

## Fiber Optic Ceiling Installation Instructions

The installation of a fiber ceiling can be a labor intensive and tricky thing, but if these instructions are followed the end result will be worth the effort. The gist of this is, to plot out where your points of light will go, drill the holes in the ceiling substrate, feed the fibers through the holes, and glue them on the back of the substrate.

- 1) **Plotting your points-** Most ceiling applications are Star Ceilings, ie, the effect should emulate the night sky. The most common mistake in doing this is that people plot their points far too evenly. It is much better to group stars in clusters and bands, not in an evenly spaced pattern or grid. There is no template for this- it is open to interpretation. Here's a pretty good picture of one-



When Plotting a picture outline, or logo, it is important to either make a full sized template on butcher paper, or you can use an overhead projector (contact your local school), put the logo on the projector and project the image on to the ceiling, and then make a trace on the ceiling.

- 2) **Drilling-** Use a high speed dremel tool to drill the holes. Star ceilings are more effective if you use different sizes of fiber for different sizes of stars. If the harness you are using doesn't have different sizes of fiber, no matter, you can put one fiber in some of the holes, 2 fibers in some holes and 3-4 fibers in some of the holes. It makes the points 2,3 and 4 times as bright, appearing to the human eye as larger fibers. Typical star ceilings have 70% single strand, 20% double strand and 10% 3-4 strands. Use the appropriate dremel bit for each of these sizes of holes. It doesn't matter if you drill the holes slightly larger than the fibers you are inserting. When you paint the ceiling at the end of this procedure it will plug the rest of the hole. When doing a logo, it is always a good idea to put fibers every half inch around the outside of the logo, and then randomly fill the logo with points.

- 3) **Feeding Fiber-** The illuminator(s) should live in a dry and well ventilated area. Fibers usually come in a big bundle, so you may need to separate them into smaller more manageable bundles and use a cable tie to keep them separate. Some harnesses come with pre-jacketed fiber for this reason. Distribute these small bundles all over the ceiling so they can reach all the holes in their respective zones. Try not to get too many of them caught up on drywall screws or hanging rods- they're pretty tough, but will break. If you are in a ceiling and feeding fibers it helps to have a halogen work light down below- the light will shine up and show all the holes that are drilled. One at a time, feed the fibers through the holes (remember your 70/20/10 rule). It's nice to have someone down below the ceiling with a scrap piece of fiber to poke through holes and yell at you (1 fiber, 2 fibers, 3 fibers, etc- remember, light goes both ways down this fiber so if you can't find a hole in the dark have the guy below stick the scrap piece through and hold it towards the work light or a flashlight- you will see it sticking up in the dark crawl space. It will light up showing the hole.
- 4) As you feed fibers through the holes, use the epoxy gun and cartridges to glue the fibers in place. Have the guy below make sure all the fibers are hanging down from the ceiling at least 6" before gluing them. The epoxy is 20 minute cure.
- 5) Once the fibers are all in place and glued and hanging down, turn on the illuminator and shut off the room lights. If any areas of fibers seem dead you need to look and see if a bundle got damaged.
- 6) **Paint the ceiling-** use primer and a darker paint (black or dark blue). This must be a spray job, not roller. Rollers will crimp the fibers.
- 7) Clip the fibers back to 1/8" using a pair of side cutters or wire clippers.
- 8) Enjoy.