Ceiling FiberLights

Advantages & unique features . . .

Flexibility
Fiber optic cable are flexible and can be shaped to conform to almost any curve design.

Continuity
Side light fibers that emits light along its length can illuminate continuously for 32m without any interval - ideal for pool perimeter and sculpture lighting.

Durability
Optical fibers (PMMA or soft glass), are strong, durable and impact resistant compared with fragile light bulbs.

UV & IR Control
Fiber optic cable transmits only cool light filtering out harmful levels of ultra violet and infra red radiation. Ideal for antiques, perishable items, fine arts, etc..

Color Changing
Most powerful advantage is its color changing ability, creating aesthetically pleasant ambient depending on individual preference to gradual changing sequence.

Sparkling Animation
Unlike LEDs, fiber optic lights can create more realistic sparkling & twinkling effect, plus feasibility to create shooting star animation.

Low Maintenance + energy Saver
A single luminaire can beam up to 1200 strands of 0.75mm fiber, thus minimal lamp replacement is required instead of multiple bulbs.

Weatherproof
Outdoor and underwater lighting such as swimming pools, fountains or even illumination in hazardous atmospheres can be done safely with optic lighting.
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What is Fiber Optic Luminaries?

Fiber optic lighting uses optical fiber as a “light pipe,” transmitting light from a source through the fiber to a remote location.

Its ideal for accent and mood lighting in commercial & residential settings, where extremely miniaturized non-electric illumination is the best solution. It is a safer alternative, suitable to light niche locations such as jewelry cases, pools, parks, exhibit cases, decorative down lights, landscape lighting etc.

Generally there are three (3) types of fiber optic lighting:

**End Light**
Light is directed from the luminaire through optic fiber where it is emitted to the end.

**Side Light**
Fiber optic also emit light from the side as well as the end. This type of lighting is best suited for pools and architectural illumination.

**Environment Light**
Fluorescent fiber absorb light from the environment and emit to its ends. This is a specialty fiber particularly used in sights for rifles, bows, decorative displays and sensors.

Why use Fiber Optics for lighting?

The most noteworthy advantage of using fiber optic lighting systems is that the light is separated from the electricity that generates light. This makes it possible to illuminate areas, such as pools, spas, fountains, or in environmentally sensitive industrial situations. The reason: fiber optic light produces no electrical shocks and will not become a fire hazard.

A side-light fiber can be used in places where the potential of breakage or of contact with a high voltage transformer that makes a neon light hazardous. In addition, fiber optic lighting systems use both heat (infrared or IR) and ultraviolet (UV) filters in the light source. As a result, the light emitted contains no UV and no heat. This is particularly desirable for lighting retail displays containing products that are sensitive to heat, as well as museum displays of temperature sensitive artifacts and art. Basically, dyes and oil paints won’t fade, chocolate won’t melt, and fresh flowers won’t wilt.

The use of fiber optic lighting systems can also lead to improved energy efficiency in some cases, particularly through the use of metal halide (HiD) light sources. Because a single lamp can drive many fibers and produce multiple points or lines of light, maintenance costs can be reduced and maintenance tasks simplified, particularly for the hard-to-reach lamp. In addition there is economy of scale, as one lamp can light an entire chandelier or a ceiling or wall of sprinkles lights.

Overall, fiber optic lighting systems can be used in almost any lighting situation.

With several vibrant colors available, it is feasible to change colors gradually or have dramatic color switch effects plus sparkling animations that mimic starlight patterns on ceilings. This versatility lends itself to a creative and innovative lighting applications.

**Fiber Optic Dichroic Colors (1.1MM borofloat)**

- **Bikini Yellow**
- **Brilliant Orange**
- **Brilliant Blue**
- **Midnight Blue**
- **Aquamarine**
- **Forest Green**
- **Shocking Pink**
- **Red Rose**
- **Purple**
- **Softlite 2600K**
- **WarmWhite 3000K**
- **Snow White 4000K**
- **Super White 5000K**
Planning a fiber optic lighting system

Fiber light system requires a different approach than a traditional lights. There are three principle components - the luminaire, the optical fiber and the output fixture. Optical fibers are either soft glass or PMMA (poly methyl methacrylate) and come with two layers - an inner core surrounded by a teflon cladding. There is an additional third layer of jacket for protection depending on its application i.e. for side light it would be clear jacket while black for end lighting. Bundling individual fibers together is a common practice, with this assembly referred to as bundled fiber. Single core fibers commonly called Solid Core fibers are large diameter fibers. The following points must be carefully considered when designing a fiber light system:

- Desired light ambience required (functional or decorative)
- Color rendering (warm light, cool beam or color changing)
- Luminaire location (accessibility, ventilation and future re-lamping)
- Fiber optic cable paths from light source to end points.
- Size of display item to be illuminated (this determines number of fiber points)
- The finishing of end fitting (if necessary).

Starfield ceiling

Minimum space required 300mm

Side-lit application

Note that for sidelight applications, 30 to 35 meters runs are ideal when looped back to a single luminaire. On long runs, multiple luminaires in series are the norm. Wherever possible, sidelight cable should always be looped in and out of the luminaire. They may or may not be synchronized depending on the color effect desired. When using multiple luminaire, cable run should be the same length as possible. This will ensure the cables uniform brightness.