Fiber-optic Safety

The safety issues for fiber are not what everyone thinks of first; getting your eyeball burned out by laser light in a fiber. Most fiber-optic systems have power levels too low to do any damage. In addition, the light is coming out of the fiber in an expanding cone, meaning the further away the end of the fiber is, the less the danger. Most systems also operate with light over 1000 nm wavelength, where the liquid in your eye absorbs the light heavily, preventing retinal damage. That said, it’s stupid to look into a fiber when you don’t know what is being transmitted through it! First of all, most of the light is invisible to the human eye, so you can’t see anything anyway. Secondly, if it is high enough power to be a problem, the damage is likely irreversible! So don’t look into fibers! Use a power meter to see if power is present, especially if looking at the end of a connector with a microscope.

The two major safety issues are proper disposal of the glass shards created by cleaving the fiber or accidentally breaking it and the cleaning chemicals and adhesives used. ALWAYS DISPOSE OF FIBER SCRAPS CAREFULLY! We recommend a disposable paper cup (those used for take-out soup work best) to keep all scraps in. Be careful about getting scraps on the floor or your clothes.

Be careful in dealing with the chemicals. Some are flammable, some are hazards to breathe or may cause allergic reactions. Always work in well-ventilated areas.

Follow these simple rules and you should work safely!

Fiber-optic Safety Rules

- Keep all food and beverages out of the work area. If fiber particles are ingested they can cause internal hemorrhaging.
- Do not smoke while working with fiber-optic systems.
- Always wear safety glasses with side shields. Treat fiber-optic splinters the same as you would glass splinters.
- Never look directly into the end of fiber cables until you are positive that there is no light source at the other end. Use a fiber-optic power meter to make certain the fiber is dark. When using an optical tracer or continuity checker, look at the fiber from an angle at least six inches away from your eye to determine if the visible light is present.
- Only work in well ventilated areas.
- Contact wearers must not handle their lenses until they have thoroughly washed their hands.
- Do not touch your eyes while working with fiber-optic systems until your hands have been thoroughly cleaned.
- Keep all combustible materials safely away from the curing ovens.
- Wear disposable aprons if possible to minimize fiber particles on your clothing. Fiber particles on your clothing can later get into food, drinks, and/or be ingested by other means.
- Put all cut fibers pieces in a safe place and dispose of properly.
- Thoroughly clean your work area when you are done.