Technical Publication



Fiber Optic Interface Cleanliness Guidelines

Your biggest problem is right in front of you... you just can't see it! DIRT IS EVERYWHERE!

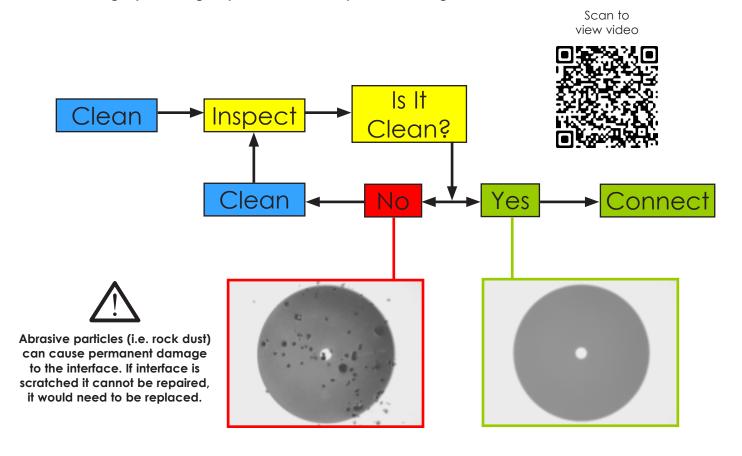
- Airborne, hands, clothing, bulkhead adapter, dust caps, test equipment, etc.
- The average dust particle is not visible to the human eye.
- A single spec of dust can be a major problem when embedded on or near the fiber core.
- Dust caps protect the fiber end-face, but can also be a source of contamination (check before reuse).
- Test gear interfaces are typically the major source of contamination because of the repeatable use.

There are 3 basic principles that are critical to achieving an efficient fiber optic connection:

- 1. Perfect Core Alignment
- 2. Physical Contact
- 3. Pristine Connector Interface

Today's connector design and production techniques have eliminated most of the challenges to achieving core alignment and physical contact. What remains challenging is maintaining a pristine end-face. As a result, <u>CONTAMINATION</u> is the #1 reason for troubleshooting optical networks.

Implementing the process of cleaning and inspecting before mating can reduce the time spent troubleshooting, optimize signal performance and prevent damage.



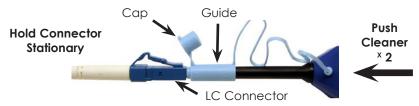
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Clean all the Connectors and Adapters

All in one cleaner: Device designed for cleaning the ferrule end faces of connectors

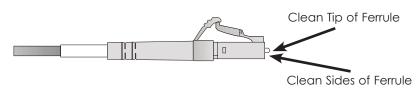
Open guide cap, insert connector into guide, push the outer shell to start cleaning the connector interface, a "click" sound indicates end of a cleaning process, repeat, close cap immediately after use.



Caution: Be careful not to slant the connector while inserting into the Guide cap. Do not overly exert force during insertion as this may cause damage to both the connector and the cleaner.

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Part Number	Description
FCCT-MPO	MPO Connectors
FCCT - ODC	ODC compatible connector
FCCT-L	DLC Connectors

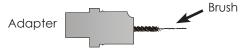
Lint-free wipe: Clean exposed connector ferrule by lightly moistening lint-free wipe with fiber optic cleaning solution (Sticklers MCC-FCC03M BLUE or equivalent), and by applying medium pressure, first wipe against wet area and then onto dry area to clean potential residue from end face. Clean connector ferrule inside adapter by inserting lightly moistened cleaning stick with fiber optic cleaning solution (Sticklers MCC-FCC03M BLUE or equivalent) inside the adapter until contact is made with connector on opposite end. Rotate cleaning stick with medium pressure in one circular motion as it is pulled away from the adapter. Repeat process using dry cleaning stick.





Caution: Signal strength will be affected if end and sides of ferrule are not thoroughly cleaned. Discard cleaning sticks after each use. Do not turn cleaning sticks back and forth pressing against connector end face. This may cause scratches if large contamination is present. Always inspect connector end face for contamination after each cleaning.

Cleaning stick: Clean adapter by inserting adapter cleaning stick (or fiber adapter sleeve brush) moistened with fiber optic cleaning solution (Sticklers MCC-FCC03M BLUE or equivalent) inside the adapter and gently pull out with twisting motion. Repeat process with a dry cleaning stick.



Caution: Do not try to clean adapter with a standard pipe cleaner. The sleeve inner diameter of LC adapters is too small. Do not try to clean the adapter with cleaning stick if a connector is mounted in one side. Discard cleaning sticks after each use.

Microscopic end views of unacceptable conditions that require cleaning



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Fiber Troubleshooting

- Clean First! Clean optical end face with appropriate all in one cleaner
- Visually inspect end face for residual dirt and damage
- Avoid migration of contaminations from one connector to another
- Check continuity by using LED or lazer light source from one end face and look for light from other end to identify any broken fiber (Do not look directly at cable with lazer source)
- Check end face again for cleanliness before attachment. If needed, clean again

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