

Creative Applications: Neon Border Light Replacement





Why do you use neon in the first place??

Let's assume it is to attract customers to your business. Then consider this:

Fiber optics vs. Neon: 5 facts you should know:

1. Color:

Neon cannot change colors. The color you chose is the only color you get

Fiber offers almost infinite colors

Neon is static .

Fiber provides a literal wash of colors that change rhythmically across the cable, and can be programmed to blink or color change at any rate.



Fiber optics vs. Neon: 5 facts you should know:

2. Visibility and Impact:

Neon light emission is limited by its small half inch diameter tube

TapeLite is 3.3 inches wide

3. Power Usage:

Neon uses 4.25 watts/foot electricity for a .59 inch diameter Mercury/Argon tube

Fiber is a green technology, using as little as 1.4 watts/foot for a 3.3 inch wide strip.



Fiber optics vs. Neon: 5 facts you should know:

4. Maintenance / Reliability:

Neon is maintenance intense, especially in cold weather . Constant thermal expansion and contraction causes gases to leak and subsequent tube failure

Fiber is virtually maintenance free. RGB LED illuminators are rated for 50,000 hrs. This is over 10 years when run 12 hours per day !

Due to the solid-state nature of the fiber light source there are no filaments to break, no moving parts to fail and no glass components of any kind.

Unlike neon that can shatter, fiber will never "break".



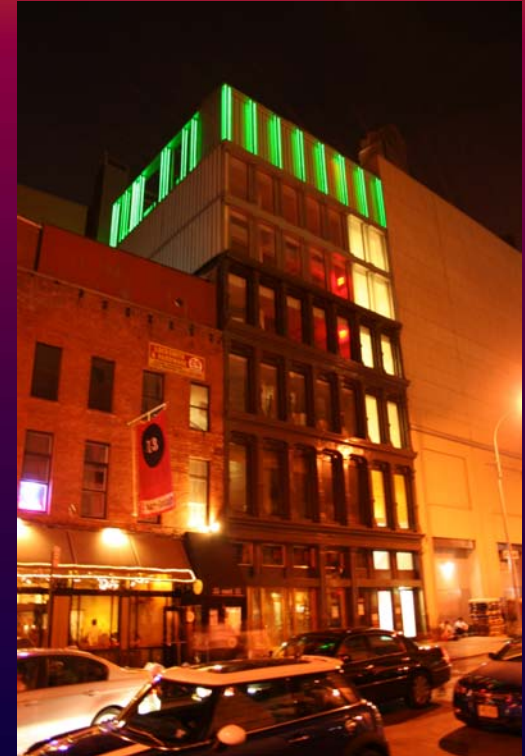
Fiber optics vs. Neon: 5 facts you should know:

5. Safety and the Environment: The Mercury Issue:

Neon tubes have particles of mercury loaded into the neon and argon gas. These are safe as long as the tube is not broken. Improper handling can be a threat to both the environment and health. Many modern neon shops refuse repair of broken argon-mercury tubes for this reason.

Fiber is a green technology... it's totally safe, with no mercury hazard or risk of electrical shock.

Creative Applications: LED Strip Light Replacement





Fiber optics vs. LED light strips: 8 facts you should know:

1. Construction:

Industry standard LED strip lights consist of many individual LEDs wired in parallel, then mounted onto a PC board inside of a protective combination polycarbonate and aluminum housing. Typical strips include 100 individual LEDs per meter. Typical strip lengths range from one to two meters.

Fiber is **much** simpler: A fiber system consists of two illuminators and a length of all plastic cable. Mounting track is optional but not required.



Fiber optics vs. LED light strips: 8 facts you should know:

2. Installation:

Strip light electrical connections must then be made between each tube length. Some manufacturers even require that the connections be soldered. With these systems only a qualified electrician can install the system.

Fiber is installed quickly, without need for electricians. No soldering is required. Illuminators simply plug into standard power outlets.



Fiber optics vs. LED light strips: 8 facts you should know:

3. Reliability:

Border lighting on a small building will require tens of thousands of LED bulbs, with hundreds of connections between segments. LED life follows a typical bell curve. The premature failures will impact the quality of lighting as some sections of the strip will go dark before others do.

Each strip typically requires two end caps for weather sealing and four wires for power termination. Typical day/night thermal cycles result in an expansion and contraction of 1.4mm for a one meter tube. Between this daily expansion and contraction, the seals will start to separate allowing water leakage, thus shorting out the LEDs.

Fiber eliminates these serious problems. As the cable itself is 100% optical, there is nothing to short out and no associated safety hazard.



Fiber optics vs. LED light strips: 8 facts you should know:

4. Wet Environment:

LED Strip Lights cannot be used under water due to the electrical hazard.

Fiber can be used with absolute total safety under water. TapeLite for example can be used on the bottom of swimming pools.

5. Power Usage:

LED Strip Lights generally use 4 watts/foot electricity for a strip up to 1 inch wide and can go up as high as 17.5 watts/foot

TapeLite uses as little as 1.4 watts/foot for a 3.3 inch wide strip



Fiber optics vs. LED light strips: 8 facts you should know:

6. Environment:

Most LED Strip Lights do not meet RoHS requirements for elimination of heavy metals in the environment.

TapeLite is RoHS compliant.

7. Visibility and Impact:

The high power consumption and per foot cost of LED Strip Lighting make wide displays cost prohibitive.

TapeLite's 3.3" strips can be mounted in rows to achieve a wide display that can provide a literal wash of colors that change rhythmically across the cable. TapeLite can be programmed to blink or color change at any rate.



Fiber optics vs. LED light strips: 8 facts you should know:

8. Annual Maintenance:

LED strip lights will require expensive site visits by trained personnel to replace the section of strip that eventually will develop some degraded LEDs. The strip section that is affected cannot be repaired. It must be replaced entirely. Aside from the high purchase cost of the replaced strip, site visits by trained personnel can run into the hundreds of thousands of dollars annually for large installations.

The only thing that would need maintenance in a TapeLite system would be the LED illuminator. Since the illuminators are rated for 50,000 hours, this means that they will run for over 10 years when lit 12 hours per day. Once the TapeLite cable itself is installed, its expected service life (limited only by UV exposure) is 10 years.



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