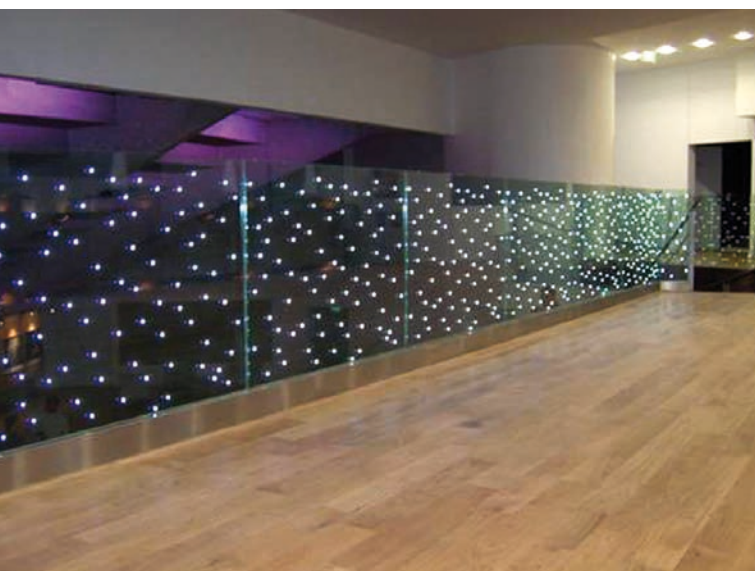
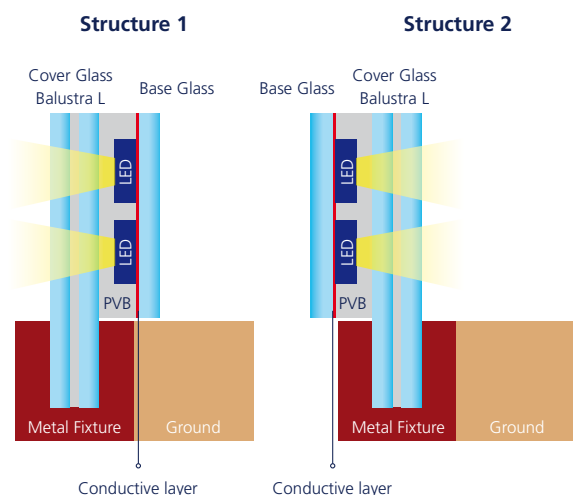


# GLASSILED BALUSTRA

Glassiled-Balustra is a laminated toughened glass with embedded monocolour or RGB **light-emitting diodes** (LEDs). The LEDs are powered through a high-performance invisible conductive coating.

The product comprises a clear base glass featuring LEDs, and a conductive coating and a laminated toughened Balustra L cover glass.



## Benefits :

### • Floating light

Light floats on the glass without any visible wiring. LEDs are integrated into the balustrade itself. Enjoy the full transparency and elegance of the glass.

### • Create a luminous balustrade

Light can be dispersed on the glass in many possible ways. Architects and designers may use different LED configurations to create exclusive sources of light.

### • Instant atmosphere

Glassiled-Balustra can be dimmed. It creates unlimited effects, from the very subtle to the most brilliant.

### • Integration in the ground

Glassiled-Balustra is installed in the ground without using any bracket or supporting structure. This system which is ready for use includes (laminated toughened) glass components and some mounting accessories (optional).

### • Safe

The product has all the required characteristics of a balustrade. The system is subject to deformation and mechanical resistance tests and has a Technical Approval from CSTB, the French Scientific and Technical Centre for Building (no. 2/051154).

### • Low thermal dissipation

Glassiled-Balustra generates a low thermal dissipation compared to other light sources.


### • Quick and easy to install

Glassiled-Balustra is an easy-to-install solution. This leads to significant time savings.

### • Production excellence

A fully automated line houses all phases of the production process under one roof.



GLASS TYPE AND THICKNESS		3 mm	4 mm	6 mm	
BASE GLASS	Planibel Clear				Always shorter than Cover Glass
COVER GLASS	Balustra type L	PVB : 8.8/4 or 10.10/4 or 12.12/4 or 15.15/4 -- EVA : 10.10/3 or 12.12/3 or 15.15/3			
PVB thickness for Glassiled lamination <sup>(1)</sup>		Monocolor LED : 1,5 mm PVB			
Standard dimensions		High = min 1150 mm / max 1500 mm		Lenght = min 400 mm / max 2700 mm	
Edge finishing		3 free edges with cable coming out along the 4th fixation edge Free edges are grinded/polished edge glass before lamination (tolerance ± 1 mm)			
Glass finishing		On request: mono or bi-component silkscreen printing			
Mechanical Fixation		Same mechanical fixation than AGC Balustra L product. 2 possibles orientation LED lighting (Structure 1 or 2)			
LEDs					
Type		Standard monicolor low power LED (decorative and signalling applications)			
Intensity / LED <sup>(2)</sup> <small>(for 4 mm clear glass and function of LED colour)</small>		10 to 600 mcd/LED			
		Mono-couleur <small>(blanc froid 6200 K, blanc chaud 3000 K, rouge, vert, bleu)</small>			
MAX number of non-overlapping circuits		3			
MAX different LED color / Glass		3			
MAX number of LEDs		100 LED / m²			
MIN Distance between LEDs		15 mm			
MIN Distance between LED and glass edge		30 mm			
ELECTRICAL PARTS					
Power supply		- Basic power supply: On/Off - Advanced power supply : dimming and interface to external controler			
Electrical properties		Between 24 VDC to 60 VDC, depend on product size, number of LEDs, LED type and arrangement			
Electrical contact		- 1 bus bar along 1 edge of the glass (standard along mechanical fixation, 12 mm wide at 10 mm from edge) - 2 bus bar along 2 edge of the glass, 2 x 6 mm wide at 10 mm from edge Connecting cable : 1 cable out of the glass, 3 m long with polarized plug			
USE					
Restrictions		- All installation and use conditions applicable to AGC Balustra L product are valid - Internal use only - MAX ambience operating temperature (with LEDs ON): 35 °C - MAX temperature (with LEDs OFF): same than standard AGC laminated glass			
CERTIFICATION					
Laminated Glass Standards		Compliance to EN 14449 Technical approuval : CSTB AT 2/08-1335			
Electrical Safety Standards		Compliance to EN 60598-2-1 Protection : Class II / IPx4			
Electromagnetic Compatibility Standards		Compliance to EN 55015, EN 61000-3-2, EN 61000-3-3, EN 61547			
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In all cases, the AGC technical team will review the LEDs arrangement and validate the feasibility. Other glasses or coating types, specific glass shapes, different electrical connections can also be evaluated by the technical team.

(1) As all laminated glass products Glassiled can have small air bubbles close to the edge of the glass or near electrical connectors. In specified thermal conditions for Glassiled, these bubbles are stable and can not cause delamination.

(2) The LED light intensity and flux decrease slowly over time. This is inherent to the LED technology. The life time of the current LED technology guarantees 50.000 hours at more than 50% of the initial light flux. This value is typical statistical value and large variations can exist especially but not only in function of conditions of use. The light intensity and flux generated by LEDs in one Glassiled can vary from LED to LED. A small colour variation from LED to LED is also possible and acceptable.