General Instructions

Flat Drop Cordage Assembly Instructions
Instruction for Use

Material used in cleaning (isopropyl alcohol, Electro-Wash, and canned air) should be used in a well ventilated area and not near an open flame. Follow all of the manufacturer's safety and disposal instructions.

Additional Instructions for Flat Drop Cordage Installation review IP-049

General Instructions

1.0 This practice covers the basic installation guidelines and sheath removal procedures for OFS Mini LT Flat Drop cable. Instructions are also included for optional toneable cables. It is intended for personnel with prior experience in placement and installation of aerial cable. A working familiarity with aerial cable requirements, practices, and work operations is necessary as this guide does not cover all aspects of aerial construction work.
2.0 Mini LT cable is available with an optional 24 gauge copper wire that can be used for cable locating.
3.0 The copper wire is easily separated from the optical cable to provide access for locating equipment. Mini LT cable is optimized for self-supporting aerial installation. The cable may also be used in direct buried and underground conduit installations.
4.0 Care must be exercised during installation to ensure that the maximum rated cable load (MRCL) is not exceeded and the minimum cable bend diameter is not violated.
5.9 The MRCL for Mini LT cable is 300 pounds (1335 N). This is the maximum tensile force that may be applied to the cable during short-term installation conditions, e.g., during an underground installation in conduit or inner duct. The 300-pound (1335 N) MRCL also applies during storm-load conditions for self-supporting aerial cables.

Maintain Minimum Bending Radius

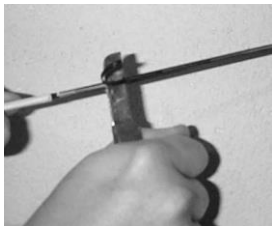
1.0 Cable minimum bend diameters are defined for both dynamic and static conditions. The dynamic condition applies to a cable that may be exposed to the MRCL, e.g., pulling the cable around a sheave or capstan. The static condition applies to a cable that is exposed only to low tension, e.g., an installed cable that is racked in a handhole or manhole. The maximum cable tension under static conditions is 150 pounds (667 N). Under dynamic conditions, the minimum bend diameter for Mini LT Flat Drop cable is 12 inches (30 cm). The minimum bend diameter under static conditions is 6 inches (15 cm). For slack cable storage, the minimum diameter of storage coils is 12 inches (30 cm).
2.0 The slack cable storage is housed coiled attached to a pole, attached around the closure in underground handhold or buried at the conduit exit point.

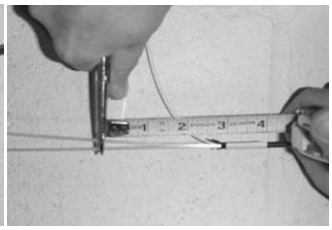
Sheath Removal and Fiber Access

The following tools and materials are recommended for cable sheath removal.

- Cable sheath knife
- Buffer tube removal tool
- Tape measure
- Gloves
- Splicer's scissors
- 24 gauge wire stripper (toneable cables only)
- Marking pen or tape
- Safety glasses

1.0 *For toneable cables only:* Determine the length of toning wire that must be separated from the drop cable and mark the cable at the appropriate length. Cut a 2 inch slit in the rib that attaches the toning wire to the cable. Separate the toning wire from the cable by grasping the toning wire and pulling it away from the cable. Use a 24 gauge wire stripper to remove the jacket from the toning wire.





2.0 Locate the position of the dielectric strength members. Use a cable sheath knife to shave off the cable jacket on top of the strength members. Expose both strength members from the tape mark to the cable end. Alternately, the FOD Speed Slitter3 can be used to access both the OFS Mini LT and Mini LT Toneable drop cable products
3.0 Cut the strength members at the required length. Refer to the closure documentation to determine the proper length that is required to secure the strength members in the closure or pedestal.

Installation Instructions

1. Remove Assembly from packaging. Assemblies with pulling eyes are coiled and shipped in a box. Two assemblies are shipped in a cardboard shipping container.
2. Route the assembly by pulling the cable, not the connectorized end, not to exceed 60 lb. tension.
3. Remove the dust cap and inspect the end prior to installing the connector in the adapter.
4. Install each connector into the coupling by aligning the key on the connector body with the keyway on the coupling. The SC APC connector is properly installed when the key is completely seated inside the coupling.
5. If a high-loss condition exists, use the SC cleaning procedures and reinstall the connectors as described in Step 1.
6. When doing rearrangements or reinsertions of the SC connectors, use the SC cleaning procedures at the end of this practice to clean all components and reinstall the connectors.

Splicing Information

The fiber in flat drop cable is fully compatible with standard ITU G.652D, G.657A, and G.657B fiber when any type of splicing is used: core-aligned, clad-aligned, or V-groove splicing. No special tools, software, or procedures are required for fusion splicing. If no specific program is offered for AllWave Flex+, the following simple guidelines should enable splice losses within expected levels.

Fusion Splicer Type	Program and Settings
Clad Alignment in V-Groove – passive alignment	Standard Single-mode
Clad Alignment – active alignment	Standard Single-mode
Core Alignment – active alignment	Multimode

OFS AllWave Flex+ fiber cables are compatible with fusion splice-on or mechanical splice-on connectors, mechanical splices, and standard connector end face polishing procedures.

More information can be found in the OFS White Paper, "OFS Bend-Insensitive Single-Mode Fibers: Application and Splicing Guidelines". Contact OFS at 1-888-FIBER-HELP for specific information.

Loss Measurement Information

OFS recognizes that bi-directional measurements in some applications such as MDU deployments may be difficult because access to the fiber inside the residence may be impractical. As a result, some technicians qualify optical loss using a one way (uni-directional) OTDR measurement. One way OTDR measurements inherently involve large errors and are not recommended. **However, if this method is to be used, please consult the OFS White Paper, "OFS Bend-Insensitive Single-Mode Fibers: Application and Splicing Guidelines" for OTDR result interpretation guidelines.** Assemblies can be measured with a light source and power meter prior to installation and after installation.

ofs
Leading Optical Innovations

OFS
FIBER OPTIC TECHNICAL ASSISTANCE
1-888-FIBER HELP
(1-888-342-3743)

* For cleaning, always use isopropyl alcohol (>91% 2-propanol + water).

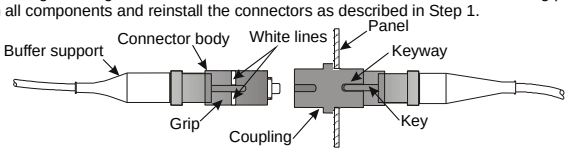
M13AK0002

Instruction Sheet

SC and LC Connectors
Instruction for Use

Install SC Connectors onto Coupling

1. Install each connector into the coupling by aligning the key on the connector body with the keyway on the coupling. The connector is properly installed when the white line in the grip disappears inside the coupling.
2. If a high-loss condition exists, use the SC cleaning procedures and reinstall the connectors as described in Step 1.
3. When doing rearrangements or reinsertions of SC connectors, use the SC cleaning procedures to clean all components and reinstall the connectors as described in Step 1.



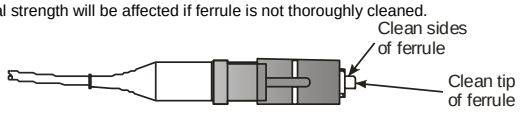
Clean SC APC Connector

For optimal results, use the Chemtronics QbE® Cleaning System (Chemtronics #QBE). Position one QbE wipe over the foam platen. Spray a small spot (about the size of a quarter) of ElectroWash PX Fiber Optic Cleaner (Chemtronics #ES810 or ES1210) onto one corner of the QbE wipe. Orient the connector properly (i.e. APC connectors should be oriented and tilted, as needed, to ensure the end face contacts the wipe) and move the connector endface across the wipe, from the wet area to the dry area of the wipe, in one direction. Blow clean compressed air across the endface, to remove any lint particles. A new area of the wipe should be used for each connector. (Note: This procedure may also be used for SC PC connectors, instead of the procedure shown to the right).

Clean SC Connector, Coupling, and Attenuator

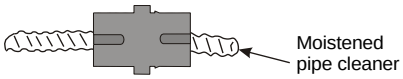
Clean connector ferrule with a wipe moistened with isopropyl alcohol* and blow-dry with canned air. Clean end and sides of ferrule.

Caution: Signal strength will be affected if ferrule is not thoroughly cleaned.



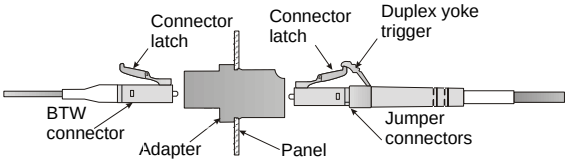
Clean coupling by placing a pipe cleaner (moistened with isopropyl alcohol*) inside coupling and gently rotating. Blow-dry the coupling using canned air.

Caution: Do not try to clean the coupling with pipe cleaner if a connector is Mounted in one side.



Install LC Connectors into Adapter

1. Install connector(s) into the adapter by aligning the latch(s) on the connector(s) with the slot(s) on the adapter and gently push into place. An audible click is heard when the connector(s) snap into the adapter.
2. If a high-loss condition exists, use the LC cleaning procedures and reinstall the connector(s) as described in Step 1.
3. When doing rearrangements or reinsertions of LC connectors, use the LC cleaning procedures to clean all components and reinstall the connectors as described in Step 1.



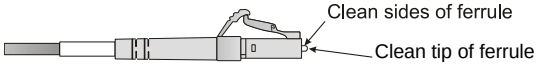
Clean LC APC Connector

For optimal results, use the Chemtronics QbE® Cleaning System (Chemtronics #QBE). Position one QbE wipe over the foam platen. Spray a small spot (about the size of a quarter) of ElectroWash PX Fiber Optic Cleaner (Chemtronics #ES810 or ES1210) onto one corner of the QbE wipe. Orient the connector properly (i.e. APC connectors should be oriented and tilted, as needed, to ensure the end face contacts the wipe) and move the connector endface across the wipe, from the wet area to the dry area of the wipe, in one direction. Blow clean compressed air across the endface, to remove any lint particles. A new area of the wipe should be used for each connector. (Note: This procedure may also be used for LC PC connectors, instead of the procedure shown to the right).

Clean LC Connector and Adapter

Clean connector ferrule with a wipe moistened with isopropyl alcohol* and blow-dry with canned air. Clean end and sides of ferrule.

Caution: Signal strength will be affected if ferrule is not thoroughly cleaned.



Clean adapter by placing an adapter brush (moistened with isopropyl alcohol*) inside adapter and gently rotating. Blow-dry the adapter using canned air. The brush can be cleaned with alcohol and canned air.

Warning: Do not try to clean adapter with a standard pipe cleaner. The LC's sleeve inner diameter is too small. Also, do not try to clean the adapter with LC adapter brush if a connector is mounted in the adapter.

Clean attenuator by holding canned air nozzle 3 inches from end of the attenuator. Blow air into each side of the attenuator.

Caution: Do not use pipe cleaner or adapter brush to clean attenuator.

ofs
Leading Optical Innovations

OFS
FIBER OPTIC TECHNICAL ASSISTANCE
1-888-FIBER HELP
(1-888-342-3743)

* For cleaning, always use isopropyl alcohol (>91% 2-propanol + water).