



# The World **No.1** Switchable Film & Glass Manufacturer

Magic Film / Magic Glass / Magic SF  
(PDLC Film & Glass)

DMDISPLAY is the world leading switchable film and glass manufacturer which is one of the oldest companies in PDLC industry. Since DMDISPLAY was established in 1998, we have never stopped investing on R&D facility and new films to further enhance stability and quality. Currently, we export our products to more than 40 countries through our valuable partners and distributors.

DMD supplies various types of PDLC products such as Magic Film (MF), Magic Glass (MG), Magic Self-adhesive Film (SF) and Magic Super Clear Film (SCF) with a cutting-edge switchable and privacy solution that changes from clear and opaque states on demand and provides freely control over the amount of light, privacy and heat that enters a space.

Our accumulated know-how, continued investment in research and development allow us to provide the best products and service to our partners and distributors all around world.

## Magic Glass / Magic Film / Magic SF Applications & Features

**Residential & Hospitality** - Apartment interior, hotel room partition, bathroom / bedroom privacy panel, external windows, doors, conference center windows & roof-lights, bar & restaurant screens, toilet cubicles, balconies.

**Commercial** - Office & boardroom partition screens, doors, sliding/folding doors, car windows, roof-lights.

**Train & Monorail** - Monorail window, Train partition, driver privacy & security screens.

**Security** - Cell doors and windows, vision panels, entrance foyer, teller & cash counting screens.

**Industrial** - LCD testing Machinery screening, roof-lights, doors, components.

**Retail & Showroom** - Projection windows, vanity screens, feature screens.

**Projection & Interactive** - Internal or External high resolution rear projection screens, touch screen, etc.

**Healthcare** - Fire rated hospital doors, moveable privacy screens, and X-Ray protection screens.

## Why DMDisplay?



### Highest Quality Product (Professional R&D and QC system)

We have our own professional R&D department and the experienced QC team to test and check the products. We are firmly convinced that we have the best technology, durability and constructing know-how for various applications.

### Our Team (Abundant Experience & Professionalism)

DMDisplay has engaged in PDLC industry for more than 14 years and conducted trade with more than 40 countries for now. With the abundant experience and professionalism, DMDisplay works closely with our distributors and clients to offer a complete range of customized solutions from planning stage and consultancy to turnkey projects.

### Various Options (Various Types & Colors)

A constant investment on R&D makes DMDisplay be able to supply various functional films and glasses such as diverse transparency, colors, self-adhesive film, multi-applications and energy-saving films to customers.

### Shorter Lead Time

It becomes more and more important to deliver the product to our customers within shorter period as the market size expands. The biggest coating facilities, short turnover and flexible production system makes DMDisplay supply products to our customers faster than any other company. DMD offers the quickest turnaround to your project in any region of the world within 10 business days from the order confirmation.

# 주거용 인테리어 Residential Interior

거실, 베란다 창호, 현관, 샤워실 등  
Living Room, Veranda Window, Entrance, Shower Booth

## Living Room

거실 혹은 붙어 있는 방의 파티션으로 사용하여 개방성(공간이 넓어 보이는 효과), 독립성(독립적인 공간으로의 활용 가능)을 함께 누릴 수 있습니다. 또한 빔프로젝터 설치 후 파티션에 영상만으로 손쉽게 홈씨어터를 구성할 수 있습니다.

As having Magic Glass in the living room you can easily enjoy both openness and private space. Also, it can be used as a screen for a home theatre for a customer who has a beam projector.



## Shower Booth

샤워실 혹은 화장실의 파티션이나 도어로 사용하여 원할 때 프라이버시를 지켜줄 수 있는 기능적인 역할을 합니다. 또한 매직글라스는 접합유리로 되어 충격에 의한 관통이 없고, 파편의 비산이나 낙하가 없는 안전한 유리입니다.

Magic Glass is used for a partition in a shower booth or a toilet so that it makes the place be functional and stand out.





## Window

프라이버시가 필수인 아파트, 단독주택 등의 외창의 경우 밖에서 안이 들여다 보이는 경우가 많습니다. 매직글라스 혹은 SF로 손쉽게 공간의 밝기는 유지하면서 외부로부터 보여지는 것을 막아줍니다. 특히 자외선이 99% 이상 차단되기 때문에 창 내부가 안 좋은 자외선에 의해 영향 받는 것을 막아줍니다.

Magic Glass helps keep privacy as maintaining certain amount of intensity of light. Also, both Magic Glass and SF block more than 99% of UV which is harmful to body and belongings inside.



## Kitchen

부엌과 거실 등의 파티션으로 사용되어 조리 중에 투명하게 혹은 불투명하게 하여 사용할 수 있고, 또 식사 중에는 불투명하게 하여 깔끔한 공간에서 식사할 수 있습니다.

Magic Glass allows people to have dynamic spaces.

## 호텔·사무실 Hotel & Office

호텔, 빌딩외벽, 백화점, 대형 음식점, 쇼윈도,  
사무실파티션, 회의실, 상황실 등

Hotel, Building Exterior, Department Store,  
Restaurant, Show Window, Conference Room



### Hotel

최근 해외 및 국내에서 호텔 등의 고급 숙박 장소에 매직글라스의 사용이 트렌드화 되고 있습니다. 제한적일 수밖에 없는 파티션을 유기적으로 사용함에 따라 공간활용과 고급화를 극대화합니다.

It is popular to use Magic Glass in Hotel and other accommodations to maximize space and privacy. Also, the application of Magic Glass brings a feeling of exclusivity as well as high-end technology.

### Conference Room & Meeting Room

정부기관, 대기업을 비롯해서 각종 상황 관제실 및 임원실에 사용되고 있으며, 일반적으로 영상화면 표출 및 투명/불투명 제어는 통합콘트롤 시스템과 연계하여 운용하기도 합니다.

Many people want to have Magic Glass or SF(Selfadhesive Film) in a situation room and meeting room of government or major companies. Especially, the product is controlled by an integrated control system.





### Exhibition & Shops

전시장이나 상점 등에도 제품을 더 돋보이게 하거나 광고를 하기 위한 목적으로 사용됩니다.

DMD switchable MG & SF is widely used to make a product look better at an exhibition and a shop.



### Pattern

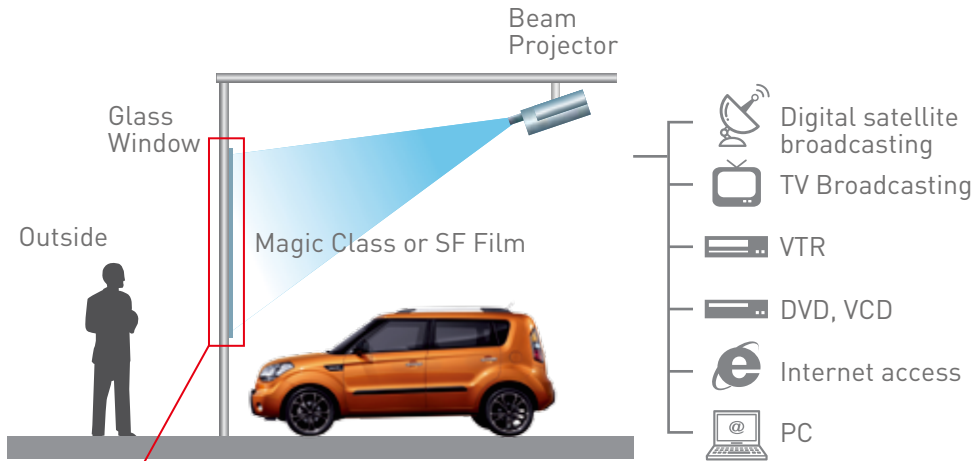
패턴 연출을 통해 첨단매장의 느낌과 시선을 사로잡을 수 있습니다.

Pattern System for Eye-catch



# 스크린 & 인터랙티브 Screen & Interactive

Landmark Building, Show Window, Conference Room, Shops



Day - Transparent mode for seeing through inside a store

Night - Opaque mode for Advertising



건물 내부에 빔프로젝터를 설치 후 매직글라스나 SF에 투사하면 바깥쪽에서 선명하게 보이는 후면주사방식 스크린(Rear Screen)으로 사용 가능

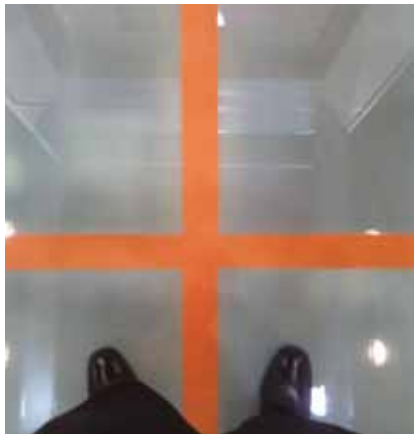
As using a projector from inside, people can see the image from outside of the building.



## Advertising

자동차 매장, 핸드폰 매장, 가전매장 등에서 광고의 목적으로 사용하며, 낮에는 투명하게 하여 매장 안이 보일 수 있게 하고 어두워지면 커다란 광고판으로 사용 가능합니다.

SF(Self-adhesive Film) and Magic Glass are used for advertising purpose at various showrooms of car, electric products and so on.



## Interactive

터치스크린, 모션센서 등과 같은 interactive로 사용

SF and Magic Glass can be used as various interactive screens such as touch screen and motion sensor functions.



## 다양한 적용 Various Applications



DMDisplay는 PDLC분야 세계시장 1위인 회사로서, 국내 뿐만 아니라 해외에 수많은 적용사례를 보유하고 있습니다. 다양한 기업들과의 협업을 통한 사례들은 디엠디스플레이 홈페이지(<http://www.dmdisplay.com>) 또는 회사로 문의를 주시면 확인하실 수 있습니다.

DMDisplay which is the leading company in PDLC market has lots of references all over the world. You can easily see some of video clips and photos on our website([www.dmdisplay.com](http://www.dmdisplay.com)).

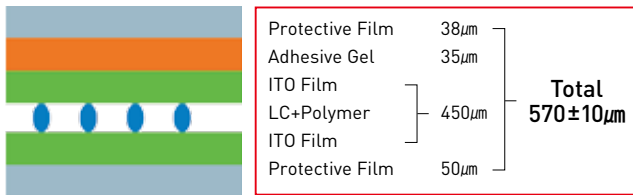


## Magic Self-adhesive Film (SF)

기존유리를 교체하기 힘든 경우 유리 위에 SF를 붙임으로써 동일하게 On/Off 효과를 낼 수 있습니다.

A switchable sticky film can be easily applied to an existing glass transforming it into a switchable window, projection screen, or interactive store front display.

### Magic Self-adhesive Film Structure



## Magic Super Clear Film (SCF)

일반 MF보다 투과도가 더 높고 불투과도는 약간 낮아서 건물 외창이나 차량유리 등에 사용할 수 있습니다.

A switchable film that has better transparency than normal PDLC film enables you to have better view at ON(transparent) status while its OFF(opaqueness) is lower to allow users to keep a certain view for safety and to avoid cramped feeling. Magic Super Clear Film (SCF) is expected to be applied to car, train windows and exterior windows.

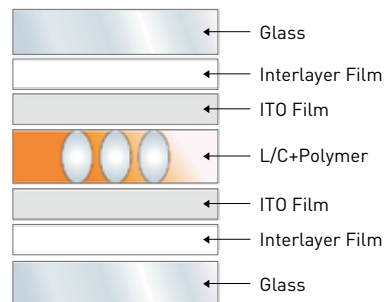
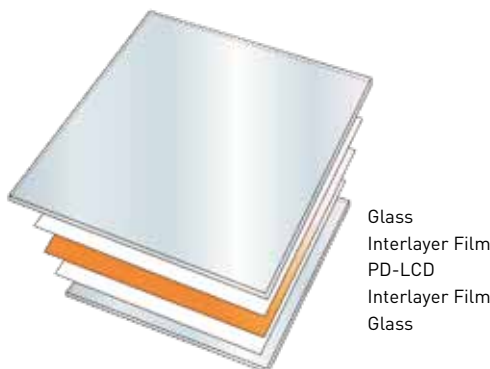


## Magic Glass (MG)

두장의 유리가 접합된 접합유리로서 가장 널리 사용되고 있으며, 신축 혹은 리노베이션 되는 공간에 주로 사용됩니다.

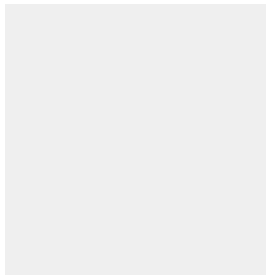
A Switchable laminated glass that features two panels of glass, two sheets of interlayer, and a DMD Magic Film. This laminated structure provides immense strength that won't shatter when damaged.

### Magic Glass Structure

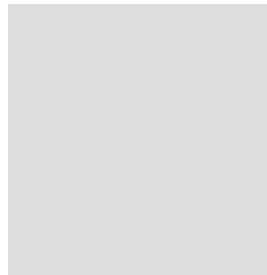




## 다양한 색상 Various Colors



Milky White



Light Gray



Dark Gray

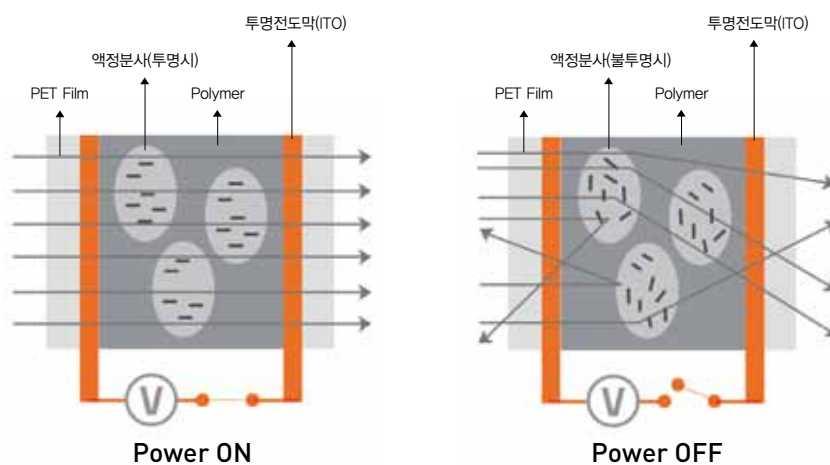
총 세 가지 색상의 필름을 제공함에 따라 설치 장소, 환경, 디자이너들의 선호에 따라 다양한 색상의 선택이 가능합니다. 더 다양한 색상과 기능성 필름들(단열필름, 거울효과 필름 등)이 출시 준비 중에 있습니다.

DMDisplay has three different colors of film, which makes our clients widen selection according to a usage, circumstance and designer's preference. Various colors and functional films are ready to be launched.

## 동작 원리 Principle

고분자와 액정을 Mixing하여 전기 무인가시 액정 분자가 무질서하게 되어 빛을 산란시켜 불투명하게 보이며, 전기를 인가함으로써 액정 분자가 전기 방향으로 정렬되어 빛을 통과시켜 투명하게 보이는 원리를 갖는 신기술 입니다.

When the electrical supply is switched on, the liquid crystal molecules align and incident light passes through and the Magic Film panel instantly clears. When the power is switched off the liquid crystal molecules are randomly oriented scattering light and the Magic Film panel becomes opaque.



**Power ON시** : 액정 분자의 배열이 규칙적이어서 빛이 투과되는 현상  
**Power OFF시** : 액정 분자의 배열이 불규칙적이어서 빛이 산란되는 현상

# 제품 사양 Technical Specifications

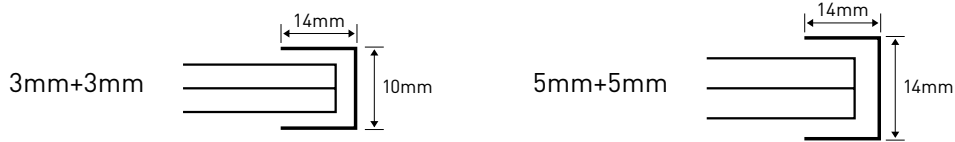
Description Product		Magic Film(MF)	Self-adhesive Film(SF)	Magic Glass(MG)	Super Clear Film(SCF) ※MF, SF and MG available	
Operating Mode	Power ON	Transparent				
	Power OFF	Opaque				
Specification	Maximum Size(Standard)	1500mm x 3000mm	1200mm x 3000mm	1500mm x 3000mm	1200mm x 3000mm	
	Thickness	450 ± 10 $\mu$ m	485 ± 10 $\mu$ m	7mm, 11mm, 13mm (standard)	Same as MF and SF	
		Available color	Milky White Gray	Milky White Gray	Milky White Gray	Dark Gray (Standard Color) Milky White (When MOQ is guaranteed)
	Transmittance(On mode)	78±1% 10±1	78±1% 10±1	78±1% 10±1	50±1% <sup>1)</sup> 21±1	79±1% 33±1
	Transmittance(Off mode)	10±1	10±1	10±1	10±1	33±1
	Haze(On mode)	2±0.5	2±0.5	2±0.5	2±0.5	2±0.5
	View angle	Applox. 150°				Applox. 165°
Electrical	Operating Temperature	-25°C to 75°C (-77°F to 167°F)				
	Operating Voltage	AC 110V ※The operating voltage could be lower according to a size of the film and a place of each busbar.				
	Frequency Range	50~60Hz				
	Power Consumption	About 4-5W/m <sup>2</sup>				
	Switching Speed	Less than 1 second (Off → On: about 100milliseconds   On → Off: about 400milliseconds)				
Additional Function	UV Block	More than 98% (SF & MG)				
	Dimming	Available				
	Rear projection screen	Available				

※ Any size under the maximum size is able to be customized.

※ <sup>1) 2)</sup> Actual transparency by eyes is better than the normal film. The lower number is only caused by the color.

## DMD Magic Glass Ordering

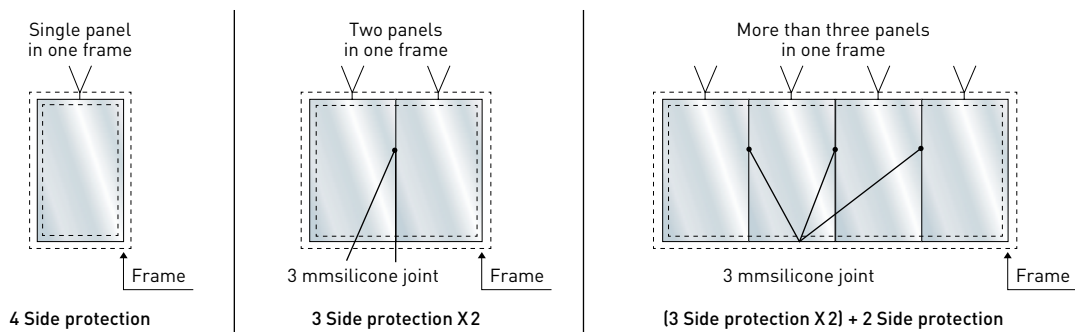
Please refer to the diagram below for the frame specifications. When ordering, note that the dimensions include those of the frame. (\* A different thickness is available.)



종류	4면 프로텍터	3면 프로텍터	2면 프로텍터
형상			
사용가능한 부위	내장 및 외장	내장만(물이 닿지 않는 장소)	

Lead Wire: The lead wire can be positioned at the center or side of Magic Glass (Switchable Glass) and has a standard length of 1m.

## DMD Magic Glass Installation



The installation site conditions and the type of frame that will be used must be considered in the installation of Magic Glass. (\* Various installation methods are applicable according to a circumstance.)

### Available Shapes





## FAQ

### □ 외장재로 사용 가능한가?

국내 건축법상 외장재로 쓰이는 유리의 두께는 최소 10mm인데 매직글라스의 두께는 10.5mm이므로 사용상의 문제가 없습니다.(6.5mm와 12.5mm도 있습니다.)

### Is Magic Glass suitable as an exterior finish?

The Korean Construction Code stipulates that exterior-finish glass must be at least 10mm thick. Magic Glass (switchable glass) is 10.5mm thick and can therefore be used as an exterior finish.

### □ 매직글라스(필름)을 설치하면 빛을 차단해 실내를 어둡게 할 수 있습니까?

어둡게 할 수 없습니다. 빛을 산란 시키므로, 안으로부터 밖, 혹은 밖에서 안이 보이지 않습니다만 밝기는 크게 변화하지 않습니다.

### Is Magic Glass or Magic Film capable of completely blocking out light?

No, it's not possible to make a room dark using Magic Glass or Magic Film. These products refract light to control transparency and opacity and do not therefore control the level of brightness.

※ 더 많은 FAQ는 홈페이지에서 확인 가능합니다.





## CONTACT

### 서울사무소

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### Factory / R&D

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