

Technical Advisory

Fiber Optic Cables: Field Breakout Kit

Fiber optic cables can be joined in several ways. The fiber ends can be fusion spliced together, held in a mechanical splice, or each fiber can have a connector attached. Typically, permanent joining is accomplished with splices and temporary joining uses connectors.

In the outside plant environment, most connections are intended to be permanent, therefore the splice is the predominant method. In premise applications, most connections are made in the patch panel where moves, adds, and changes require that the connections be temporary. The connector is the preferred method to accommodate these changes.

Tight buffered cables, both breakout and distribution styles, have a 900 μm buffer which is designed for use with standard fiber optic connectors. Breakout style cables give the fibers additional protection from potential abuse if the termination is expected to undergo frequent handling. Distribution style cable can be directly terminated as long as an enclosure or panel protects the buffers from abuse. The buffers are sturdy enough to support the connector alone.

Loose tube cables do not provide the same protection for the fibers when they are terminated in a connector. As a rule, loose tube cables are generally used in the outside plant where splicing is used. However, it is sometimes necessary to terminate the loose tube fibers with connectors, especially when using products like the Mohawk RiserLite™ or Versalite™ cables which are terminated in the telecommunications closet rather than the building entrance.

Typically there are six or twelve 250 μm coated fibers within each loose tube that need to be individually terminated. Some panels or enclosures are designed to support the fiber directly behind the connector body when the connector is inserted into a bulkhead. If handled properly, a connector can be directly terminated onto the coated fiber. In most instances, it is safer to use a breakout kit to provide additional protection to each of the fibers.

The Mohawk Field Breakout Kit is designed to attach to one tube of a loose tube cable and has either six or twelve 900 μm tubes that hold each of the coated fibers. For each end of the cable, one kit is needed for every tube. For example, part number M9B511T has two tubes with six 62.5/125 fibers each. This cable requires four field breakout kits; two for each end of the cable.

The kit is available in two sizes to accommodate the two different tube sizes which are manufactured by Mohawk. For tubes containing one to six fibers, the diameter is 0.075" (1.9 mm) and for tubes containing seven to twelve fibers, the diameter

is 0.110" (2.8 mm). Every kit is shipped with a complete set of instructions. The only additional tools necessary are lint free cloths to clean the gel from the fibers (if necessary) and a crimp tool with a 0.178" (4.52 mm) hex crimp die. The crimp die is standard with most fiber optic connector crimp tools.

Field Breakout Kit Options

Part Number	Tube Diameter	Fibers/Tube
AX101100	0.075" (1.9 mm)	≤ 6
AX101101	0.110" (2.8 mm)	$7 \leq 12$

If questions arise concerning a particular application, call the Technical Support Group of Mohawk at (800) 422-9961.