



# Wet-Dry Cleaning for Fiber Optic Networks

### Background

JDSU is a leader in the fiber optic industry, and MicroCare applauds the efforts JDSU makes to develop and inculcate “best practices” across the industry. However, the JDSU recommendation to “dry” clean fiber optic connectors will result in diminished network performance. This Tech Note recommends a better procedure.

### Static Charges on Connector End-Faces

JDSU is campaigning for modern, professional and consistent fiber optic cleaning. JDSU asserts that 80% of the network failures are connector related and most of those are based on contamination issues, so cleaning certainly is important. As networks upgrade to gigabit speeds, cleaning with alcohol and a tee shirt simply will not get the job done.

MicroCare supports this effort with highly specialized cleaning products that have been engineered specifically for the fiber network environment. In fact, JDSU has selected certain MicroCare cleaners as “best in class” and include many of them in JDSU fiber optic cleaning kits.

However, JDSU suggests users should try dry cleaning first, and only implement wet/dry cleaning when dry cleaning fails.

The drawback to dry cleaning is that it builds a static charge on the connector end-face. Repeatedly dry cleaning a connector adds to the static charge. Since most procedures urge repeated attempts to clean an end-face until it is visually clean, it makes sense to clean with a static dissipative solvent rather than building a charge on the end-face which will attract particulate contamination.

### iNEMI Findings

iNEMI documented this phenomenon in tests that are detailed in the 2007 NFOEC paper “Accumulation of Particles Near the Core During Repetitive Fiber Connector Matings and De-matings.” The paper stated that “the [static] effect could be reduced by application of ionized air or by a cleaning fluid instead of a dry cleaning process, both methods neutralizing the electrostatic charge at the connector end face.” The solvents used in the test procedure were from MicroCare.

MicroCare data agrees with the iNEMI findings, and suggests that the “Best Practice” should feature wet/dry cleaning. Verizon

agrees, and has standardized on wet/dry cleaning for their fiber installation and maintenance procedures.

### Recommended Procedures

To implement wet/dry cleaning, MicroCare recommends the “Fiber Connector Cleaner” with the Triton™ dispensing cap.

One small spot on the wipe should be dampened with this fast-drying solvent. Just flip open the dispenser as shown and press down to dampen the wipe. The end-face should be placed in the damp spot and dragged across the wipe to a dry area. After lifting the connector from the wipe, any residual solvent will evaporate and the connector will be dry and static-free.

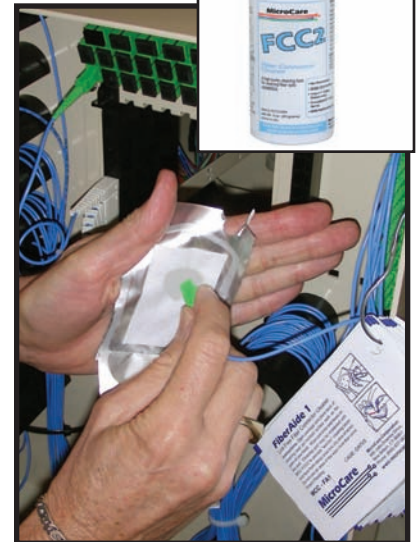
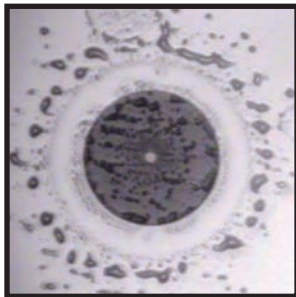
If a cartridge cleaning device is used, such as a Cletop, one edge of the wipe can be dampened with a squirt of solvent, and drag the connector from the wet portion to the dry portion.

When cleaning ports, swabs can be dampened with the same fast-drying solvent. If a mechanical port cleaning device is used, dampen the tip of the device. In this case the first activation of the device will be a wet wipe of the connector end-face and second activation will be dry.

### Products

Fiber Connector Cleaner	3 oz. / 85 g	MCC-FCC03M
FiberWipes™	Lint-free wipes	MCC-WFW
FiberAide™ Wipes	Individual lint-free wipes	MCC-FA1
Fiber Cleaning Sticks	Swabs for all sizes and configurations of ports; exact part number varies by size	

The solvents are packaged in mini-pump sprays and also are available in one gallon (3.8 liter) and five gallon (19 liter) containers. The shelf life for all of these products is unlimited. “MicroCare” and the MicroCare logo are registered trademarks of MicroCare Corp. The cleaning sticks, the Triton™ dispenser and certain solvents are protected under U.S. patents. Contact MicroCare for details.



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