FOA Standard FOA-6

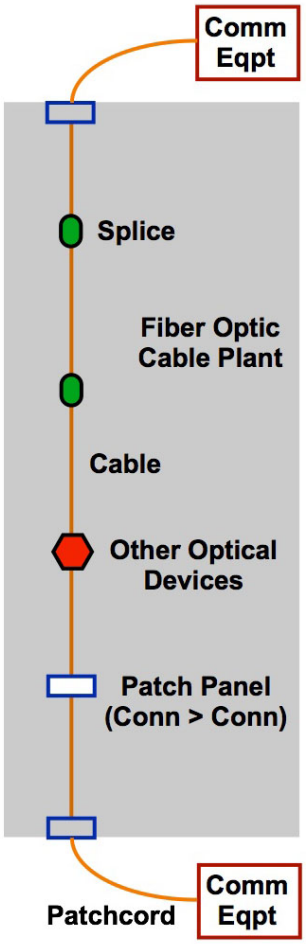
Fiber Optic Cable Plant

Definition
A fiber optic cable plant is a complete passive fiber optic subsystem designed to transmit optical signals from datalinks (FOA-5) or communications systems. The cable plant may be installed indoors, outdoors or some combination. The cable plant must be designed to work with the communications system(s) for which it is intended and be compatible with the environment in which it is installed. Generally, the cable plant does not include patchcords on each end used to connect equipment but does include intermediate patch cords.

Components
A cable plant consists of cable(s) that protects the fibers within it, splices to connect two or more cables permanently and connectors to patch cables together or connect to communications equipment. The fiber inside the cable, the cable and all other components must be chosen to be compatible with the communications system(s) and the environment in which the cable plant is installed.

Performance-Loss Budget
The cable plant should have a loss budget calculated to ensure the total expected loss of the cable plant is less than the power budget of the intended communication system's datalinks. (See FOA-5) The loss budget is calculated by summing the expected loss from all fiber segments, splices, connectors and any other passive devices in the cable plant.

Testing
The complete cable plant should be tested for insertion loss (FOA-1) and if appropriate, by an OTDR (FOA-4). Test results should be compared to the loss budget to judge the quality of the installation. OTDR traces should be analyzed to pinpoint areas of high loss due to stresses or other faults such as excess splice loss or high reflectance.



Schematic of fiber optic cable plant showing its components (gray box) and connected communications equipment.

Documentation
Cable plant documentation should include (but not be limited to) the routing of the cable, the length of all segments, location of splices, component specifications, and test data including loss of all segments from connector to connector and OTDR traces as defined in the appropriate FOA standards.

See FOA Guide Reference (QR Code) for more details.