

DREAM GLASS GROUP

Dream Glass Group (DGG) was founded in 2005 in Madrid, Spain, on the principle of supplying high quality smart glass. Having experienced significant and continuous growth since its foundation, DGG established its own R&D facility in 2009.

Ground-breaking investigations and continuous product development have placed DGG at the forefront of the smart glass industry with great success.

CONTACT US

dreamglassgroup.com - info@dreamglassgroup.com - +34 91 658 4245 Calle Cañada 15, Paracuellos de Jarama, 28860 - Madrid - Spain

PAGE	1	WHAT IS DREAMGLASS®?	PAGE	27 — DREAMGLASS® DYNAMIC SHUTT	ΞR
PAGE	3	THE SCIENCE BEHIND DREAMGLASS®	PAGE	29 — DREAMGLASS® SMART BLINDS	
PAGE	7		PAGE	DREAMGLASS® DSAF	
PAGE	9	OPERATION	PAGE	35 — INDUSTRY APPLICATIONS	
PAGE	11	——————————————————————————————————————	PAGE	HOSPITALITY	
PAGE	13	DREAMGLASS® PRODUCTS	PAGE	CORPORATE	
PAGE	15		PAGE	HEALTHCARE	
PAGE	17	———— DREAMGLASS® THE ORIGINAL	PAGE	40 — RESIDENTIAL	
PAGE	19		PAGE	41 RETAIL	
PAGE	21	DREAMGLASS® BLACK	PAGE	42 TRANSPORTATION	
PAGE	23	———— DREAMGLASS® DESIGN	PAGE	43 — INTERNATIONAL OUTREACH	
PAGE	25	DREAMGLASS® SHUTTER	PAGE	45 — TECHNICAL DATA	

WHAT IS DREAMGLASS®?



DREAMGLASS® ON

THE SCIENCE BEHIND DREAMGLASS®

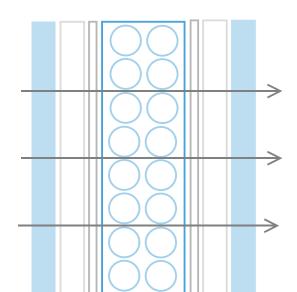
Switch the current off and the glass turns opaque. Reactivate the current and the glass reverts to a clear, transparent view. This ingenious technology involves a film of dispersed liquid crystal in a polymer matrix pressed between two glass sheets. When a small current is applied to the liquid crystal, its molecules align allowing light to pass through. When the current is disconnected, the molecules immediately disarrange for instantaneous and total privacy.

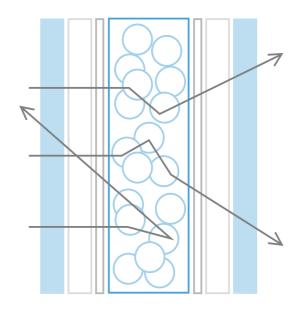
POWER ON

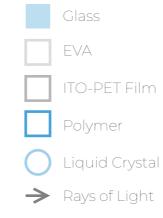
The liquid crystal molecules align and light can pass through.

POWER OFF

The liquid crystal molecules are randomly aligned making light scatter and the glass opaque.







GLASS

Choose the desired thickness, type, shape or color.

EVA

A cross-linked transparent sheet which acts as a bond between the glass and ITO-PET laminate.

ITO-PET

A transparent, conductive film of only a few microns in thickness.

LIQUID CRYSTAL POLYMER MATRIX

A pool of randomly orientated liquid crystal molecules. When stimulated with electrical current, the liquid crystal molecules align themselves allowing incident light to pass through, thus the glass becomes clear.





NO MOVING PARTS

Unlike other privacy systems, DreamGlass®

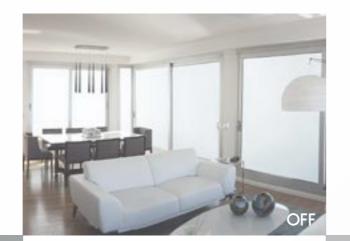
products have no pulleys, strings, fixtures, or

chains to wear out, tangle up, or get stuck.

CONVENIENCE

DreamGlass® products work flawlessly every time. The effect happens with the press of a button and works in a fraction of a second.

What's more convenient than that?



MAINTENANCE?

No moving parts means maintenance-free enjoyment. It's also easy to clean compared to curtains and blinds, with just a quick wipe-down.



TRUE TRANSPARENCY

DGG has mastered the switchable glass formula in order to offer the absolute lowest amount of haze in our products.



ON

TRANSFORM YOUR SPACE

DreamGlass® products allow you to completely change a space to suit your different needs. With the flick of a switch an open office space can turn into a private meeting room. All our products can also be converted into rear projection screens with incredible image quality.



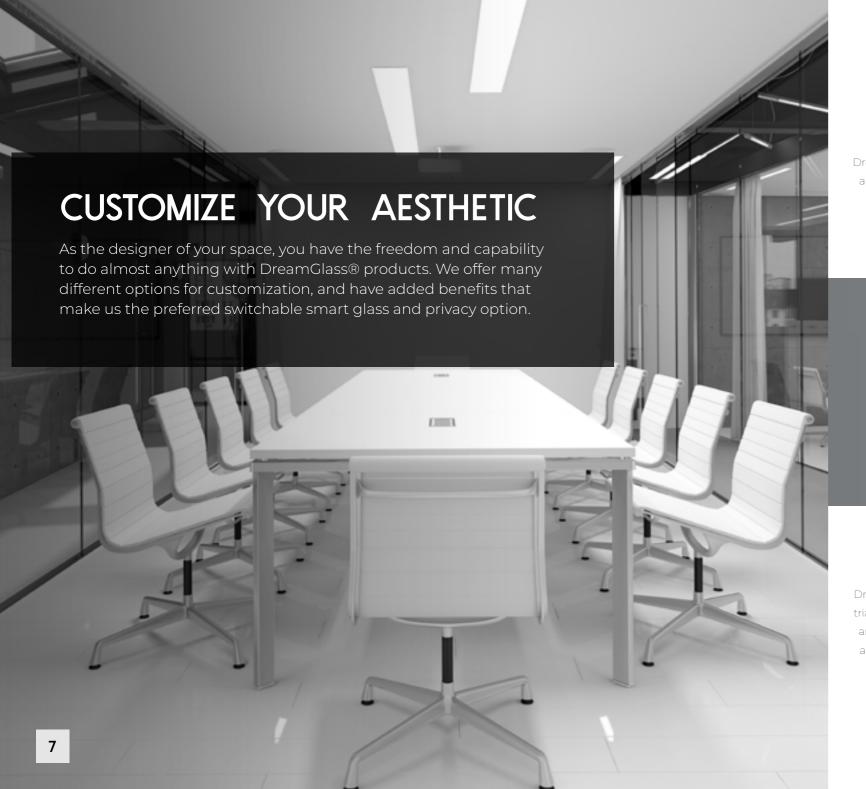
WHY DREAMGLASS®?

Why invest time and money into buying or fixing traditional privacy systems when DreamGlass® products offer superior innovation, reliability and cost efficiency, while delivering a sophisticated and timeless modern design solution?

EFFORTLESS AND STUNNING

DreamGlass® products deliver total privacy while maintaining access to natural light- without any moving parts. Free from the need for blinds or walls, our products create pristine and open interior spaces. The dynamic features and benefits offered by our products can be applied in various situations, resulting in an unparalleled privacy solution.

 $\mathsf{5}$



BULLET PROOF

DreamGlass® products can be made bullet proof, allowing it to withstand high-impact situations.



LOW IRON

As a standard, all panels are manufactured with Low Iron Glass allowing them to offer the highest levels of transparency.



COLOR TINTED

DreamGlass® products can be tinted in various colors to suit aesthetic preferences. Create a more interesting atmosphere with this option.

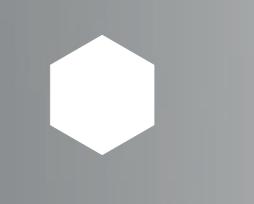


DOUBLE GLAZED

DreamGlass® products can be glazed in double or triple insulated units for interior or exterior applications.

CUSTOM SHAPES

DreamGlass® products can be cut into rectangles, triangles, squares, circles, rounded corners, custom angles, custom shapes, domes, cut outs, hinges, and curved glass to meet all your design needs.



FIRE RATED

Combine DreamGlass® products with fire rated glass to offer the most durable solutions.



OPERATION CONTROL

DreamGlass® products can be controlled in multiple ways, to reach different levels of privacy. Simply choose whichever method best suits you and start operating your switchable smart glass.























DURABILITY

UNDER DEMANDING CONDITIONS

DreamGlass® products are tested under the highest quality standards, so you can be sure you're getting the absolute best product available. And, you can feel sure that your glass is safe and durable for many years to come.

Having our own lab is what makes us completely unique in our industry, allowing us to control the full production and quality of our products from initial film technology, to final glass delivery.



TECHNICAL DATA

ENVIRONMENT

ELECTRICAL PROPERTIES

Storage Operation

Operating Voltage

Operating Frequency

Power Consumption

Switching Time

-20° C to 50° C

-20° C to 110° C

60 - 80V AC

50-60 Hz $< 5 W/m^{2}$

< 0.1 seconds















DREAMGLASS®

PRODUCTS

- DREAMGLASS® REVERSE MODE
- DREAMGLASS® THE ORIGINAL
- DREAMGLASS® SUPER CLEAR
- DREAMGLASS® BLACK
- DREAMGLASS® DSAF

- DREAMGLASS® SHUTTER
- DREAMGLASS® DYNAMIC SHUTTER
- DREAMGLASS® SMART BLINDS
- DREAMGLASS® DESING



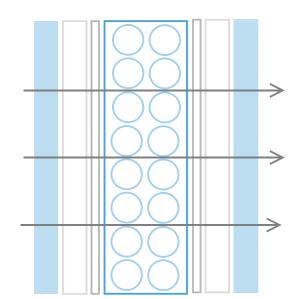
DREAMGLASS® REVERSE MODE

We are proud to present to market revolutionary DreamGlass® Reverse Mode. Switch the current OFF and the glass turns Transparent. Reactivate the current and the glass reverts to opaque. This new Reverse Mode represents our ongoing efforts to support the growing Dynamic glass industry offering greater options to the Switchable Glass offering the largest panels of 1450mm x 4200mm.

For technical data see page 45

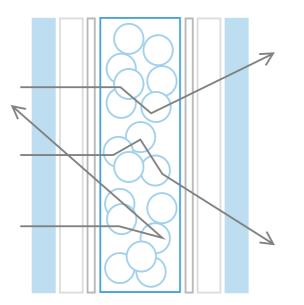
POWER OFF

The liquid crystal molecules align and light can pass through.



POWER ON

The liquid crystal molecules are randomly aligned making light scatter and the glass opaque.









DREAMGLASS® SUPER CLEAR

Superior clarity and transparency!

Intended for installations that require the highest levels of transparency when the glass is in its translucent state, DreamGlass Super Clear works on the same principal as the Original (privacy at the flick of a switch by changing its state from opaque to transparent and vice versa through a small electrical current).

The Super Clear feature can be added to any DreamGlass Product line.

For technical data see page 49





PRIVACY GLASS THAT TINTS!

Set custom levels of tint to your privacy glass puts you in complete control of your space's atmosphere.



FEATURES

- · Tint control blocks out your desired level of light leaving a perfectly lit atmosphere to suite your comfort.
- · Provides complete protection from the suns glare by blocking 86% of visible light in full tint mode.





DREAMGLASS® SHUTTER

Dreamglass® Shutter brings privacy glass to a new level. Your windows can now act as Venetian blinds without having to use any external shades or products!

Users can activate different strips to control the amount of privacy needed instantly. Windows can be completely opaque or can have vertical or horizontal predetermined strips. You can select which strips to activate and in what order creating beautiful virtual blinds.



With Shutter, users can control the amount of privacy needed by selecting on or more strips.



FEATURES

- · Custom width and length
- · Any area of glass surface can be set to be switched ON/OFF
- · Can be controlled through APP via tablets or Smart Phones

DREAMGLASS® DYNAMIC SHUTTER

Dynamic Shutter can be controlled vertically or horizontally at the same time in variable widths in large format. It allows users to customize a given matrix design by either choosing a predetermined design or creating a custom one.

Alternate between designs uploaded & controlled directly through your BlueTooth capable device.

Q OPERATION

Upload all the patterns and/or sequences you desire onto the glass via Bluetooth through your tablet or Smart Phone. You can even determine the switching time between each design making the interaction and experience even more dynamic

FEATURES

- · Custom width and length
- Specific areas of glass surface can be set to be switched ON/OFF
- · Reprogrammable to offer alternative operating areas
- · Controlled through APP via tablets or smart phones







DREAMGLASS® SMART BLINDS

Smart Blinds, allows users to activate different sections or strips of their switchable smart glass at a time. Composed of a PDLC film in a roll format with predetermined lines hardly visible to the e

GIVE YOURSELF OPTIONS

With Smart Blinds, users are able to control which predetermined strips of their glass become active or not.

FEATURES

- · Custom width and length
- Specific areas of the glass surface can be set to be switched ON/OFF
- Can be controlled through APP via tablets of smart phones

DREAMGLASS® DESIGN Flex your creativity and

Flex your creativity and customize the pattern on your smart glass to suite your style and space.

Architects and designers will fall in love with DreamGlass® Design! With this new technology, you can customize your desired pattern on your privacy glass & have total control over its opacity. This allows for unique personalizing and a complete integration of DreamGlass® into your space.

ABOUT

D-SAF® (Self Adhesive Film) is a switchable smart film, that can be applied directly onto glass as an easy retro fit option, allowing the user to have privacy at the touch of a switch. It 's main difference with respect to DreamGlass® product line is that it no longer needs to be laminated in between 2 glass panels. Clients are now able to take advantage of their existing glass installation and convert it to a switchable smart dynamic solutions easily.



FEATURES

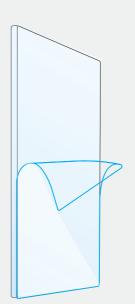
- · Custom width and length
- · Applicable to existing glass installation
- Fast lead times

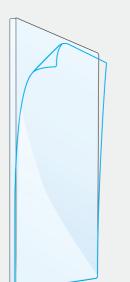
- Easy installation
- · Low Maintenance
- · 2 Year Warranty

DSAF is seamlessly applied by an expert team of glass specialists.













DREAMGLASS®

The need for substituting the entire glass installation is now over. Simply peel off a protective liner from the film and stick it

DSAF®

onto a window.



MORE ABOUT DREAMGLASS® D-SAF®

D-SAF® (Self Adhesive Film) provides customers with the advantage of being able to their existing glass to retro fit into Privacy/Smart Glass, making it a easy and hassle free process, instead of the long and costly process of removing and installing existing windows and glass partitions. With the safety of the assurance of Dream Glass Groups quality assurance and 2 Year Warranty.

D-SAF® is available withing our entire product line: The Original, Super Clear, Black and Reverse Mode as well as in Shutter and Smart Blind modes. Allowing our client to have a range of choice that fits best their privacy on demand need. All with the added value of short lead and installation times.



D-SAF® Super Clear (Applied) OFF



D-SAF® Super Clear (Applied) ON

INDUSTRY APPLICATIONS

- HOSPITALITY
- CORPORATE
- HEALTHCARE
- RESIDENTIAL
- RETAIL
- AUTOMOTIVE





HOSPITALITY

Creates a space that feels larger, and welcomes natural light into any hotel room. DreamGlass® products can be used for bedroom/bathroom privacy partition screens, external windows, conference/meeting rooms, bar and restaurant projection screens, toilet partitions, balconies, and more.





EN SUITE DIVISIONS





SHOWER PARTITIONS





MINIMIZE DISTRACTIONS





KEEP MEETINGS PRIVATE



CORPORATE

Can create small segments of privacy to conduct important business meetings and presentations without any distractions from observers and co-workers passing by. Gives a feeling of openness when switched on, and uses low operating voltage/consumption. Also available for automated doors.



HEALTHCARE

Can be used in intensive care units, high dependency units, emergency rooms, operation rooms, moveable privacy screen/doors, neonatal wards, hermetic doors, and fire related doors to improve hygienic conditions, staff productivity, and patients' recovery.





INTENSIVE CARE UNITS





OPERATING ROOMS





WINDOWS





SHOWER PARTITIONS



RESIDENTIAL

Eliminates the need for blinds or curtains. Can be applied in place of regular windows, roof lights, en-suite bathrooms, shower screens, sliding doors, folding doors, kitchen partitions, and more.



Shop windows, banks, marketing campaigns and more can utilize smart glass technology to conceal merchandise, provide privacy, or even reveal new products in style.





STORE FRONT DISPLAY





MARKETING CAMPAIGNS





VEHICLE SUNROOFS





AUTOMOTIVE DESIGN



DreamGlass® products can be used on sunroofs and windows providing dynamic control over privacy and sunlight, allowing passengers to easily switch between natural light and a private, shaded environment. This technology not only enhances comfort but also adds a sleek, modern aesthetic to vehicle design, seamlessly transitioning from clear to frosted for a high-tech, luxury feel.



DREAMGLASS® REVERSE

(AVAILABLE ALSO IN D-SAF®)

PRODUCT TYPE	PHYSICAL, OPTICAL AND ACOUSTIC PROPERTIES					
	Max. Size	Transparency	Haze	UV Protection	db Rating Rw (1)	
4 + 4 mm	1,800 x 4,200 mm	90%	7 %	> 99%	36	
5 + 5 mm	1,800 x 4,200 mm	90%	7%	> 99%	37	
6 + 6 mm	1,800 x 4,200 mm	90%	7%	> 99%	38	
8 + 8 mm	1,800 x 4,200 mm	90%	7%	> 99%	39	
10 + 10 mm	1,800 x 4,200 mm	90%	7%	> 99%	40	
Custom Configurations	1,800 x 4,200 mm	90%	subject to composition	> 99%	subject to composition	
Double/Triple Glazing	1,800 x 4,200 mm	90%	subject to composition	> 99%	subject to composition	
Bullet Proof	1,800 x 4,200 mm	90%	subject to composition	> 99%	subject to composition	

(1) In accordance with the standard UNE-EN ISO 10140-2-2011 (2) Larger sizes of glass can be done upon request Warranties: DreamGlass® 5 Year Warranty | D-SAF® 3 Year Warranty



DREAMGLASS® ORIGINAL

(AVAILABLE IN DREAMGLASS® SHUTTER, DESING, SMART BLIND, DYNAMIC SHUTTER, & D-SAF®)

PRODUCT TYPE	PHYSICAL, OPTICAL AND ACOUSTIC PROPERTIES					
	Max. Size	Transparency	Haze	UV Protection	db Rating Rw (1)	
4 + 4 mm	1,800 x 4,200 mm	83%	3,2%	> 99%	36	
5 + 5 mm	1,800 x 4,200 mm	83%	3.2%	> 99%	37	
6 + 6 mm	1,800 x 4,200 mm	83%	3.2%	> 99%	38	
8 + 8 mm	1,800 x 4,200 mm	83%	3.2%	> 99%	39	
10 + 10 mm	1,800 x 4,200 mm	83%	3.2%	> 99%	40	
Custom Configurations	1,800 x 4,200 mm	83%	subject to composition	> 99%	subject to composition	
Double/Triple Glazing	1,800 x 4,200 mm	83%	subject to composition	> 99%	subject to composition	
Bullet Proof	1,800 x 4,200 mm	83%	subject to composition	> 99%	subject to composition	

(1) In accordance with the standard UNE-EN ISO 10140-2-2011 (2) Larger sizes of glass can be done upon request Warranties: DreamGlass® 5 Year Warranty | D-SAF® 3 Year Warranty



DREAMGLASS® SUPER CLEAR TECHNICAL DATA

(AVAILABLE IN DREAMGLASS® SHUTTER, DESING, SMART BLIND, DYNAMIC SHUTTER, & D-SAF®)

PRODUCT TYPE	PHYSICAL, OPTICAL AND ACOUSTIC PROPERTIES					
	Max. Size	Transparency	Haze	UV Protection	db Rating Rw (1)	
4 + 4 mm	1,800 x 4,200 mm	93%	2.7%	> 99%	36	
5 + 5 mm	1,800 x 4,200 mm	93%	2.7%	> 99%	37	
6 + 6 mm	1,800 x 4,200 mm	93%	2.7%	> 99%	38	
8 + 8 mm	1,800 x 4,200 mm	93%	2.7%	> 99%	39	
10 + 10 mm	1,800 x 4,200 mm	93%	2.7%	> 99%	40	
Custom Configurations	1,800 x 4,200 mm	93%	subject to composition	> 99%	subject to composition	
Double/Triple Glazing	1,800 x 4,200 mm	93%	subject to composition	> 99%	subject to composition	
Bullet Proof	1,800 x 4,200 mm	93%	subject to composition	> 99%	subject to composition	

(1) In accordance with the standard UNE-EN ISO 10140-2-2011 (2) Larger sizes of glass can be done upon request Warranties: DreamGlass® 5 Year Warranty | D-SAF® 3 Year Warranty



DREAMGLASS® BLACK TECHNICAL DATA

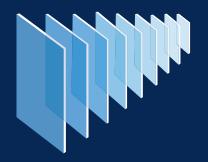
(AVAILABLE IN DREAMGLASS® SHUTTER, DESING, SMART BLIND, DYNAMIC SHUTTER, & D-SAF®)

PRODUCT TYPE	PHYSICAL, OPTICAL AND ACOUSTIC PROPERTIES					
	Max. Size	Transparency	Haze	UV Protection	db Rating Rw (1)	
4 + 4 mm	1,800 x 4,200 mm	19%	2.7%	> 99%	36	
5 + 5 mm	1,800 x 4,200 mm	19%	2.7%	> 99%	37	
6 + 6 mm	1,800 x 4,200 mm	19%	2.7%	> 99%	38	
8 + 8 mm	1,800 x 4,200 mm	19%	2.7%	> 99%	39	
10 + 10 mm	1,800 x 4,200 mm	19%	2.7%	> 99%	40	
Custom Configurations	1,800 x 4,200 mm	19%	subject to composition	> 99%	subject to composition	
Double/Triple Glazing	1,800 x 4,200 mm	19%	subject to composition	> 99%	subject to composition	
Bullet Proof	1,800 x 4,200 mm	19%	subject to composition	> 99%	subject to composition	
Double/Triple Glazing	1,800 x 4,200 mm	19%	subject to composition subject to	> 99%	subject to composition subject to	

(1) In accordance with the standard UNE-EN ISO 10140-2-2011 (2) Larger sizes of glass can be done upon request

Warranties: DreamGlass® 5 Year Warranty | D-SAF® 3 Year Warranty





DREAM GLASS GROUP

est. 2005

HEADQUARTERS

dreamglassgroup.com - info@dreamglassgroup.com - +34 91 658 4245 Calle Cañada 15, Paracuellos de Jarama, 28860 - Madrid - Spain

U.A.E. BRANCH

dreamglassgroup.com - infouae@dreamglassgroup.com - Tel: +971 455 40 345 / +971 455 40 455 Jumeirah Lake Tower, Office 2305 Building JBC 5 - P.O. Box 337125 - Dubai