THE LUMINOUS FABRIC, SIMPLY STUNNING...

Our Luminous Fabric items are based on an innovative and original technology.

This technology allows to wave plastic optical fibers alongside synthetic fibers, forming a luminous fabric.

The luminous fabric is similar to a synthetic fabric (it can be sewn, hand washed...), except that it can emit light when connected to a specific electronic module.

This electronic module can be powered either by a disposable or rechargeable battery, or by a small mains transformer (for non wearable items).

Unlike standard optical fibers, the fiber optics fabric emits light along the full length of the fibers.

The luminous effect is simply stunning, dazzling, and wonderfully original.

This innovation can be used in many fields: fashion and clothing (bags, accessories, clothes), decoration (cushions, tablecloths, curtains, ...), furnitures, etc...

Depending on the type of electronic module, several colors are possible (the most common and the most luminous being blue, red, green and white).
Technical information:

Dimension:
Our panels of luminous fabric can be several meters (yards) long and 150 cm (59") wide (300cm with AC power).
The optical fibers are 150cm (59") long maximum for battery powered fabric, and 300cm long maximum for AC powered fabric.

Wiring:
For lighting the fabric up, optical fibers, electrical wires and LEDs are connected on one or both edges of the fabric.
For stand-alone products (such as tablecloths), the wires are hidden into textile borders.
For custom decoration applications (wall panels,…), they can be hidden by frames, etc...

Colors:
the luminous fabric is available in several colors (color of the fabric itself).
Lighting is available in 5 colors (Red, Green, Blue, Yellow and White), or RGB.
For a given piece of fabric, the same LED color can be used for the whole piece, or different colors can be used for different areas (for instance green on one side of the roll, blue on the other - or alternate stripes of different colors, or stripes that will not light up at all, etc…).

Power options:
the Luminous Fabric can be supplied directly by 110/220 Volt using a small transformer. Both rechargeable and traditional batteries can be used in mobile/wearable applications to provide high performance lighting (bags, clothing, or any other mobile item).

Handling & care:
the Luminous Fabric can be hand washed with water up to 40°C and natural soap (the batteries must be removed prior to washing). The Luminous Fabric shouldn't be washed in washing machine, folded (pressed) or ironed.

Composition: 50% PL, 40% PMMA, 10% PA6

Panels of Luminous fabric

The Fiber Optics Fabric is a complete set, including the fabric itself, plus optical & electrical wiring, and optical module(s) powered by battery box(es) or AC adapter(s).
For technical reasons, LumiGram does not sell the raw fiber optics fabric "as is" per meter or per yard, but we provide "ready to use" pieces of luminous fabric, that we call "luminous panels".

LumiGram provides luminous panels of fabric (plug & play), up to 150cm wide (59"), any length up to 20m, including power supply (battery or mains adapter depending on application), with LED colors and arrangement as per the customer requirements.

Our luminous panels are pieces of Fiber Optics Fabric tailored to the dimensions of your specific application (rectangular shape), with wiring, optical connectors and optical modules.
Then you simply have to cut the piece to your final shape (following some specific rules) and sew it into your product (sewing is done with standard sewing machines), and connect it to the optical module.

- Our luminous panels are rectangular, with 1 or 2 of the sides including the optical & electrical wiring, and LEDs
- Luminous panels can simply be cut to their final shape (following some specific rules & limitations: the side(s) including the wiring can not be modified), and sewn into the user’s product or application (sewing is done with a standard sewing machine).
- Our luminous panels are available in several fabric colors (White, silver, black).
- The light (optical modules) can be green, blue, red or white.
- The maximum width of a panel is 150cm (59 inches).
- The maximum length can be several meters (yards).
- the side including the wiring can not be cut
- A wired panel can't be cut into independent pieces (if you need several independent pieces, you need to order as many wired panels, with the right dimensions). On specific request, several wired panels (up to 3) can be powered by the same power supply.
- depending on your application, wired panels can be powered by batteries or AC adapters
Panels of Fiber Optics Fabric with **single side** wiring & light injection.

Panel A x B, with B <= 150cm (59’’), single side wiring

Panels of Fiber Optics Fabric with **double side** wiring & light injection (for 150cm/59’’ width only)

Panel A x 150cm (59’’), with double side wiring

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**Power supply**

Direction of the fiber optics & light circulation

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Panel A x B, with B <= 150cm (59’’), single side wiring

Panel A x 150cm (59’’), with double side wiring

**Light**

**LED**

**Bundles of optical fibers**
Luminous fabric: user’s instructions

Sides of the fabric:
The 2 sides of the fabric are not identical (the “outer” side is brighter than the “inner” side, and their aspect is not exactly the same). The “inner” side is the side where the optical wiring is the most visible.

Design tip:
A luminous panel can’t be cut into independent pieces. If you need several independent pieces, you need to order as many panels, with the right dimensions. On specific request, several luminous panels (up to 3) can be powered by the same power supply.

Cutting the fabric:
The fabric is lit via bundles of optical fibers, connected to optical connectors, at the edge of the panel. These bundles & connectors are spaced every 46cm (18”) along the edges of the fabric. The pattern for cutting the fabric should be designed so it doesn’t cut the light path in the fabric. Before cutting the fabric, make sure you understand the way the light feeds the fabric.

Sewing the fabric:
The fabric can be sewn by hand or with a standard sewing machine (flatbed stitcher). The space between the stitches should be as big as possible (at least 2mm / 0,1”). Beware also not to scratch the fabric with the sewing machine.

Different ways of cutting the panels, without affecting the lighting effect

Panel A x B, with B <= 150cm (59”), single side wiring

Panel A x 150cm (59”), with double side wiring