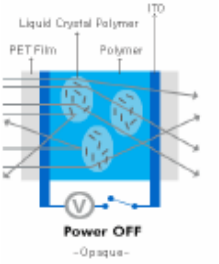
SmartGlas ™

Applications

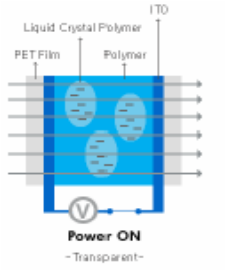
With SmartGlas ™, you'll see things in an entirely new light! Simply turning on the power switch changes the opaque, white, translucent LC SmartGlas™ into a visually transparent LC SmartGlas™ and offers creative design options for architects, planners and other technical applications. (shields, energy-saving windows, bath/shower elements, visual covers, projection displays, skylights, optical covers, etc.)

Technology

When the power is turned off, the liquid crystal molecules are arranged randomly so that the incident light is distributed and the LC SmartGlas™ turns opaque.



When the power is turned on, the crystal molecules are arranged in rows, the incident light shines through the glass and the LC SmartGlas™ becomes transparent.



Manufacturing

GLASS PANEL LC film is laminated between the two panes of glass.

Liquid crystals – the same technology that has been used for years in digital watches and computer monitors. Liquid crystals are placed between two panes of transparent conductive film to create the LC Smart Film. Next, the film is laid between two panes of glass. When power is added, the liquid crystals line up and the window becomes transparent (slight cloudiness). When the power is turned off, the crystals return to their usual positions and the glass changes from being clear into a milky translucent glass.

▪Glass colors

Clear, bronze, gray, green, bluish, etc.

▪Glass type (all laminated)

Hardened, heat/chemical reinforced, with low iron content, fire classified, bent, bullet-proof, tinted

▪Size

Up to 984 mm x 2,800 mm

▪Shape

Any shape and curvature, including drilled holes

▪Voltage

Operating voltage:	110 volt alternating current
Power:	less than 20 mA/ft^2
Consumption:	approx. 3.5 Watt/m2

▪Switching time

Approx. 1/100 second at room temperature

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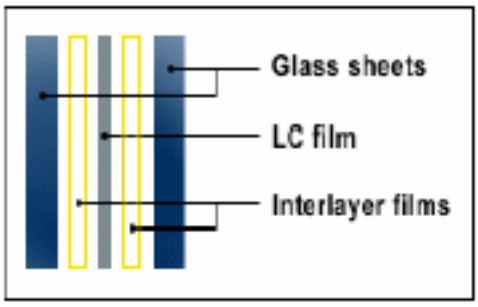
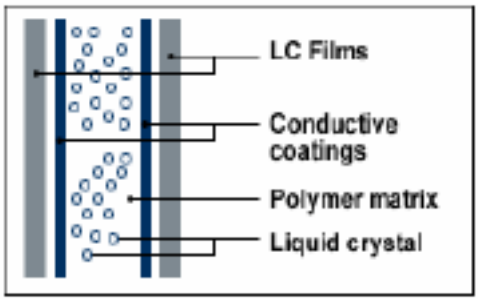
SmartGlas

Manufacturing, continued

The liquid crystal film for privacy is imbedded between glass panes in the same way that laminated glass is manufactured. The outside layers are made of glass (normally 4 mm or 5 mm thick) on each side. An intermediate layer is added to each side in order to hold the liquid crystal film in place.



The liquid crystal film for privacy consists of conductive layers, a polymer matrix and liquid crystals. The film features electrical wiring that is connected to a transformer in order to supply power for the “on” mode (clear glass).



▪ Optics

Transmittance:	78%
Angle of view:	approx. 120o
Scattering effectiveness:	approx. 100 mm

▪Lifespan

More than 10 years

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