Smart Films INTERNATIONAL

BLACKOUT FILM

DLC 1% 20:1

Blackout Smart Film switches between tinted and clear states instantly. When power is OFF, liquid crystals (LC) and dyes absorb light, making the film tinted. When power is ON, the liquid crystals align, allowing light to pass through and making the film clear.

ADVANTAGES

Fast Switching Time
Changes from clear to tinted in less than a second

Low Power
Consumes 0.6–1.4 W/ft^2 (6–15 W/m^2) when ON

Light Transmission
Transmits 21% of visible light when ON

UV Protection
Blocks 96% of UV when ON and 100% when OFF

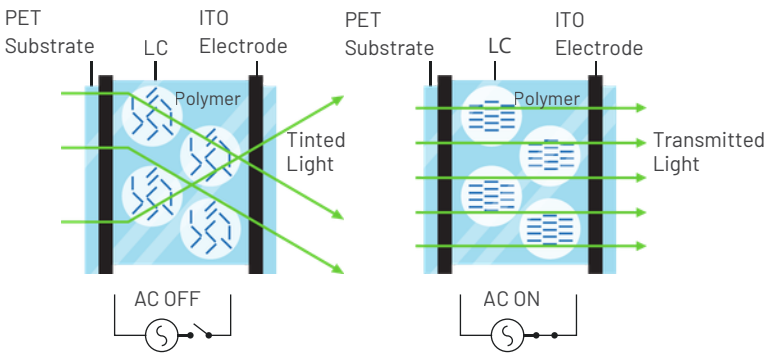
Long Lasting
Lasts over 15 years and endures 80 million switching cycles

Wellbeing
Allowing natural daylight

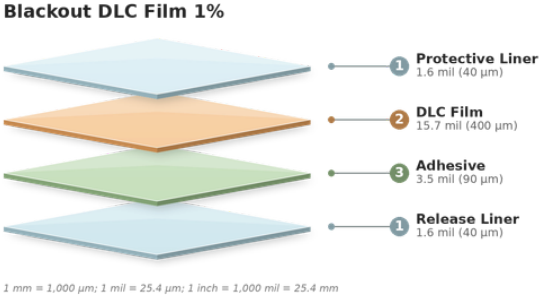
Low Haze
Maintains haze below 4%, preserving crisp views

Control
Certified controllers offer ON/OFF and dimming

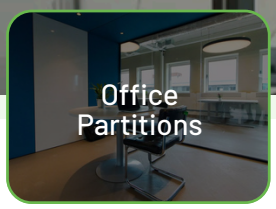
WORKING PRINCIPLE

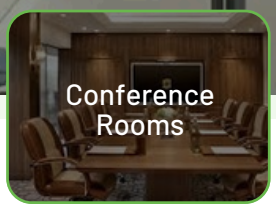


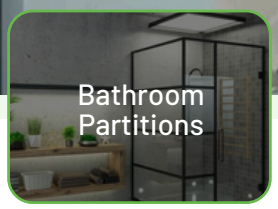
LAYERS STRUCTURE

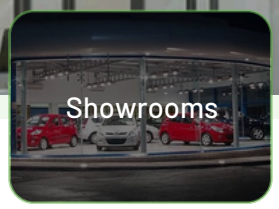


APPLICATIONS









BLACKOUT DLC 1% SPECIFICATIONS

CATEGORY	PARAMETER	STATE	BLACKOUT
OPTICAL	Color	ON	Transparent
		OFF	Black
	Visible Light Transmittance	ON	21% ±2%
		OFF	0.9% ±0.3%
	Haze	ON	< 4%
		OFF	100%
	Viewing Angle	ON	> 120°
	UV Blocking Rate	ON	96%
		OFF	100%
	IR Blocking Rate	ON	15%
		OFF	97%
ELECTRICAL	Controller Input Supply		110 VAC / 220 VAC (50/60 Hz)
	Operating Voltage	ON	48 VAC
	Response Time	ON → OFF	10–150 ms
	Response Time	OFF → ON	10–50 ms
	Durability	ON	> 15 years
	Power Consumption	ON	0.6–1.4 W/ft² (6–15 W/m²)
	Operating Modes		ON, OFF, Dimming
MECHANICAL	Width		Up to 59″ (1500 mm)
	Roll Length		98 ft (30 m), 164 ft (50 m)
	Thickness		19 mil (480 µm)
	Formats		Cut to Size, Roll
	Available Colors		Black
	Compliance		Company: ISO 9001, IATF 16949 Products: RoHS, CE, UL
ENVIRONMENTAL	Storage Conditions		-4 °F to 140 °F (-20 °C to 60 °C) 20–60% humidity
	Working Temperature		-4 °F to 194 °F (-20 °C to 90 °C)