

T15 BLACK SMART FILM

ADHESIVE PDLC

Adhesive Polymer Dispersed Liquid Crystal (PDLC) smart film switches between opaque black and clear black states instantly. When power is OFF, liquid crystals (LC) scatter light, making the film opaque. When power is ON, the crystals align, allowing light to pass through for full transparency.

ADVANTAGES



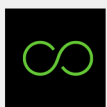
Fast Switching Time

Changes from clear to opaque in less than 10 ms



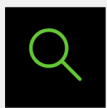
Light Transmission

Transmits 12% of visible light when ON



Long Lasting

Lasts over 15 years and endures 80 million switching cycles



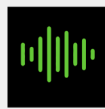
Low Haze

Maintains haze below 4%, 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

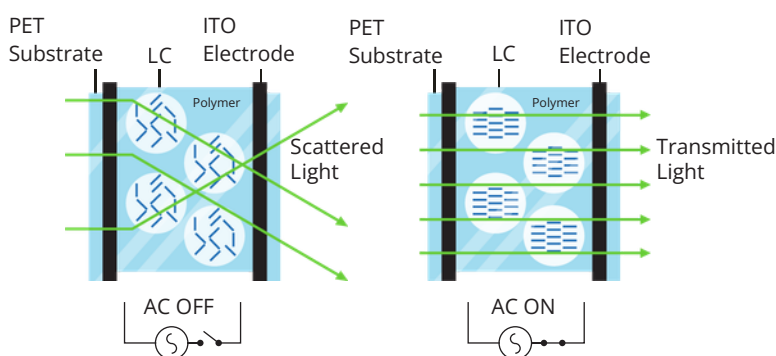
Allowing natural daylight



Control

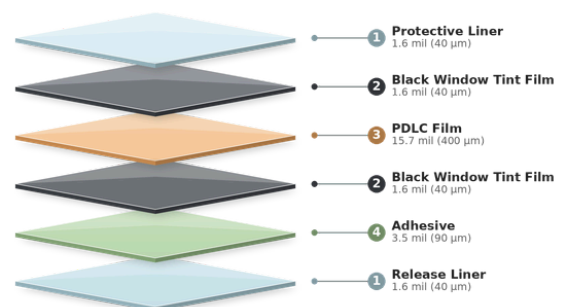
Certified controllers offer ON/OFF and dimming

WORKING PRINCIPLE



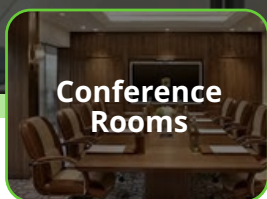
LAYERS STRUCTURE

T15 Adhesive Black Smart Film



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

APPLICATIONS



T15 SMART FILM ADHESIVE BLACK SPECIFICATIONS

CATEGORY	PARAMETER	STATE	T15
OPTICAL	Color	ON	Clear Black
		OFF	Opaque Black
	Visible Light Transmittance	ON	12% $\pm$ 1%
		OFF	1% $\pm$ 1%
	Parallel Light Transmittance	ON	10% $\pm$ 1%
		OFF	1% $\pm$ 1%
	Haze	ON	< 4%
	Viewing Angle	ON	> 120°
	UV Blocking Rate	ON	99.6%
	SHGC	ON	0.1
		OFF	0.02
ELECTRICAL	Controller Input Supply		110 V / 220 V AC
	Working Operating Voltage	ON	48–65 V AC
	Response Time	ON $\rightarrow$ OFF	< 200 ms
	Response Time	OFF $\rightarrow$ ON	< 10 ms
	Switching Cycles		> 80 million
	Durability	ON	> 15 years
	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)
MECHANICAL	Operating Modes		ON, OFF, Dimming, Segments
	Width		40.6" (1030 mm), 48.6" (1235 mm) 60" (1520 mm)
	Roll Length		98 ft (30 m), 164 ft (50 m)
	Formats		Cut to Size, Roll, Custom Roll Blinds, Shapes
	Available Colors		Black
ENVIRONMENTAL	Compliance		Company: ISO 9001, IATF 16949 Products: RoHS, CE, UL
	Storage Conditions		–4 °F to 140 °F (–20 °C to 60 °C) < 50% humidity
	Working Temperature		–4 °F to 176 °F (–20 °C to 80 °C)