



SmartGlass International®

## LC SmartGlass FAQs English

<p><i>What is LC SmartGlass?</i></p>	<p>LC SmartGlass is a switchable glass surface that offers instant privacy at the flick of a switch. LC SmartGlass panels are bespoke manufactured using a lamination process which encapsulates a PDLC film between 2 or more glass sheets. Using a minute electrical current, users can immediately switch the LC SmartGlass from clear to private (opaque) and vice versa.</p>
<p><i>How does it work?</i></p>	<p>When the electrical supply is switched on, the liquid crystal molecules align and incident light passes through and the LC SmartGlass panel instantly clears.</p> <p>When the power is switched off the liquid crystal molecules are randomly oriented scattering light and the LC SmartGlass becomes opaque (private).</p>
<p><i>What are the main applications for LC SmartGlass?</i></p>	<p><b>Hospitality</b> - Hotel room privacy screen, bathroom/bedroom privacy screen, external windows, doors, conference centre windows &amp; roof-lights, bar &amp; restaurant screens, toilet cubicles, balustrades and balconies.</p> <p><b>Commercial</b> - Office &amp; boardroom partition screens, doors, sliding/folding doors, windows, roof-lights.</p> <p><b>Healthcare</b> - Fire rated hospital doors, moveable privacy screens, and X-Ray protection screens.</p> <p><b>Security</b> - Cell doors and windows, vision panels, entrance foyer, teller &amp; cash counting screens.</p> <p><b>Projection</b> - Internal or External high resolution rear projection screens.</p>
<p><i>Can LC SmartGlass be used as a projection screen?</i></p>	<p>Yes. When LC SmartGlass is in its "off" opaque state it serves as an excellent rear projection screen and unlike a traditional screen occupies no extra space.</p>

<p><i>Does it offer enough privacy to be used in bathrooms?</i></p>	<p>Yes. Standard LC SmartGlass single glazed panels offer a complete privacy solution that is suitable for use in bathrooms.</p>
<p><i>Does the change of state of LC SmartGlass affect the degree of light transmission?</i></p>	<p>Yes. The degree of light transmission differs when the LC SmartGlass is in each state. When LC SmartGlass is switched "on" it allows 76% light transmission, when switched "off" it allows 67%.</p>
<p><i>Is it possible to adjust the speed of the transition from translucent to transparent?</i></p>	<p>No. The change from opaque to clear is instantaneous.</p>
<p><i>When does LC SmartGlass consume power?</i></p>	<p>LC SmartGlass consumes energy only when in its "on" state, i.e. when it is transparent.</p>
<p><i>How much power does it consume when "on"?</i></p>	<p>LC SmartGlass consumes just 5 watts per M<sup>2</sup> when the temperature is 25°C. Therefore a 12M<sup>2</sup> LC SmartGlass panel consumes the same power as a standard 60w household light bulb.</p>
<p><i>What voltage does it require?</i></p>	<p>LC SmartGlass requires 115 Volts AC/50-60 Hz.</p>
<p><i>If LC SmartGlass works on 115 Volts AC/50- 60 Hz, does it need to be connected to a specific transformer?</i></p>	<p>Yes it does, if the mains supply is 230 Volts AC. SmartGlass International transformers must be used for each installation of LC SmartGlass in this situation. The transformer type will depend on the surface area of the LC SmartGlass screen it is connected to. For countries where the mains voltage is between 100-130VAC/60Hz, please refer to SmartGlass International for electrical connection / component requirements.</p>
<p><i>What is the maximum distance between the glazing and the transformer?</i></p>	<p>The maximum distance is 20 metres.</p>
<p><i>What type of cable is needed to connect the transformer to the glazing?</i></p>	<p>SmartGlass International supplies a shielded cable to connect the transformer to the glazing – the length of this cable is to be specified at the time of order.</p>

<i>What are the possible shapes for LC SmartGlass?</i>	Circles, squares, rectangles, triangles, trapezoids, parallelograms, domed top, rounded corners, curved and 90° angled.
<i>What are the maximum dimensions?</i>	The maximum dimensions of LC SmartGlass are 1525mm x 3200mm.
<i>What is the standard composition of LC SmartGlass glazing?</i>	A standard LC SmartGlass panel is comprised of two 5mm sheets of clear glass and a liquid crystal film which measures approximately 1.5mm in width making a standard thickness of 11.5mm.
<i>Is it available in other thicknesses?</i>	Yes. LC SmartGlass panels are available in a range of different thicknesses starting at the thinnest panel available, 9.5mm and thickest 25.5mm single glazed. Double glazed LC SmartGlass units are also available.
<i>Can LC SmartGlass be toughened/tempered?</i>	Yes. LC SmartGlass can be manufactured using two sheets of clear toughened or tempered glass of 3, 4, 5, 6, 8, 10 and 12mm.
<i>Can LC SmartGlass be assembled in double glazing?</i>	Yes. LC SmartGlass can be built into a double glazed unit using tempered, fire-resistant, bullet-proof or solar protection glass.
<i>Who makes LC SmartGlass?</i>	LC SmartGlass is produced by SmartGlass International Ltd.
<i>What guarantees does it offer?</i>	LC SmartGlass has a warranty of 5 years – terms and conditions are available on request.
<i>What is the expected lifetime?</i>	LC SmartGlass has a life span of 10+ years

<p><i>Are the panels complicated to install?</i></p>	<p>No. LC SmartGlass panels are installed similarly to a regular glass panel. SmartGlass International requires that all installations be completed by a licensed electrician and in compliance with all local rules and regulations. Please refer to the SmartGlass International Electrical Installation Manual for further information.</p>
<p><i>Can LC SmartGlass be screen-printed or coloured?</i></p>	<p>Yes. LC SmartGlass can be laminated with coloured glass: blue, grey, green and bronze etc.</p>
<p><i>Could it be made with a polycarbonate?</i></p>	<p>Yes. LC SmartGlass can be manufactured using two polycarbonate sheets instead of glass.</p>
<p><i>Can LC SmartGlass be butt jointed?</i></p>	<p>Yes. It is important to note that only Soudal Silirub 2 may be used as approved by SmartGlass International's R&amp;D Department. This particular silicone is available with each LC SmartGlass order where required. Alternatively a clear polycarbonate dry 'H' section can be used to cover the gap between the glass panels.</p>
<p><i>Can LC SmartGlass be glued to a structure?</i></p>	<p>No. The weight and connections require a frame/profile to support the glass to prevent delamination.</p>
<p><i>Can the finished LC SmartGlass be pierced?</i></p>	<p>No. Once the LC SmartGlass panel has been manufactured it may not be pierced as this will damage the liquid crystal film. It is possible to include drill holes on LC SmartGlass panels however this must be specified at the time of order so that the liquid crystal interlayer can be manufactured accordingly.</p>
<p><i>Can you bend LC SmartGlass?</i></p>	<p>Yes. LC SmartGlass is available in a range of curved formations.</p>
<p><i>Does LC SmartGlass have any acoustic qualities?</i></p>	<p>Yes. The standard LC SmartGlass panel has a noise reduction ratio (Rw) of 36 decibels – 11.5mm thick panels.</p>

<p><i>How much does one LC SmartGlass panel weigh?</i></p>	<p>LC SmartGlass in 11.5 mm format weighs 27.5 kg/m<sup>2</sup>.</p>
<p><i>What is the best temperature for an LC SmartGlass panel?</i></p>	<p>The optimum temperature for an LC SmartGlass panel is between 20°C and + 60°C.</p>
<p><i>Is it dangerous to touch LC SmartGlass in its "on" position?</i></p>	<p>No it is not. The liquid crystal interlayer is hermetically sealed between two glass sheets making it impermeable; there is absolutely no risk involved when the panel is in its "on" state.</p>
<p><i>Can LC SmartGlass be used in a wet environment?</i></p>	<p>Yes. LC SmartGlass may be used in a wet environment as it is certified IPX7 rated and tested in accordance with BS EN 60529:1992. A popular application of LC SmartGlass is a privacy screen separating bedroom from bathroom in a hotel.</p>