



WORK INSTRUCTION

Fiber Connector Inspection and Cleaning – Best Practices




Applies to:	<ul style="list-style-type: none">• MTP Fiber Connectors• MTP Fiber Connectors with Adapters• MPO Fiber Connectors
Objective:	Apply best practices for inspecting and cleaning fiber connectors and pins
Documentation Reference:	<ul style="list-style-type: none">• N-FBFS061--Rev01—ENG: Visual Inspection and Cleaning of Multimode and Single Mode Structured Cabling System Interconnect Components• IEC 61300-3-35 document (FO Interconnecting Devices – Basic Test and Measurement Procedures) – Section 6
Pre-Requisites:	<ul style="list-style-type: none">• Connector Inspection Tools. For details, see the table below.• Connector Cleaning Tools. For details, see the table below.

Description

This work instruction details the steps to inspect and clean fiber connectors.

Connector Cleaning and Inspection Tools

Connector Inspection Tools	
Stand-Alone	
Auto MTP Endface Scopes (or MTP/LC/SC internal adapter)	
Manual SC/LC Endface Scope	
Connector Cleaning Tools	
Cleaning Cassettes	
Sticks and Swabs	


Solvents	
Compressed Gas	
Mechanical Cleaning Tools	




Performing the Procedure

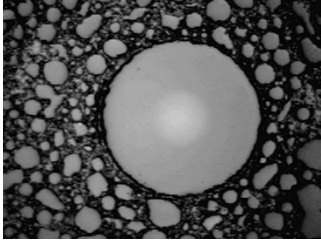
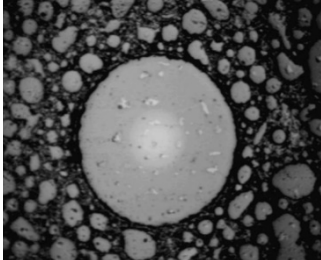

This procedure presents the best practices for inspecting and cleaning fiber connectors, in accordance with BICSI standard TIA568.3-D.

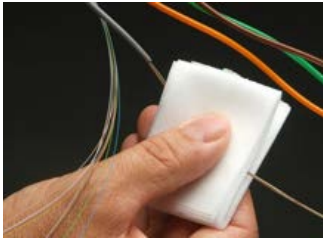

NOTES:

- *For definition of acceptability based upon artifacts left on fiber end face, refer to section 6 of the IEC 61300-3-35 document (FO Interconnecting Devices – Basic Test and Measurement Procedures).*
- *When incorporating the use of 99% IPA, keep the bottle closed at all times when not in use. 99% IPA is extremely volatile and prone to contamination from moisture in the air.*
- *The operator may choose to perform Step 2 only once. If the procedure fails to properly clean the endfaces, the operator can implement Step 3 immediately.*

Step	Instruction	Graphic	Notes
1	<p>Inspect the connector endface with an endface scope. Inspect both the male and female sides of the connection.</p> <ol style="list-style-type: none"> Ensure that no laser or power source is present. Remove the external connector or dust cover. Inspect the connector endfaces to be mated using a high-quality 200 X (maximum) magnification fiber inspection device. 	 <p>Male MTP</p>	<ul style="list-style-type: none"> • If the connector endfaces are clean, plug into a clean mating connector. • If a connector endface is damaged, discard and replace it. • If a connector endface is not clean, go to Step 2.

Step	Instruction	Graphic	Notes
	<p>d) If the endfaces are free of any contaminants, proceed to mate the connectors. If an endface appears to be contaminated, proceed to Step 2 below.</p>	 <p>Female MTP</p>	
2	<p>To dry-clean the connector endface:</p> <ol style="list-style-type: none">Use the cassette MTP connector cleaning tool (Panduit FIBCCT) for cleaning MTP connectors inside QuickNet Cassettes, adapters, faceplates, or bulkheads.Re-inspect the fiber endfaces with the fiber inspection device to determine whether the contaminant has been removed. If the endfaces are not clean, repeat this procedure and then proceed to Step 3.If the endfaces are free of any contaminants, proceed to mate the connectors. <p>To dry-clean an MTP Connector with Adapter:</p> <ol style="list-style-type: none">Remove the external connector or dust cover.Remove the dust cap from the FIBCCT.Insert the cleaning tool tip into the MTP adapter (as shown in the middle column).Rotate the tape feeder wheel in the direction indicated on the cleaning tool.Remove the cleaning tool from the QuickNet Cassette MTP adapter.Repeat steps 2f, 2g, and 2h to ensure that any contamination is removed.	 	<ul style="list-style-type: none">Since dry-cleaning does not guarantee a clean connector endface, you will need to inspect the endface after cleaning.Many customers require proof of inspection to certify installations.

Step	Instruction	Graphic	Notes
	<p>g) Re-inspect the adapter with the fiber inspection device to determine whether the contaminant has been removed. If the adapter is not clean, proceed to Step 3.</p> <p>h) If the adapter is clean, place the dust cap onto the cleaning tool.</p> <p>i) Clean the external connector.</p> <p>j) Reinstall the external connector into the QuickNet Cassette MTP adapter.</p>		
3	Re-inspect the connector endface with endface scope.	 <p>Clean Endface</p>  <p>Dirty Endface</p>	<ul style="list-style-type: none"> • If the connector endface is clean, plug into a clean mating connector. • If the fiber endface is damaged, discard and replace it. • If the connector endface is not clean, go to Step 4.
4	<p>If, after one or two attempts at dry-cleaning, a fiber connector is still contaminated, perform the wet/dry cleaning steps below:</p> <p>a) Apply 90+% Isopropyl Alcohol, (99% preferable) to a cleaning swab (Panduit # FSWB-C).</p> <p>b) Apply the swab over the entire face of the connector with moderate pressure to remove any remaining contaminants.</p> <p>c) Immediately dry the endface with the dry cleaner.</p>		

Step	Instruction	Graphic	Notes
	<p>d) Re-inspect each endface once again with the fiber inspection device to determine that all contaminants have been removed.</p> <p>e) If the endfaces are free of any contaminants, proceed to mate the connectors.</p> <p>f) If contaminants still exist on the fiber endface, go to Step 5 below.</p>		
5	<p>At this point, if material of any type remains on either end face, proceed to the use of a wet cleaning fluid such as Chemtronics Electro-Wash PX or an equivalent fluid.</p> <p>a) Apply Electro-Wash PX cleaner (F.I.S. part #F1ES810) to a cleaning swab.</p> <p>b) Apply the swab to the entire endface of the connector with moderate pressure to remove any remaining contaminants.</p> <p>c) Immediately dry the endface with the dry cleaner.</p> <p>d) Repeat steps a), b), and c) until all visual contaminants are removed.</p> <p>e) Go to Step 6 below.</p>		
6	<p>a) Inspect the connector endface with an endface scope. Inspect the endfaces. If they are free of any contaminants, mate the connectors.</p> <p>b) If after several attempts at cleaning any end faces remain insufficiently free of contaminants, (Per IEC 61300-3-35 document) consider replacing the connector(s).</p>		<ul style="list-style-type: none"> • If the connector endface is clean, plug into a clean mating connector. • If the fiber endface is damaged, discard and replace it. • If the connector endface is not clean, repeat Step 4.
<p>End of Steps</p>			

End State

The fiber connector is clean and connected. If it is damaged, it is discarded and replaced.