Explore the Benefits of DimGlass®

DimGlass® transforms spaces with innovative smart glass technology and sleek designs. Our products provide on-demand privacy, UV protection, and energy efficiency, allowing for versatile and stylish environments. With dedicated customer service, we ensure that each project meets our clients' unique needs, creating functional and aesthetically pleasing spaces.

Maximize Natural Sunlight: Enjoy abundant natural light while benefiting from UV protection and infrared blockage.

Reduce Energy Costs: Lower your air conditioning expenses with effective heat insulation.

Instant Privacy Control: Switch between privacy and transparency effortlessly using your mobile device, motion sensors, and more.

Innovative Technology and Project Development: Experience cutting-edge privacy glass technology that enhances your space.

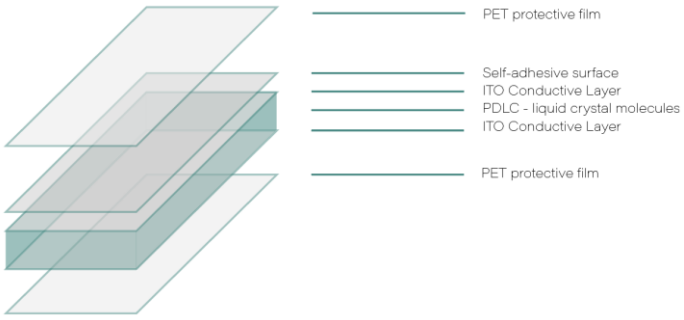
DimGlass® Features

- **On-Demand Privacy:** Protect your privacy with the ability to switch between transparent and opaque states at your convenience. Enhance your personal space by choosing between openness and privacy effortlessly.
- **Touch to Projection:** Achieve outstanding image quality on the smart film using an HD projector.
- **Safety and Security:** In the event of breakage, glass fragments adhere to the film, minimizing injury risk from shattered glass.
- **Cooling and UV Protection:** Experience effective heat insulation by blocking over 98% of infrared radiation. Additionally, more than 99% of UV rays are blocked, safeguarding your interior furnishings from fading and aging, while also protecting your skin from UV damage.
- **Sound Insulation:** Compared to standard glass, our smart film offers a 20% improvement in soundproofing capabilities.
- **Multiple Control Options:** Tailor your experience with various control methods, including remote control, wired control, infrared induction, voice control, and mobile app integration, to meet your diverse needs.

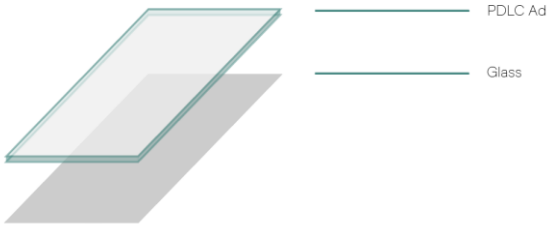
Product Structure

Key Components of PDLC Smart Film

- **Clear PET (Polyethylene Terephthalate) Film:** This layer protects and encloses the PDLC solution while ensuring maximum transparency.
- **ITO (Indium Tin Oxide) Film:** This conductive layer not only maintains transparency but also facilitates the safe passage of current to the more complex layers of the smart glass.
- **PDLC (Polymer Dispersed Liquid Crystal) Core:** The core component that enables the switchable functionality between transparent and opaque states.



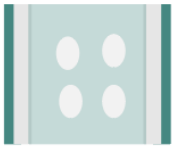
PDLC Adhesive Smart Film Diagram



PDLC Adhesive Light Transmission Diagram

Working principle Diagram

When the power is turned off, the
ıid crystal molecules become disordered,
ulting in a foggy appearance of the smart
energy film.



When the power is activated, the
liquid crystal molecules align in an
orderly fashion, causing the smart film to
become transparent.

Installation

Main tools

- For tool preparation, gather a spray bottle, scraper, glue gun, scraping cutter, ruler, windshield washer fluid, adhesive tape, self-adhesive paper, and cleaning cloth.

Installation Process

➔ **Preparation:**
- Remove the smart film from its packaging.
- Ensure the smart film is in an energized state.
- Verify the smart film dimensions against the provided glass size specifications or drawings.
- Clean the installation environment and grooves thoroughly.

➔ **Cleaning the Installation Area:**
- Carefully clean the ground and surrounding area; spray a fine mist in the air to minimize dust and avoid construction debris.
- Clean the grooves around the installation site meticulously.

➔ **Cleaning the Glass:**
- Evenly spray windshield washer fluid on the installation area to perform a preliminary cleaning of the glass, then wipe off the fluid.
- Apply windshield washer fluid again and use a scraping cutter to gently scrape the surface and edges of the glass.
- Repeat scraping several times to remove any bumps, dirt, and glue residue from the glass surface.
- Clean the glass one or two more times as needed to ensure it is completely clean.

➔ **Applying the Smart Film:**
- Open the smart film vertically.
- Position the section of the film labeled "FIRST STEP" onto the glass, pre-locating it, and secure it temporarily with adhesive tape.
- After confirming the correct position, carefully tear off a portion of the release film from the top down along one side.

➔ **Final Positioning:**
- Remove the positioning tapes and verify the film's position once more before proceeding to stick it down.
- Use a scraper to firmly adhere the smart film to the glass.

➔ **Simultaneous Removal:**
- As you apply the smart film, simultaneously remove the hard-coated film to ensure a smooth installation process.

➔ **Impurity Management:**
- Mark any impurities that appear during the installation.
- Use a blade, adhesive tape, or similar tools to remove these impurities.

➔ **Connecting Busbars and Wires:**
- Bond the wires onto the copper mesh.
- Use a knife to trim any excess copper mesh.
- Apply transparent insulating tape over the busbar area to secure the connections.

➔ **Final Touches:**
- Wipe the glass surface dry with a cleaning cloth.
- Soak a cleaning cloth in alcohol and use it to clean any dust from the adhesive side of the smart film.

➔ **Testing:**
- Check that the smart film powers on and off correctly.

➔ **Sealing:**
- After installation, seal the edges of the smart film to ensure a secure fit.

Post-Installation Guidelines

➔ **Handling the Glass:**
- Do not move the glass for at least 3 days after the installation of the smart film.

➔ **Cleaning Restrictions:**
- Avoid cleaning the filmed glass with water for 15 days following installation.
- Refrain from using suction cups or adhesives to hang, fix, stick, or decorate any objects on the filmed glass.

➔ **Cleaning the Film Surface:**
- Spray anhydrous alcohol or acetone evenly on the film surface.
- Use a clean, soft cotton cloth or cleaning cloth to gently dry the glass.
- Alternatively, a clean, soft cloth dipped in anhydrous alcohol or acetone can be used to scrub stains directly.

➔ **Removing Glue Residue:**
- Similar to the previous step, use a clean, soft cotton cloth dipped in acetone to gently scrub the contaminated area to remove any glue residue from the installation process.

➔ **Cleaning Precautions:**
- Do not use any hard graters, brushes, or cloths containing grains of sand to clean the filmed glass.

PDLC Adhesive and Non-Adhesive Film: Key Features

Customizable Options: Depending on client preferences, the PDLC adhesive film can be customized into different types, such as:

- ➔ **Standard Dynamic Light Control:** The ability to switch between opaque and transparent states gives users significant control over light and privacy. This feature is particularly beneficial in office settings, where meeting rooms can be made private at the touch of a button, facilitating a more adaptable work environment.
- ➔ **LOGO Film:** This option incorporates branding elements directly into the film, making it ideal for commercial spaces. Businesses can display their logos or other branding graphics, enhancing visibility and brand identity while maintaining functionality.
- ➔ **Blinding Film:** This variant allows for creative designs, such as displaying patterns or half-covered glass. It can also feature moving patterns across the glass, providing a dynamic visual effect that can enhance the aesthetic appeal of a space.
- ➔ **Multiple Transparency Levels:** The film is available in various transparency options, including high (85%), ultra (95%), and dark gray. This flexibility allows clients to choose the level of privacy and light diffusion that best suits their needs.
- ➔ **Reversed Film:** Unlike traditional PDLC films that become opaque when electricity is turned off, the reversed film operates in the opposite manner. It remains transparent when powered off and becomes opaque when electricity is applied. This unique feature offers flexibility in privacy control, allowing users to choose when to obscure visibility.

Standard Film

Reversed Film

LOGO Film

Blinding Film

Disclaimer for Ultra Film

Regarding our Ultra Film product. Please take note of the following important information regarding its performance:

- ➔ **Shielding Performance:** When the film is in the "off" state, it provides 4% less shielding compared to other films. Specifically, while other films offer 99% shading, the Ultra Film provides 95% shading when closed.
- ➔ **Light Transmittance:** This film boasts the highest light transmittance available. Under normal circumstances, the shielding performance of this film is effective, even in direct sunlight, as shown in our promotional images.

- **Reflective Conditions:** It's important to note that under certain conditions, such as strong sunlight reflecting off external walls or objects, the shielding performance of this film may appear slightly diminished compared to other films.

Customer Satisfaction: If you find that the Ultra Film does not meet your expectations due to its shielding characteristics, we recommend considering an alternative film that provides almost full shading. However, please be aware that the transmittance of these alternative films may not match that of the Ultra Film.

Product General Specs: PDLC Film Self-adhesive

Product name	PDLC Adhesive
Working mode:	Power ON: transparent — Power OFF: opaque
Color	Milky white, Dark grey (other colors are available)
Thickness	0.4mm
Width	1000mm、1200mm、1500mm，1850mm (can be customized within the size range)
Length	0-60m (can be customized within the size range)
IR Reflective	15%
UV Block	99%
driving voltage	60V (AC50/60HZ)
Current	0.08A/㎡
Power consumption	5W/㎡
Light transmittance	95+%
Viewing angle	>160°
Response speed	<0.02s
Operating life	>80,000,00 (switching times)
Service life	>80000 hours
Switching Time	ON-OFF 10ms OFF-ON 150ms
Switching Times	≥2 million Times

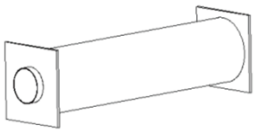
Product name	PDLC Adhesive
Working Temperature	-30℃— 90 ℃
Storage Temperature	-20℃— 90 ℃

Product Parameters: PDLC Film Self-adhesive

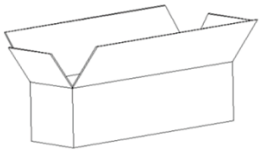
Item		Mode	Unit	Tolerance	Specification
Optical performance	VLT	ON	%	±2	95%
		OFF	%	±2	65%
	Haze	ON	%	/	≤ 2
		OFF	%	/	>96%
	View Angle	ON	°	/	>160°
Electrical performance	Working voltage	ON	AC/V	/	48/60 (50/60HZ)
	Response Time	ON to OFF	ms	/	≤ 200
		OFF to ON	ms	/	≤ 10
	Power Consumption	ON	W/m2	/	<4
Heat Shrinkage	TD	/	%	/	≤0. 1
	MD	/	%	/	≤0.4
Status		ON	/	/	Clear
		OFF	/	/	Opaque
Thickness		/	μm	±10	490
Color difference ΔE (reflection)		OFF	CIELAB	/	≤2.5
Hard Coating Hardness		/	H	/	>2.0
Silicon Peeling force			g		10
Peel Strength			N/25mm	±0. 1	0.5
UV Rejection			%		99%
Working Temperature		/	℃	/	−30 ~ 100℃
Storage Temperature		/	℃	/	−20 ~ 90℃
Storage Humidity		/	%	/	20% ~ 60%
Controller					DimGlass dedicated remote power supply

Packaging

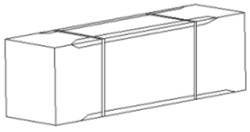
Step 1: Roll the film onto the PVC cylinder and wrap it with Expandable Polystyrene (EPS) for protection.



Step 2: Install wooden boards at both ends of the PVC cylinder to suspend the film in the air, preventing it from directly pressing against the floor and causing damage.



Step 3: Once properly placed and installed, place the assembly into cartons.



Step 4: Wrap a paper shell around the edges to avoid corner wear, and reinforce it with tape.

Packaging Specifications

Adhesive Roll Film Carton Package				
NO.	Film size		Package	
	Width	Length (mm)	Size (mm)	Weight (kg)
1	1000	50000	1250*390*390	52
2	1200	50000	1450*390*390	64
3	1400	50000	1650*390*390	68
4	1500	50000	1750*390*390	74
5	1800	50000	2100*390*390	84