

CLC Glass & Film

Introduction

PriWatt CLC (Colorant Liquid Crystal) is a new type of electronically controlled light-regulating product. When in the off-state, it appears as a neutral gray-black, providing functions such as light blocking, shading, and privacy protection. In the on-state, it becomes transparent with clear visibility and a wide viewing angle. It can be applied to smart automotive glass, building curtain wall, consumer electronics, and other fields.

Characteristics

1. High contrast ratio > 6 times;
2. Low on-state haze (<3%), high off-state haze (>95%);
3. Wide working temperature range: -30° C to 90° C;
4. No viewing angle dependency;
5. High insulation, with infrared blocking >80% and ultraviolet blocking >99%;
6. High heat insulation (standard 2.5H exposure results in 7-10° C lower temperature compared to ordinary glass);
7. Long lifespan, with switch cycles exceeding one million times.



PriWatt CLC Glass & Film Specifications

Item		Model	Specification	Test instruments /methods
Optical Parameters	Total Light Transmission	ON	38±1.5%	3nh YH1600 ASTM D1003, illuminant C/2°
		OFF	6±0.5%	
	Contrast	TL_ON VS TL_OFF	>6 times (for Automotive)	
	HAZE	ON	< 3%	
		OFF	> 95%	
	Visual Angle	ON	160° Approximately 160°	/
Electrical Parameters	Operating Voltages	ON	48~ 60 V/AC	Multimeter
	frequency of current	ON	50/60Hz	Oscilloscope
	Supply current waveform	ON	square wave	
	Response Time	OFF→ON	< 5ms	/
		ON→OFF	< 150ms	/
	Power Consumption	ON	< 9W/m ²	Power meter
	Power Consumption Controller	ON	< 15W/m ²	
Environmental Parameters	Operating temperature	/	-30°C ~ 90°C	Thermodetector
	Lifespan	On/Off	> 2,000,000 Times	/
Physical Parameters	Peeling strength	PET/PET	≥0.25 N/cm	Stripping strength tester
	Thickness	PriWatt CLC	0.39±0.01mm	Thickness tester
	Composite curvature	1) Single is not restricted, for example: side window door glass; 2) Hyperbolic, with a maximum arc depth of ≤30mm/m per meter in the XY direction; 3) Hyperbolic, the maximum arc depth per meter in one direction of X or Y is between 30mm/m and 60mm/m, and is ≤ 15mm/m in the other direction		

Weather Resistance Test

Laminated Glass Weather Resistance Test	Radiotolerance	UV light 100h Under 300nm 0.83w/m ²	ΔTL ≤3%, ΔHAZE≤2%, ΔE≤2
	Boiling water resistance test	2h In 100°C hot water	ΔTL ≤3%, ΔHAZE≤2%, ΔE≤2
	Humidity-resistance	336h In 49-54°C Water	ΔTL ≤3%, ΔHAZE≤2%, ΔE≤2
	High temperature test	2000h in 90°C	ΔTL ≤5%, ΔHAZE≤5%, ΔE≤3
	Storage in cold	1000h In -30°C	ΔTL ≤3%, ΔHAZE≤2%, ΔE≤2
	Thermal shock	1000 Cycles Cycle: -30°C, 5h; 80°C, 0.5h	ΔTL ≤3%, ΔHAZE≤2%, ΔE≤2
	Durability of ON/OFF	30,000 Cycles	ΔTL ≤5%, ΔHAZE≤3%, ΔE≤3