

Fiber Bundling Techniques

String Binders vs. Stripes

AFL has been using a proprietary process of fiber bundle separation inside stainless steel and plastic buffer tubes since 2005. Prior to using this method, AFL utilized striped (or dashed) marks on each individual fiber, but received many customer complaints that this method was not user-friendly. Each individual fiber had to be examined and segregated taking extra time and a keen eye. Therefore, AFL changed its process to be more user-friendly by incorporating colored string binders that follow the standard color code instead of stripes.

The string binder process allows a bundle of fibers to be separated into distinct sub-bundles in seconds because the fibers are already separated into groups of twelve. Again, with stripes or dashes, each individual fiber must be touched and separated into its respective bundle. With the fiber bundle separation step completed by the manufacturer, time is reduced during the fiber prep stage.

The binders also provide a way to keep the subgroups bundled helping with future identification. Once the string binder is removed from the bundle, a small knot can be loosely tied around the 12-fiber bundle at the end of the tube.

During the days of manufacturing fibers with stripes (or dashes), AFL noticed the potential for micro bending on the fibers. The black ink must be applied correctly to function properly. If the ink is not applied evenly, not spaced properly or is applied too thickly, then pressure points can be induced onto the surface of the fiber causing optical issues.

AFL has developed the colored string binder process so as not to interfere with the free movement of the fibers within the tube. AFL has manufactured, type-tested and factory acceptance-tested tens of thousands of kilometers of fiber optic cable utilizing string binders proving that is indeed possible to successfully utilize this color coding technique which in turn saves our customers time and money.

