



SMART GLASS (IGU)

Insulated Glass Unit

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

ADVANTAGES



Fast Switching Time

Changes from clear to opaque in less than 10 ms



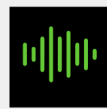
Low Power

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



Ultra Clear

Transmits more than 82% of visible light



Acoustic Insulation

Acts as a sound barrier reducing noise transmission



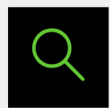
Long Lasting

Lasts over 15 years and endures 80 million switching cycles



Wellbeing

Allowing natural daylight



Low Haze

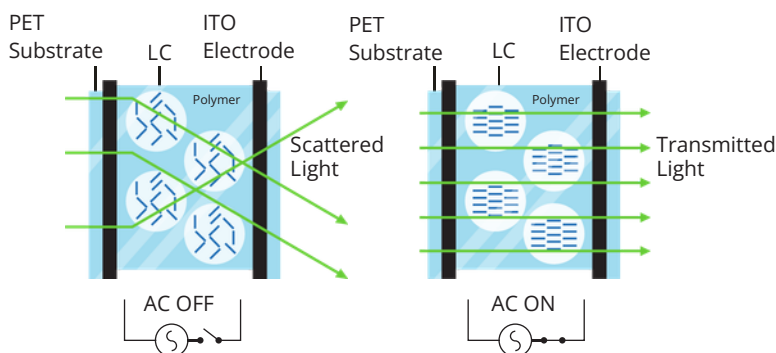
Maintains haze below 3.0%, preserving crisp views



Control

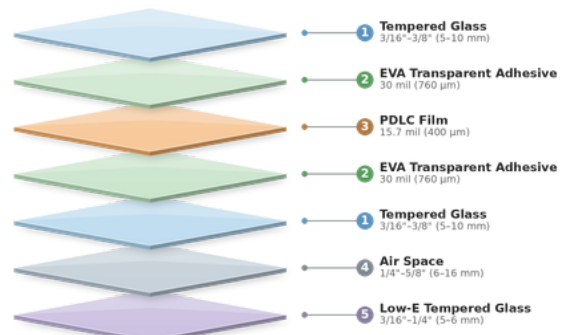
Certified controllers offer ON/OFF and dimming

WORKING PRINCIPLE



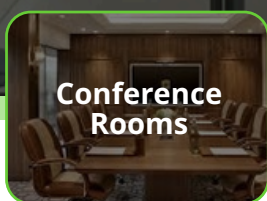
LAYERS STRUCTURE

Insulated Smart Glass Unit (IGU)



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

APPLICATIONS



INSULATED GLASS UNIT (IGU) 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	99.6%
	SHGC	ON	< 0.35
		OFF	< 0.28
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/ft² (< 200 mA/m²)
	Smart Glass Power Consumption	ON	< 0.4 W/ft² (< 4 W/m²)
	Controller Power Consumption		0.2-0.4 W/ft² (2-4 W/m²)
	Operating Modes		ON, OFF, Dimming, Segments
MECHANICAL	Glass Thickness		3/16", 1/4", 5/16", 3/8", 1/2", custom (5+5, 6+6, 8+8, 10+10, 12+12 mm)
	Air Space (Silver or Black)		1/4, 3/8, 1/2, 5/8, 3/4" (6, 9, 12, 15, 18 mm)
	Low-E Exterior Glass		3/16, 1/4, 5/16, 3/8, 1/2" (5, 6, 8, 10, 12 mm)
	Max Width (Length unlimited)		White: 71" (1800 mm) Grey, Black: 60" (1520 mm)
	Available Colors		White, Grey, Black, Custom
	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 176 °F (-20 °C to 80 °C)