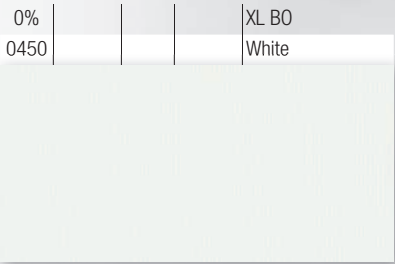
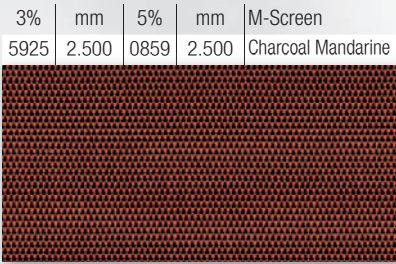
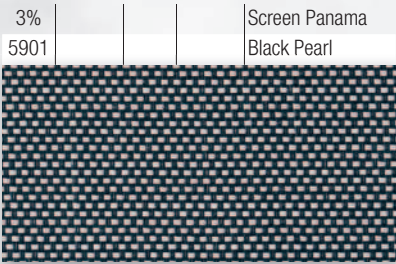
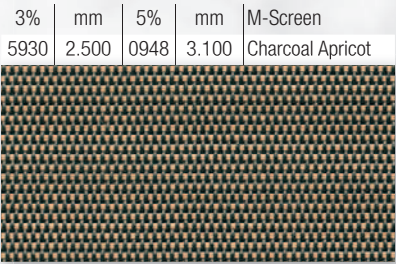
- the solar factor (total solar energy transmittance)
- the secondary heat transfer factor
- the direct solar transmittance.

FOR THE VISUAL COMFORT

- the opacity control
- the night privacy
- the visual contact with the outside
- the glare control
- the daylight utilisation
- the rendering of colours.

EN 14501 quantifies the effects of a blind on the comfort aspects on the ordinal scale below:

Class	Effect
0	Very little
1	Little
2	Moderate
3	Good
4	Very good



HOW TO DETERMINE THE GLARE CLASS?

The standard EN 14501:2005 relates the classification for glare control to the direct and diffuse visual light transmission coefficients of the blind (Tvdir and Tvdiff).

Tvdir	Tvdiff	
	Tvdiff < 2%	2% ≤ Tvdiff < 4%
Tvdir ≤ 5%	Class 3	Class 2
Tvdir = 0%	Class 4	Class 3

Tvdir = Direct visual light transmission

Tvdir is directly related to the open surface of the light controlling device. For roller blind screen fabrics it is also referred to as openness factor (OF).

Tvdiff = Diffuse visual light transmission

In the case of a screen fabric, Tvdiff is the degree of light shining through the actual fibres of the yarn.

Tvdiff + Tvdir = Tvtot = Tv = Total visual light transmission

A fabric with **Tvdir** = 0 is fully closed and does not allow to see through it. Because visual contact with the outside is generally considered as an important factor contributing to further visual comfort, the demand which best meets controls glare and also allows contact with the outside is as follows:

0 < **Tvdir** ≤ 5% en **Tvdiff** < 2%.

This is the blue cell in the schedule above.

WHICH SCREEN FABRICS CONTROL GLARE?

In the adjacent table is a resume of fabrics taken from the HUNTER DOUGLAS Roller Blind Project Collection which meet Glare Class 3. Fabrics with this classification often have a dark colour. This is a direct consequence of the limitation to the diffuse transmission. Fabrics with a metal backing can have a lighter colour because the thin metal layer is not transparent and therefore reduces the diffuse transmission. Metallized fabrics have the PLATINUM extension in the name. Fabrics with Glare Class 4 are generally used to darken the room (black-out).



Name	Colour	LPN Code	EN 14501 Glare Class	Tvdir	Tvdiff
Semi-transparent					
GreenScreen NRG Platinum 3	Charcoal	6058	3	2,8 %	0,4 %
GreenScreen NRG Platinum 3	Nutmeg	6059	3	3,0 %	1,0 %
GreenScreen NRG Platinum 3	Stone	6000	3	2,4 %	0,7 %
GreenScreen Xceed Platinum 4	Mocha Silver	5998	3	1,3 %	0,6 %
M-Screen 3	Charcoal Grey	5923	3	3,3 %	0,8 %
M-Screen 3	Charcoal Turquoise	5924	3	2,8 %	0,7 %
M-Screen 3	Charcoal Mandarin	5925	3	3,0 %	0,9 %
M-Screen 3	Charcoal Sable	5926	3	3,4 %	1,5 %
M-Screen 3	Charcoal	5927	3	2,1 %	0,4 %
M-Screen 3	Grey Ultra Marine	5928	3	3,8 %	1,9 %
M-Screen 3	Grey Hunter Green	5929	3	3,3 %	1,4 %
M-Screen 3	Charcoal Apricot	5930	3	2,5 %	1,6 %
M-Screen 3	Charcoal Parrot	5931	3	3,1 %	1,7 %
M-Screen 3	Charcoal Sky	5932	3	2,4 %	1,6 %
M-Screen 5	Charcoal Parrot	0850	3	3,9 %	1,8 %
M-Screen 5	Charcoal Turquoise	0856	3	4,2 %	0,9 %
M-Screen 5	Charcoal Sky	0857	3	4,4 %	2,0 %
M-Screen 5	Charcoal Mandarin	0859	3	4,2 %	1,1 %
M-Screen 5	Charcoal Grey	0947	3	4,4 %	1,0 %
M-Screen 5	Charcoal Apricot	0948	3	4,5 %	1,9 %
M-Screen 5	Grey Ultra Marine	5936	3	4,7 %	1,7 %
M-Screen 5	Grey Hunter Green	5937	3	4,0 %	1,7 %
M-Screen 5	Charcoal Sable	5941	3	4,1 %	1,1 %
M-Screen 5	Charcoal	5942	3	4,5 %	0,7 %
Screen Nature 3	Charcoal	0589	3	3,4 %	0,4 %
Screen Nature 3	Grey	5982	3	4,3 %	1,8 %
Screen Panama 3	Bronze Grey	0491	3	2,8 %	0,6 %
Screen Panama 3	Black Pearl	5901	3	3,5 %	0,6 %
Screen Panama 3	Black	5902	3	3,2 %	0,3 %
Screen Panama 5	Bronze Grey	5905	3	3,7 %	0,8 %
Screen Star 1	Dusk	5955	3	1,1 %	0,8 %
Screen Star 1	Gold	5956	3	1,0 %	0,8 %
Screen Star 3	Dusk	5962	3	4,0 %	1,6 %
Screen Star 3	Gold	5963	3	3,6 %	1,0 %
Black-out					
Aziza Flocké BO	White	6062	4	0 %	0 %
Aziza Flocké BO	Charcoal	6063	4	0 %	0 %
Aziza Flocké BO	Grey	6064	4	0 %	0 %
Aziza Flocké BO	Linen	6065	4	0 %	0 %
Nano Flex BO	Cream	2004	4	0 %	0 %
Nano Flex BO	Grey	2008	4	0 %	0 %
Nano Flex BO	Dark Brown	2009	4	0 %	0 %
Nano Flex BO	Blue	6060	4	0 %	0 %
Nano Flex BO	Light Grey	6061	4	0 %	0 %
XL BO	White	0450	4	0 %	0 %
XL BO	Grey	0451	4	0 %	0 %
XL BO	Dark Grey	0452	4	0 %	0 %
XL BO	Beige	0454	4	0 %	0 %

Roller Blinds



Venetian & Wood Blinds



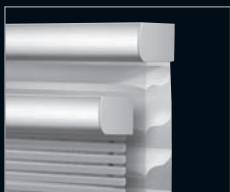
Plissé & Duette® Shades



Vertical Venetian Blinds



Facette® & Silhouette® Shades



External Venetian Blinds



External Roller Blinds



Austria
Belgium
Bulgaria
Croatia / Slovenia
Czechia
Denmark
France
Germany
Greece
Hungary
Ireland
Italy
The Netherlands
Norway
Poland
Portugal
Romania
Russia
Serbia
Slovakia
Spain
Sweden
Switzerland
Turkey
Ukraine
United Kingdom
Africa
Middle East

Asia
Australia
Latin America
North America

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HunterDouglas

WINDOW COVERINGS

CEILINGS

SUN CONTROL

FAÇADES

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