LED IN GLASS

Glass comes alive with an interplay of light and colour

DESIGN

GLASSOLUTIONS
SAINT-GOBAIN

LED IN GLASS

Luminous, dynamic, chromatic

LED IN GLASS is a glass that animates itself through the dynamic interplay of light and colour. LED IN GLASS is a system offering infinite possibilities for indoor and outdoor application, creating dynamic, ambient and interactive architectures. It highlights the design and the creation of communication structures (walls, media facades).

This technical solution was developed in Germany in 2008 and industrialized in The Netherlands from 2009. It combines the majestic quality of glass with the reliability and the strength of LEDs.

Description

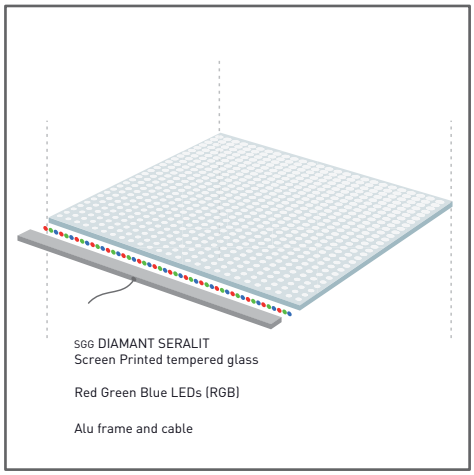
• Technological principle
LED IN GLASS is a complete and sustainable active glass system that dynamically diffuses multicoloured light emitted by LEDs controlled by programmable electronics.

Unlike a traditional light bulb, the entire glass surface lights up!

One or several Red Green Blue LED strips direct a light beam through the edge of an extra clear glass. This light is refracted out of the front and back by white enamelled dots screen-printed on the back side. perfectly controlled, the gradual silkscreen print (from 10 to 50%) guarantees a homogeneous light diffusion (NB: this silkscreen print can be personalized).

RGB LEDs are installed on a PCB plate and integrated in an aluminum rail (6 x 6 mm). This LED strip is coupled with the glass edge via a transparent optical silicone. There are up to 160 LEDs per linear meter.

A digital remote control pilots the electronic control box(es) connected to the strips. The individually activated LED strips can generate infinite colour and chromatic effects.



Applications

Partitions, vertical outdoor applications, media façade, security glazing, projection screens, windows, glass floors, furniture, stands.

Advantages

LED IN GLASS, a unique solution for luminous atmospheres:
- a system that integrates turnkey hardware, personalized software and installation;
- assistance in the conceptualisation and programming of possible set ups, simplicity of the remote control design and pre-programming;
- homogeneous lighting or customised lighting pattern on demand;
- relative transparency while in the 'off ' position;
- indoor and outdoor functioning;
- incredible stability over time;
- simplified maintenance, components traceability;
- low power consumption;
- international certifications;
- a long term guarantee.

QUANTUM GLASS - an organisation at your service

Our mission is to facilitate the creation of cutting-edge architectural projects and products that excite emotion and push back the boundaries of creativity:
- a dedicated, international commercial network;
- places for reflection and information sharing;
- an international network of local, certified installers;
- a technical engineering office at your disposal to enhance your creativity and concept of your choice;
- training at your disposal on request;
- GLASS HOUSE - a 400 m^2 showroom in Paris;
- the Saint-Gobain guarantee, a world leader in the glass industry.

LED IN GLASS

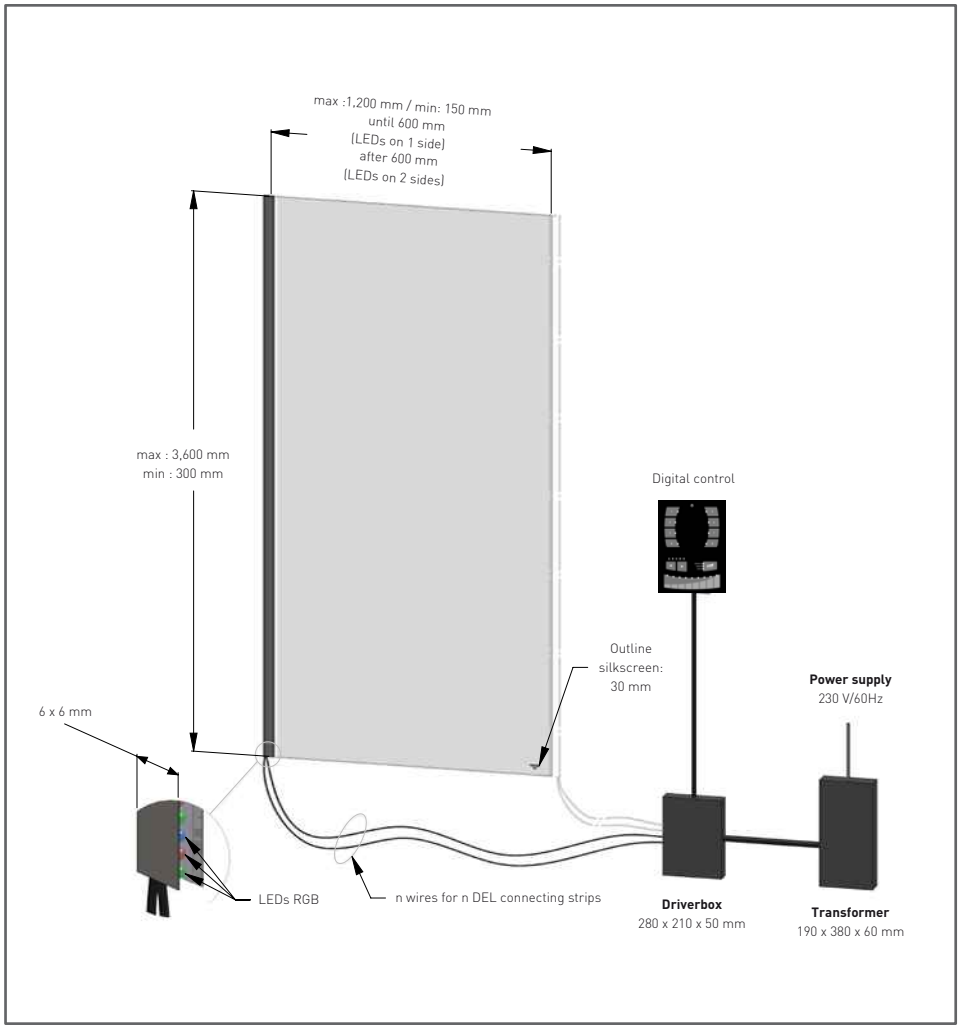
Range

• Size
To guarantee a good light consistency, the width is limited to 600 mm for one side-installed source, and to 1,200 mm on two sides. The length is achieved from a combination of the connecting different stripes length, up to 3,600 mm.

• Thickness
Minimum thickness: 6 mm.

• Glass cutting
The glass is provided cut to size. further cutting or drilling are not allowed.

• Clause of particular technical specifications
Extra clear glass panels with a dynamic lighting system from the edge. This lighting system is made up of RGB LED strips, embedded into the glass panel, and controlled by an electronic control (DMX) with an interface integrating preprogrammed chromatic sequences.



Installation

• Type of frame/fixing:
- fixed, opening or sliding frame;
- suspension (specific realization).

• Main precautions for use and implementation:
- 10 to 20 mm glass covering is recommended to hide the LED strips;
- the profile with the embedded LEDs must not be subject to any pressure;
- the installation has to respect; the current electrical regulations and must be performed by a certified electrician.

An installer trained and certified by QUANTUM GLASS must conduct the installation in order to guarantee the quality and durability of the installation.

Technical data

Operating voltage	24 Volts DC (220 Volts AC) for the case, 12 Volts DC for the DMX, from 1.75 to 3.25 Volts DC for the LEDs depending on colour and amperage
Security	Same as for a SECURIT glass with equal thickness
Standards and certification	CE – certification list on request

• Guarantee
10 years for glass, 5 years for the LEDs, 2 years for hardware.
The guarantee is granted upon respect of the implementation instructions and if a certified QUANTUM GLASS installer has conducted the installation.

LED IN GLASS

Customisation of the glazing

• Composition
Glass panels are always made of extra clear glass in order to provide the best luminous transmission. Double-glazing LED IN GLASS can be combined with other glass types and other QUANTUM GLASS technologies.

• Shapes
Almost any shape, as long as the LED strips can be fixed on straight sides.

• Standard shapes

• Possible shapes

• Silkscreen
The silkscreened white dots pattern can be changed for a specific effect on demand. This customisation requires a preliminary study.

• Sequences and chromatic atmospheres
The programmed sequences - static or dynamic - are standard or customized. A digital interface simplifies the control of the pre-programmed sequences.

Selected references

- The Toyota meeting in Paris (2008);
- Sky Box by Sjef van Hoof in the PSV Stadium in Eindhoven (2009);
- Showroom Saint-Gobain in Amersfoort in The Netherlands (2009);
- Drooghmans Balen in Belgium (2009).

By Muchimuchi - Saint-Gobain Glass Solutions France – RCS Nanterre 447768169 - June 2011 – May be subject to change

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For Glassolutions contact details by country, please refer to the last page.

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