

## Method of installation – Fiber Optic System

The Luxam system is the most comprehensive system for highlighting collections in museums. This method gives you guidance on the steps to follow in order to get quality results.

There are three major steps  
one from outside the museum, if possible, and two within the museum  
We have simplified the process.

In all these steps Luxam will provide assistance and advice.  
We will participate in the final adjustments.

## Verification of the showcase

This is a very important step. A well designed case increases the possibilities for positioning the lighting and reduces the time of preparation and adjustment.

## Location of the generator

- The generator must remain accessible.
- There must be sufficient space for ventilation
- The Curve of the fiber going into the showcase must be done in a way to minimize sharp angles (optimum radius of 10cm)
- Easy access of the power cable

## Access holes

- These 34.5 mm holes allow for insertion of the fibers and sealing of the chamber.
- They must be easily accessible both from the outside and the inside of the window
- They must be in sufficient numbers to reduce the size of the fiber path and facilitate possible changes in light plans.

## Insertion of the fibers

- It must be verified that the fiber originating from the generator arrives at the desired location on the bracket in the showcase.
- This path must be a hidden to visitors
- This path must not cause the fibers to bend too much
- This path must allow for removal of the excess lengths easily

## Placement and fixities of supports

- The support rod systems are placed in a way to maximize the possibilities for positioning terminals
- These bars should be placed to allow proper fiber curvature.
- The bars shall be blocked so they do not rotate.
- Using the devices' fastening tools should be easy

## Positioning the covers/ louvers

- The covers are removed when placing the lights
- The covers allow for concealment of the fibers and terminals
- The covers should reduce the possibilities of angles to a minimum

## Pre-installation

- The pre-installation can be done by non-specialized personnel in the presence of a one that is responsible for the lights.
- The quality of the pre-installation is essential
- Thorough cleaning (ceiling, floor, technical compartment) and care of the outside of the window (rubble, cable, dust etc) is essential

## Connection and Positioning of the generator

- Verification of the space of the generator: Cleanliness, Accessibility, Plugs and power cable position
- Ventilation or sufficient volume.
- Positioning in a way to keep all of these characteristics
- Position with respect to access of the harness holes

## Test and choice of optics and their position

- Based on elevations and after verification, a particular fixture is used to determine the location where the optics must be set.
- We choose the length and positioning necessary with a light meter.
- We verified that the covers allow the chosen angle
- Placement of light bars (lightstick or ledstick)

## Insertion of the fibers

- The fibers are split in a way that they will feed the optic.
- This minimizes fiber crossings
- Start with the largest ones and end with the shortest ones.
- Support the fibers with clamps on the bar.

## Pre-Positioning of the terminals in broad focus

- Use the choice of terminals.
- Side clamp to keep the chosen angle
- Tightened the focus to be sure of the angle
- Adjustment of the fiber in the optic, **soft clamp**
- Always start by fixing the optical fiber and the bar

## General setting light (wash)

Position the light bars and optics

- Verify that everything is supplied.
- Reposition the lights in a way as to obtain uniform lighting.

## Loading the Fixtures

- Working in collaboration with the curator and the staff in charge of positioning the lighting in the showcase is extremely important
- Some objects may be illuminated perfectly due to a few millimeters relocation instead of a tedious search for a position
- There is a need for coordination at that time.

## Loading the cases

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- Texts, labels and graphics are often forgotten during installations
- They should be carefully considered
- Most visitor complaints are related to illegibility of the text
- The text/reader rails must be present at time of lighting of the showcase

## Determination of critical pieces for accents

- In agreement with the people in charge of museology, the museum curators, education staff, the points to attract the eye are determined in situ.
- These can be areas of interest, or essential to understand the work.
- This emphasis should be noticeable but discreet and elegant.

## Verifications of available terminals

- Once the emphases are set one must manage the terminals
- One must be ready to revise the insertion of fibers or even add a harness
- In this case the work must be done by a specialist because items are present or the items must be removed from the case for safety before installation.

## Final adjustments, selection of accessories and filters

- When everything is "ready" final adjustment are done
- This must be done by a qualified and trained team.
- One avoids working directly over items

## Final measurement of light levels

- In case there are constraints of preventive conservation.
- Essential for items of organic origin, textile, paper, ivory, watercolor, wood, etc....
- The person in charge of the conservation of the items will confirm the desired maximum level of light

## Verification of the general harmony of the illumination

- At this stage, depending on the atmosphere of the gallery, the position of the display of items on the outside of the showcase the overall lighting of the showcases is adapted
- This work is done with the light specialist in charge of the project and the museographer while taking into account the opinion of the users.

## Layout, attachment and concealing of the fibers in the case

- Once the lighting of the items in the case is finished
- Once it is certain that no more adjustments are needed
- Then we will "clean" the inside of the showcase and finish hiding the fibers, place the covers, pull back unnecessary extra lengths of fibers and tighten the clamps

## Inspection with official museographers

- A final verification of the closed, unsecured showcases
- There are always forgotten details
- This tour is more effective after a 24 hours break.