Scintillating / Fluorencent Fibers

Scintillating and fluorescent fibers appear visually the same, but they act differently when exposed to high energy particles. Scintillating fibers are made with a fiber core material to produce photons in the visible range when high-energy particles pass through the core material. Applications for scintillating fibers include:

- Calorimeters
- Cosmic ray telescopes
- Flow cells
- Neutron imaging
- Particle discrimination

Although fluorescent fiber looks the same to the human eye, it does not absorb high energy particles such as gamma rays. It obtains its energy to fluoresce from UV or blue light. These fibers are sometimes called “wavelength shifters” because they absorb short wavelength energy, and emit it in a longer wavelength region. The optical energy (light) emitted is narrow-wavelength, vivid and bright.

All fiber listed on this page is fluorescent.fiber Applications for these fibers include:

- Sights for rifles, shotguns and bows
- Decorative displays, sensors

The optical core of this fiber can be either polystyrene (which is lower cost) or acrylic (higher cost but with more resistance to UV light for outdoor applications).

This optical fiber is easily cut and can be finishedlike other plastic fiber. Most common items are listedto the right – available in red, green, amber and blue fluorescent colors. (Other fiber colors and diameters such as orange, yellow, purple, 1.0, 1.25, 1.5, 2, 2.5, 3 and 4 mm diameter are available upon special request.)

Polystyrene

Color	Diameter
Red	.5 mm
Green	.5 mm
Blue	.5 mm
Amber	.5 mm
Red	.75 mm
Green	.75 mm
Amber	.75 mm
Red	1 mm
Green	1 mm
Amber	1 mm
Blue	1 mm
Purple	1 mm
Orange	1 mm
Yellow	1 mm
Red	1.5 mm
Green	1.5 mm
Amber	1.5 mm
Red	2 mm
Green	2 mm
Amber	2 mm
Red	2.5 mm
Green	2.5 mm

Acrylic

Color	Diameter
Red	.75 mm
Green	.75 mm
Red	1 mm
Green	1 mm