OFS
Instruction Sheet

General Instructions

EZ Bend® Assembly Instructions
Instruction for Use

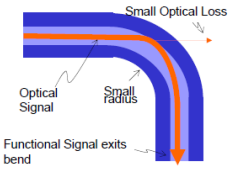
M13AK0002
Issue 1, April 2013

WARNING!

User should be aware of possible hazards due to presence of invisible (infrared) radiation when examining connectors with the naked eye or a microscope. A laser IR detection card (Edmund Industrial Optics #NT55-292 or equivalent) may be used to allow visualization of invisible IR light.

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. KEEP OUT OF REACH OF CHILDREN.

Maintain Minimum Bending Radius



EZ Bend® Optical Fiber must not exceed a 5.0 mm (0.20 in.) bend radius throughout the installation.

Cable Attachment

EZ-Bend cable, 4.8 mm only, can be stapled in place with a standard stapler and Arrow T25™ staples. T25 staples are recommended due to the rounded top profile, as shown in the circle above. The rounded top profile minimizes the crushing force placed on the cable.

Cable Properties

EZ Bend Cable Properties for OFNR Riser-Rated Cables

Part No.	Cable OD	Max Tensile	Nominal Weight
DRW DHW 4.8 indoor	4.8 mm	440 N	19.5 kg/km
DRK 4.8 indoor/outdoor	4.8 mm	440 N	21.0 kg/km
DRW DDW DHW 3.0 indoor	3.0 mm	310 N	7.45 kg/km

EZ-Bend cable contains solid-core fiber with macro-bending performance beyond ITU G.657B requirements. EZ Bend 3.0 mm cable is intended for use in applications where the cable will be installed in micro-duct, raceways, or behind protective moldings. Bend limiters are not required.

EZ Bend 4.8 mm cable is intended for use in applications where the cable will be stapled in place. There isn't a required limit of staples or distance for typical indoor applications, but staples are commonly placed roughly 50 cm (18 inches) apart. Additional staples may be placed to maintain bends around corners as needed. EZ Bend may be installed in studs through drilled holes.

Installation Instructions

1. Remove Assembly from packaging. Lengths less than 20M are shipped in a zip lock bag. Multiple assemblies are shipped in a cardboard shipping container. Remove one at a time opening the packaging. Remove the assembly and the tape, keeping the coil in place. Holding one end, release the cable, letting gravity straighten the cable.
2. When the lengths are longer and are shipped on a spool, remove the tape on the outside end connector. You may uncoil from the spool or utilize a rod in the hub to unspool the fiber as it is pulled.
3. Route the assembly by pulling the cable, not the connectorized end, not to exceed 60 lb. tension.
4. Remove the dust cap and inspect the end prior to installing the connector in the adapter.
5. Install each connector into the coupling by aligning the key on the connector body with the keyway on the coupling. The SC UPC or SC APC connector is properly installed when the key is completely seated inside the coupling.
6. If a high-loss condition exists, use the SC cleaning procedures and reinstall the connectors as described in Step 1.
7. 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.

Some pictures of completed installations are shown below.

Splicing Information

The fiber in EZ-Bend cables 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 of EZ-Bend cables. If a fusion splice machine offers a program on the menu for splicing EZ-Bend® to standard single-mode fiber, that program should be used. If no specific program is offered, 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 EZ Bend ® 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.

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

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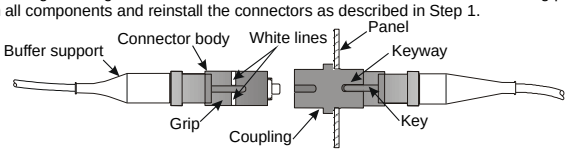
Instruction Sheet

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.



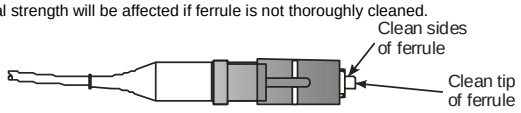
Clean SC APC Connector

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

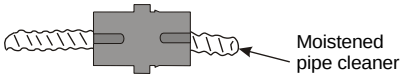
Clean connector ferrule with a wipe moistened with isopropyl alcohol* and blow-dry with canned air. Clean end and sides of ferrule.

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



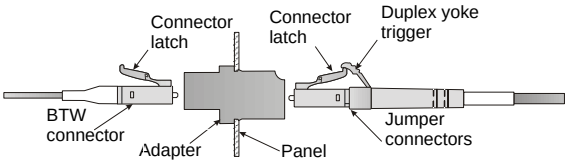
Clean coupling by placing a pipe cleaner (moistened with isopropyl alcohol*) inside coupling and gently rotating. Blow-dry the coupling using canned air.

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.



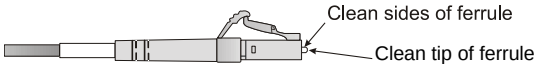
Clean LC APC Connector

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.

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