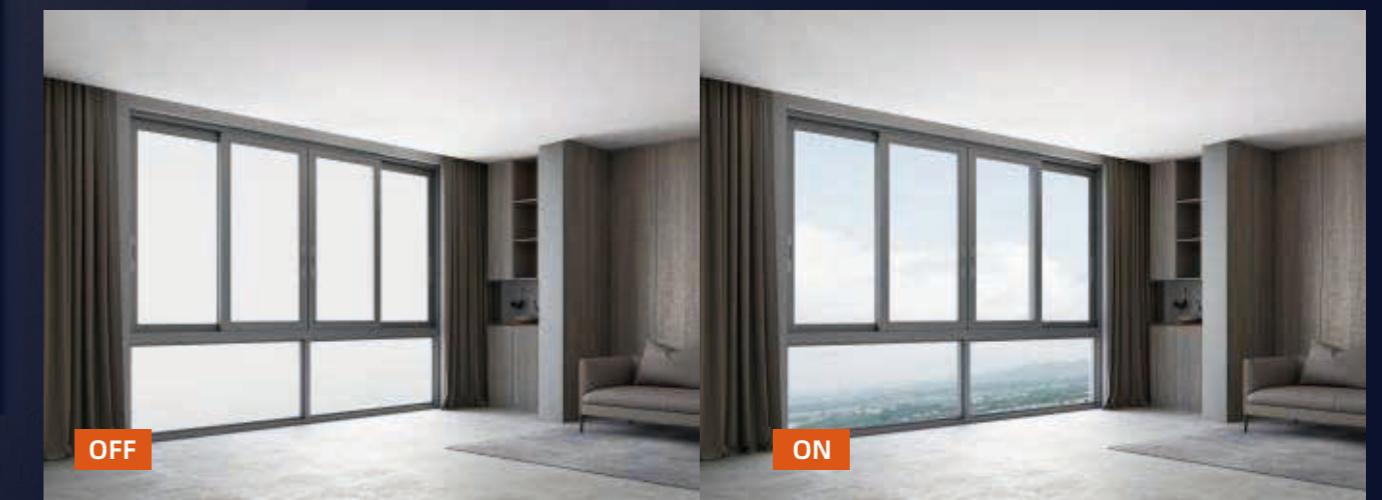


SMART FILM

Polymer Dispersed Liquid Crystal Smart films is commented the most advanced curtain today and future,designed new or retrofit an existing space for an instant upgrade, instantly switching from opaque to transparent for dynamic light control with a HD real projection function ,widely used in interior and architectural design, commercial center ,rail transportation, and even avant-garde industrial products.



Technical Principles

Smart Film

Smart film is a new type of electronic light control product. The electronically controlled smart film is a liquid crystal/polymer hybrid material injected in the middle of two transparent conductive films.

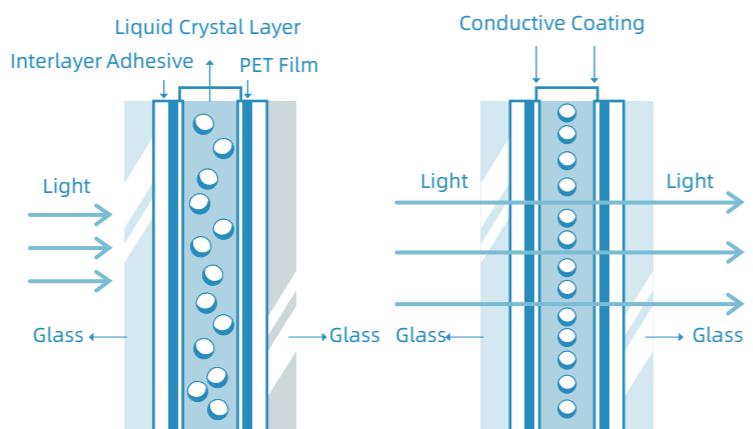
PDLC film in the absence of an electric field, the electronically controlled smart film is in an opaque state.

When an alternating current is applied, the liquid crystal molecules are arranged in an orderly manner, at which point the electrically controlled dimming film changes from an opaque state (OFF) to a transparent state (ON).

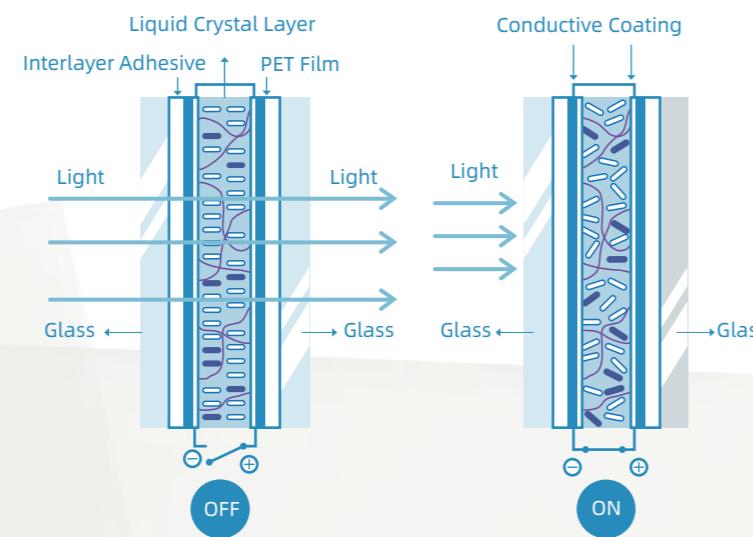
PNLC film different from normal PDLC smart film, the working principle of PNLC film is opaque-power on, clear power off.

The electric field enables a rapid transition from the ON state to the OFF state and from the OFF state to the ON state.

Smart film is usually applied to the surface of the glass or laminated between the glass layers, making the otherwise transparent glass, more possible.



PDLC

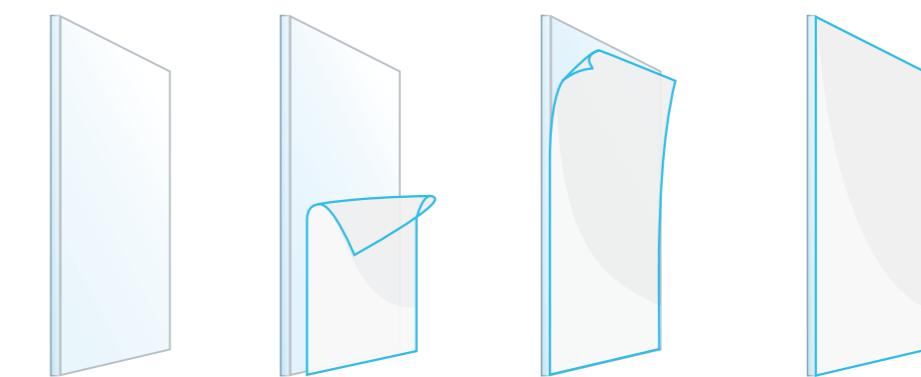


PNLC

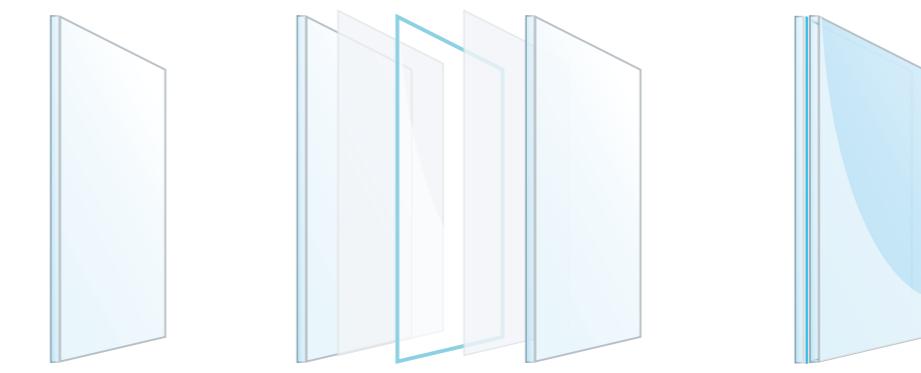
Two types

Smart Film

There are two types of Smart films, self-adhesive film and adhesive film for front-end design and post-retrofit projects.



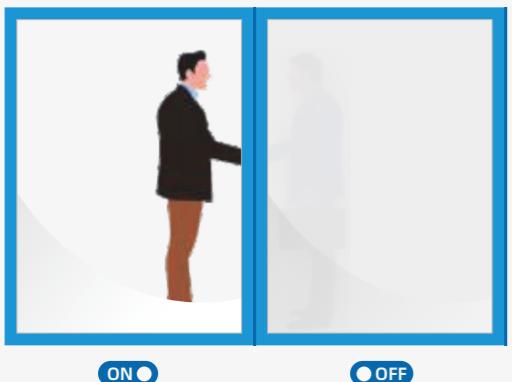
Self-adhesive Smart film



Laminated Smart film

Characteristics

Smart Film



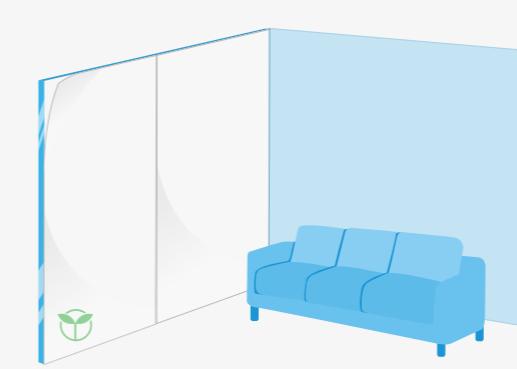
Privacy protection

To protect your privacy and security, you can control it to be transparent or opaque at any time. Make your space more malleable, choose open or private at will.



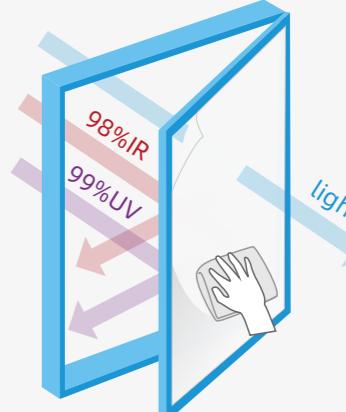
Security

Even if the glass is broken, the fragments can still be adsorbed on the PDLC film, which can avoid personal injury caused by broken glass.



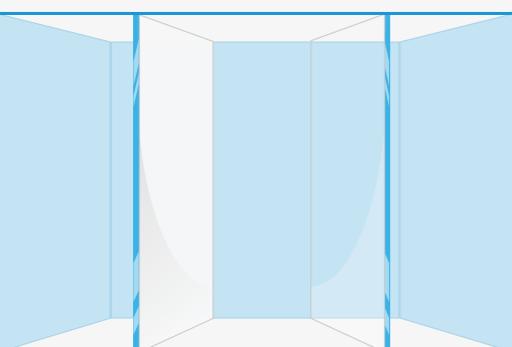
Environmental protection

The installation of PDLC film can effectively reduce the loss of decoration, which can better reduce pollution and protect the environment.



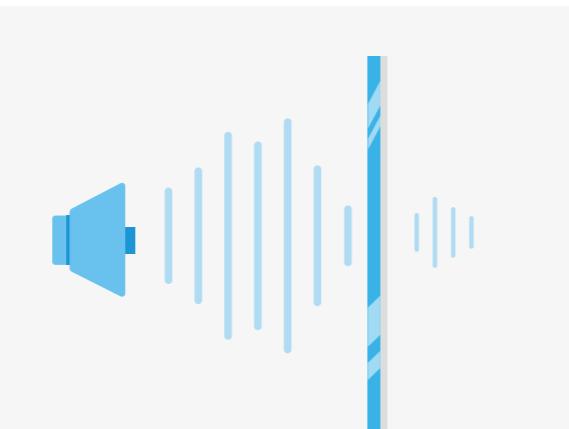
Heat-resistant and anti-scratch

The maximum operating temperature is 105°C, which allows the product to continue to operate at higher temperatures. The anti-scratch layer protects the surface of the product from daily scratches and does not affect the clarity of the product itself.



Space partition

With the use of PDLC film, glass partitions can easily differentiate between different spaces, making your three-dimensional space more malleable and versatile.



Anti-noise

Compared with ordinary glass, the anti-noise ability of glass using Filmbase PDLC film is increased by 20%.



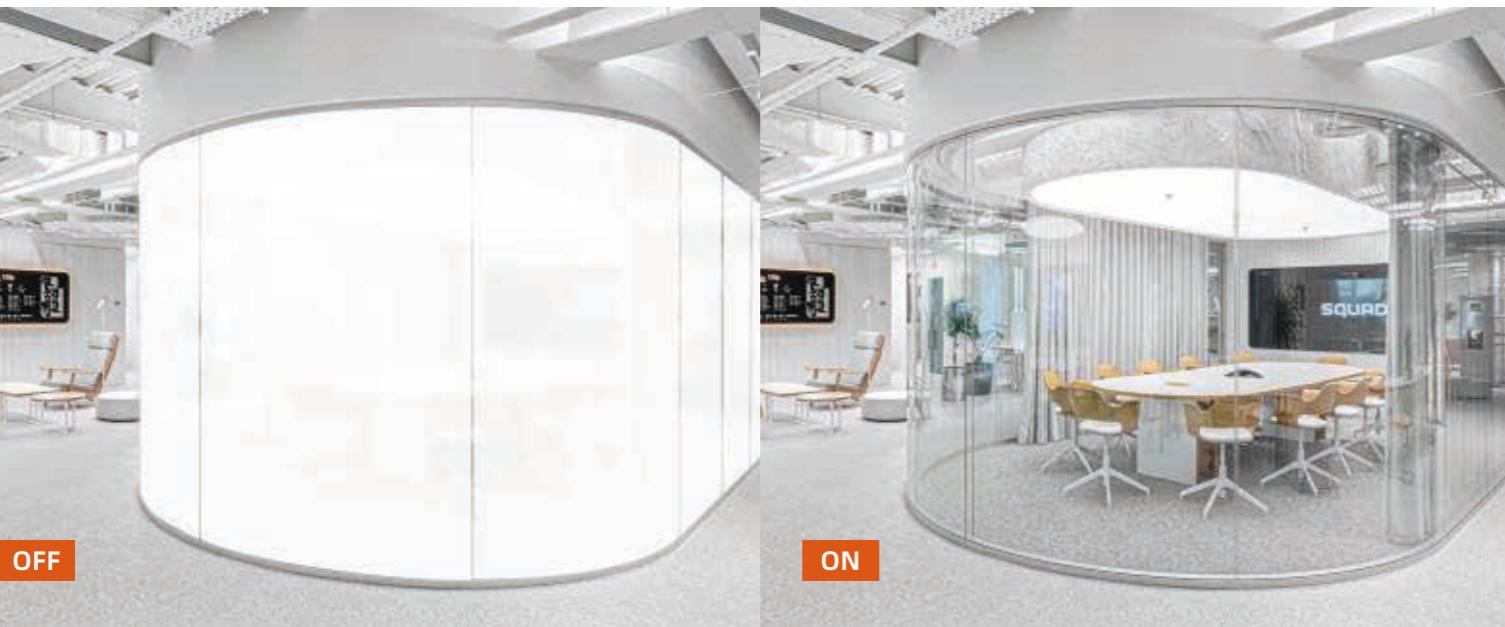
Touch screen and projection

Using a high-definition projector, it is easy to realize the viewing scene, with a viewing angle of 180°, 4K picture quality display effect, and with the radar can be multi-touch, video interaction.



Various control methods

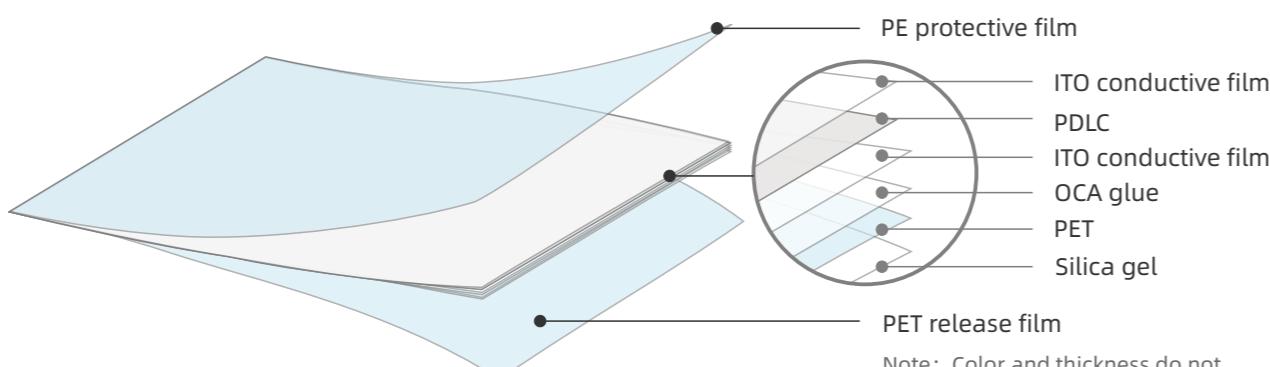
In order to meet your various needs, you can choose your preferred control method: remote control, wired control, infrared induction, voice control, mobile application, etc. In addition, an FM transformer can be selected to gradually change the film.



FILMBASE 091

FILMBASE 091 is the luxury PDLC film in the today market with 90%-92% transmittance, < 3% haze, which maximizes the clarity of the original glass and enhances privacy.

It is used in scientific research institutions, intelligence agencies, luxury villas, president's office, super 5-star hotels, Hollywood theaters, and other places that require ultra-transparency and absolute privacy.



Note: Color and thickness do not represent the actual situation, only for the convenience of illustration.

Size

FILMBASE 091

Items

Adhesive PDLC film	Total Thickness	0.47mm
	Cut to Sheet	Width 100-1800(mm)
		Length 100-50000(mm)
	Roll	Width 1200,1500,1800(mm)
Laminated PDLC film	Length	30meters /50meters
	Roll tube	Inner Diameter 6 inches
	Total Thickness	0.38mm
	Cut to Sheet	Width 100-1800(mm)
Laminated PDLC film	Length	100-50000(mm)
	Roll	Width 1200,1500,1800(mm)
	Length	30meters /50meters
	Roll tube	Inner Diameter 6 inches

Optical Parameter

FILMBASE 091

Items

Items	ON/OFF	Test Methods/Standards
Operating voltage	ON	60V Multimeter/ Voltage Regulator, WG
Power consumption	ON	$\leq 5W/m^2$ Multi-parameter electric measuring instrument
Viewing angle	ON	$\geq 160^\circ$ Visual Inspection
Uv blocking rate	OFF	$\geq 99\%$ Optical transmittance tester
Infrared blocking rate	OFF	$\geq 60\%$
Response time	OFF→ON ON→OFF	≤ 30 ms ≤ 200 ms Liquid crystal parameter integrated tester
Operating temperature	--	-30°C ~ 50°C constant temperature and humidity testing machine
Life-span	--	100000 Hours GB18910.5-2008
Switching times	--	≥ 2 million times Self-made on/off tester

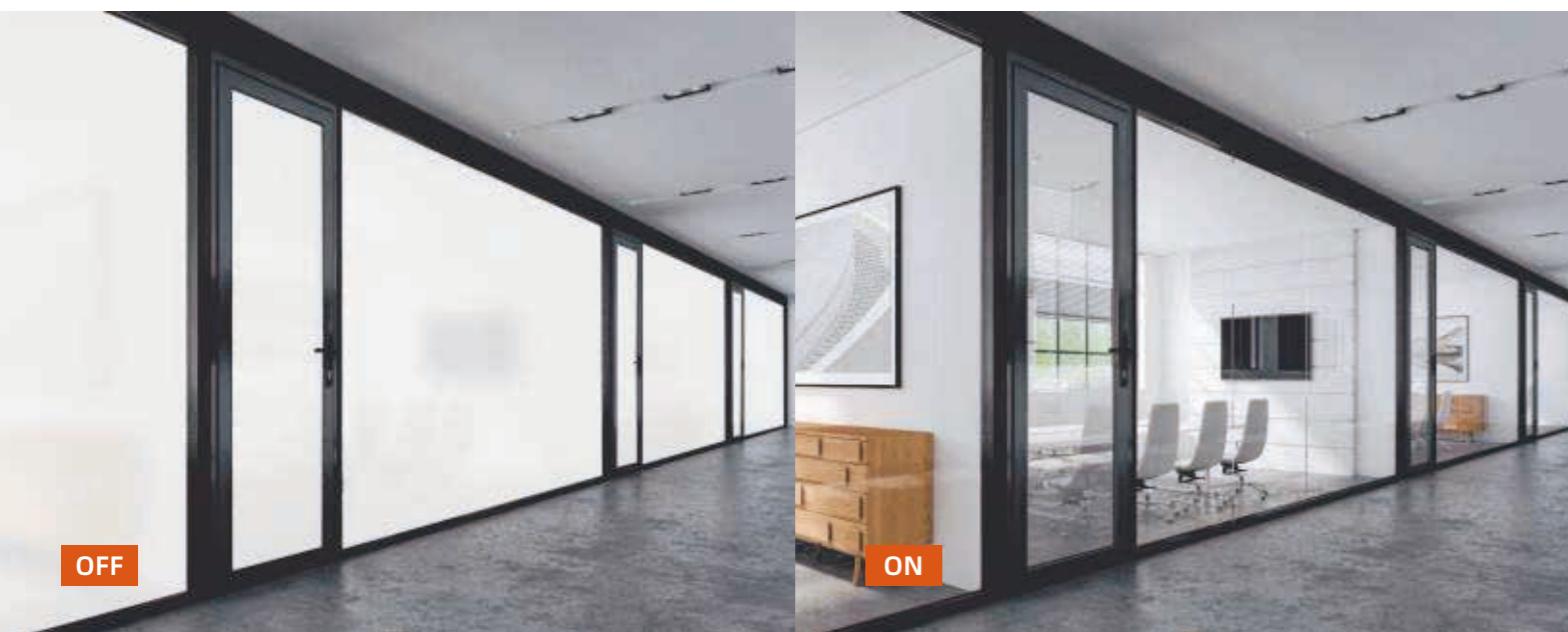
PDLC film is driven by AC power, colorless and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

Product Transparency / Haze

FILMBASE 091

Items

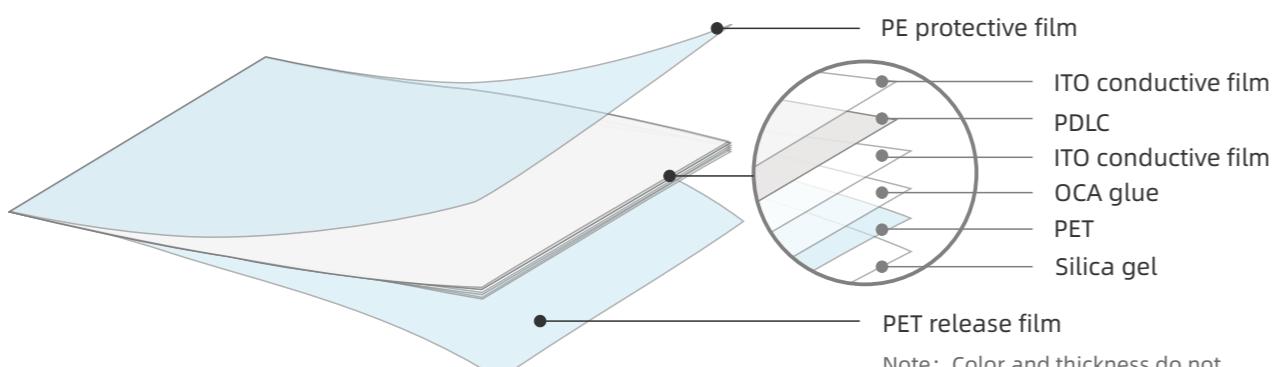
Items	Full light tester				Parallel light tester	
	ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
Adhesive PDLC film	OFF	94.5	85.0	7.57	/	/
	ON	4.53	91.0	5.29	60.0	88.0
Laminated PDLC film	OFF	94.5	85.0	6.79	/	/
	ON	4.53	91.0	4.31	60.0	88.0



FILMBASE 087

087 is Filmbase most hot sales item ,Super clear 87-89% Transmittance and nice 3-4% haze .

It is suitable for modern office partitions, space partitions, conference halls, museums, exhibition centers, star hotels, bars, shops, hospitals and other places that need to integrate the functions of transparency, privacy, partition and projection display.



Note: Color and thickness do not represent the actual situation, only for the convenience of illustration.

Size

FILMBASE 087

Items	Total Thickness	0.47mm
Adhesive PDLC film	Cut to Sheet	Width 100-1800(mm)
		Length 100-50000(mm)
	Roll	Width 1000,1200,1500,1800(mm)
Laminated PDLC film	Roll	Length 30meters /50meters
	Roll tube	Inner Diameter 6 inches
	Total Thickness	0.38mm
Laminated PDLC film	Cut to Sheet	Width 100-2100(mm)
		Length 100-50000(mm)
	Roll	Width 1000,1200,1400,1500,1800,2000,2100(mm)
	Roll tube	Length 30meters /50meters
		Inner Diameter 6 inches

Optical Parameter

FILMBASE 087

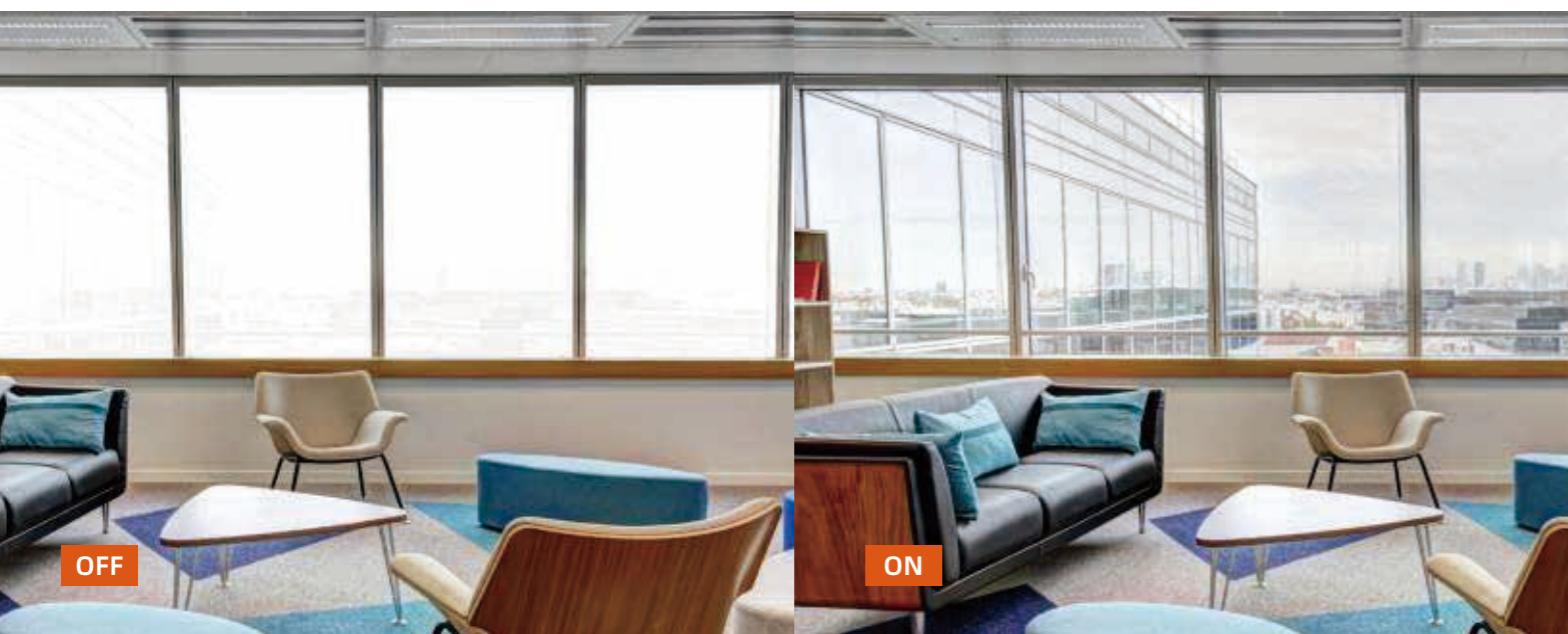
Items	ON/OFF	Test Methods/Standards
Operating voltage	ON	60V Multimeter/ Voltage Regulator,WGW
Power consumption	ON	$\leq 5W/m^2$ Multi-parameter electric measuring instrument
Viewing angle	ON	$\geq 160^\circ$ Visual Inspection
Uv blocking rate	OFF	$\geq 99\%$ Optical transmittance tester
Infrared blocking rate	OFF	$\geq 60\%$
Response time	OFF→ON	≤ 30 ms
	ON→OFF	≤ 200 ms
Operating temperature	--	-30°C ~ 50°C constant temperature and humidity testing machine
Life-span	--	100000 Hours GB18910.5-2008
Switching times	--	≥ 2 million times Self-made on/off tester

PDLC film is driven by AC power, colorless and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

Product Transparency / Haze

FILMBASE 087

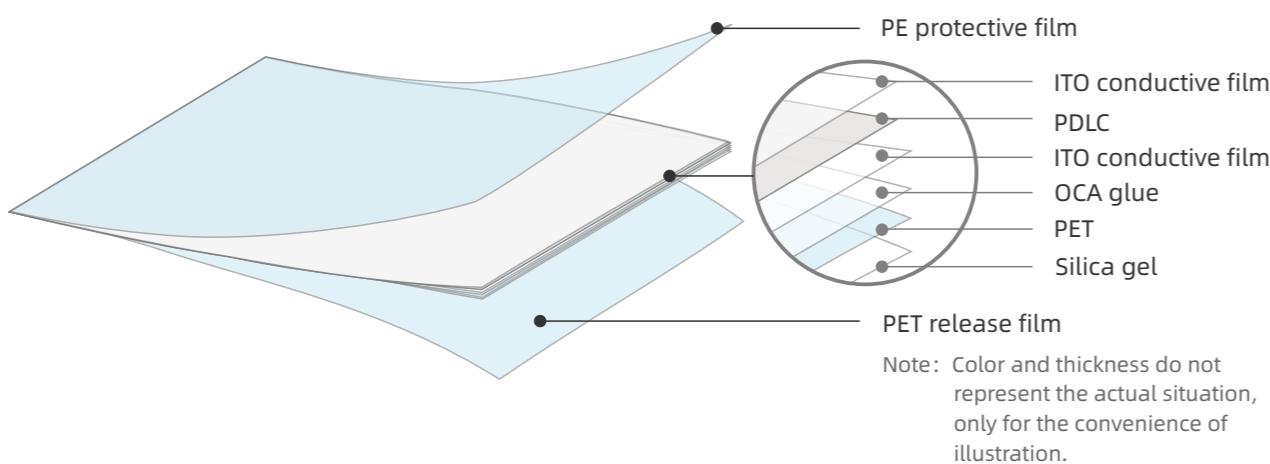
Items	Full light tester				Parallel light tester	
	ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
Adhesive PDLC film	OFF	94.5	78.0	6.95	/	/
	ON	4.53	88.0	4.71	58.0	86.0
Laminated PDLC film	OFF	94.5	78.0	5.9	/	/
	ON	4.53	88.0	3.72	58.0	86.0



FILMBASE 085

085 is Filmbase most cost effective item, Nice clear 84-86% Transmittance and nice 4-5% haze ,which is very welcome by the projects which does not request super high transparency and low haze applications.

It is suitable for modern office partitions, space partitions, conference halls, museums, exhibition centers, star hotels, bars, shops, hospitals and other places that need to integrate the functions of transparency, privacy, partition and projection display.



Size

FILMBASE 085

Items	Total Thickness	0.47mm
Adhesive PDLC film	Cut to Sheet	Width 100-1800(mm) Length 100-50000(mm)
	Roll	Width 1000,1200,1500,1800(mm) Length 30meters /50meters
	Roll tube	Inner Diameter 6 inches
Laminated PDLC film	Total Thickness	0.38mm
	Cut to Sheet	Width 100-2100(mm) Length 100-50000(mm)
	Roll	Width 1000,1200,1500,1800,2000,2100(mm) Length 30meters /50meters
	Roll tube	Inner Diameter 6 inches

Optical Parameter

FILMBASE 085

Items	ON/OFF	Test Methods/Standards
Operating voltage	ON	60V Multimeter/ Voltage Regulator,WGW
Power consumption	ON	$\leq 5W/m^2$ Multi-parameter electric measuring instrument
Viewing angle	ON	$\geq 160^\circ$ Visual Inspection
Uv blocking rate	OFF	$\geq 99\%$ Optical transmittance tester
Infrared blocking rate	OFF	$\geq 60\%$
Response time	OFF→ON ON→OFF	≤ 30 ms ≤ 200 ms Liquid crystal parameter integrated tester
Operating temperature	--	-30°C ~ 50°C constant temperature and humidity testing machine
Life-span	--	100000 Hours GB18910.5-2008
Switching times	--	≥ 2 million times Self-made on/off tester

PDLC film is driven by AC power, colorless and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

Product Transparency / Haze

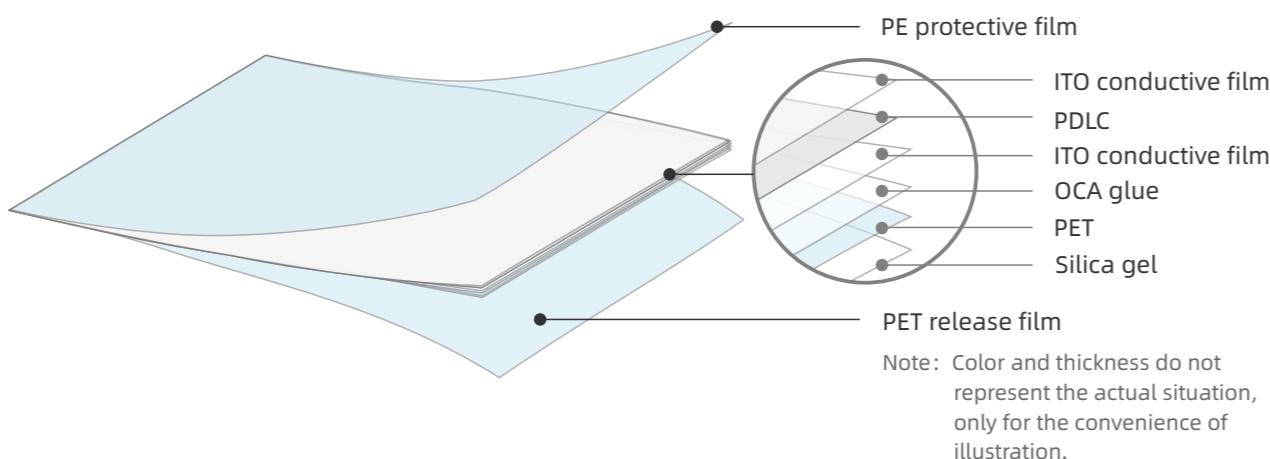
FILMBASE 085

Items	Full light tester				Parallel light tester	
	ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
Adhesive PDLC film	OFF	94.5	78.0	6.62	/	/
	ON	4.53	84.0	4.56	58.0	82.0
Laminated PDLC film	OFF	94.5	78.0	5.64	/	/
	ON	4.53	84.0	3.55	58.0	81.0



FILMBASE Warrior

Filmbase Warrior series PDLC film is designed for high temperature application, Such as large-scale architectural curtain walls, outdoor partitions, glass balconies, outdoor swimming pool fences etc.



Size

FILMBASE Warrior

Items

Adhesive PDLC film	Total Thickness	0.47mm
	Cut to Sheet	Width 100-1500(mm)
		Length 100-50000(mm)
	Roll	Width 1200,1500(mm)
		Length 30meters /50meters
	Roll tube	Inner Diameter 6 inches

Optical Parameter

FILMBASE Warrior

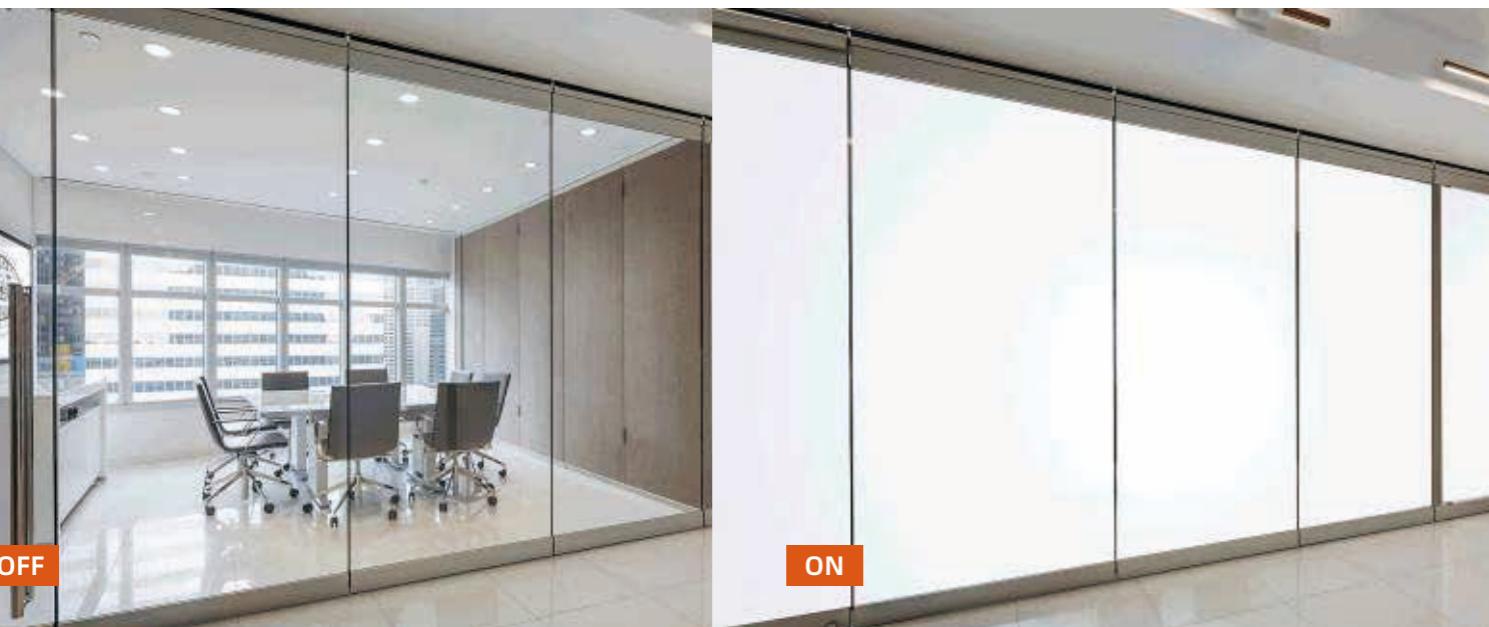
Items	ON/OFF	Test Methods/Standards
Operating voltage	ON	60V Multimeter/ Voltage Regulator,WGW
Power consumption	ON	$\leq 5W/m^2$ Multi-parameter electric measuring instrument
Viewing angle	ON	$\geq 160^\circ$ Visual Inspection
Uv blocking rate	OFF	$\geq 99\%$ Optical transmittance tester
Infrared blocking rate	OFF	$\geq 60\%$
Response time	OFF→ON ON→OFF	≤ 30 ms ≤ 200 ms Liquid crystal parameter integrated tester
Operating temperature	--	-30°C ~ 90°C constant temperature and humidity testing machine
Life-span	--	100000 Hours GB18910.5-2008
Switching times	--	≥ 2 million times Self-made on/off tester

PDLC film is driven by AC power, colorless and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

Product Transparency / Haze

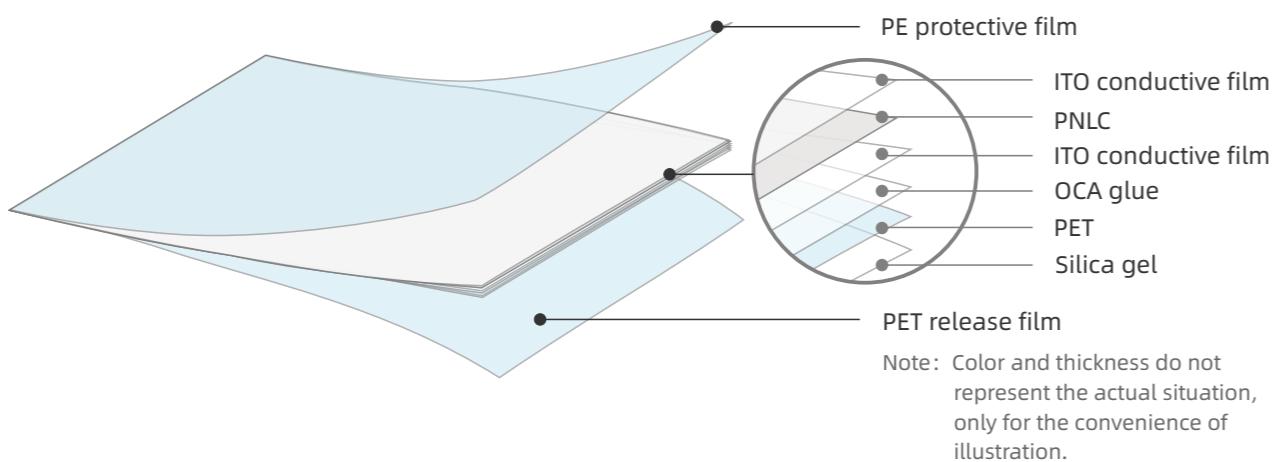
FILMBASE Warrior

Items	Full light tester				Parallel light tester	
	ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
/	OFF	94.5	78.0	5.93	/	/
	ON	4.53	83.5	3.77	58.0	81.0



FILMBASE Reverse

Filmbase Reverse film is a special transparent liquid crystal film, can be sandwiched in the glass or adhesive on the glass, become opaque when power on, can be widely used in space partition, electronic products, automotive fields, can be sandwiched into the glass or Adhesive onto the exited glass.



Size

Items

Adhesive PNLC film	Total Thickness	0.37mm	FILMBASE Reverse
	Cut to Sheet	Width 100-1400(mm)	
		Length 100-50000(mm)	
	Roll	Width 1200,1400(mm)	
Laminated PNLC film	Length	30meters /50meters	FILMBASE Reverse
	Roll tube	Inner Diameter 6 inches	
	Total Thickness	0.28mm	
	Cut to Sheet	Width 100-1400(mm)	
Laminated PNLC film		Length 100-50000(mm)	FILMBASE Reverse
	Roll	Width 1200,1400(mm)	
	Length	30meters /50meters	
	Roll tube	Inner Diameter 6 inches	

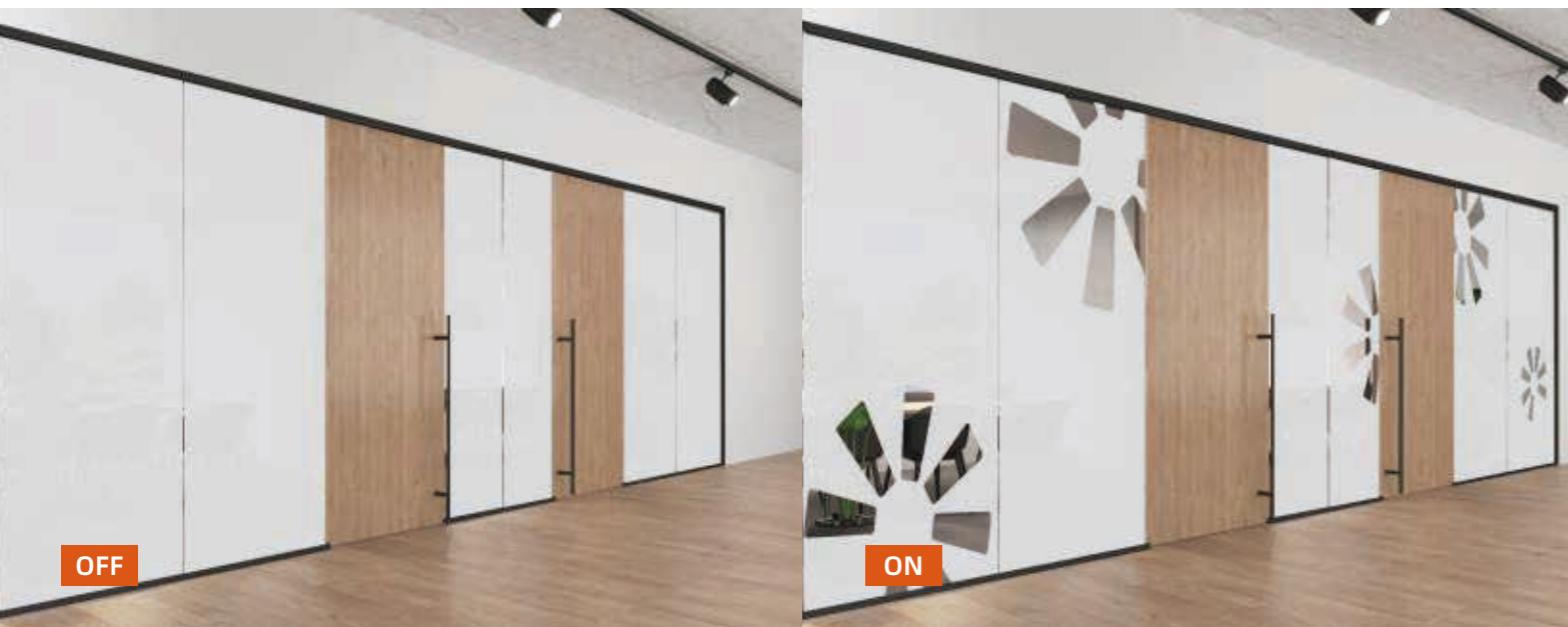
Optical Parameter

Items	ON/OFF	Test Methods/Standards
Operating voltage	ON 60V	Multimeter/ Voltage Regulator, WG
Power consumption	ON avg 4-6/m ²	Multi-parameter electric measuring instrument
Viewing angle	OFF ≥ 160°±1	Visual Inspection
Uv blocking rate	ON ≥ 85%	Optical transmittance tester
Infrared blocking rate	ON ≥ 60%	
Response time	OFF→ON ≤ 200 ms ON→OFF ≤ 220 ms	Liquid crystal parameter integrated tester
Operating temperature	-- -30°C ~ 50°C	constant temperature and humidity testing machine
Life-span	-- 100000 Hours	GB18910.5-2008
Switching times	-- ≥ 2 million times	Self-made on/off tester

PNLC film is driven by AC power, fogged and translucent when power is added, colorless and transparent when power is removed, and its photoelectric performance is shown in the table above.

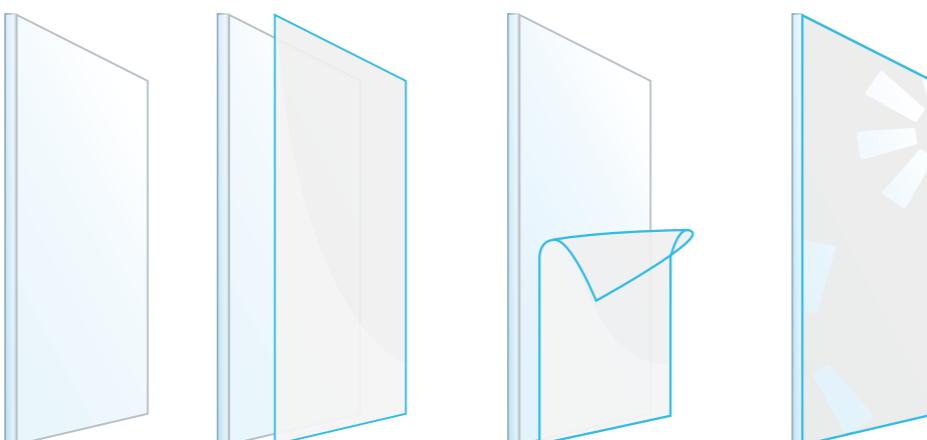
Product Transparency / Haze

Items	Full light tester				Parallel light tester	
	ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
Adhesive PNLC film	OFF	7	90.0	3.85	80.0	85.0
	ON	92	88.0	4.42	/	19.0
Laminated PNLC film	OFF	7	90.0	1.71	80.0	85.0
	ON	92	88.0	1.84	/	19.0



FILMBASE Limited edition

Limited edition is Filmbase luxury customized series, which allow etching content inside the smart film , such as company logo, slogan, products, art paintings, pictures etc. , All contents can be switchable automatically. Can be sandwiched into the glass or Adhesive onto the existed glass to click to privacy.



Size

FILMBASE Limited edition

Items	Total Thickness	0.47mm
Adhesive PDLC film	Cut to Sheet	Width less than 1500
		Length less than 1500
Laminated PDLC film	Total Thickness	0.38mm
	Cut to Sheet	Width less than 1500
		Length less than 1500

Optical Parameter

FILMBASE Limited edition

Items	ON/OFF	Test Methods/Standards
Operating voltage	ON	60V Multimeter/ Voltage Regulator, WGW
Power consumption	ON	$\leq 5W/m^2$ Multi-parameter electric measuring instrument
Viewing angle	ON	$\geq 160^\circ$ Visual Inspection
Uv blocking rate	OFF	$\geq 99\%$ Optical transmittance tester
Infrared blocking rate	OFF	$\geq 60\%$
Response time	OFF→ON ON→OFF	≤ 30 ms ≤ 200 ms Liquid crystal parameter integrated tester
Operating temperature	--	-30°C ~ 50°C constant temperature and humidity testing machine
Life-span	--	100000 Hours GB18910.5-2008
Switching times	--	≥ 2 million times Self-made on/off tester

Product Transparency / Haze

FILMBASE Limited edition

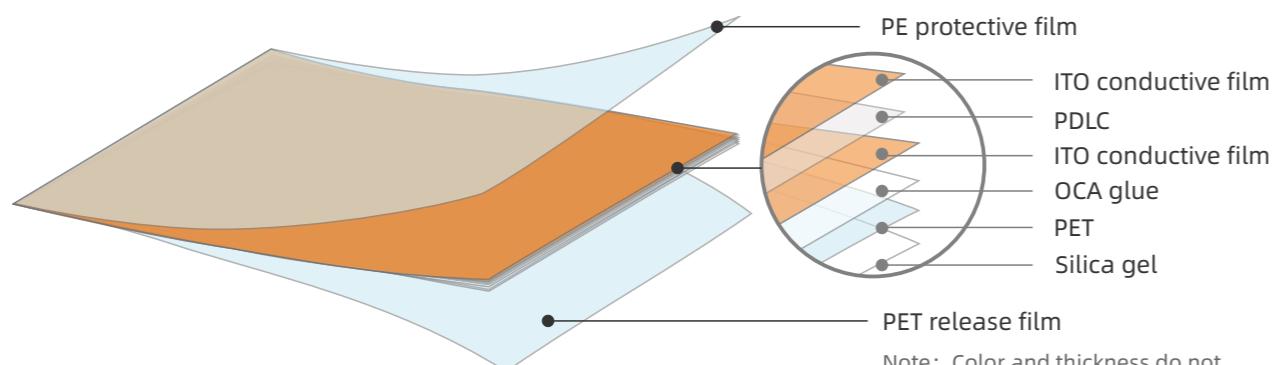
Items	Full light tester				Parallel light tester	
	ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
Adhesive PDLC film	OFF	94.5	78.0	6.95	/	/
	ON	4.53	88.0	4.71	58.0	86.0
Laminated PDLC film	OFF	94.5	78.0	5.9	/	/
	ON	4.53	88.0	3.72	58.0	86.0



FILMBASE Colorful

Filmbase Colorful PDLC film is designed for the application where need different colors such as gray, black, red, green, blue or other colors.

Warmly welcomed by art centers, kindergartens, supermarkets, theme restaurants, places that need diversified design can be sandwiched into the glass or Adhesive onto the exited glass to click to privacy.



Note: Color and thickness do not represent the actual situation, only for the convenience of illustration.

Size

Items

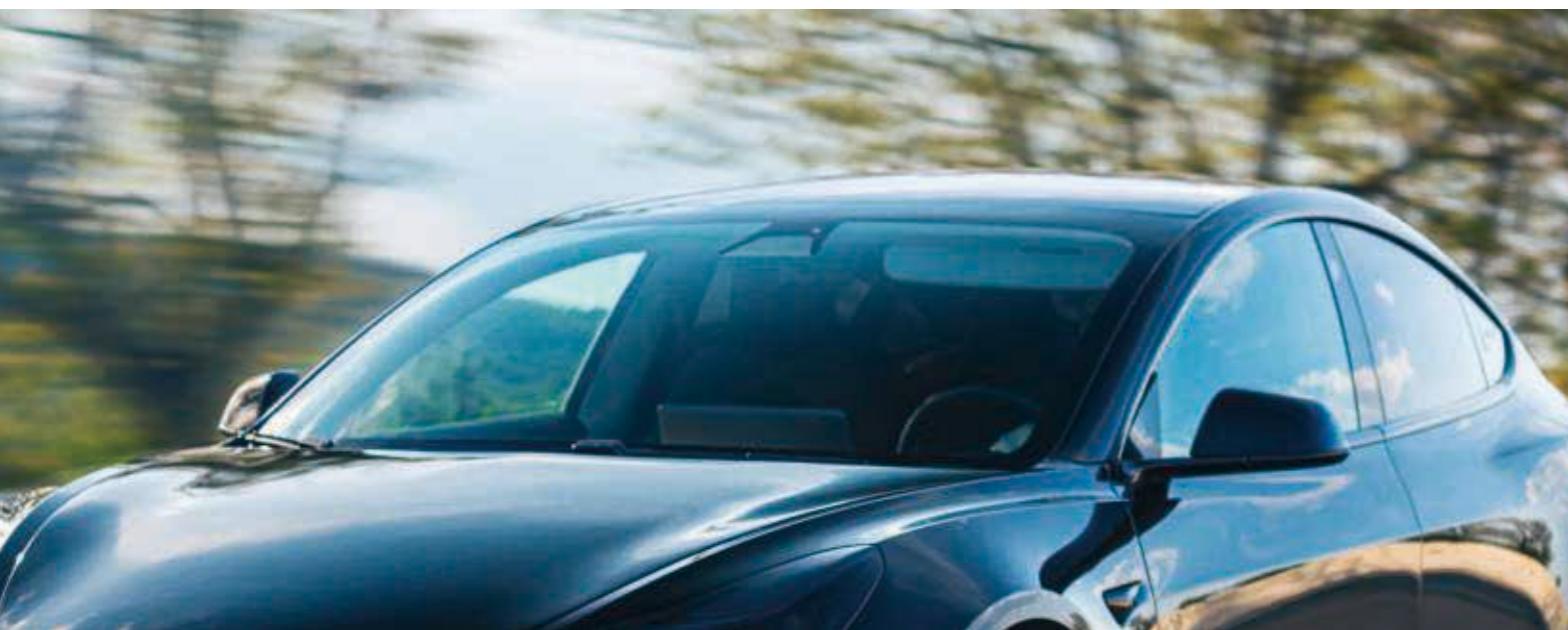
Gray adhesive PDLC film	Total Thickness	0.47mm
	Cut to Sheet	Width 100-1800(mm) Length 100-50000(mm)
	Roll	Width 1200,1500,1800(mm) Length 30meters /50meters
	Roll tube	Inner Diameter 6 inches
Gray laminated PDLC film	Total Thickness	0.38mm
	Cut to Sheet	Width 100-1800(mm) Length 100-50000(mm)
	Roll	Width 1200,1500,1800(mm) Length 30meters /50meters
	Roll tube	Inner Diameter 6 inches
Other colors adhesive PDLC film (black,blue,green,orange,red)	Total Thickness	0.54mm
	Cut to Sheet	Width 100-1500(mm) Length 100-50000(mm)
	Roll	Width 1500(mm) Length 30meters /50meters
	Roll tube	Inner Diameter 6 inches

FILMBASE Colorful

Optical Parameter

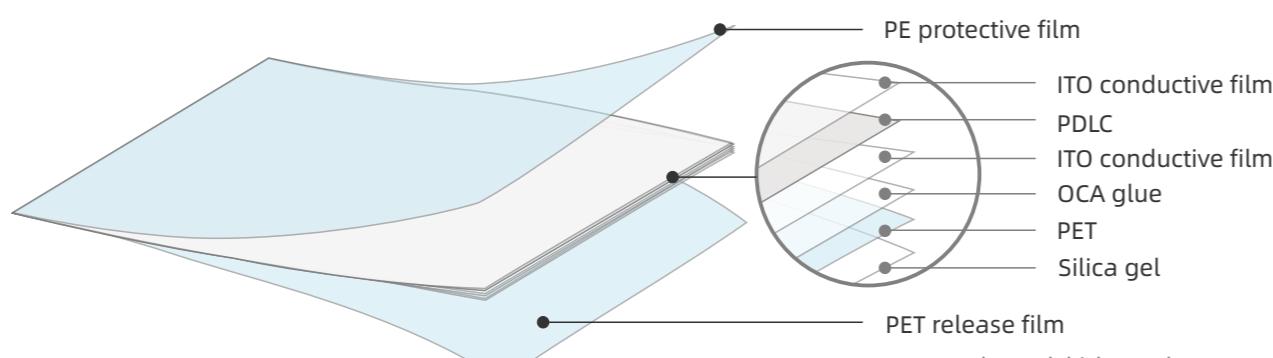
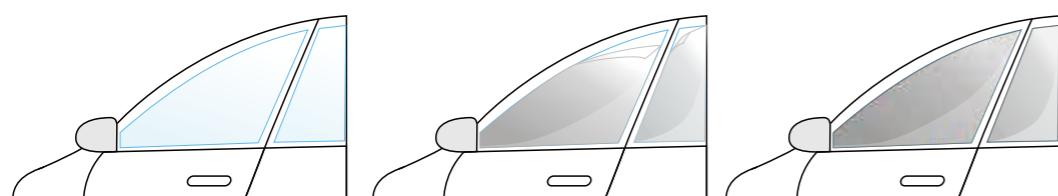
FILMBASE Colorful

Items	ON/OFF	Test Methods/Standards
Operating voltage	ON	60V Multimeter/ Voltage Regulator,WGW
Power consumption	ON	$\leq 5W/m^2$ Multi-parameter electric measuring instrument
Viewing angle	ON	$\geq 160^\circ$ Visual Inspection
Uv blocking rate	OFF	$\geq 99\%$ Optical transmittance tester
Infrared blocking rate	OFF	$\geq 60\%$
Response time	OFF→ON ON→OFF	≤ 30 ms ≤ 200 ms Liquid crystal parameter integrated tester
Operating temperature	--	-30°C ~ 50°C constant temperature and humidity testing machine
Life-span	--	100000 Hours GB18910.5-2008
Switching times	--	≥ 2 million times Self-made on/off tester



FILMBASE Auto Smart Film

Auto smart film is a smart film product developed by our company on the basis of the first generation of smart film, using special substrates and wide temperature liquid crystal materials, and specially developed for automotive use conditions.



Note: Color and thickness do not represent the actual situation, only for the convenience of illustration.

Product Size

Auto smart film

Items	Total thickness (without protective film)		0.13mm
Thickness	PDLC		0.12mm
	Silica gel		0.01mm
	PE protective film		130μm
	PET release film		50μm
Sheet	Width		1200,1500 ¹ *mm
	Length		According to customer requirements
Roll	Width		1250,1500 ² *mm
	Length		≤ 50m/Roll
Roll tube	Inner Diameter		6 inches

Note*: This width is the actual size, the width of the calculated area is 1200,1500, mm

Photoelectric Performance

Auto smart film

Items	ON/OFF	Test Methods/Standards
Operating voltage	ON	60V
Power consumption	ON	≤ 5W/m ²
Viewing angle	ON	≥ 160°
Uv blocking rate	OFF	≥ 99%
Infrared blocking rate	OFF	≥ 82%
Response time	OFF→ON	≤ 30ms
	ON→OFF	≤ 200ms
Operating temperature	--	-30°C ~ 95°C
Lifetime	--	10 - 15 years
Switching times	--	≥ 100 ten thousand Times

Auto smart film is driven by AC power, gray and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

Product Transparency / Haze

Auto smart film

Operating ambient temperature	透度	Full light tester			Parallel light tester	
		ON/OFF	Haze	Full light transmittance	b value	45° light
/	/	OFF	94.2	51.19	5.24	/
		ON	2.94	56.43	3.2	38.4



LED FILM

Widely used in glass curtain wall, show case display, advertising media, space decoration, partition decoration, home design, landscape lighting, commercial display, functional signage and so on.



About LED Film

LED film creates innovation, vitality and beauty into the existing glass curtain wall, window, guardrail, shopping mall, exhibition hall. Its HD transparency features a dynamic digital identity while retaining natural light. This revolutionary technology turns buildings and spaces into immersive media platforms that showcase real-time information, artwork and advertising. From commercial buildings to cultural centers, they can be self-pasted, hung, or sandwiched-between glass displays, integrating with the environment and creating eye-catching focal points everywhere.



Adjustable high brightness

With different pixel density, conventional $3000\text{cd}/\text{m}^2$, highlight $5000\text{cd}/\text{m}^2$; customized $>7000\text{cd}/\text{m}^2$.



Crop stitching

The signal is transmitted in a straight line to ensure that the screen can be cut and spliced.



Ultra thin

The LED are hidden, and the conventional front and rear flat films are $<2.5\text{mm}$. Ultra-thin customized front and rear flat film $<1.5\text{mm}$.



High transparency

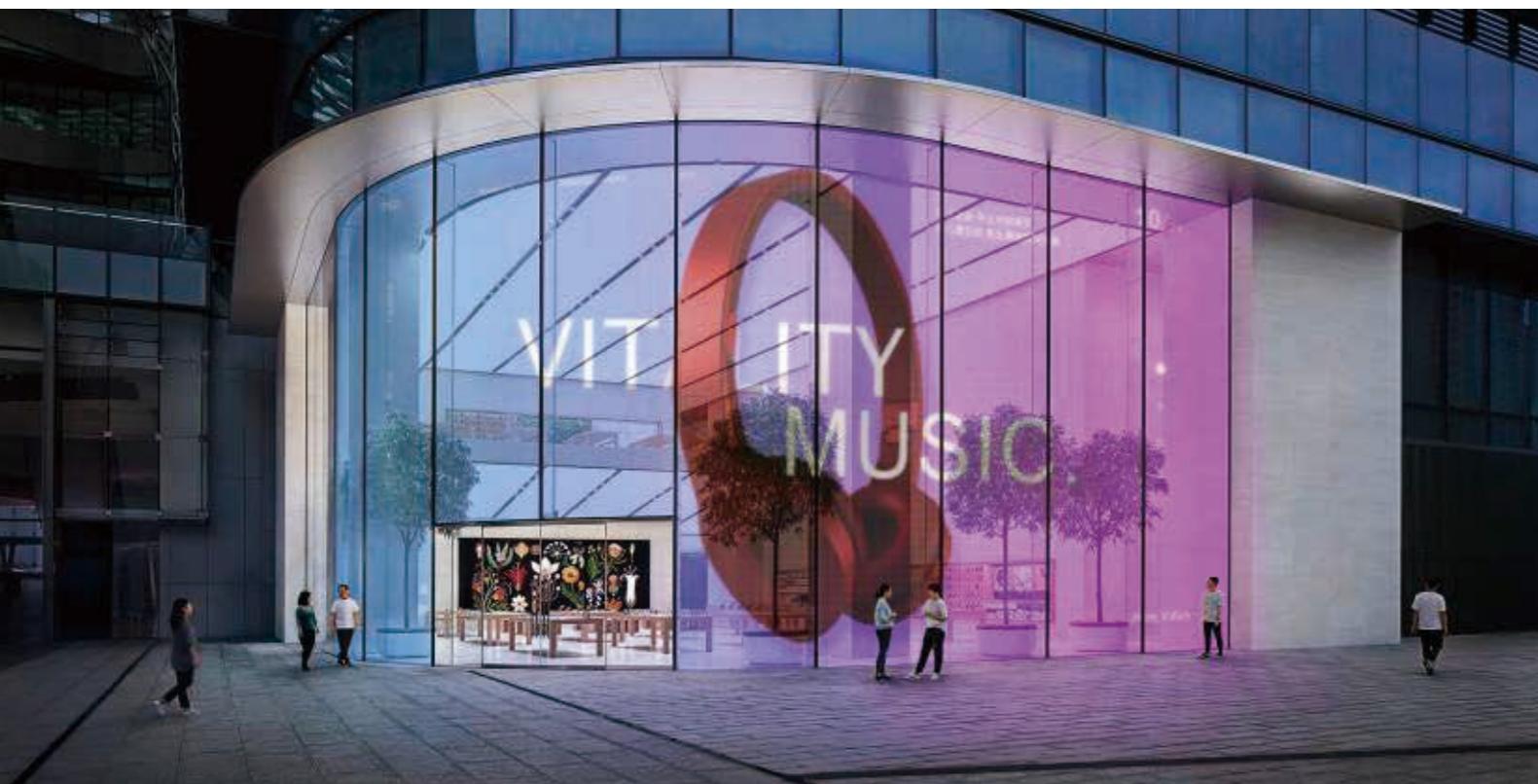
About 50-90% physical transparency with different point spacing, and a reasonable viewing distance of 99% visual transparency.



Non-destructive repair

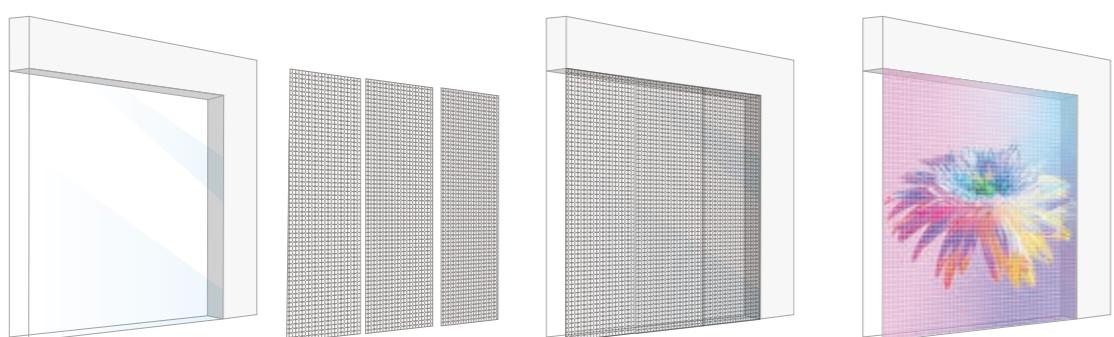
The surface protective film can be replaced at any time to ensure that the screen is brand new at any time, and the bad film that cannot be repaired on site can be directly replaced with a new film.





Holographic invisible display

The high-definition transparent feature adds a dynamic display effect while preserving natural light. This revolutionary technology transforms buildings and spaces into immersive media display platforms for real-time information, artwork and advertising. From commercial buildings to cultural centers, Filmbase invisible displays, which can be self-adhesive or suspended, blend in with the city.



Product Model

FILMBASE Holographic invisible display

Products	Invisible 01	Invisible 02	Invisible 03	Invisible 04	Invisible 05
Pitch	P3.9	P4.9	P5.9	P7.9	P10
Screen brightness (nits)	0~5000	0~5000	0~5000	0~5000	0~5000
Visual transparency	≥90%	≥90%	≥95%	≥95%	≥95%
Pixel pitch	4×4mm	5×5mm	6×6mm	8×8mm	10×10mm
Module	W240×H≤1500	W240×H≤1500	W240×H≤1500	W240×H≤1500	W240×H≤1500
Pixel density	62500	40000	27556	15625	10000
Best view distance	≥4m	≥5m	≥6m	≥8m	≥10m
Viewing angle	≥160°	≥160°	≥160°	≥160°	≥160°
Average square power	230W	230W	230W	230W	230W
Maximum square power	650W	650W	650W	650W	650W

Product Model

FILMBASE Holographic invisible display

Products	Invisible 06	Invisible 07	Invisible 08	Invisible 09
Pitch	P16	P20	P30	Consultation Customization
Screen brightness (nits)	0~4000	0~3000	0~1200	Consultation Customization
Visual transparency	≥95%	≥98%	≥98%	Consultation Customization
Pixel pitch	15×15mm	20×20mm	30×30mm	Consultation Customization
Module	W240×H≤1500	W240×H≤1500	W240×H≤1500	Consultation Customization
Pixel density	4356	2500	1089	Consultation Customization
Best view distance	≥15m	≥20m	≥30m	Consultation Customization
Viewing angle	≥160°	≥160°	≥160°	≥160°
Average square power	230W	160W	100W	Consultation Customization
Maximum square power	650W	480W	260W	Consultation Customization

Technical Parameters

FILMBASE Holographic invisible display

Pixel size	1R1G1B	Control method	mobile phone/computer
Pixel packing	1515 / 2020	Support video	Internal storage/U disk/synchronization
Color uniformity	±0.003	Screen material	Flexible substrate + organic resin
Grayscale level	65536 levels	Working temperature	-20~50°C
Brightness adjustment	32-bit current gain	Storage temperature	-40~70°C
Drive method	Static state	Working humidity	10-90%
Refresh rate	3840	Storage humidity	5-95%