



## **Applications Engineering Notes**

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<b>Document Title</b>	<b>US Conec Recommended Cleaning Procedure for Multifiber and Single Fiber Connectors and Mating Adapters</b>
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## **1.0 Document Purpose**

The purpose of this document is to provide US Conec recommended pre-mating cleaning procedures for multifiber (MT, MPO/MTP<sup>®</sup>, MT-RJ, etc.) and single fiber (FC, LC, SC, etc.) connectors and mating adapters.

*CAUTION: FAILURE TO PROPERLY CLEAN AND MICROSCOPICALLY INSPECT EACH CONNECTOR PRIOR TO INSTALLATION MAY CAUSE DAMAGE TO THE FIBERS RESULTING IN DECREASED OPTICAL PERFORMANCE.*

## **2.0 Recommended Materials**

- Clean, dry, filtered air such as that supplied by a high-quality aerosol duster
- 200X microscope with the proper adapter for the connector being inspected
- The proper connector cleaner from Table 1



US CONEC OPTIPOP® & MTP® I.B.C. CONNECTOR CLEANERS		
CONNECTOR TYPE	CONNECTOR CLEANER TYPE / PART NUMBER	BULKHEAD INSTALLED CONNECTOR CLEANER TYPE / PART NUMBER
Single Fiber 1.25 mm LC, MU	Reel Cleaner / 6227 Card Cleaner / 6367 Pipe Cleaner / 6363	Stick Cleaner / 7892
Single Fiber 2.50 mm	Reel Cleaner / 6227 Card Cleaner / 6367 Pipe Cleaner / 6364	Stick Cleaner / 7893
Male Multifiber MT, MPO/MTP	Reel Cleaner / 6226 MTP I.B.C / 7104	MTP I.B.C. / 7104
Female Multifiber MT, MPO/MTP	Reel Cleaner / 6227 MTP I.B.C / 7104	MTP I.B.C. / 7104
Female MT-RJ	Reel Cleaner / 6227	Stick Cleaner / 7893
Male MT-RJ	Reel Cleaner / 6228	Stick Cleaner / 7893

Table 1: US CONEC OPTIPOP® & MTP® I.B.C.\* CONNECTOR CLEANERS

\*In Bulkhead Cleaner

### 3.0 Cleaning Connectors Not Installed In A Mating Adapter

#### 3.1 OPTIPOP Reel Cleaner

Select the appropriate reel cleaner for the connector being cleaned from Table 1.

- 3.1.1 Grip the cleaner, depressing the green lever of the cassette. The metal shutter on top of the cassette will open, exposing fresh cleaning material. Fresh material is exposed each time the green lever is depressed.

- 3.1.2 Position the ferrule endface so that the fiber tips are in contact with the cleaning material. Wipe the ferrule endface along the cleaning material in the direction shown on the cleaner cassette



- 3.1.3 Release the green lever of the cassette to cover the cleaning material.
- 3.1.4 Inspect the endface with a 200X microscope with the proper adapter for the connector being inspected installed. If contamination (oil, moisture, lint) is visible on any of the fiber tips, repeat the cleaning. Continue until all fiber tips are clean.

*NOTE: Male MPO/MTP and MT-RJ OPTIPOP Reel Cleaners are designed to provide clearance for the connector guide pins, allowing the fiber tips to contact the cleaning material.*

### **3.2 MTP I.B.C. Cleaner (MPO/MTP Connectors Only)**

Use MTP I.B.C. P/N 7104 for either male or female connectors.

- 3.2.1 Open the dust cap lid on the MTP I.B.C. cleaner.
- 3.2.2 Insert the MPO/MTP connector into the dust cap.



*NOTE: The MTP I.B.C. cleaner dust cap simulates an MPO/MTP adapter. Insert the connector into the cap with the key of the connector matching the keyway of the cleaner.*

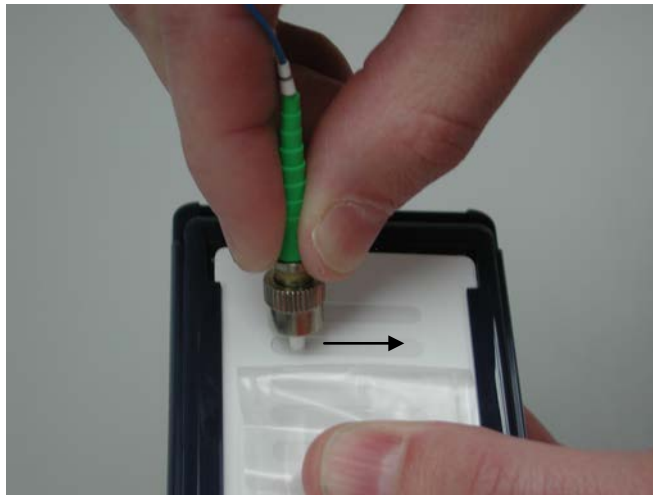
- 3.2.3 Rotate the tape feeder wheel in the direction indicated on the cleaner.
- 3.2.4 Remove the connector from the cleaner tip. Close the dust cap lid
- 3.2.5 Inspect the endface with a 200X microscope. If contamination (oil, moisture, lint, etc.) is visible on any of the fiber tips, repeat the cleaning. Continue until all fiber tips are clean.

### **3.3 OPTIPOP Card Cleaner (Single Fiber Connectors Only)**

OPTIPOP Card Cleaner P/N, 6367 may be used on all single fiber connectors.

- 3.3.1 Open the card cleaner by sliding top cover until completely removed from cleaner body.
- 3.3.2 Slide one card cleaner strip into place over the white compliant backing on the inside of the top cover.

- 3.3.3 Replace top cover with cleaner strip on the outside of the card cleaner body.
- 3.3.4 Expose one line of unused cleaning material by peeling back the protective layer.
- 3.3.5 Position the connector so that the ferrule tip is in contact with the cleaning material.



- 3.3.6 Wipe the ferrule tip along the cleaning material.
- 3.3.7 Inspect the ferrule tip with a 200X microscope. If contamination (oil, moisture, lint, etc.) is visible on the ferrule tip, repeat the cleaning. Continue until the ferrule tip is clean.

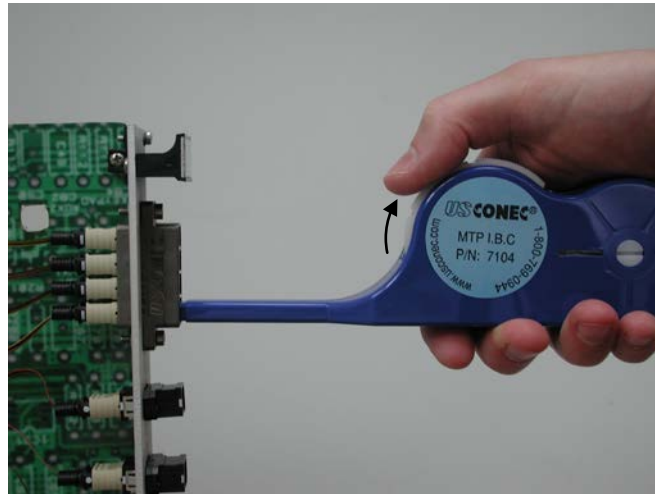
#### **4.0 Cleaning Connectors Installed In A Mating Adapter Or Transceiver**

##### **4.1 MTP I.B.C. Cleaner (MPO/MTP Connectors Only)**

Use MTP I.B.C. P/N 7104 for either male or female MPO/MTP connectors.

- 4.1.1 Remove the external connector or dust cover (outside of the bulkhead, faceplate, or transceiver).

- 4.1.2 Remove the dust cap from the MTP I.B.C. cleaner.
- 4.1.3 Insert the cleaner into the adapter or transceiver.



*NOTE: The MTP .I.B.C cleaner is keyed the same as a MPO/MTP connector. Insert the cleaner into the adapter or transceiver with the key of the cleaner matching the keyway of the adapter.*

- 4.1.4 Rotate the tape feeder wheel in the direction indicated on the cleaner.
- 4.1.5 Remove the cleaner from the adapter or transceiver. Replace the dust cap onto the cleaner.
- 4.1.6 Inspect the ferrule tip with a 200X microscope. If contamination (oil, moisture, lint, etc.) is visible on the ferrule tip, repeat the cleaning. Continue until the ferrule tip is clean.
- 4.1.7 Clean the external connector using section 3.0 above.
- 4.1.8 Reinstall the external connector into the bulkhead, faceplate, or transceiver.

## 4.2 OPTIPOP Stick Cleaner (Single Fiber Connectors Only)

Select the appropriate stick cleaner for the connector being cleaned from Table 1.

- 4.2.1 Remove the external connector (outside of the bulkhead, faceplate, or transceiver).
- 4.2.2 Insert the proper OPTIPOP Stick Cleaner into the mating sleeve until it contacts the ferrule tip.
- 4.2.3 Twist the cleaner between your fingers so that the material rotates within the mating sleeve and across the ferrule tip.



- 4.2.4 Remove the cleaner from the mating sleeve.
- 4.2.5 Clean the external connector using section 3.0 above.
- 4.2.6 Inspect the ferrule tip with a 200X microscope. If contamination (oil, moisture, lint, etc.) is visible on the ferrule tip, repeat the cleaning. Continue until the ferrule tip is clean.
- 4.2.7 Reinstall the external connector into the bulkhead, faceplate, or transceiver.



*NOTE: OPTIPOP Stick Cleaners remove debris from the ferrule tip inside the adapter as well as the internal wall of the split sleeve*

## **5.0 External Surface Cleaning**

### **5.1 OPTIPOP Pipe Cleaners (Single Fiber Ferrule Sides)**

Select the appropriate pipe cleaner for the connector being cleaned from Table 1

- 5.1.1 Insert the ferrule into the cloth end of the OPTIPOP Pipe Cleaner.
- 5.1.2 Twist the cleaner between your fingers so that the material rotates around the ferrule.
- 5.1.3 Remove the ferrule from the cleaner.
- 5.1.4 Inspect the ferrule tip with a 200X microscope. If contamination (oil, moisture, lint, etc.) is visible on the ferrule tip, repeat the cleaning. Continue until the ferrule tip is clean.

### **5.2 OPTIPOP Stick Cleaners (Multifiber Connector Mating Adapters)**

Clean the adapter's inner surfaces with Optipop<sup>®</sup> Stick Cleaner P/N 7893.

- 5.2.1 Insert the cleaner into the adapter.
- 5.2.2 Rotate the cleaner so that the material is wiped across the inner surfaces.
- 5.2.3 Remove the cleaner from the adapter.
- 5.2.4 Blow the adapter with clean, dry, filtered air, such as that supplied by a high-quality aerosol duster.

*NOTE: MTP and other multifiber connector mating adapters should be cleaned prior to use, regardless if new or previously used.*

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