



# F CCUS™ *Fiber Optic Cleaning Products*

## Connecting at the Speed of Light™

In the mid 1990's Chemtronics began focusing our precision cleaning expertise on the growing telecommunications industry. Through innovation and real world experience we were able to develop a comprehensive approach to cleaning fiber optic connections. Using our highly engineered solvent formulations, clean room swabs and precision wipes together in our Combination Cleaning™ process, cleaning fiber optic connectors has finally become fast, easy and reliable. Chemtronics products and processes make the clean connection.

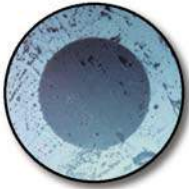
At Chemtronics, our mission is simple — to continue as the industry's innovative technology leader by providing our customers with the tools to achieve the highest degree of productivity and reliability. This has made us an innovative provider of solutions, products and comprehensive processes with the most performance, convenience, time and cost savings to our customers.

### **Dedicated Customer Support**

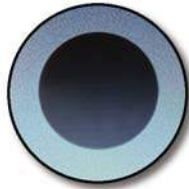
Live support is available via our Technical Hotline at 1-800-TECH-401. We even custom engineer products for special needs.



CONNECTING AT THE SPEED OF LIGHT™



Connector contaminated with dirt & oils



Connector after FOCCUS™ Combination Cleaning™

## Importance and Effectiveness of Combination Cleaning™ Process

Transmission speeds and data capacities are measured in gigabytes, terabytes, petabytes, and beyond as networks evolve beyond copper to fiber optics. This evolution necessitates well-trained technicians with a clear understanding of the tenets of precision cleaning connections – the critical first step before test and deployment.

### Importance Of A Standardized Cleaning Process

There are many types of contamination that negatively impact fiber optic connections, including dry, fluidic, or a combination. Contaminants also have height, which can increase refractive interference. FOCCUS Combination Cleaning method is a best practice procedure that does not require multiple techniques and numerous attempts. One standardized precision cleaning procedure for all connections is ideal to remove the widest range of debris and contamination the first time.

### Combination Cleaning™ For First Time Cleaning

The Combination Cleaning process offers the insurance of proven cleaning effectiveness with maximum repeatability. It is effective on all types of connectors including: SC/LC UPC and APC, OptiFit™, MT-Types, e2000™, and various expanded beam geometry.

For Combination Cleaning, a drop of solvent (dime-sized) is placed on the wipe. Then the end face is lightly drawn in a straight line from the solvent over the dry wipe, removing the soils and drying the end face in one motion. Hard-backed surfaces should not be used as they can also grind debris into the end face. Palm cleaning can transfer body oil or other contaminants through the wipe material.



Combination Cleaning™ Process

### Materials Selection

Chemtronics offers a wide variety of high precision cleaners, cleaning materials and tools specifically designed to be used in the Combination Cleaning process. FOCCUS fiber optic products lead the industry in development of cleaning platforms and kits for first time cleaning.

### Failure of Common Cleaning Processes

For field applications, a cleaning process must be effective on a wide variety of debris and contamination and across all zones of the end face. Testing and field experience consistently shows common cleaning techniques, even those recommended by existing standards, are not reliably effective.

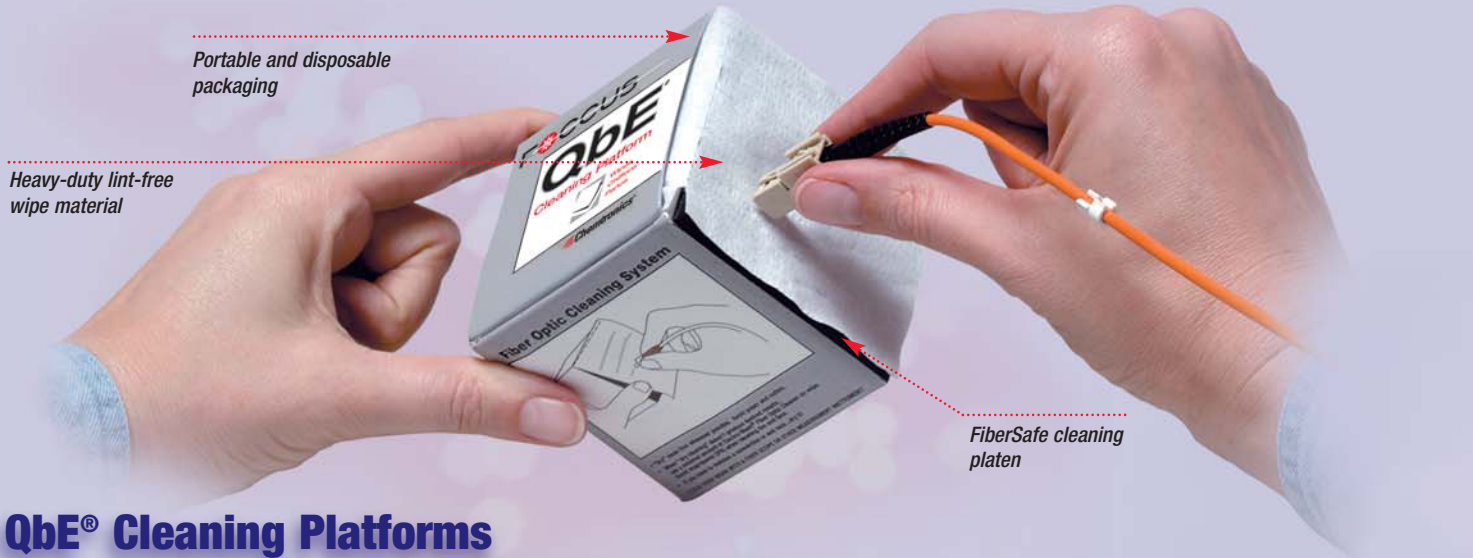
Dry cleaning is often done with a tool for the end face, or swab or probe for the back plane connection. Although dry cleaning may be effective on oily contamination, it should be used only with 100% video inspection, due to its unreliability and unrepeatability. Dry techniques can also generate a static field that attracts additional debris.

Typical wet-to-dry cleaning is commonly done with a presaturated wipe soaked in a solvent, followed by drying with a similar material as dry cleaning. Flooding a connector with a wet wipe can cause the cleaning solution to become trapped around zone 5, the barrel of the ferrule. Then with capillary action, contamination can move from zone 5 through zone 1, causing failure.



Zones of End Face

**FOCCUS Combination Cleaning. Clean first time . . . every time!**



Portable and disposable packaging

Heavy-duty lint-free wipe material

FiberSafe cleaning platen

## QbE® Cleaning Platforms

Portable and efficient, QbE® Cleaning Platforms offer more complete removal of microscopic contaminants, without the chance of damage to the optical fiber end face. Self-contained cleaning tools that can be used dry or wet, they are convenient and economical for use in field or OEM applications.

- Complete Fiber Optic Cleaning System — no refills to buy or investment in expensive mechanisms to maintain
- Up to 600 cleaning applications using the Combination Cleaning™ process
- Effective wet or dry connector cleaning – the only cleaning system that offers both options
- Provides the optimum cleaning surface – FiberSafe™ cleaning platen is perfect for outside plant or OEM application
- FiberSafe™ cleaning platen is replaced with every new QbE® — will not dry out
- Convenient size — portable cleaning system easily fits in tool cases or stores on work benches
- Heavy duty lint-free wiping material — tough enough to remove buffer-gel and heavy soils, yet soft and compliant for safe end face cleaning

### QbE® Fiber Optic Cleaning Platform

Precision wipe platform for cleaning fiber optic end faces

- Large, flat continuous FiberSafe™ cleaning platen
- Patented — U.S. Patent Number 6,865,770 and foreign patents

#### Applications:

- End face cleaning of SC, ST, FC connectors
- Fusion Splice preparation
- Buffer gel removal

**QBE** 200 perforated wipes per box  
2.75" x 3" / 7.0 cm x 7.6 cm

### QbE®-R Fiber Optic Cleaning Platform

Precision wipe platform for cleaning recessed fiber optic end faces

- Developed specifically for use with 2.5 mm SC and APC recessed connectors
- Raised, ridged FiberSafe™ cleaning platen conforms to recessed connectors end face
- Patented — U.S. Patent Number 6,865,770 and foreign patents

#### Applications:

- End face cleaning of SC, APC and MTP recessed connectors
- Fusion splice preparation
- Buffer gel removal

**QBE-R** 200 perforated wipes per box  
2.75" x 3" / 7.0 cm x 7.6 cm



## Pocket QbE® Cleaning Platforms

- Conveniently fit into pockets and pouches for easy transport
- Use with Electro-Wash® PX, Electro-Wash® MX, or Fiber-Wash™ cleaning solvents to perform the Combination Cleaning™ process
- Clear plastic packaging resists rain and provides view of remaining wipe quantity
- Patented – U.S. Patent Number 6,865,770 and foreign patents, additional U.S. and foreign patents pending

### Applications:

- End face cleaning
- Fusion Splice preparation
- Buffer gel removal



## p-QbE® Pocket Fiber Optic Cleaning Platform

Pocket-sized, precision wipe platform for cleaning fiber optic end faces

- Developed for use with all connector types, SC, ST, FC, MT-type, APC and recessed connectors
- Raised, ridged Fibersafe™ cleaning platen mounted atop the flat cleaning platen conforms to recessed connector end faces, and provides simultaneous cleaning to the ferrule and chamfer of non-recessed connectors
- Ridge causes wipe to deform slightly during use so previous cleaning path is obvious and not retraced

**PQBE** 200 perforated wipes per box  
1.375" x 3" / 3.6 cm x 7.6 cm

## QbE®-2 Fiber Optic Cleaning Platform

Portable, universal, fiber optic endface cleaning system

- Developed for use with all connector types, LC, SC, FC, MT-type and APC
- Non-ridged Fibersafe™ cleaning platen ideal for angled endfaces

**QBE-2** 200 perforated wipes per box  
1.375" x 3" / 3.6 cm x 7.6 cm

## SqR™ Compact Fiber Optic Cleaning Platform

Compact, precision wiping platform for cleaning fiber optic end faces

- Developed specifically for tight storage and transportation with test equipment and network components
- Large flat wiping surface provides up to 40 end face cleanings
- Use with Electro-Wash® PX, Electro-Wash® MX, or FiberWash™ cleaning solvents to perform the Combination Cleaning™ process

### Applications:

- End face cleaning
- Fusion splice preparation
- Buffer gel removal

**SQR** 10 bonded wipes per pad  
4" x 4" / 10.1 cm x 10.1 cm



## Fiber Optic Cleaning Pens



### FiberWash™ Precision Cleaner

Convenient pen dispenser with the extra-strength, non-flammable, transportable cleaning solvent



- Non-flammable and non-hazardous formulation provides safe travel convenience and transportability
- Effectively and efficiently removes handling soils, dust, oils, greases and contamination found in the fiber optic environment; especially the FTTx environment
- Specifically designed to clean with SqR™, QbE® and p-QbE® Cleaning Platforms using the Combination Cleaning™ process
- Pinpoint controlled dispensing of cleaning
- Patent pending

#### Applications:

- Cleaning fiber optic end faces
- Cleaning cables, hard-line coax cables, splices
- Removes many ink stains, label adhesives, and difficult soils

**FW2190** 5 g / 0.2 oz pen

### MX Precision Cleaner

Convenient pen with the extra-strength, plastic safe precision cleaner



- Specifically formulated for cleaning all fiber optic connectors
- Removes handling soils, dust, oils and airborne contamination
- Cleans alone or in combination with the SqR™, p-QbE®, QbE® Cleaning Platforms
- Cleans and eliminates electrostatic deposits of airborne contaminants
- Completely portable; controlled dispensing of cleaning solution

#### Applications:

- Cleaning fiber optic end faces
- Cleaning cables, hard-line coax cables, splices
- Removes ink stains, label adhesives, and difficult to remove soils

**FW2150** 9 g / 0.32 oz pen  
**FW2150BLK** Box of 24 pens, 9gm each  
**ES1621** 10 oz aerosol

See also *Electro-Wash® PX, Electro-Wash MX, Electro-Wash NXO and Electro-Wash CZ Precision Fiber Optic Cleaners. Pages 6-8 & 61.*



## Fiber Optic Cleaners



### Fusion Splice Prep Solvent

Convenient vertical aerosol for easy one hand splice preparation

- Non-IPA solvent that will not attract moisture
- Remove light oils and debris
- Avoid bubbles and imperfections in joints that impede transmission rates

#### Applications:

- Fiber optic splice preparation

**FSP850** 5 oz / 141 g aerosol



### Electro-Wash® PX

Extra-strength universal cleaner and degreaser safe for use on plastics

- Safe on plastics
- Flammable
- Xtra cleaning strength
- Dries fast
- Leaves no residue
- Removes all soil types

#### Applications:

- Cleaning fiber optic end faces
- Cleaning cables, hard-line coax cables, splices

**ES810** 5 oz / 141 g trigger aerosol  
**ES1210A** 12.5 oz / 354 g trigger aerosol  
**ES1210** 12.5 oz / 354 g aerosol

### Electro-Wash® GZ

Non-ozone depleting, nonflammable cleaner degreaser safe for use on plastics

- Safe on plastics
- Nonflammable
- Dries fast
- Leaves no residue

#### Applications:

- Cleaning fiber optic end faces
- Cleaning cables, hard-line coax cables, splices

**ES7100** 12 oz / 340 g aerosol

### FOCCUS™ Matrix Remover

Effectively removes matrix for mid-span fiber access including: Lucent®, Corning®, Pirelli®, and Alcatel's® multifiber ribbon.

Exposure time is typically from one to two minutes for matrix swelling, depending on ribbon type, temperature, and evaporation.

- Swells matrix, allowing fiber access
- Used with Matrix Removal Kit and Solvet Capture Method
- Remove light oils and debris
- Will not attack fiber

#### Applications:

- Removal of ribbon matrix for Mid-Span access

**F1607** 12 oz / 340 g aerosol



## Fiber Optic Cleaning Wipes



### FSW™ Fusion Splice Wipe

Versatile wipe in a convenient hand-sized tub

- Supplied dry for safe travel and easy transportation
- Wipes can be used dry and wetted individually, or the tub and perforated roll of wipes can be saturated on-site with the preferred cleaning solvent
- Wipes are non-scratching, non-linting, soft and absorbent
- Wipes feature aperture pockets to collect gritty, scratch-inducing particles
- Clean perforations do not generate long, loose strings and fibrous tails when torn from the tub opening
- Compact size ideal for tool kits, cleaning kits, congested work benches and tight work spaces



#### Applications:

- Fusion splice clean-up
- General precision equipment and workspace clean-up
- Final wiping cable

**FSP100DRY** 100 wipes per mini-tub  
3" x 3" / 7.6 cm x 7.6 cm

### Electro-Wash® MX Presaturated Wipe

Extra-strength plastic safe universal cleaner with moderate evaporation time

- Cleans all soil types, removes organic and ionic soils
- Moderate evaporation rate increases cleaning power
- Leaves no residue
- Presaturated wipe great for toolbox or travel

#### Applications:

- Ideal for cleaning fiber optics and fiber optic connectors, cables, hard-line coax cable, cable splices, PC boards, motors, tools and transformers, flooding compounds, control systems, screens and stencils

**CP421** 25 single pack presaturated wipes

*Also available in a pen and aerosol — FW2150 and ES1621. See pages 7 and 59.*

FOCCUS fiber optic cleaning wipes are ideally suited for installation and maintenance of connectors and assemblies. Ideal for tool kits, cleaning kits and tight on-site work areas.

#### They feature:

- High precision solvents
- High-purity and low linting wipes
- Non-abrasive wipe materials
- Convenient and portable packaging

### Optic Prep™ Presaturated Wipe

Highest quality premoistened lens-grade tissue for cleaning optical surfaces

- Compatible with most plastics, glass and metals
- Mild cleaning solution, nonabrasive wipe
- Quickly removes dust, oils and contaminants

#### Applications:

- Safely cleans and polishes optical surfaces, lenses, photographic equipment, fiber optic connectors and instruments

**CP410** 50 single pack presaturated pads

### Chempad™ Presaturated Wipe

General purpose, presaturated lint-free cleaning wipe

- Contains ultra pure blend of 91% IPA/9% deionized water
- Mild cleaning solution, nonabrasive wipe
- Quickly removes dust, oils and contaminants

#### Applications:

- Ideal for cleaning computers, office equipment, fiber optic connectors and instruments, and electrical equipment
- Cleans dirt, oxides and oil from magnetic and optical heads

**CP400** 50 single pack presaturated wipes



## Fiber Optic Cleaning Kits

Chemtronics® offers fiber optic field cleaning kits to use for optical fiber end-face cleaning, splice preparation and buffer gel removal. These kits feature FOCCUS™ QbE® Cleaning Platforms, Electro-Wash PX and MX Precision Cleaner Pen. Technicians simply follow the Combination Cleaning™ process, and the end-face will be cleaner than using any other method.



Electro-Wash® PX Solvent – Page 60



MX Precision Cleaner Pen – page 59



QbE Cleaning Platform – Page 57

Electro-Wash MX Presaturated Wipes - Page 61



Coventry EconoWipes – Page 54



2.5mm Fiber Optic Foam Swabs - page 66



V-Groove & Ferrule Cleaning Swabs - page 68



Fusion Splice Mirror Cleaning Swabs - page 68



Shown: CFK1000

### FTTH Fiber Optic Cleaning Kits

Fiber-To-The-Home fiber optic cleaning kits

- Perfect for crews performing fusion splice operations, shipping kits to remote locations
- Cleaning supplies necessary for 2.5 mm end-face cleaning and successful fusion splicing
- FOCCUS™ MX Precision Cleaner Pen and QbE® Cleaning Platform included for Combination Cleaning™
- Swabs and wipes cleaning fusion splicer, ferrules, alignment sleeves, backplane connections and work area
- Electro-Wash® MX Premoistened Wipes for tool and cable wiping
- Swabs packaged in rugged tubes for field operations
- Kit bags made from tough nylon for long life
- Carabineer to clip on a tool belt for transport or to clip a cable for convenient access

#### FTTH Fiber Optic Cleaning Kits Include:

- Precision Fiber Optic Cleaner (see below)
- 1 QbE® Cleaning Platform, 200 sheets (QbE)
  - 50 2.5mm Foam Fiber Optic Swabs (48042F)
  - 50 V-Groove and Ferrule Cleaning Swabs (38542F)
  - 15 Fusion Splice Mirror Cleaning Swabs (51125F)
  - 5 X'Tenders (XTN)
  - 100 Lint-Free Precision Wipes, 4"x4" (6704F)
  - 5 Electro-Wash® MX Premoistened Wipes (CP421)
  - 1 Rugged Bag with carabineer attachment
  - 1 Instructions

**CFK1000** 1 FTTH fiber optic cleaning kit with (1) Electro-Wash® PX Universal Cleaner (ES810)

**CFK1003** 1 Transportable FTTH fiber optic cleaning kit with (2) FOCCUS™ MX Precision Cleaner Pens (FW2150)



## Fiber Optic Cleaning Kits



### I & M Fiber Optic Cleaning Kits

Fiber optic installation and maintenance cleaning kits

- Cleaning supplies necessary for making a successful 2.5mm fiber optic connection
- Transportable kit contains two FOCCUS™ MX Precision Cleaner Pens and one QbE® Cleaning Platform
- MX Precision Cleaner Pens are compact and safe to transport
- Use Electro-Wash® PX Universal Cleaner or Electro-Wash® MX to clean the fusion splicer, mirror and V-groove
- Swabs included for cleaning ferrules, alignment sleeves and backplane connections
- Electro-Wash® MX Premoistened Wipes are included for tool and cable wiping
- Swabs packaged in rugged tubes for field operations
- Kit bags made from tough nylon for long life
- Carabiner to clip on a tool belt for transport or to clip a cable for convenient access

#### I & M Fiber Optic Cleaning Kits Include:

Precision Fiber Optic Cleaner (see below)

- 1 QbE® Cleaning Platform, 200 sheets (QbE)
- 50 2.5mm Foam Fiber Optic Swabs (48042F)
- 5 X'Tenders (XTN)
- 100 Lint-Free Precision Wipes, 4"x4" (6704F)
- 5 Electro-Wash® MX Premoistened Wipes (CP421)
- 1 Rugged Bag with carabiner attachment
- 1 Instructions

**CFK1010** 1 I & M fiber optic cleaning kit  
with (1) Electro-Wash® PX Universal Cleaner (ES810)

**CFK1013** 1 Transportable I & M fiber optic cleaning kit  
with (2) FOCCUS MX Precision Cleaner Pens (FW2150)



### FOCCUS™ Fusion Splice Prep and Equipment Maintenance Kit

Essential maintenance kit for high precision fusion splice equipment

- Highly effective on single and mass splices
- Includes Fusion Splice Prep non-IPA cleaner with patent pending single-hand operation actuator

#### FSK1000 Kit Includes:

- 1 Fusion Splice Prep Cleaner w/the unique vertical aerosol for single hand operation (FSP850)
- 1 FSW Apertured Wipes, 100 sheets (FSP100DRY)
- 200 V-Groove and Ferrule Cleaning swabs (38542F)
- 100 Fusion Splice Mirror and Lens Cleaning swabs (51125F)
- 5 X'Tenders (XTN)
- 10 Electro-Wash MX Universal Cleaner wipes (CP421)
- 100 Lint Free Precision Wipes, 4"x4" (6704F)
- 1 Instructions
- 1 Rugged Bag with heavy-duty carabiner attachment

**FSK1000** 1 Fusion Splice Prep and Equipment Maintenance Kit



Fusion Splice Wipes –  
Page 61

Fusion Splice Prep Cleaner – Page 60

## Fiber Optic Cleaning Kits



Electro-Wash PX  
Solvent – Page 60



MX Precision Cleaner Pen – page 59



FiberWash™ Precision Cleaner Pen – page 59



p-QbE Cleaning  
Platform – Page 58

Electro-Wash MX  
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2.5mm Fiber Optic Foam Swabs - Page 66

1.25mm Fiber Optic Sleeve Cleaning Swabs -  
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MTP Connector Chamois Swabs - Page 68



Shown: CFK1202

### FOCCUS FTTx All-Connection Cleaning Kit

Cleaning kit for SC/LC (UPC and APC), MT-types (pinned and non-pinned), Corning® OptiFit® and H+S e2000

- Superior for FTTh, FTTt and FTTn
- Designed for 1st time cleaning of 600 end faces

#### FOCCUS FTTxAll-ConnectionCleaning Kit Includes:

Precision Fiber Optic Cleaner (see below)

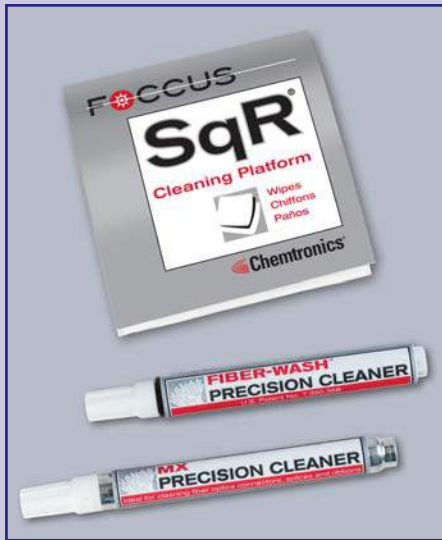
- 1 Pocket QbE® Universal Cleaning Platform (200 sheets, pQbE)
- 200 2.5mm Precision Foam Fiber Optic Swab Tool (48046F)
- 50 1.25mm Precision Swab Tool (26122F)
- 25 MTP Type Swab Tool (CC506F)
- 5 Electro-Wash® MX Universal Cleaner wipes (CP421)
- 5 X'Tenders (XTN)
- 100 Lint Free Precision Wipes, 4"x4" (6704F)
- 1 Instructions
- 1 Rugged Bag with heavy-duty carabiner attachment.

**CFK1201** 1 FTTx All-Connection Cleaning Kit  
with (1) 5 oz Electro-Wash® PX Universal Cleaner (ES810)

**CFK1202** 1 FTTx All-Connection Cleaning Kit  
with (2) FOCCUS MX Precision Cleaner Pens (FW2150)

**CFK1203** 1 FTTx All-Connection Cleaning Kit  
with (2) FOCCUS Fiber-Wash Precision Cleaner Pens (FW2190)

## Fiber Optic Cleaning Kits



*The first and most important step both of you do to assure the fiber is max-transmitting – clean it the right way!*

### FOCCUS Compact Cleaning Kit

Convenient on-site fiber optic cleaning kit

- For insertion into test equipment or placed on site for convenience
- Up to 80 cleanings per kit

#### FOCCUS Compact Cleaning Kits Include:

Precision Fiber Optic Cleaner (see below)  
 1 SqR™ Cleaning Platform (SQR)  
 1 reclosable package

**CCK1** 1 Compact Cleaning Kit with (1) FOCCUS MX Precision Cleaner Pen (FW2150)

**CCK2** 1 Compact Cleaning Kit with (1) Fiber-Wash™ Precision Cleaner Pen (FW2190)



MX Precision Cleaner Pen – page 59



FiberWash™ Precision Cleaner Pen – page 59

### FOCCUS Compact Cleaning Kit

Convenient on-site fiber optic cleaning kit with swabs

- For insertion into test equipment or placed on site for convenience
- Up to 80 cleanings per kit

#### CCK3 Kit Includes:

1 SqR™ Cleaning Platform (SQR)  
 1 FOCCUS MX Precision Cleaner Pen (FW2150)  
 50 2.5mm swabs (48040)  
 5 X'Tenders (XTN)  
 1 reclosable package

**CCK3** 1 Compact Cleaning Kit



SqR Cleaning Platform – Page 58



2.5mm Fiber Optic Foam Swabs - Page 66

### FOCCUS Ribbon Matrix Removal Kit

Complete patented MidSpan Matrix removal Kit.

- Includes FOCCUS Matrix Remover with modified delivery system
- Patented "Solvent Capture" process safely removes "matrix" from most ribbon cable in a timed process
- No tools, no cutting
- For up to 300 mid-span insertions

#### CFK2000 Kit Contents:

1 FOCCUS Matrix Remover (F1607)  
 1 Solvent capture binder

**CFK2000** 1 Ribbon Matrix Removal Kit



FOCCUS Matrix Remover – Page 60

## Fiber Optic Cleaning Swabs

### 2.5mm Precision Fiber Optic Swabs

Ideal precision cleaning swab for cleaning 2.5 mm fiber optic connectors

- Scientifically designed head conforms to a connector face
- Wrapped foam swabs provide outstanding particle entrapment from alignment sleeves and prevents back plane contamination
- No fibers, adhesives, or binders
- Soft foam tip provides superior abrasion resistance, will not damage end face or test equipment
- Wicking action of foam quickly pulls solvent from surfaces
- Can be used with Electro-Wash® cleaners for hard-to-remove soils
- Patented — U.S. Patent numbers 6523908 and 6393651, and foreign patents



#### Applications:

- Efficient and safe swab for cleaning fiber optic backplane bulkhead connections
- Ideal for 2.5 mm connectors

**25183** 100 swabs per bag

Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
6.0" / 15.24 cm	0.08" / 2.0 mm	1.0" / 2.54 cm	0.10" / 2.5 mm	0.10" / 2.5 mm	Polypropylene	Proprietary Foam Material



### 2.5 mm Fiber Optic Foam Swabs

Versatile, effective, and cost-efficient swab for cleaning end faces and equipment test ports.

- 2.5mm Flexible swab head conforms to connector face
- No adhesives, binders, or fibers to leave residues
- Can be used with all Electro-Wash® and Fiber-Wash™ Precision Fiber Optic Cleaners for all types of soils and contaminants
- Available in bulk packaging or durable, field-ready, transparent tubes

#### Applications:

- Cleans 2.5 mm connectors and ferrules
- Cleans Test Equipment Ports

**48040** 500 swabs per bag

**48042F** 50 swabs per tube



Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
2.7" / 6.8 cm	0.09" / 2.2 mm	0.41" / 10.5 mm	0.10" / 2.5 mm	0.12" / 3.0 mm	Polypropylene	Polyurethane Foam



## Fiber Optic Cleaning Swabs

### 2.5 mm Torque-Tube Swab

Knurled grip handle swab for better gripping, cleaning end face and alignment sleeves

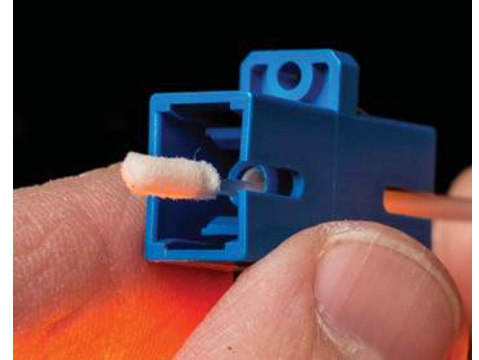
- Long, 6" super grip handle; 2.5mm precision swab tool for back plan
- Flexible swab head conforms to connector face
- 2.5mm Fiber Optic Foam Swab provides outstanding particle entrapment
- No adhesives, binders, or fibers to leave residues
- Open-cell structure gives the best solvent holding capacity, enables less solvent to do more work
- Patent pending

#### Applications:

- Cleans 2.5 mm connectors and ferrules
- Cleans Test Equipment Ports



Durable, field-ready packaging



**48062F** 50 swabs per tube

Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
6.0" / 15.2 cm	0.09" / 2.2 mm	0.41" / 10.5 mm	0.10" / 2.5 mm	0.12" / 3.0 mm	Polypropylene	Polyurethane Foam



### 1.25mm Fiber Optic Sleeve Cleaning Swab

Ideal tool for cleaning 1.25 mm fiber optic sleeves, back plane connections, and polishing pucks

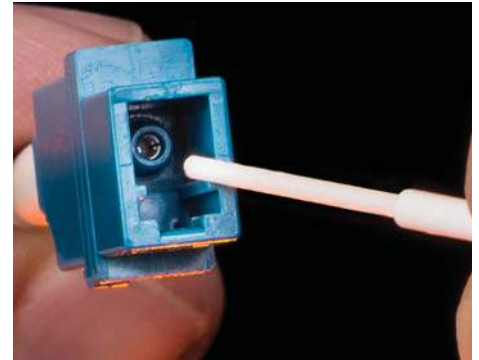
- Specifically designed to clean all 1.25 mm alignment sleeves, adapters and 1.25 mm back plane connections
- Free of fibers, adhesives, and binders that can generate residue
- Contains no seams or sharp surfaces that can generate particles or cause scratches
- Patented — US Patent 6,795,998 and foreign patents
- Available in bag packaging or durable, field-ready, transparent tubes

#### Applications:

- Clean 1.25mm fiber optic end faces and alignment sleeves
- Removal of slurry from 1.25 mm ferrule polishing fixtures
- Clean 1.25mm test ports



Durable, field-ready packaging



**25123X** 100 swabs per bag

**25125F** 15 swabs per tube

**26122F** 50 swabs per tube

Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
6.0" / 15.24 cm	0.08" / 2.0 mm	0.67" / 1.70 cm	0.05" / 1.25 mm	0.05" / 1.25 mm	Polypropylene	Proprietary Polyester



## Fiber Optic Cleaning Swabs

### MTP Connector Chamois Swab

Ideal chamois swab for MTP cleaning

- Features an exclusive engineered chamois material
- Ideal size and dimension for MTP connector cleaning
- Seamless blunt design makes precise contact with MTP end face
- High absorbency swab quickly and safely removes contaminants
- Free of adhesives or binders; will not leave residue
- Packaged in durable, field-ready, transparent tubes
- Patented — U. S. Patent Number 7,526,830 and foreign patents

**CC505F** 25 per tube

**CC5056F** 25 per tube



Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
3.25" / 8.25 cm	0.38" / 9.6 mm	0.88" / 22.3 mm	0.38" / 9.6 mm	ABS	Synthetic Chamois
6" / 15.4 cm	0.38" / 9.6 mm	0.88" / 22.3 mm	0.38" / 9.6 mm	ABS	Synthetic Chamois



### V-Groove & Ferrule Cleaning Swabs

Swab for V-groove and ferrule cleaning

- Flattest, thinnest swab available; ideal for small precision surfaces
- Will not leave residue; no adhesives or binders
- Wicking action quickly pulls solvent from surfaces
- Can be used with Electro-Wash® Precision Cleaners on hard-to-remove soils
- Available in bulk packaging or durable, field-ready, transparent tubes

**38540** 500 swabs per bag

**38542F** 50 swabs per tube



Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
2.7" / 6.9 cm	0.09" / 2.3 mm	0.46" / 11.7 mm	0.04" / 1.0 mm	0.12" / 3.0 mm	Polypropylene Flexible Tip	Nonwoven Polyester



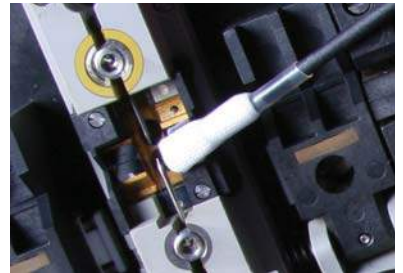
### Fusion Splice Mirror Cleaning Swabs

Cleanroom laundered fabric formed into a unique tool for fusion splice mirror cleaning

- Ideal size and dimension for fusion splice mirror cleaning
- High absorbency swab removes dust and other contaminants
- Free of adhesives or binders; will not leave residue
- Works well as solvent applicator
- Can be used with Electro-Wash® PX Fiber Optic Cleaner for hard-to-remove soils
- Available in bag packaging or durable, field-ready, transparent tubes

**51121** 25 per bag

**51125F** 15 swabs per tube



Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
2.8" / 7.1 cm	0.10" / 2.5 mm	0.40" / 10.2 mm	0.25" / 6.5 mm	0.23" / 5.7 mm	Glass Filled Nylon	Knit Polyester



## Fiber Optic Cleaning Swabs

### MTP Connector Poly Swab

Versatile polyester swab for MTP cleaning

- Cleaning tool features a cleanroom laundered knit polyester fabric
- Ideal size and dimension for MTP connector cleaning
- Swab removes dust and other contaminants
- Free of adhesives or binders; will not leave residue
- Can be used with Electro-Wash® PX Fiber Optic Cleaner for hard-to-remove soils
- Packaged in durable, field-ready, transparent tubes

#### Applications:

- MTP Connector Cleaning
- Ferrule cleaning



Durable, field-ready packaging

**38142F** 50 swabs per tube

Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
2.7" / 6.9 cm	0.09" / 2.3 mm	0.48" / 12.1 mm	0.06" / 1.6 mm	0.12" / 3.0 mm	Polypropylene Flexible Tip	Knit Polyester



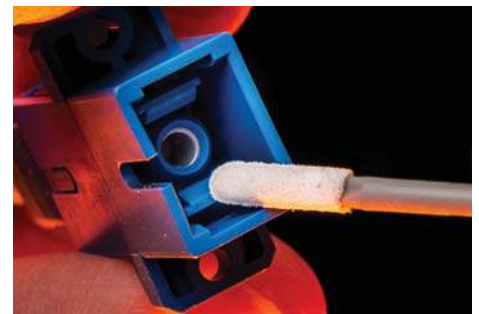
### SFF High Density Connector Swab

Swab for cleaning high-density Small Form Factor connections

- Soft swab head conforms to connector face and alignment pins
- Provides outstanding particle entrapment, does not generate particles
- Strongest seams available, will not split even with rigorous scrubbing
- No adhesives, binders, or fibers to leave residues
- Can be used with Electro-Wash® PX Fiber Optic Cleaner or Electro-Wash® CZ for all types of soils and contaminants

#### Applications:

- Cleans SFF connectors, alignment pins and sleeves
- Cleans Test Equipment Ports



**38040** 500 swabs per bag

Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
2.7" / 6.9 cm	0.09" / 2.3 mm	0.44" / 11.2 mm	0.09" / 2.4 mm	0.12" / 3.0 mm	Polypropylene Flexible Tip	Knit Polyester



### SFF Connector Flat Swab

Swab offering a unique design specifically for the Combination Cleaning process

- Flat swab head enables both wet and dry cleaning simultaneously
- Swab provides outstanding particle entrapment
- No adhesives, binders, or fibers to leave residues
- Can be used with Electro-Wash® PX Fiber Optic Cleaner or Electro-Wash® CZ for all types of soils and contaminants

#### Applications:

- Cleans SFF connectors, alignment pins and sleeves
- Cleans Test Equipment Ports



**38140** 500 swabs per bag

Swab Length	Handle Width	Head Length	Head Thickness	Head Width	Handle Material	Head Material
2.7" / 6.9 cm	0.09" / 2.3 mm	0.48" / 12.1 mm	0.06" / 1.6 mm	0.12" / 3.0 mm	Polypropylene Flexible Tip	Knit Polyester



Top View



Side View