



LAMINATED SMART FILM

T83 PDLC

Laminated Polymer Dispersed Liquid Crystal (PDLC) smart film is used by glass laminators between two glass layers to create triplex glass with EVA interlayer bonding. It switches instantly between opaque and clear states. When power is OFF, liquid crystals scatter light, making the film opaque. When power is ON, the crystals align, allowing full transparency.

ADVANTAGES



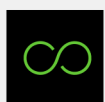
Fast Switching Time

Changes from clear to opaque in less than 10 ms



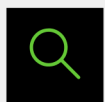
Ultra Clear

Transmits more than 82% of visible light



Long Lasting

Lasts over 15 years and endures 80 million switching cycles



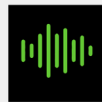
Low Haze

Maintains haze below 3.0%, preserving crisp views



Low Power

Consumes less than 0.4 W/ft² (4 W/m²) when ON



Acoustic Insulation

Acts as a sound barrier reducing noise transmission



Wellbeing

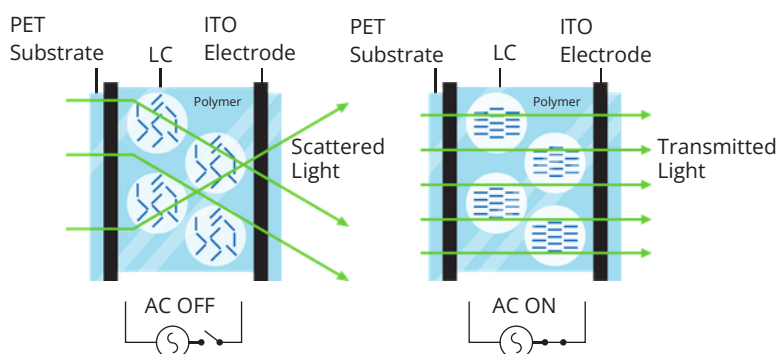
Allowing natural daylight



Control

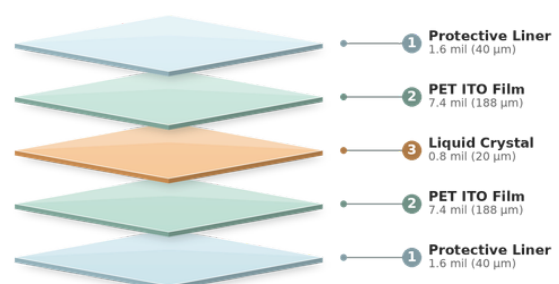
Certified controllers offer ON/OFF and dimming

WORKING PRINCIPLE



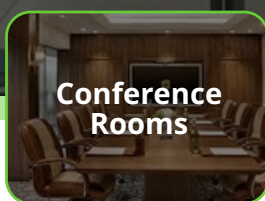
LAYERS STRUCTURE

T83 Laminated Smart Film



1 mm = 1,000 µm; 1 mil = 25.4 µm; 1 inch = 1,000 mil = 25.4 mm

APPLICATIONS



LAMINATED SMART FILM SPECIFICATIONS

CATEGORY	PARAMETER	STATE	T83
OPTICAL	Color	ON	Clear
		OFF	Opaque White
	Visible Light Transmittance	ON	> 82%
		OFF	< 10% ±2%
	Parallel Light Transmittance	ON	> 82%
		OFF	4%
	Haze	ON	< 3%
	Viewing Angle	ON	> 150°
	UV Blocking Rate	ON / OFF	98%
	SHGC	ON	N/A
		OFF	N/A
ELECTRICAL	Controller Input Supply		110 V / 220 V AC
	Working Operating Voltage	ON	48–65 V AC
	Response Time	ON → OFF < 200 ms	
	Response Time	OFF → ON < 10 ms	
	Switching Cycles		> 80 million
	Durability	ON	> 15 years
	Current	ON	< 20 mA/ft ² (< 200 mA/m ²)
	Smart Film Power Consumption	ON	< 0.4 W/ft ² (< 4 W/m ²)
	Controller Power Consumption		0.2–0.4 W/ft ² (2–4 W/m ²)
	Operating Modes		ON, OFF, Dimming, Segments
MECHANICAL	Max Width (Length unlimited)		White: 71" (1800 mm) Grey, Black: 60" (1520 mm)
	Thickness		16 mil (400 µm)
	Compatible Glass		Annealed, Tempered, Clear, Low Iron, Ultra clear, IGU, Custom
	Available Colors		White, Grey, Black
	Compliance		Company: ISO 9001, IATF 16949 Products: RoHS, CE, UL
ENVIRONMENTAL	Storage Conditions		–4 °F to 140 °F (–20 °C to 60 °C) < 50% humidity
	Working Temperature		–4 °F to 158 °F (–20 °C to 70 °C)