

GiCor PDLC - Switchable Film

GiCor lodging projects ltd.

LEADING SUPPLIER OF WINDOW
COVERINGS AND MOTORIZED SHADING
SYSTEMS INCLUDING BLINDS, SHADES,
DRAPERY, EXTERIOR SHADING,
SWITCHABLE FILM, SECURITY ROLL
SHUTTERS, DESIGN, PROCUREMENT AND
A COMPLETE RANGE OF AUTOMATION
SOLUTIONS



GiCor PDLC & DLC Switchable Films

Smart window film is applied topically to existing glass & windows to change from clear to opaque on demand. Once seen on the Jetsons as futuristic, Switchable Window Film is the latest and greatest product that can change from clear to an opaque state, providing the ultimate in UV, heat & privacy control. For more than a decade, switchable glass technology has been utilized for commercial, residential, transportation, healthcare and government applications. Now you can achieve this functionality using a topical film applied to any glass surface using a patented new technology called PDLC.

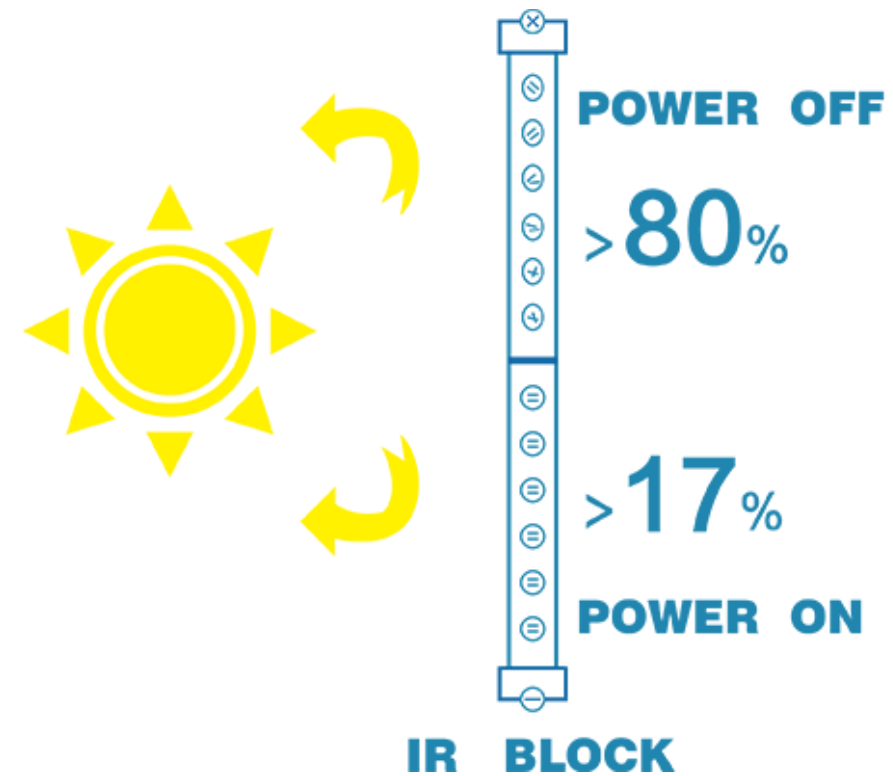
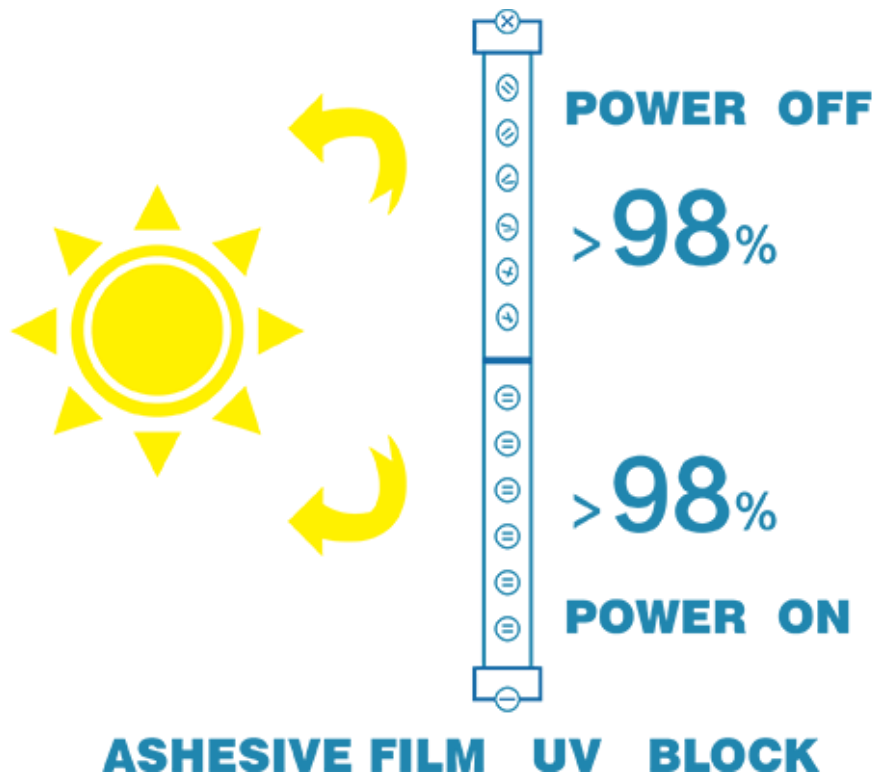


How it Works This self adhesive Smart Window Film applies to any existing or new smooth glass surface. A simple ON – OFF mode switches the PDLC film from the clear (transparent) to a frosted (opaque) state. In clear mode, an electrical current is passing through the PDLC (Polymer Dispersed Liquid Crystal) interlayer which aligns the microscopic crystals along a number of parallel axes, thus allowing vision through the glass. Conversely when electricity is switched off, the liquid crystals return to their normal scattered positions changing the film from clear (transparent) to opaque (frosted). Essentially this product is an electronic blind providing privacy and security for any glass, window or partition.



Block UV and IR

- Switchable PDLC glass and film is considered a green energy-saving material:
- For self-adhesive switchable PDLC film, blocks UV almost 100%; blocks Infrared at 17% in clear state & 80% in opaque state



Where & Why? Many custom homes incorporate unique window shapes that enhance the appearance of the property but can be extremely difficult to treat. Up to this point, window covering solutions have been limited, clunky and expensive. Oval, eyebrow, angled and trapezoidal glazing can now be templated and custom fit to create a beautiful, clean and effective solar and privacy window covering solution. Multiple pieces can be butt together to treat larger window openings.

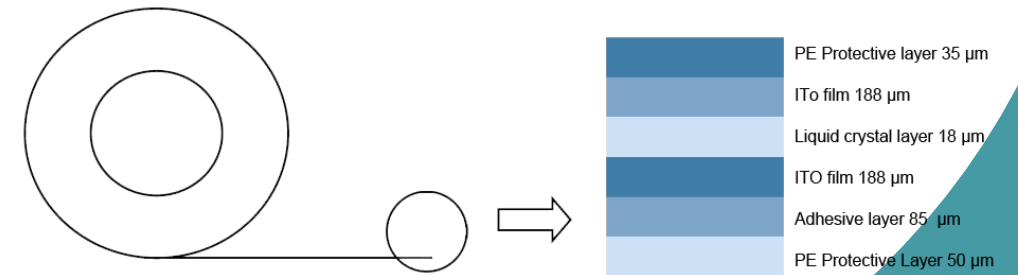
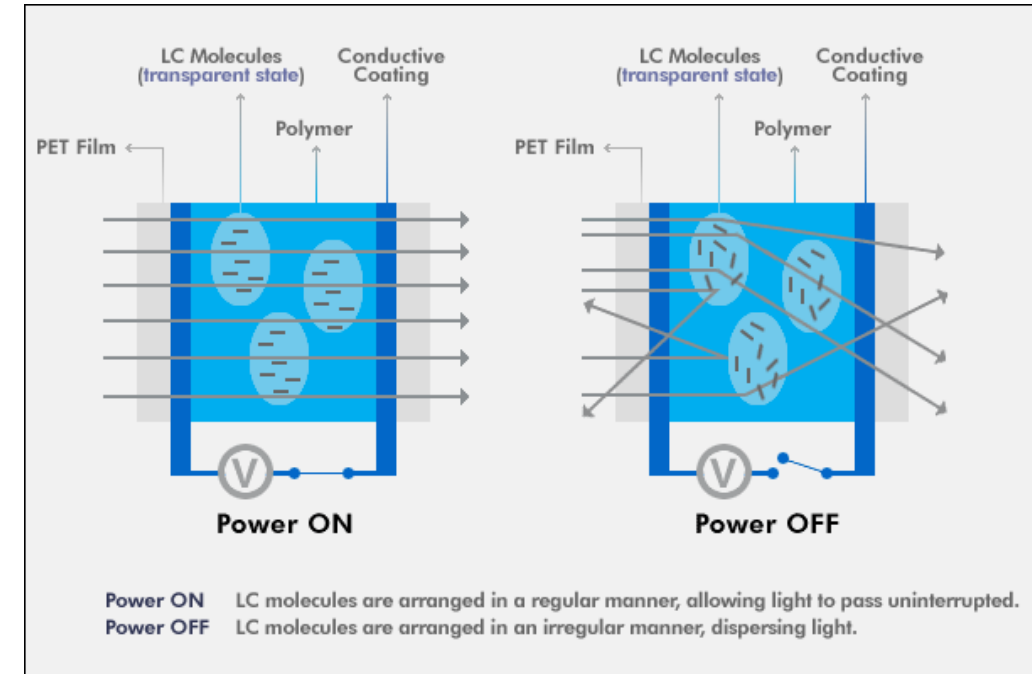


Ideal for arched, angled & specialty shaped windows



Key Benefits:

- **Privacy on Demand:** Instantly switch from clear to frosted for complete privacy when needed, perfect for offices, conference rooms, or home spaces.
- **Energy Efficiency:** By reducing heat and glare, PDLC film helps maintain a comfortable indoor climate, potentially lowering energy costs.
- **UV Protection:** Protects your furniture and flooring from harmful UV rays while still allowing natural light to filter through when in transparent mode.
- **Easy Installation:** Can be easily applied to existing glass surfaces without the need for extensive renovations or replacements.
- **Stylish Design:** Available in various sizes and can be custom cut to fit any window or glass surface, enhancing the aesthetic of your space.
- **Custom shapes:** Exceptional treatment for angled, trapezoidal and odd shaped windows



Applications:

- **Commercial Spaces:** Ideal for offices, meeting rooms, and retail environments, providing flexibility and enhancing the professional look.
- **Residential Use:** Perfect for homes, allowing homeowners to control privacy and light levels with ease.
- **Healthcare Facilities:** Useful in hospitals and clinics to maintain patient privacy while ensuring safety and visibility.
- **Smart Homes:** Integrate with smart home systems for automated control and energy savings.



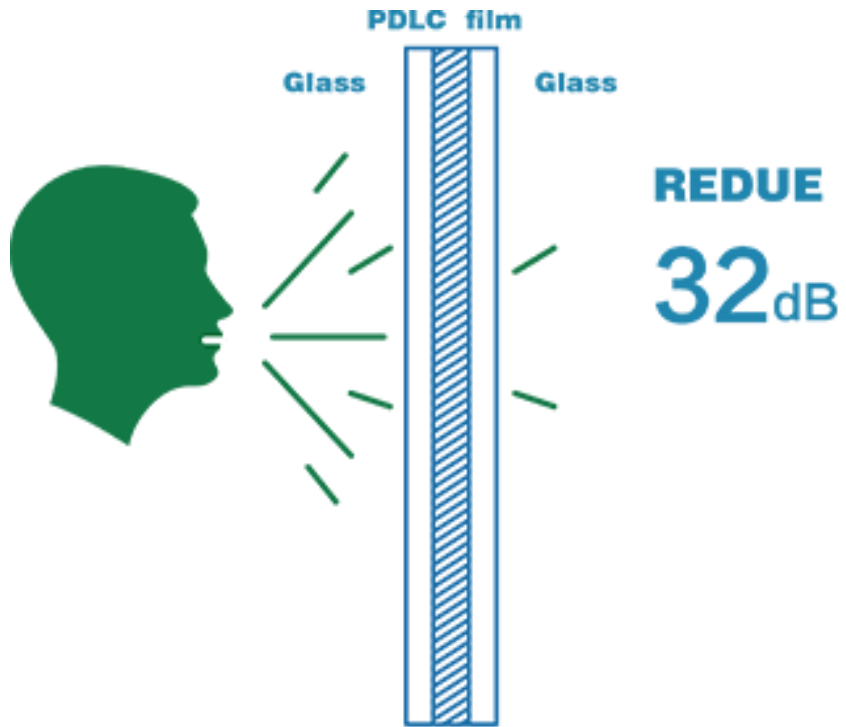
Other uses:

- **Projection Screens:** Milky white PDLC film can be used as a projection surface which allows for viewing from both sides of the glazing
- **White Boards:** Milky white PDLC film can also be used for a “white board” using standard dry erase markers

GiCor PDLC – UHD Switchable Film

Sound insulation

For switchable smart glass, laminated film reduces sound up to 32dB depending on glass type



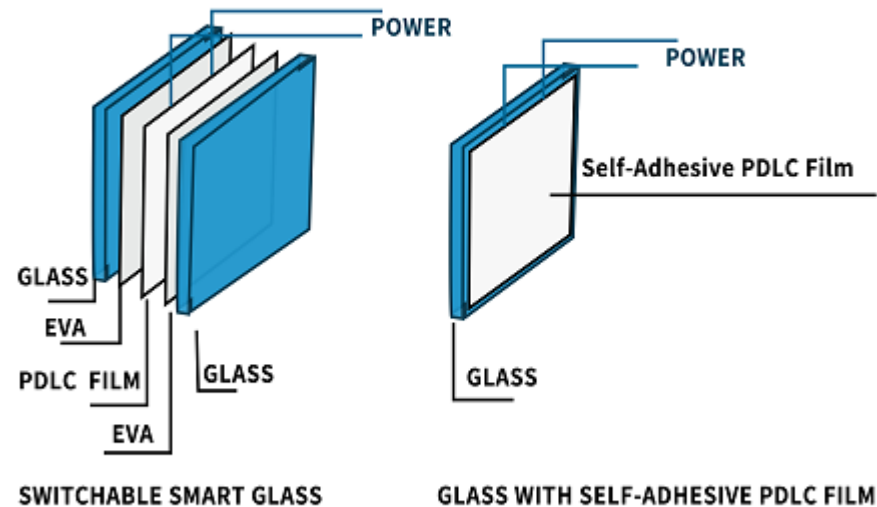
Sound-proofing Function

GiCor PDLC – UHD Switchable Film

Safety

When using switchable PDLC film, the glass surface becomes stronger and more like safety glass where broken glass sticks to the PDLC film

The main material of PDLC film is PET, about 0.38mm thickness which is greater than regular glass explosion-proof film



GiCor PDLC – UHD Switchable Film

GiCor 65V Ultra High Definition Switchable PDLC Film

Our most popular, Ultra High Definition smart film uses a special liquid crystal material combined with Japan-made Mitsubishi Optical PET to achieve a high-definition viewing experience, and is transparent to the original glass;

- Full viewing angle
- Industry leading low haze rate
- Highly UV resistance

POPULAR SWITCHABLE PDLC COLORS



White



Light Grey



Dark Grey



Black color

GiCor PDLC – UHD Switchable Film

4. Optical Performance:

Product Description		UHD-Film
		Ultra Definition PDLC Film
Working voltage		AC60V
Thickness		0.4
Material		Mitsubishi Japan Optical PET
Operation model	Power on	Transparent
	Power off	Opaque
Color	Avaliable color	Milky White
Power on	Visible light transmittance	92%
	Haze	1.8±0.5%
Power off	Visible light transmittance	60%
	Haze	99%
View angle	View angle	About 165 Degree
Electrical	Switch time	Less than 1 second (Off > On: about 200milliseconds On > Off: about 600milliseconds)
	Operating voltage	AC60±5V
	Power consumption	3.7W/sqm
	Frenquency rate	50-60Hz
	Dimmer function	Yes

GiCor PDLC – UHD Switchable Film

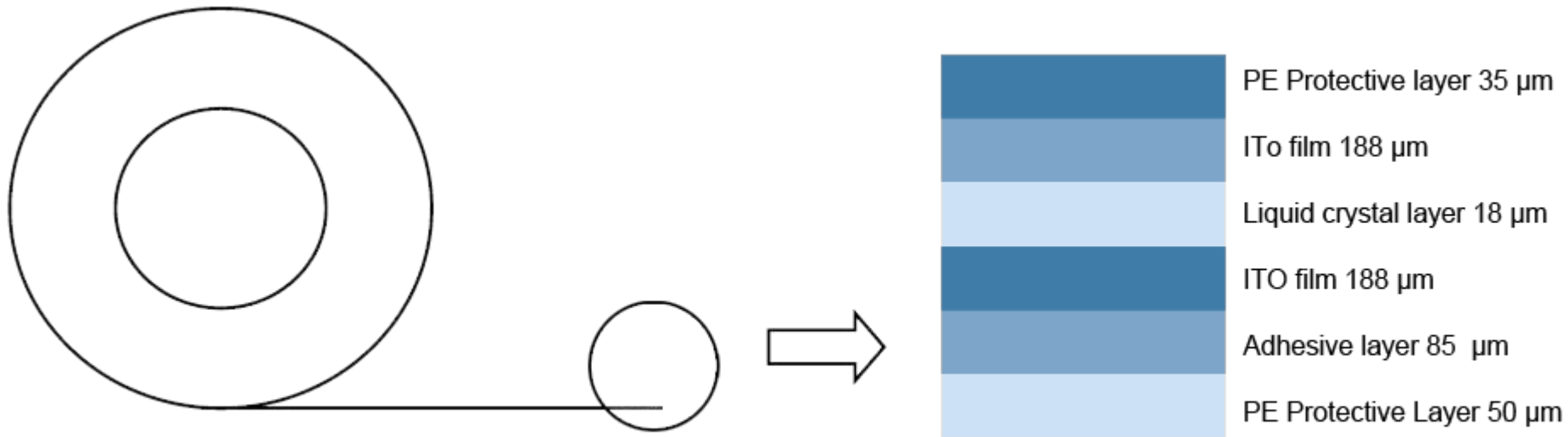
5. Durability Performance:

Product Description	HD-Film
	High Definition PDLC Film
Sunlight-resistant	Yes
Max effective working temperature	T:70℃
UV Block	On Model/ Off Model>99%
IR Block	On Model>17%/Off Model>80%
Lifetime	More than 100000h (20years)
Operating temperature	T:-20℃-70℃
Product temperature resistance	T:-85℃-130℃
Anti-scratch coating	thickness: 1–2 μm,standard:2H
Resistance to yellowing	UV Weathering Tester,500hours $\Delta YI \leq 5$
Batch-to-batch color consistency	ΔE (Delta E) color difference measurement method, Standard: $\Delta E \leq 2.5$

GiCor DLC – Black Smart Switchable Film

Product:

DLC Smart Film utilizes advanced dye-doped liquid crystal technology to switch between transparent and black opaque states, offering both privacy protection and solar shading. Unlike traditional PDLC film, which only provides privacy without shading, DLC Smart Film overcomes this limitation. It is the ideal solution for residential windows, curtain wall glass, and other architectural applications.



GiCor DLC – Black Smart Switchable Film

4. Optical Performance:		
Product Description		Black DLC Film
Working voltage		AC60V
Thickness		0.4
Material		Mitsubishi Japan Optical PET
Operation model	Power on	Transparent
	Power off	Opaque
Color	Avaliable color	Black
Power on	Visible light transmittance	23%
	Haze	1.4±0.5%
Power off	Visible light transmittance	1.65%
	Haze	99%
View angle	View angle	About 180 Degree
Electrical	Switch time	Less than 1 second (Off > On: about 200milliseconds On > Off: about 600milliseconds)
	Operating voltage	AC60±5V
	Power consumption	3.7W/sqm
	Frenquency rate	50-60Hz
	Dimmer function	Yes

GiCor DLC – Black Smart Switchable Film

5. Durability Performance:

Product Description	Black
	DLC Film
Sunlight-resistant	Yes
Max effective working temperature	T:70℃
UV Block	On Model/ Off Model>99%
IR Block	On Model>17%/Off Model>80%
Lifetime	More than 100000h (20years)
Operating temperature	T:-20℃-90℃
Product temperature resistance	T:-85℃-130℃
Anti-scratch coating	thickness: 1–2 μm,standard:2H
Resistance to yellowing	UV Weathering Tester,500hours $\Delta YI \leq 5$
Batch-to-batch color consistency	ΔE (Delta E) color difference measurement method, Standard: $\Delta E \leq 2.5$

GiCor PDLC & DLC Switchable Film

Wiring requirements

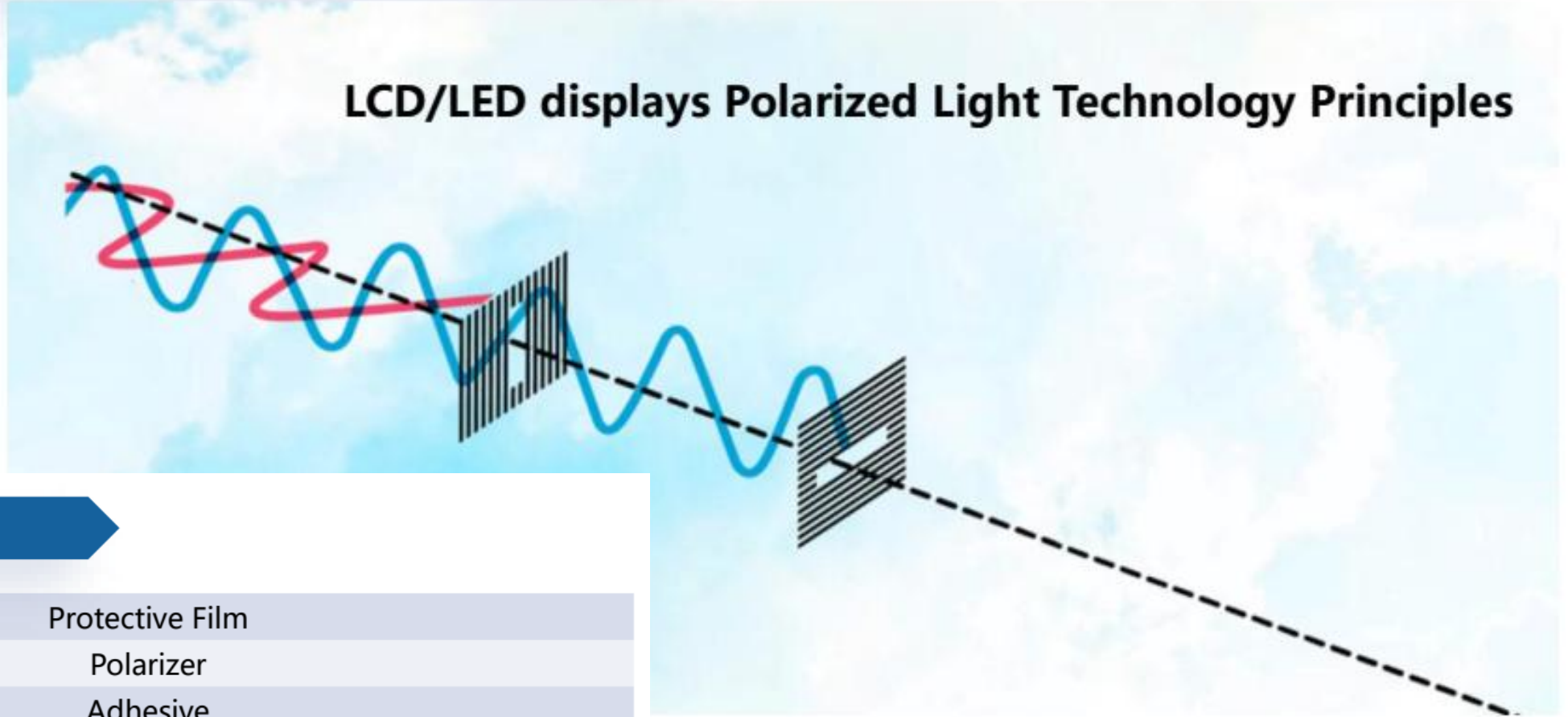
Most critical is wiring placement within the window opening so retrofits are possible but often involve removal of casings, drywall and sometimes visible power supplies and controls



GiCor Cloaking Films

Screen cloaking film is an advanced privacy film that utilizes the principals of how LED/LCD screens work. By aligning with the screen's "raster" at a specific angles, it effectively hides the display from specific viewing angles, making the screen invisible to unauthorized viewers. This innovative solution is designed to enhance data privacy, especially in sensitive environments such as conference rooms, boardrooms and open office spaces.

LCD/LED displays Polarized Light Technology Principles



Structure

Protective Film

Polarizer

Adhesive

Release Film

GiCor Cloaking Films

Specifictaion

Item			Data
Product			Screen Cloaking Film
Thickness	Total	μm	310±30
	Effective	μm	160±20
Separation Strength	Release film	g/25mm	≤50
	Protective film	g/25mm	≤50
	Adhesive with glass	g/25mm	≥200
Optical Data	Single transmittance	%	42±2
	Parrallel transmittace	%	33±2
	Cross transmittance	%	<0.01
	UV block(380nm)	%	≥99
	Polarizing Efficiency	%	≥99
Roll size	Width	mm	1220(48") / 1520mm(59")
	Length	m	40
Color			Grey
Scratch resistance			2H
Backing Adhesion			Silicone Self-adhesive
Working Temperature			-5 to 60℃
Warranty			5years

Where & Why? Many boardrooms incorporate clear glass dividers to deal with sound travel within their meeting space however often overlook the need for privacy during those meetings where confidentiality is required. Individual offices also have these glazed dividers where employee's information is difficult to keep private on a day-to-day basis.

GiCortint provides a reliable & discreet way to protect confidential information, giving the modern workplace peace of mind where important tasks or sensitive meetings are taking place.



Applications:

- **Commercial Spaces:** Ideal for offices, boardrooms & meeting spaces where providing privacy, security & confidentiality is paramount
- **Healthcare Facilities:** Useful in hospitals and clinics to maintain patient privacy while ensuring safety and visibility.



GiCor Switchable & Cloaking Films

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