

 **Chemtronics®**

**SUPERIOR PRODUCTS FOR
ELECTRONICS, TELECOMMUNICATIONS
AND CRITICAL ENVIRONMENTS**

About Chemtronics

Since 1958, Chemtronics has been on the forefront of the electronics maintenance and repair. Chemtronics products became synonymous with highest performance, quality and innovation to hundreds of thousands of technicians the world over. From then, our product offering has grown from a handful of cleaners to a complete line of ultra-pure solvents, cleanroom-grade swabs and wipes, and precision rework and repair tools for the electrical, electronics and telecommunications industry. Since 1999, Chemtronics has been a wholly owned subsidiary of Illinois Tool Works Inc. (www.itw.com).

At Chemtronics, our mission is simple – to continue as the industry's innovative technology leader in providing our customers with the tools to achieve the highest degree of reliability and productivity. This has made us what we are today: An innovative company known for offering products with precise formulations with maximum cleaning power and true convenience.

Chemtronics' continuing push for products that improve your processes and quality are exemplified by the many new products in this catalog:

- FOCCUS™ – Our new brand of fiber optic cleaning products, with new cleaning kits and tools to ensure first time cleaning for fiber optic connections.
- Konform® Conformal Coatings – Three new products offer innovative new solutions for protecting rigid and flexible PCBs.
- Chemask® Temporary Solder Masks – Two new masks provide superior performance even at high temperatures.
- Low Global Warming Duster and Freeze Sprays to reduce your environmental impact

And that's just the short list. In this catalog you'll find page after page of products with one common ingredient: a company-wide pledge to deliver on our promise . . .

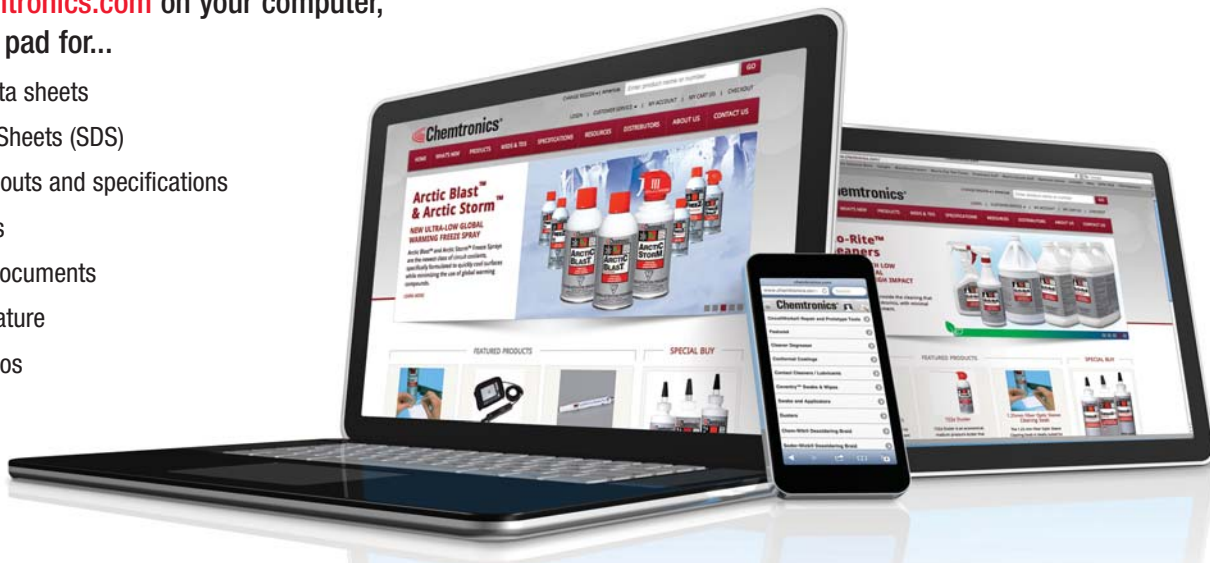
“Nothing Performs Like Chemtronics.”

Technical Info Available 24/7

The most up-to-date product and application information is never more than a phone call, e-mail or mouse-click away. Chemtronics has application specialists standing by to identify the best solution for you.

Visit www.chemtronics.com on your computer, smart phone or pad for...





















- Technical data sheets
- Safety Data Sheets (SDS)
- Product call-outs and specifications
- White papers
- Regulatory documents
- Product literature
- Training videos



Call for your application specific solutions at **800-645-5244**, or contact us at askchemtronics@chemtronics.com. We offer the best application and process support specifically for your requirements.





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ASK THE EXPERTS!

Chemtronics has application specialists standing by to identify the best solution for you. Call 800-645-5244 or e-mail askchemtronics@chemtronics.com.



Chemtronics® dusters are microscopically clean, oil and moisture free sources of "canned air" developed for applications where safe, ultra-pure cleaning is required. Compact and portable, Chemtronics dusters deliver powerful jet action to instantly remove particles from even the most inaccessible areas. Ultrajet® Dusters economize solvent usage by removing layers of dry particulate allowing the solvent to work immediately on encrusted soils. Ultrajet® Dusters also accelerate surface drying when using slow evaporating cleaners.

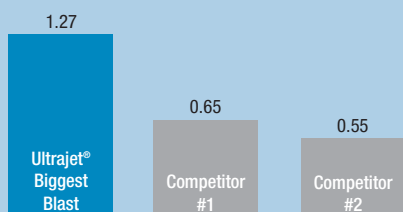
Use Chemtronics dusters to clean contaminants from:

- Printed circuit boards
- Contacts and connectors
- Relays, switches and solenoids
- Computers and keyboards
- Electrical equipment
- Telecommunication equipment
- Audio equipment
- Laboratory instrumentation
- Medical devices
- Photographic and video equipment
- Electronic instruments
- PLCs (Programmable Logic Controllers)



Twice the Blasting Power!

Output Force Generated (Newtons)



Tests were conducted at room temperature using a Digital Force Gauge

Ultrajet®

Duster with the BIGGEST blast to clean anything fast

- Nonflammable
- Highest powered cleaning strength
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

Applications:

- Removing dust build up from circuit boards
- Cleaning insulating debris from pin connectors
- Removal of entrapped solvent from under surface mount devices

ES1020

10 oz / 283 g aerosol

Ultrajet® All-Way

Invertable duster with the BIGGEST blast to clean anything fast



All-Way Spray can be sprayed into hard to reach places without the risk of dispensing a liquid spray that can freeze or damage sensitive surfaces.

- Nonflammable
- Highest powered cleaning strength
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

Applications:

- Cleaning fiber optic connectors and bulkheads
- Removing particles from mirror assemblies
- Removing contamination from sensitive surfaces

ES1620

8 oz / 226 g aerosol

Product Selection Guide

	Blasting Power	Nonflammable	All-Way Spray	Contents	Force Generated*	Internal Pressure	GWP***	Use On Live Circuits
Ultrajet®	XX Strength	✓	No	HFC-134a	1.51 N	71 PSIG	1300	Yes
Ultrajet® All-Way	XX Strength	✓	Yes	HFC-134a	1.78 N	71 PSIG	1300	Yes
Ultrajet® 70	X Strength	✓	No	HFC-134a	1.35 N	71 PSIG	1300	Yes
Duster	Regular Strength	✓	No	HFC-134a	0.94 N	71 PSIG	1300	Yes
152A Blast™	X Strength		No	HFC-152a	1.38 N	63 PSIG	140	No
152A Duster	Regular Strength		No	HFC-152a	0.87 N	63 PSIG	140	No
Typhoon Blast	XX Strength	✓	No	HFO-1234ze	1.08 N	47 PSIG	6	Yes
Typhoon Blast All-Way	XX Strength	✓	Yes	HFO-1234ze	1.19 N	47 PSIG	6	Yes
Typhoon Blast 70	X Strength	✓	No	HFO-1234ze	0.93 N	47 PSIG	6	Yes
Typhoon Surge	Regular Strength	✓	No	HFO-1234ze	0.64 N	47 PSIG	6	Yes

* Force generated measured without extension tubes on Shimpo force gauge. ** VOC is the Volatile Organic Compounds content by weight.

** Global warming potential (GWP) is calculated based on a 100 year time horizon. Carbon dioxide has a GWP of 1.

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Ultrajet® 70

Powerful, economical duster with a BIGGER blast than competitive dusters

- Nonflammable
- High powered cleaning strength
- Bigger Blast than competitive dusters
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

Applications:

- Cleaning particles from contacts and relays
- Removing debris from precision optics

ES1015 10 oz / 283 g aerosol



Duster

Economical, regular strength duster

- Nonflammable
- Regular cleaning strength
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

Applications:

- Removing debris from keyboards, office equipment
- Removing surface contamination from AV equipment

ES1017 10 oz / 283 g aerosol

ES1217 8 oz / 226 g aerosol

ES1617 12 oz / 340 g aerosol



Ultrajet® Duster System

Reusable duster system with a precision surgical-grade chrome trigger valve

- Nonflammable
- Conductive trigger valve prevents static build-up
- Zero VOC
- Filtered to 0.2 microns
- 100% ultra-pure HFC-134a — leaves no residue
- Safe on plastics

Applications:

- Ground valve for cleaning sensitive electronics
- Cleaning inside electrical cabinets

ES1020K 10 oz / 283 g aerosol kit
ES1020R 10 oz / 283 g aerosol refill
ES710V Chrome Trigger Valve

152A Duster

Economical, regular strength general purpose duster

- Regular cleaning strength
- Flammable
- Zero VOC
- 100% pure HFC-152a
- 1/10th Global Warming Potential of HFC-134a
- Safe on plastics

Applications:

- Cleaning dust and particles from de-energized electronics
- Cleaning of office equipment; maintenance and repair of keyboards, cash registers and printers

ES1027 10 oz / 283 g aerosol

152A Blast™

Economical, extra-strength general purpose duster

- Safe on plastics
- High powered cleaning strength
- Flammable
- Zero VOC
- 100% pure HFC-152a
- 1/10th Global Warming Potential of HFC-134a

Applications:

- Cleaning dust and particles from de-energized electronics
- Maintenance and repair of de-energized computers, postage meters, and servers

ES1029 10 oz / 283 g aerosol



Reusable system of chrome trigger fits refill cans, saves you money



Typhoon Blast™ and Typhoon Surge™ — Dusters with ultra-low global warming.



Responding to new global warming regulations has just become much easier.

Typhoon Blast™ and Typhoon Surge™ are the newest class of dusters from Chemtronics®, specifically formulated to minimize the use of global warming compounds. They are formulated with HFO-1234ze, a new material that has a significantly lower global warming potential (GWP) than previous duster propellents. This new material has a GWP of 6, and compares very favorably to HFC-134a (GWP of 1300) and HFC-152a (GWP of 140). It is also VOC-free, so will not contribute to smog.



Typhoon Blast™ Duster

Ultra-low GWP duster with the BIGGEST blast to clean anything fast

- Ultra-low GWP
- Highest powered cleaning strength
- Nonflammable
- Zero VOC
- Filtered to 0.2 microns
- 100% HFO-1234ze – leaves no residue
- Safe on plastics

Applications:

- Removing dust build up from circuit boards
- Cleaning insulating debris from pin connectors
- Removal of entrapped solvent from under surface mount devices

ES1024 10 oz. / 383 g aerosol

Typhoon Blast™ All-Way Duster

Ultra-low GWP invertible duster with the BIGGEST blast to clean anything fast



- Ultra-low GWP
- All-Way spray system
- Highest powered cleaning strength
- Nonflammable
- Zero VOC
- Filtered to 0.2 microns
- 100% HFO-1234ze – leaves no residue
- Safe on plastics

Applications:

- Cleaning fiber optic connectors and bulkheads
- Removing particles from mirror assemblies
- Removing contamination from sensitive surfaces

ES1624 8 oz. / 226 g aerosol

Typhoon Blast™ 70 Duster

Powerful and economical, ultra-low GWP duster with the BIGGER blast

- Ultra-Low GWP
- High powered cleaning strength
- Nonflammable
- Zero VOC
- Filtered to 0.2 microns
- 100% HFO-1234ze – leaves no residue
- Safe on plastics

Applications:

- Cleaning particles from contacts and relays
- Removing debris from precision optics

ES1025 10 oz. / 383 g aerosol

Typhoon Surge™

Economical duster with an ultra-low GWP

- Ultra-Low GWP
- Nonflammable
- Zero VOC
- Economical
- 100% HFO-1234ze – leaves no residue
- Safe on plastics

Applications:

- Removing debris from keyboards, office equipment
- Removing surface contamination from A/V equipment

ES1026 8 oz. / 226 g aerosol

Cleaner Degreasers

Chemtronics® complete line of high purity solvents are the finest, most effective products made for critical cleaning and degreasing. Each cleaning agent possesses unique properties suited to specific applications — from precision cleaning of sensitive equipment to heavy duty degreasing.

Several of these products can be used in bench top ultrasonic, immersion, and vapor degreaser cleaning systems.

All aerosols can be sprayed in any direction, even upside down. Look for the “All-Way Spray” icon on the can.



Electro-Wash® Cleaner Degreasers are engineered to clean a wide variety of soil, oil, grease, oxides and handling contamination, from equipment and assemblies that include:

- Printed circuit boards
- Metal and fiber optic cable splices
- Fiber optic connectors
- Motors and transformers
- Tools
- Programmable Logic Controllers (PLCs)
- Pneumatic and hydraulic assemblies
- Control systems
- Electronics and electrical equipment
- Precision devices
- Tooling and molds
- Meters/measurement devices



CIROZANE™ – HCFC-225 replacement chemistry

VERIZANE™ – HCFC-225 replacement chemistry; formulated with DuPont™ Vertrel® Specialty Fluids

Electro-Wash® CZ

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

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

Applications:

- Removes handling soils from live circuits
- Cleans oil and residue from sensitive surfaces
- Liquid can be used with ultrasonics, vapor degreasers, as a cold immersion solvent, or with spray dispensing system

ES7100 12 oz / 340 g aerosol
ES7101 1 gal / 3.7 L liquid

Electro-Wash® VZ

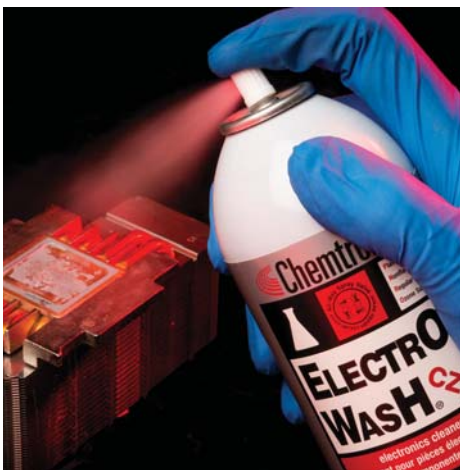
Economical, non-ozone depleting, nonflammable universal cleaner degreaser

- Nonflammable
- One cleaner for all soil types
- Low odor
- Evaporates quickly without leaving residue
- Penetrates to clean hard to reach areas
- Test on plastics
- Ideal AK225 replacement

Applications:

- Cleaning printed circuit boards and control systems
- Maintaining Programmable Logic Controllers (PLCs)
- Removing oils from pneumatic and hydraulic assemblies

ES6100 12 oz / 340 g aerosol
ES6101 1 gal / 3.7 L liquid
ES6155 53 gal / 200 L liquid



Product Selection Guide

	Features						Cleaning Ability			Cleaning Methods					
	Plastic Safe	Nonflammable	Cleaning Strength	No Ozone Depleting Chemicals	Dries Fast	NSF registered	Grease	Oils	Ionic Soils	Aerosol Spray	Benchtop Spray System	Vapor Degreasing	Ultrasonics	Hot Immersion	Cold Immersion
Electro-Wash® CZ	✓	✓	R	✓	✓		3	2	2	✓	✓	✓	✓		✓
Electro-Wash® VZ		✓	R	✓	✓		3	1	2	✓	✓	✓	✓		✓
Electro-Wash® NX0		✓	X	✓	✓		1	1	2	✓	✓	✓	✓		✓
Electro-Wash® PX	✓		X	✓	✓		1	1	1	✓					✓
Electro-Wash® MX	✓		X	✓			1	1	1	✓					
Electro-Wash® PN	✓	✓	R		✓		3	2	3	✓					
Electro-Wash® NX		✓	X		✓	K2	2	1	2	✓					
Electro-Wash® NR		✓	R	✓	✓		1	1	-	✓	✓	✓	✓	✓	✓
Electro-Wash® PR	✓		R	✓	✓		1	1	-	✓					
Electro-Wash® Two Step		✓	X	✓			1	1	1		✓		✓	✓	✓
Electro-Wash® AQ	✓	✓	R	✓			2	2	2		✓		✓	✓	✓

1— Excellent 2— Good 3— Fair R— Regular Strength X— Extra Strength

ASK THE EXPERTS!

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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 organic and ionic soils

Applications:

- Removes oils and hydraulic fluids
- Cleans handling soils from circuitry before reassembly
- Removes grease from assembly lines
- Liquid may be used in cold dip and rinsing

ES810 5 oz / 141 g trigger aerosol
ES1210A 12.5 oz / 354 g trigger aerosol
ES1210 12.5 oz / 354 g aerosol
ES110 1 gal / 3.7 L liquid

Electro-Wash® MX

Extra-strength, plastic safe universal cleaner with moderate evaporation time

- Safe on plastics
- Flammable
- Xtra cleaning strength
- Moderate evaporation rate increases cleaning power
- Leaves no residue
- Removes organic and ionic soils

Cleaning:

- Semiconductive cores of high voltage cables
- Hard-line coax cable
- Metal and fiber optic cable splices

ES1621 10 oz / 283 g aerosol
CP421 25 - 8" x 10" / 20.3 cm x 10" / 25.4 cm premoistened wipes (9 ml each)
FW2150 9 g / 0.32 oz pen



Also try IPA Isopropyl Alcohol — Conveniently packaged in a variety of sizes. See page 19.



AK225
phase out

AK225 Phase Out – January 1st, 2015

AK225, a chemical component found in many precision cleaning solvents, is being banned because of ozone depletion. The US EPA (Environmental Protection Agency), following the Montreal Protocol, is requiring users to find replacements after 2014.

Electro-Wash PN and NX, Pow-R-Wash PN and NX, and Flux-Off No Clean all contain AK225.

Chemtronics offers effective drop-in replacements including Electro-Wash CZ and VZ, Pow-R-Wash CZ and VZ, and Flux-Off CZ and VZ. These products are safe on the ozone layer, powerful and ideal for sensitive components.

Call Chemtronics at 800-645-5244 for expert advice on finding the most suitable AK225 replacement solutions for your particular application needs.



Electro-Wash® PN

Nonflammable cleaner degreaser
safe for use on plastics

AK225
phase out

- Safe on plastics
- Nonflammable
- Dries fast
- Leaves no residue
- Contains HCFC-225
- U.S. Patent 6,747,998 and foreign patents
- Not for sale or use in Canada

Applications:

- Quickly removes oils, greases, oxides and handling soils
- Cleans carbon dust from motors and transformers
- Removes airborne contaminants from Programmable Logic Controllers

ES1678 12 oz / 340 g aerosol

Electro-Wash® NXO

Extra-strength, nonflammable cleaner degreaser

- Nonflammable
- Xtra cleaning strength
- Dries fast
- Leaves no residue
- Test on plastics

Applications:

- Cleans difficult to remove soils from robotic assemblies
- Removes cured conformal coatings
- Removes encrusted no-clean residues

ES1607 12 oz / 340 g aerosol

ES107 1 gal / 3.7 L liquid

Electro-Wash® NX

Extra-strength, nonflammable
cleaner degreaser

AK225
phase out

- Nonflammable
- Xtra cleaning strength
- Dries fast
- Leaves no residue
- Test on plastics
- Contains HCFC-225
- U.S. Patent 6,746,998 and foreign patents
- NSF Registered — Nonfood Compounds/Category Code K2
- Not for sale or use in Canada

Applications:

- Cleans oils and grease from live circuit boxes
- Removes oil from live wire assemblies
- Cleans carbon and oxides from live switches and relays

ES1611 12 oz / 340 g aerosol

ES2211 18 oz / 510 g aerosol

ES111 1 gal / 3.7 L liquid

ES5511 55 gal / 203 L liquid

Electro-Wash® PR

Regular-strength cleaner safe for use on plastics

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

Applications:

- Cleans oils and grease from hand tools
- Removes grease quickly from bearing assemblies
- Cleans carbon and oxides from motor assemblies

ES1603 10 oz / 283 g aerosol



Electro-Wash® NR

Regular-strength, nonflammable cleaner degreaser

- Nonflammable
- Dries fast
- Leaves no residue
- Test on plastics
- Contains n-propyl bromide

Applications:

- Cleans oils from live equipment
- Removes oil and oxides from relay and circuit banks
- Cleans contamination from live connectors

ES1614	12 oz / 340 g aerosol
ES114	1 gal / 3.7 L liquid
ES5514	55 gal / 203 L liquid



Electro-Wash® AQ

Aqueous cleaner for inline, batch and ultrasonic equipment

- Nonflammable
- Highest cleaning strength
- Concentrated – 1% to 5% dilution
- Rinse required for high precision cleaning
- Low foaming
- Test on plastics
- Recommended temperature 120°-140°F

Applications:

- Inline and batch cleaning systems
- Ultrasonic equipment
- Removes oils and flux residues

ES251	1 gal / 3.7 L liquid
ES255	5 gal / 19 L liquid
ES2555	55 gal / 203 L liquid



Electro-Wash® Two Step

Extra-strength, nonflammable ultrasonic and immersion cleaner

- Nonflammable
- Xtra cleaning strength
- Leaves no residue when rinsed with Electro-Wash PX or Electro-Wash CZ
- Test on plastics
- Increasing temperature increases solvency

Applications:

- Removes solder pastes from stencils and screens
- Removes cured conformal coatings
- Removes no-clean residues
- Cleans reflow ovens

ES125A	1 gal / 3.7 L liquid
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Industrial Degreasers and Lubricants

Max-Kleen™ Heavy-Duty Degreasers rise to the challenge of your most difficult jobs. These industrial strength cleaners offer fast, easy removal of grease, tar, asphalt, oil and grime. For the extra-strength your tough degreasing jobs need.

Recommended for all degreasing including:

- Clutches, armatures, generators, and compressors
- Electrical motors and equipment
- Bearings, chains, cables, pulleys and gear drives
- Brakes, springs and flywheels



Max-Kleen™ Citrus

Citrus-based extra-strength degreaser

- Citrus-based formula
- Engineered for fast removal of oxidized grease, sludge, wax, tar and oil
- Dielectric strength of 62 kV
- Does not contain chlorinated solvents
- Safe on most metals and plastics
- Non-corrosive and nonconductive
- NSF Registered — Nonfood Compounds/Code C1

Applications:

- Mechanical parts cleaning
- Automotive, aerospace, and general fabrication industries degreasing

ES2289 15 oz / 425 g aerosol
ES189 1 gal / 3.7 L liquid
ES5589 53 gallons / 200 L liquid

Max-Kleen™ Citrus HF

High flashpoint citrus-based degreaser for heavy greases

- Citrus-based formula with moderate evaporation
- Quickly removes all types of tough soils including oxidized oil and grease
- Safe for use on most metals and plastics
- Flashpoint greater than 140° F
- Non-corrosive and nonconductive
- Low Toxicity
- Leaves no residue

Applications:

- Cleans contacts, relays, switches, circuit breakers and test probes
- Cleans electric motors and gasoline engines
- Removes tough soils from gears and pulleys
- Cleans inks and residues from printing presses

ES191 1 gal / 3.7 L liquid
ES591 5 gal / 19 L liquid
ES5591 53 gallons / 200 L liquid



Product Selection Guide

	Features					Cleaning Ability			Cleaning Methods					
	Plastic Safe	Nonflammable	Cleaning Strength	No Ozone Depleting Chemicals	Dries Fast	Grease	Oils	Ionic Soils	Aerosol Spray	Benchtop Spray System	Vapor Degreasing	Ultrasonics	Hot Immersion	Cold Immersion
Max-Kleen™ Xtreme™	✓	X	✓	✓	K1, K2	1	1	2	✓	✓	✓	✓	✓	✓
Max-Kleen™ Citrus	✓	R	✓		C1	2	2	2	✓	✓		✓	✓	✓
Max-Kleen™ Mighty Wash	✓	✓	R	✓		3	3	2		✓		✓	✓	✓
Max-Kleen™ Citrus HF			R	✓		1	1	3		✓		✓	✓	✓

1- Excellent 2- Good 3- Fair R- Regular Strength X- Extra Strength

Max-Kleen™ Xtreme™

Extra-strength, nonflammable heavy-duty degreaser

- Most aggressive heavy-duty degreaser
- Nonflammable, no flash point
- Dielectric strength of 18 kV
- Non-corrosive and nonconductive
- Evaporates quickly without leaving residue
- Test on plastics
- Contains n-propyl bromide
- NSF Registered — Nonfood Compounds/Code K1, K2

Applications:

- Removes oxidized oil and grease from tools, clutches, bearings and housings

ES2284	19 oz / 539 g aerosol
ES184	1 gal / 3.7 L liquid
ES5584	53 gallons / 200 L liquid



Max-Kleen™ Mighty Wash™

Powerful, industrial grade aqueous degreaser

- Available in both, ready-to-use (RTU) trigger spray and water dilutable concentrate formula
- Heavy-duty cleaning performance
- Prevents flash rusting and corrosion
- Low foaming
- Nonflammable
- Butyl-free and low VOC's
- NSF Registered — Nonfood Compounds/Category Code C1

Applications:

- Metal parts cleaning
- Spray cleaning motors, generators and compressors
- Cleaning machinery; lathes, stamping mills, shears, and air compressors
- Cleaning oily hand tools and machined parts
- Process equipment - food process equipment, ovens, exhaust hoods and appliances

ES3294	32 oz / 940 ml trigger spray
ES194G	1 gal / 3.7 L liquid

DPL® Deep Penetrating Lubricant

Deep penetrating lubricant to displace moisture and inhibit corrosion

- Restores, rejuvenates, protects and preserves contacts
- Foaming spray penetrates deeply to remove moisture and condensation
- Loosens, cleans, lubricates and protects frozen or corroded parts
- Dielectric strength of 30 kV
- Contains no chlorinated solvents or silicone
- Non-corrosive and nonconductive
- Safe on metals and plastics
- NSF Registered — Nonfood Compounds/Code H2

Applications:

- Moisture displacing fluid for electrical and electronic components
- Mechanical parts and surfaces cleaning, lubricating and protecting
- Preserves electrical and electronic contacts, solenoids rheostats and switches
- Automotive, aerospace and general fabrication lubrication

ES1626	11 oz / 322 g aerosol
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HD Silicone™ Lubricant

Electrical food-grade silicone lubricant to lubricate and waterproof

- Lubricates, waterproofs and protects in one application
- Ideal for use on plastics, rubber, elastomers and gaskets
- Stable from -40° F to 450° F
- Reduces sliding friction between dissimilar materials
- Dielectric strength of 40 kV
- Nonconductive and nonstaining
- Contains no chlorinated solvents
- NSF Registered — Nonfood Compounds/Code H1

Applications:

- Conveyers, rails chutes — food processing and handling equipment
- Tools, rubber seals and boots, screw and gear drives, plastic gears and cogs.
- Chains, cables, pulleys and motors

ES1623	10 oz / 283 g aerosol
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Contact Cleaners

These high purity formulations remove environmental contaminants and protect contacts from corrosion and frictional wear. Contact cleaners restore electrical continuity to all electronic and electrical contacts by penetrating and removing insulating oil and grease, conductive carbon soil, and insulative oxides from contact surfaces. By restoring full circuit continuity, Chemtronics contact cleaners improve the performance of all equipment that rely on electrical contacts.

Aerosols can be sprayed in any direction, even upside down. Look for the "All-Way Spray" icon on the can.



Recommended for every phase of electronics and electrical contact maintenance including:

- Metal contacts
- Plastic embedded contacts
- Potentiometers
- Relays and switches
- Circuit breakers
- Fuse blocks
- Electronic controls
- Electrical panels
- Motors and armatures
- Plugs and sockets
- Solenoids



CIROZANE™ – HCFC-225 replacement chemistry

VERIZANE™ – HCFC-225 replacement chemistry; formulated with DuPont™ Vertrel® Specialty Fluids

Pow-R-Wash™ CZ

First non-ozone depleting, nonflammable contact cleaner safe for use on powered-up contacts and surrounding plastics

- Safe on plastics
- Nonflammable
- Dielectric strength of 31 kV
- Evaporates quickly without leaving residue
- Dries fast
- Leaves no residue

Applications:

- Removes oil, grease, and carbon dust
- Can be used on energized equipment
- Ideal for use on sensitive plastics

ES7300 12 oz / 340 g aerosol

Pow-R-Wash™ VZ

Economical non-ozone depleting, nonflammable contact cleaner safe for use on live circuits

- Nonflammable
- Dielectric strength of 15 kV
- Noncorrosive
- Evaporates quickly without leaving residue
- Test on plastics
- Ideal AK225 replacement

Applications:

- All repair and maintenance contact cleaning
- Cleaning of metal contacts, plugs and sockets, solenoids
- Removing oxidized soils from switches, circuit breakers, motors and armatures

ES6300 12 oz / 340 g aerosol
ES6301 1 gal / 3.7 L liquid
ES6355 53 gal / 200 L liquid



Product Selection Guide

Contact Cleaners

	Features					Benefits and Applications			
	Plastic Safe	Nonflammable	Cleaning Strength	No Ozone Depleting Chemicals	Dries Fast	For Use On Live Circuits	Dielectric Breakdown	Lubricates	Specialty for
Pow-R-Wash™ CZ	✓	✓	R	✓	✓	✓	31 kV		Sensitive Plastics
Pow-R-Wash™ VZ		✓	R	✓	✓	✓	15 kV		General Contact Cleaning
Pow-R-Wash™ NX		✓	X		✓	✓	30 kV		Cleaning Metal Connectors
Pow-R-Wash™ PN	✓	✓	R		✓	✓	26 kV		Cleaning Plastic Encased Contacts
Pow-R-Wash™ NR		✓	R	✓	✓	✓	23 kV		Cleaning Heavy Lubrication From Live Circuits
Pow-R-Wash™ PR	✓		R	✓	✓		44 kV		Cleaning Heavy Lubrication
Pow-R-Wash™ Cable Cleaner	✓		X	✓			62 kV		Cleaning Cables, Tools and Contacts
Tun-O-Wash	✓		R	✓	✓				Electro-Mechanical Tuners
Kontakt Restorer®		✓	X	✓	NA	✓	23 kV	✓	Tin and Copper Connectors

NA– Not Applicable R– Regular Strength X– Extra Strength * For lubricant only. Read directions and MSDS before use.



ASK THE EXPERTS!

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Pow-R-Wash™ NX

Extra-strength, nonflammable contact cleaner that quickly removes soils from metal-to-metal contacts

- Nonflammable
- Dielectric strength of 30 kV
- Dries fast
- Leaves no residue
- Test on plastics
- Contains HCFC-225
- U.S. Patent 6,746,998 and foreign patents
- Not for sale or use in Canada

AK225 phase out

Applications:

- Cleans oils and grease from live switches and relays
- Removes carbon from live wire assemblies
- Cleans encrusted soils from live solenoids and switches

ES1612 12 oz / 340 g aerosol

Pow-R-Wash™ PN

Nonflammable contact cleaner safe for use on powered-up contacts and surrounding plastics

- Safe on plastics
- Nonflammable
- Dielectric strength of 26 kV
- Dries fast
- Leaves no residue
- Contains HCFC-225
- U.S. Patent 6,746,998 and foreign patents
- Not for sale or use in Canada

AK225 phase out

Applications:

- Removes carbon dust from circuit breakers
- Cleans ice cube relays
- Ideal for cleaning electrical motor assemblies

ES1677 12 oz / 340 gm aerosol

Pow-R-Wash™ PR

Regular-strength contact cleaner safe for use on plastics

- Safe on plastics
- Flammable
- Dielectric strength of 44 kV
- Dries fast
- Leaves no residue

Applications:

- Ideal for removing degraded contact lubricants
- Removes oils and grease from wire harnesses
- Ideal for use on sensitive plastics

ES1605 10 oz / 283 g aerosol

Kontakt Restorer®

One-step contact cleaner and lubricant

- Nonflammable; may be used on energized equipment
- Xtra cleaning strength
- Extends the life of contacts
- Protects contacts from carbon buildup, oxidation and corrosion
- Leaves protective hydrocarbon lubricant
- Prevents degradation of electrical signal
- Excellent dielectric properties
- Test on plastics
- Contains n-propyl bromide

Applications:

- Cleans and protects metal contacts, potentiometers, relays, circuit breakers, fuse blocks, and electronic controls
- Ideal for protecting tin-lead, copper and nickel contacts

ES1629 12 oz / 340 g aerosol



Pow-R-Wash™ NR

Economical, regular strength contact cleaner that quickly removes soils and oxides

- Nonflammable
- Dielectric strength of 23 kV
- Dries fast
- Leaves no residue
- Test on plastics
- Contains n-propyl bromide

Applications:

- Cleans oxidized oils and grease from live switches and relays
- Removes carbon and oxide dust from live wire assemblies
- Cleans soils from live controllers and equipment

ES1613 12 oz / 340 g aerosol

Pow-R-Wash™ Cable Cleaner

Extra-strength, plastic safe cable and contact cleaner with a moderate evaporation time

- Safe on plastics
- Flammable
- Dielectric strength of 63 kV
- Leaves no residue

Applications:

- Removes dirt, adhesives, gel and oxidants from cable terminations
- Removes oils and grease from equipment and tools, generators, compressors, and mechanical tools of all types
- Great for use on metal contacts, potentiometers and fuse blocks

ES2425 13.5 oz / 385 g aerosol

Tun-O-Wash® Cleaner

Universal fast drying cleaner for electro-mechanical and electronic tuners

- Safe on plastics
- Flammable
- Dries fast
- Leaves no residue
- Cleans hard-to-reach areas

Applications:

- Cleaning potentiometers and switches to remove static and hiss
- Removing oxidized contact grease from circuits
- General equipment cleaning and maintenance

ES2400 12.5 oz / 354 g aerosol

Also try CircuitWorks® Gold Guard® pen — for one-step precision cleaning and lubricating of noble metal contacts and connectors. See page 31.



Eco-Rite™ products —
Low environmental impact and high impact performance.

Eco-Rite™ environmentally preferable products are a series of products that are designed to have a very low impact on the environment. These products provide the cleaning that you expect from Chemtronics, with minimal impact on our environment. Whether you are looking for a product with low VOC's, no harsh caustic materials, or products that have low global warming potentials, Eco-Rite™ products offer the performance and value that you need to succeed. All Eco-Rite™ products have the following environmental attributes:

- Low VOC's
- Low global warming
- No 2-butoxyethanol (Butyl)
- No phosphates
- No EDTA or NTA
- No strong caustics, strong acids, chlorine bleach
- No ozone depleting compounds
- No petroleum distillates
- No alkylphenoethoxylates (APE's)
- No hazardous air pollutants (HAP's)



Eco-Rite™ Glass Cleaner

Environmentally preferable, non-streaking glass cleaner

- Specifically formulated to clean glass and other surfaces
- Removes oils, dirt, finger prints and handling soils
- Leaves surfaces streak free
- Nonflammable
- No carcinogens, no ozone depleting compounds

Applications:

- Cleans:
 - Glass and mirrors
 - Stainless steel and chrome
 - Plastics, ceramics and enamel

ES3266 32 oz / 0.94 L trigger sprayer
ES166 1 gal / 3.7 L concentrate

Eco-Rite™ Multi-Purpose Cleaner

Environmentally preferable, multi-purpose aqueous cleaner

- Multi-purpose, spray and wipe cleaning performance
- Removes oils, dirt, waxes and handling soils
- Concentrated – dilute to adjust cleaning strength
- Nonflammable
- No carcinogens, no ozone depleting compounds

Applications:

- Removes oils, handling soils and lubricants
- Ideal for metal parts cleaning and tools
- All repair and maintenance cleaning
- Used to clean grease and other soils from a variety of surfaces such as:
 - Stainless steel and chrome
 - Plastics and fiberglass
 - Ceramics and enamel

ES3277 32 oz / 0.94 L trigger sprayer
ES177 1 gal / 3.7 L concentrate

Eco-Rite™ Heavy Duty Degreaser

Environmentally preferable, industrial grade aqueous degreaser

- Heavy-duty cleaning performance
- Quickly penetrates, breaks down and lifts the toughest grime
- Removes grease, oil, waxes and resins
- Nonflammable
- Formulated with ingredients on EPA Design for Environment list

Applications:

- Removes grease, oil and lubricants
- Ideal for metal parts cleaning and tools
- All repair and maintenance cleaning
- Cleans electric motors and gasoline engines
- Removes tough soils from gears and pulleys

ES155 1 gal concentrate



Flux Removers

Flux removal is critical to insure reliable circuitry. Not only unsightly, some flux residue can promote short circuits and corrosion, degrading or destroying the printed circuit board. The type of flux to be removed, solvent compatibility and ease of application are all factors to consider when choosing a flux remover.

Flux-Off® Flux Removers are available in aerosol, BrushClean™ System, and liquid form for vapor degreasers, spray systems, ultrasonics and dip tank applications.

All flux remover aerosols can be sprayed in any direction, even upside down. Look for the “All-Way Spray” icon on the can.



Flux-Off® Flux Removers are specially formulated to remove all types of lead-free, rosin (types R, RA and RMA), no-clean, water soluble and synthetic (type SA) flux.

Recommended for:

- Post-solder operations
- PC boards
- Sensitive circuit components
- Component leads
- SMD pads
- Chip carriers
- Plugs, sockets and heat sinks
- Thru-hole and SMT devices
- Screens and stencils
- Work areas



CIROZANE™ – HCFC-225 replacement chemistry

VERIZANE™ – HCFC-225 replacement chemistry; formulated with DuPont™ Vertrel® Specialty Fluids

Flux-Off® CZ

Non-ozone depleting, nonflammable flux remover safe for use on plastics

- Safe on plastics
- Nonflammable
- Cleans R, RMA, RA, and no-clean flux
- Dries fast
- Leaves no residue
- Ideal AK225 replacement

Applications:

- Liquid may be used in vapor degreasers and ultrasonic baths

ES7200 12 oz / 340 g aerosol

ES7208B 5 oz / 141 g BrushClean™ System

Flux-Off® VZ

Economical, non-ozone depleting, nonflammable flux remover

- Nonflammable
- Cleans R, RMA, RA, and no-clean flux
- Low odor
- Dries fast
- Leaves no residue
- Test on plastics
- Ideal AK225 replacement

Applications:

- Removal of flux during post soldering applications
- Cleaning of printed circuit boards, component leads and surface mount devices/pads
- Screens and stencils

ES6200 12 oz / 340 g aerosol

ES6201 1 gal / 3.7 L liquid

ES6255 53 gal / 200 L liquid



Product Selection Guide

	Primary Flux Residue Cleaned			Features								Cleaning Methods					
	Rosin Based*	No-Clean SA-Synthetic	Water Soluble	Removes White Residue	Plastic Safe	Nonflammable	No Ozone Depleting Chemicals	Dries Fast	Aerosol Spray	BrushClean™ System	Hand Cleaning	Vapor Degreasing	Ultrasonics	Immersion	In-Line Spray System	Benchtop Spray System	Rinsing Recommended
Flux-Off® CZ	1	2	NR		✓	✓	✓	✓	✓	✓	✓						
Flux-Off® VZ	1	2	NR			✓	✓	✓	✓		✓	✓	✓				✓
Flux-Off® Rosin	1	2	2		✓		✓	✓	✓	✓	✓		✓				✓
Flux-Off® Lead-Free	1	2	2				✓	✓	✓	✓			✓				✓
Flux-Off® No Clean	2	1	NR			✓		✓	✓	✓							
Flux-Off® No Clean Plus	1	1	2	✓			✓	✓	✓	✓		✓					✓
Flux-Off® Water Soluble	2	NR	1		✓		✓	✓	✓		✓	✓	✓				✓
Flux-Off® Heavy Duty	1	1	2	✓		✓	✓	✓	✓	✓	✓	✓	✓				✓
Flux-Off® Aqueous	1	2	1	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓

1- Excellent 2- Good NR-Not Recommended *R, RMA, RA, Rosin-based No-Clean

Flux-Off® Lead-Free

Powerful flux remover for high temperature, lead-free flux removal

- Engineered for removing high temperature, lead-free flux
- Can also be used to remove tin/lead fluxes
- Flammable
- Evaporates quickly without leaving residue

ES1697 12 oz / 340 g aerosol
ES897B 6 oz / 170 g BrushClean™ System
ES197 1 gal / 3.7 L liquid

Flux-Off® Rosin

Plastic safe flux remover for cleaning all rosin and rosin-based no-clean flux

- Safe on plastics
- Flammable
- Ozone safe
- Leaves no residue

Applications:

- Cleans type R, RMA, RA and rosin-based no-clean flux

ES1035 10 oz / 283 g aerosol
ES1035B 10 oz / 283 g BrushClean™ System
ES835B 5 oz / 141 g BrushClean™ System
ES135 1 gal / 3.7 L liquid
ES5535 55 gal / 208 L liquid

ASK THE EXPERTS!

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Flux-Off® No Clean

Nonflammable flux remover for cleaning no-clean flux

- Nonflammable
- Dries fast
- Leaves no residue
- Test on plastics
- Contains HCFC-225
- Not for sale or use in Canada

AK225
phase out

Applications:

- Removes all types of rosin-based and synthetic no-clean fluxes
- Can be used in ultrasonic or immersion bath

ES1695 12 oz / 340 g aerosol

ES895B 6 oz / 170 g BrushClean™ System

ES195 1 gal / 3.7 L liquid

Flux-Off® No Clean Plus

Powerful economical flux remover for cleaning no-clean flux

- Flammable
- Dries fast
- Leaves no residue
- Test on plastics

Applications:

- Removes all types of rosin-based and synthetic no-clean fluxes
- Minimizes white residue formation

ES1696 12 oz / 340 g aerosol

ES896B 6 oz / 170 g BrushClean™ System

ES196 1 gal / 3.7 L liquid

Flux-Off® Water Soluble

Plastic safe flux remover for cleaning water-soluble flux

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

Applications:

- Cleans water soluble fluxes
- Safe for use on water sensitive components
- Also cleans rosin-based flux

ES1530 13.5 oz / 383 g aerosol

ES130 1 gal / 3.7 L liquid



The BrushClean™ System

The gentle scrubbing action of a brush combined with high performance flux removers

The BrushClean™ System combines the best cleaning formulations with the gentle scrubbing action of a convenient brush system. This system increases cleaning efficiency in two ways – minimizing solvent usage by applying solvent only where you need it, and maximizing cleaning with the addition of mechanical scrubbing action. The BrushClean™ System is the fast and easy way to give contamination the brush-off.

- Powerful solvents combined with the scrubbing action of a brush
- Brush applies solvent exactly where you want it
- Solvent flow flushes brush clean
- A new brush is supplied with every easy-grip can
- Three powerful tools — one convenient package:
 1. Spot clean with the brush
 2. Flush under SMD's with the extension tube
 3. Clean large areas with the spray nozzle



Flux-Off® Heavy Duty

Heavy-duty flux remover for removing encrusted no-clean and rosin flux

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

Applications:

- Ideal nonflammable solution for removing encrusted no-clean and rosin flux

ES1631 12 oz / 340 g aerosol

ES131 1 gal / 3.7 L liquid



Flux-Off® Aqueous

Aqueous flux remover for use in ultrasonics and in-line cleaning systems

- Safe on plastics
- Nonflammable
- Concentrated – dilute to adjust cleaning strength
- Requires a water rinse

Applications:

- Removes all flux types; including no-clean
- Engineered for use with immersion, ultrasonic, and in-line cleaning systems

ES132 1 gal / 3.7 L liquid



IPA - Isopropyl Alcohol

Conveniently packaged and easy to use isopropyl alcohol

- Safe on plastics
- Flammable
- Dries fast
- Leaves no residue
- Cleans hard-to-reach areas

ES820L 8 fl oz / 236 ml liquid
ES3205 32 fl oz / 940 ml liquid
ES105 1 gal / 3.7 L liquid
ES505 5 gal / 18.9 L liquid
ES5505 53 gal / 200 L liquid



For removing very difficult, encrusted flux, try *Electro-Wash® Two Step Cleaner Degreaser* — the extra-strength, nonflammable ultrasonic and immersion cleaner. See page 9.



Eco-Rite™ Stencil Cleaner

Environmentally preferable stencil cleaner

- Effectively cleans wet and dry solder paste
- Removes misprinted paste
- Nonflammable
- No phosphates, EDTA, or NTA
- Non-caustic, non-acidic, no chlorine bleach, no abrasives
- No carcinogens or ozone depleting compounds
- No petroleum distillates
- No alkylphenoethoxylates
- Butyl-free

Applications:

- Used to clean stencils by:
 - Underside wiping
 - Ultrasonic stencil cleaning
 - Spray cleaning
- Removes the following paste types:
 - Rosin-based (R, RMA, RA)
 - No clean
 - Lead-free
 - Water soluble
 - Adhesives

ES3299 32 oz / 0.94 L trigger sprayer
ES199 1 gal / 3.7 L concentrate



Freeze Sprays

Chemtronics® Freeze Sprays are exceptionally pure, nonflammable and provide instantaneous freezing action while leaving no residue. Conveniently packaged and designed for either pinpoint or full board application, these non-reactive circuit refrigerants vaporize instantly while cooling targeted areas. They are used to:

- Test for and locate thermal intermittent components and systems
- Provide heat sink protection for heat sensitive components during soldering and desoldering
- Perform low temperature testing of prototype circuitry and electromechanical systems
- Locate hairline cracks in stressed traces of PC board
- Freeze adhesives for quick removal



Freez-It®

High-performance, pinpoint-accurate freeze spray for isolating individual components on PC boards

- Pinpoint spray isolates individual components without freezing surrounding areas
- Safe on plastics
- Nonflammable
- Filtered to 0.2 microns

ES1050 10 oz / 283 g aerosol
ES1550 15 oz / 425 g aerosol

Freez-It® Antistat

High-performance, pinpoint-accurate freeze spray that safely cools individual static-sensitive components



- Pinpoint spray isolates individual components without freezing surrounding areas
- Antistatic formulation ideal for use on static sensitive components
- Non-frosting
- Safe on plastics
- Nonflammable
- Filtered to 0.2 microns

ES1051 10 oz / 283 g aerosol
ES1551 15 oz / 425 g aerosol

Arctic Blast™

Ultra-low GWP freeze spray with pin-point accuracy for isolating individual components

- Ultra-low Global Warming Potential
- Pinpoint spray isolates individual components without freezing surrounding areas
- Safe on plastics
- Nonflammable
- Filtered to 0.2 microns

ES1054 10 oz / 283 g aerosol

Arctic Blast™ Antistat

Ultra-low GWP antistatic freeze spray with pin-point accuracy for isolating individual components



- Ultra-low Global Warming Potential
- Pinpoint spray isolates individual components without freezing surrounding areas
- Antistatic formulation ideal for use on static sensitive components
- Non-frosting
- Safe on plastics
- Nonflammable
- Filtered to 0.2 microns

ES1055 10 oz / 283 g aerosol

Freeze Spray

Economical, general purpose freeze spray with wide spray for cooling entire PC boards

- Wide spray for cooling entire boards
- Safe on plastics
- Nonflammable
- Filtered to 0.2 microns

ES1052 10 oz / 283 g aerosol

Arctic Storm™

Ultra-low GWP freeze spray with wide spray for cooling entire PC boards

- Ultra-low Global Warming Potential
- Wide spray for cooling an entire board
- Safe on plastics
- Nonflammable
- Filtered to 0.2 microns

ES1056 10 oz / 283 g aerosol



Arctic Blast™ and Arctic Storm™ Freeze Sprays are formulated with HFO-1234ze, a new material that has a significantly lower global warming potential (GWP) than HFC-134a. This new material has a GWP of 6, and compares very favorably to HFC-134a (GWP of 1300). It is also VOC-free, so will not contribute to smog.

Product Selection Guide

Product	Application	Global Warming Potential*	Volatile Organic Compound**	Frost Formation	Cooling Speed	Cooling Temperature
Arctic Blast™	Pinpoint	6	0%	Yes	Fast	-49°F/-45°C
Arctic Blast™ Antistat	Pinpoint	6	<1%	No	Fast	-49°F/-45°C
Arctic Storm™	Wide Area	6	0%	Yes	Very Fast	-49°F/-45°C
Freeze-It®	Pinpoint	1300	0%	Yes	Fast	-60°F/-51°C
Freeze-It® Antistat	Pinpoint	1300	<1%	No	Fast	-60°F/-51°C
Freeze Spray	Wide Area	1300	0%	Yes	Very Fast	-60°F/-51°C

* Global warming potential (GWP) is calculated based on a 100 year time horizon. Carbon dioxide has a GWP of 1.

** VOC is the Volatile Organic Compounds content by weight.

ASK THE EXPERTS!

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Chemtronics® — the Leader in Desoldering Technology

Soder-Wick® and Chem-Wik® Desoldering Braid

Chemtronics offers two of the top brands of desoldering braid in the industry to meet your every requirement. Soder-Wick®, the world's leading brand of desoldering braid, is the fastest, cleanest and safest braid in the industry. It significantly reduces rework/repair time and minimizes the risk of heat damage to the board. Its geometrically precise weave design allows for maximum capillary action and solder capacity. Soder-Wick® and Chem-Wik® Desoldering Braid optimize heat transfer through the braid and into the solder joint, resulting in faster wicking action than any other competitive brand. Minimal flux residue on the board speeds up the cleaning process, or eliminates it entirely.

Soder-Wick® and Chem-Wik® Desoldering Braid

Available in the most comprehensive variety of widths, lengths and flux types. Application-specific sizes allow for precise solder removal in a flash. Vacuum packaging completely protects the copper desoldering braid from the harmful effects of the environment, reducing oxidation and increasing shelf life. Soder-Wick® is available in the VacuPak™ vacuum-sealed can, which serves as a protective storage container once the pack has been opened and is easily stacked on the shelf. Its superior packaging provides predictable quality and performance, time and time again.

Soder-Wick® and Chem-Wik® Desoldering Braid Quality

Desoldering braid meets or exceeds the greatest range of qualitative and performance standards:






- MIL-F-14256 F type R flux
- NASA-STD-8739.3 Soldered Electrical Connections
- DOD-STD-883E, Method 2022
- ANSI/IPC J STD-004, Type ROL0

Static Dissipative Packaging

- Qualifies under MIL-STD-1686C and MIL-HDBK-263B as a non-ESD generator
- Meets the Static Decay Rate Provision of MIL-B-81705C and MIL-STD-2000A



Product Selection Guide

Product	Size	Color	5' 1.5m	10' 3.0m	25' 7.5m	100' 30.5m	500' 152.5m	VacuPak™	Application
Soder-Wick® BGA No Clean	BGA	Purple	60-BGA-5					SW160BGA	BGA Pads and Chips
Soder-Wick® Rosin	1	.030"/0.8mm	White		50-1-25				SMD, Micro-Circuits
	2	.060"/1.5mm	Yellow		50-2-25	50-2-100	50-2-500		Small Pads, SMDs
	3	.080"/2.0mm	Green		50-3-25	50-3-100	50-3-500		Medium Pads
	4	.110"/2.8mm	Blue		50-4-25	50-4-100	50-4-500		Large Pads
	5	.145"/3.7mm	Brown		50-5-25				Terminals
	6	.210"/5.3mm	Red		50-6-25				Large Lugs
Soder-Wick® Rosin SD		1	.030"/0.8mm	White	80-1-5	80-1-10		SW18015	SMD, Micro-Circuits
		2	.060"/1.5mm	Yellow	80-2-5	80-2-10		SW18025	Small Pads, SMDs
		3	.080"/2.0mm	Green	80-3-5	80-3-10		SW18035	Medium Pads
		4	.110"/2.8mm	Blue	80-4-5	80-4-10		SW18045	Large Pads
		5	.145"/3.7mm	Brown	80-5-5	80-5-10		SW18055	Terminals
		6	.210"/5.3mm	Red	80-6-5				
Soder-Wick® No Clean SD		1	.030"/0.8mm	White	60-1-5	60-1-10		SW16015	SMD, Micro-Circuits
		2	.060"/1.5mm	Yellow	60-2-5	60-2-10		SW16025	Small Pads, SMDs
		3	.080"/2.0mm	Green	60-3-5	60-3-10		SW16035	Medium Pads
		4	.110"/2.8mm	Blue	60-4-5	60-4-10		SW16045	Large Pads
		5	.145"/3.7mm	Brown	60-5-5	60-5-10		SW16055	Terminals
		6	.210"/5.3mm	Red	60-6-5				
Soder-Wick® Unfluxed		2	.060"/1.5mm	Yellow		70-2-25			Small Pads, SMDs
		3	.080"/2.0mm	Green		70-3-25			Medium Pads
Soder-Wick® Unfluxed SD		2	.060"/1.5mm	Yellow		75-2-10			Small Pads, SMDs
		3	.080"/2.0mm	Green		75-3-10			Medium Pads
		4	.110"/2.8mm	Blue		75-4-10			Large Pads
Soder-Wick® Lead-Free SD		1	.030"/0.8mm	White	40-1-5				SMD, Micro-Circuits
		2	.060"/1.5mm	Yellow	40-2-5	40-2-10		SW14025	Small Pads, SMDs
		3	.080"/2.0mm	Green	40-3-5	40-3-10		SW14035	Medium Pads
		4	.110"/2.8mm	Blue	40-4-5	40-4-10		SW14045	Large Pads
Soder-Wick® Silk		1	.030"/0.8mm	White	20-1-5			SW12015	SMD, Micro-Circuits
		2	.060"/1.5mm	Yellow	20-2-5			SW12025	Small Pads, SMDs
		3	.080"/2.0mm	Green	20-3-5			SW12035	Medium Pads
		4	.110"/2.8mm	Blue	20-4-5			SW12045	Large Pads
		5	.145"/3.7mm	Brown	20-5-5			SW12055	Terminals
		6	.210"/5.3mm	Red	20-6-5			SW12065	Large Lugs

ASK THE EXPERTS!

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Available in static dissipative (SD) packaging:



- Reduces the risk of damage associated with static electricity
- Meets MIL-STD-883B, Bellcore TR-NWT-000078, ANSI/IPC J SF-818

SII SODER-WICK® Desoldering Braid



VacuPak™ Vacuum Sealed Packaging

Guarantees Soder-Wick Desoldering Braid to be as fast and fresh as the day it was made. The VacuPak can contains 10 bobbins with 5 feet of braid on each bobbin.

All other wick in PermaPak™ barrier packaging, 25 bobbins per package.

Soder-Wick® BGA

Most effective, economical way to safely and completely remove solder from BGA pads and chips

- Sized and designed specifically for BGA pad and chip rework/repair
- Entire BGA pads cleaned in three to four passes
- Available in rosin and no-clean fluxes
- Packaged in ESD-safe static dissipative bobbins

Soder-Wick® Rosin

Fastest, safest rosin flux desoldering braid for removing solder from printed circuit boards

- Noncorrosive ultra high purity Type R rosin flux
- Minimizes the risk of heat damage to the board
- Will not leave ionic contamination on the boards

Soder-Wick® No Clean

Fastest, cleanest no-clean flux desoldering braid packaged in static dissipative bobbins

- Patented noncorrosive, halide free, organic no-clean flux
- Desolders up to 40% faster than competitive no-clean braids and leaves boards cleaner
- Meets MIL-STD-883B, Bellcore TR-NWT-000078 and ANSI IPC SF-818 for Surface Insulation Resistance
- Meets parameters tested by the Singapore Institute of Standards and Industrial Research (SISR) for Solderability
- ANSI/IPC J STD-004, Type ROL0

Soder-Wick® Unfluxed

Unfluxed desoldering braid which can be coated with any flux type

- Can be coated with any flux type
- Allows for a consistent flux type throughout the production process
- Provides quick and safe desoldering

Soder-Wick® Lead-Free

Fastest, safest desoldering braid formulated specifically for use with lead-free applications

- Engineered specifically for high temperature, lead-free solders
- Transfers heat to the solder joint more quickly and efficiently than conventional desoldering braids
- Specifically designed for all lead-free solders
- Can also be used with Tin/Lead solders
- Noncorrosive ultra high purity no-clean flux
- Will not leave ionic contamination on the boards
- Especially effective at removing residual solder from SMT pads
- Patent pending

Soder-Wick® Silk

Engineered for desoldering without risking scratched pads and resist

- Smoother weave that reduces scratching damage
- No Clean, lead-free flux removes all solders
- Especially effective for solder removal for SMT devices



Chem-Wik® Desoldering Braid

As the standard desoldering braid for service and repair, Chem-Wik® Desoldering Braid ensures fast and safe desoldering. The ultra-pure, oxygen free copper braid quickly and completely removes solder from circuit boards and components. Its fast wicking action protects components from harmful heat damage. PermaPak™ Barrier Packaging ensures ultimate braid freshness and speed by sealing out harmful effects of the environment and protecting against oxidation.

Chem-Wik® Desoldering Braid

Meets or exceeds the greatest range of performance standards:

- MIL-F-14256F Type R
- NASA STD-8739.3 Soldered Electrical Connections
- ANSI/IPC J STD-004, Type ROL0



PermaPak™ Barrier Packaging contains 25 bobbins per package



Chem-Wik® Rosin

The fast, safe rosin flux desoldering braid for removing solder from leads and components

- Coated with ultra high purity rosin
- Quickly and thoroughly removes solder
- Noncorrosive Type R rosin flux

Available in static dissipative (SD) packaging:

- Chem-Wik® Rosin packaged in static dissipative bobbins
- Reduces the risk of damage associated with static electricity
- DOD Standard 1686C and MIL-HDBK-263B
- Mil-Std-2000A
- Mil-B-81705C Static Decay Rate Provision

Product Selection Guide

Product	Color	Size	5' 1.5m	25' 7.5m	50' 15.0m	100' 30.5m	500' 152.5m	Application
Chem-Wik® Rosin	Gray	.030"/0.8mm		2-25L	2-50L	2-100L	2-500L	Micro-Circuits
	Yellow	.050"/1.3mm		5-25L	5-50L	5-100L	5-500L	Small Pads
	Green	.075"/1.9mm		7-25L	7-50L	7-100L	7-500L	Medium Pads
	Blue	.100"/2.5mm		10-25L	10-50L	10-100L	10-500L	Large Pads
Chem-Wik® Rosin SD	Gray	.030"/0.8mm	2-5L					Micro-Circuits
	Yellow	.050"/1.3mm	5-5L					Small Pads
	Green	.075"/1.9mm	7-5L					Medium Pads
	Blue	.100"/2.5mm	10-5L					Large Pads



ASK THE EXPERTS!

Chemtronics has application specialists standing by to identify the best solution for you. Call 800-645-5244 or e-mail askchemtronics@chemtronics.com.





CircuitWorks® — Benchtop Solutions for Your Electronic Needs

CircuitWorks® Repair and Prototype Tools

Comprehensive line of conveniently packaged and precision dispensing rework and repair products makes circuit board repair and prototyping faster, easier and more accurate. Advanced-formula materials packaged in unique delivery systems ensure superior performance and pinpoint accuracy. The full range of products meets all of the technicians needs for electronics rework and prototyping — repairing, cleaning, protecting, lubricating, bonding, and restoring electrical conductivity to circuit boards and components.

CircuitWorks® products are compliant with IPC-7711 Rework of Electronic Assemblies, and ANSI/J-STD-001.

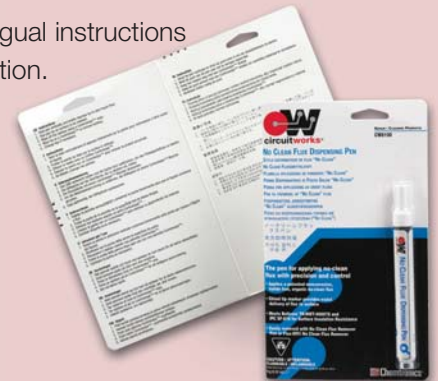


Wide Variety of Benchtop Solutions

CircuitWorks® repair and prototype tools are grouped in the following product areas: Conductive Inks, Conductive Greases, Thermal Compounds, Conductive Epoxies, Protective Overcoats, and Flux, Solder, Cleaning, and Lubricating Pens.

Convenient Packaging

All CircuitWorks® products are available on folded blister cards complete with multi-lingual instructions and regulatory information.



Conductive Ink



CircuitWorks® Conductive Pen

Pen dispenser for drawing highly conductive silver traces, jumpers and shielding with precision and control

- Quickly creates highly conductive silver traces
- Valved pen tip for easy applications
- Solderable at low temperatures
- Dries in minutes at room temperature
- Choice of Micro Tip for fine lines or Standard Tip for wider lines

Applications:

- Repairs traces
- Links components
- Makes smooth jumpers
- Shields electronics



CW2200STP	Standard Tip	8.5 g / 0.3 oz
CW2200MTP	Micro Tip	8.5 g / 0.3 oz

CircuitWorks® Copper Conductive Pen

Pen dispenser for drawing highly conductive copper traces, jumpers and shielding with precision and control

- Quickly creates conductive copper traces
- Valved pen tip for easy applications
- Operating temperature to 212°F (100°C)
- Dries in minutes at room temperature
- Standard Tip for wider lines

Applications:

- Repairs traces
- Links components
- Makes smooth jumpers
- Shields electronics

CW2300STP	Standard Tip	8.5 g / 0.3 oz
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CircuitWorks® Nickel Conductive Pen

Pen dispenser for economically drawing conductive traces, jumpers and shielding

- Quickly creates conductive nickel traces on most surfaces
- Easy and economical to use
- Valved pen tip for easy applications
- Dries in minutes at room temperature

Applications:

- Economically repairs traces, links components, and shields electronics

CW2000	Standard Tip	9 g / 0.32 oz
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CircuitWorks® Flex Conductive Pen

Micro-tip pen for drawing conductive traces on flexible and ITO surfaces

- Quickly creates flexible conductive silver traces on flex circuitry
- Micro tip for precise applications
- Dries in minutes at room temperature
- Highly adherent silver-based polymer system

Applications:

- Repairs conductive traces on flexible circuits and indium tin oxide components

CW2900		8.5 g / 0.3 oz
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CircuitWorks® Rubber Keypad Repair Kit

Conveniently-sized kit for permanent repair of rubber keypads

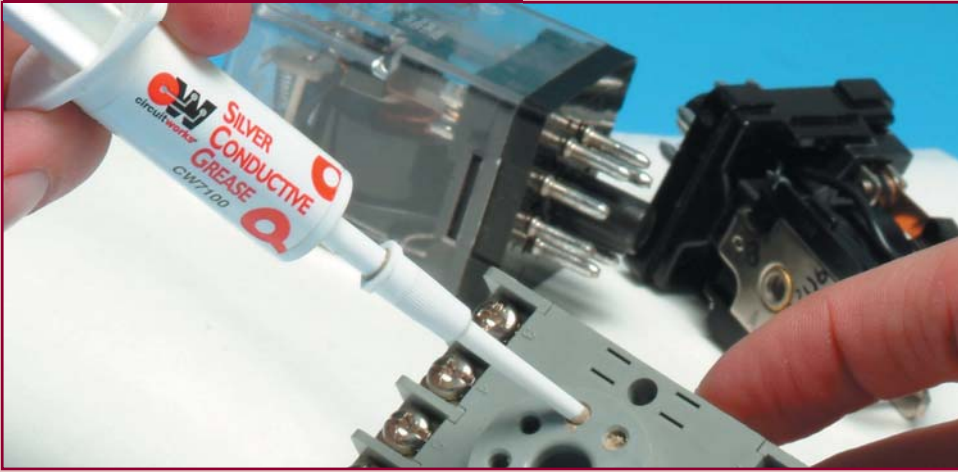
- Restores electrical conductivity to worn carbon contacts
- Forms a tough, flexible, wear-resistant surface
- Repairs over 50 rubber button contacts

Applications:

- Restores rubber and telephone keypads
- Restores flexible carbon contacts

CW2605	Adhesive	3 g / 0.1 oz
	Curing Agent	0.3 g / 0.01 oz

Conductive Greases



CircuitWorks® Silver Conductive Grease

Grease for superior electrical and thermal conductivity, lubrication and protection

- Maximum electrical and thermal conductivity
- Protects against moisture and corrosion
- Thermally stable over a wide temperature range
- Conductive lubricant containing pure silver

CW7100 6.5 g / 0.23 oz

Applications:

- Fills connector gaps to maximize electrical and thermal conductivity
- Controls static discharge
- Grounds circuits



CircuitWorks® Carbon Conductive Grease

Carbon conductive grease for superior electrical/thermal conductivity, lubrication and protection

- Excellent lubrication properties
- Resistance to moisture, radiation, oxidation and corrosive chemicals
- Protects active metal surfaces from corrosion and oxidation
- Good electrical conductivity for medium or low power applications
- Very wide operating temperature range from -70° to 485°F (-56° to 252°C)

Applications:

- Protects against wear on low or medium speed sliding contacts
- Forms conductive contacts for static drains or grounding
- Prevents corrosion on knife switches
- Extends the life of rotating switches
- Lubricant for ball and roller bearings
- Grounds ball and socket connections on power insulators

CW7200 3.5 g / 0.12 oz Syringe

Thermal Compounds

CircuitWorks® Boron Nitride Heat Sink Grease

Ultra-high efficiency, thermally conductive grease

- Provides maximum thermal conductivity with superior dielectric properties
- Silicone free compound will not harden or dry out
- Electrically insulative; noncorrosive and nonflammable
- Thermally stable from -99.4°F/-73°C to 392°F/200°C
- Exceeds MIL-C-47113 for Thermal Conductivity

Applications:

- Formulated for maximum heat transfer between circuit components and heat sinks without electrical conductivity

CW7250 3.4 g / 0.12 oz



CircuitWorks® Silicone Free Heat Sink Grease

Non-contaminating silicone free heat-sink grease

- Silicone free compound will not harden or dry out
- Excellent thermal conductivity and dielectric properties
- Non-corrosive
- Thermally stable from -5°F/-15°C to 392°F/200°C
- Exceeds MIL-C-47113 for thermal conductivity

Applications:

- Excellent heat transfer between circuit components and heat sinks, without any silicone migration

CW7270 8 g / 0.28 oz



CircuitWorks® Heat Sink Grease

Silicone compound for heat transfer away from electronics and electrical components

- Excellent thermal and dielectric properties
- Will not dry out, harden, or melt
- Noncorrosive and nonflammable
- Thermally stable from -40°F/-40°C to 342°F/172°C
- Meets MIL-DTL-47113D Type I

Applications:

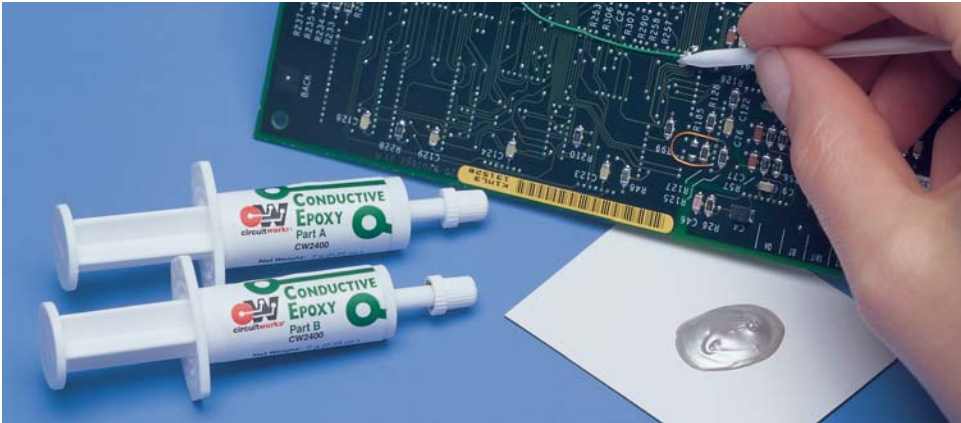
- Facilitates heat transfer between circuit components and heat sinks

CT40-5 142 g / 5 oz

CT40-1 454 g / 1 lb



Conductive Epoxies



CircuitWorks® 5 Minute Conductive Epoxy

Epoxy for precision repair and high strength conductive bonding

- Conductive silver epoxy provides excellent electrical conductivity
- High strength conductive bond with a five minute work time
- Repairs defective traces and creates jumpers on boards
- Quick solderless electronic connections

Applications:

- Repairs traces and temperature sensitive circuits
- Makes high-strength solderless conductive connections

CW2400J	Adhesive	10 g / 0.35 oz
	Hardener	10 g / 0.35 oz in jars

CircuitWorks® Conductive Epoxy

Epoxy for precision repairs and high-strength conductive bonding

- Conductive silver epoxy provides excellent electrical conductivity
- High strength conductive bond with a five minute work time
- Repairs defective traces and creates jumpers on boards
- Quick solderless electronic connections

Applications:

- Repairs traces and temperature sensitive circuits
- Makes high-strength solderless conductive connections

CW2400	Adhesive	7 g / 0.25 oz
	Hardener	7 g / 0.25 oz



CircuitWorks® 60 Minute Conductive Epoxy

Epoxy system with extended pot life for high strength conductive bonds

- Conductive silver epoxy provides excellent electrical conductivity
- Sixty minute work time provides a high strength conductive bond
- Extended pot life provides increased work time
- Repairs defective traces and creates jumpers on boards
- Quick solderless electronic connections

Applications:

- Longer pot life provides extended work time
- Makes high-strength solderless conductive connections

CW2460	Adhesive	10 g / 0.35 oz
	Hardener	10 g / 0.35 oz in jars

Protective Overcoats



CircuitWorks® Epoxy Overcoat

Tough, thermally stable, epoxy protective conformal coating

- Provides a hard, durable, protective green coating
- Excellent dielectric properties; help prevent electrical discharge
- Protects against moisture and abrasion
- Ideal for pre-reflow solder resist repair
- Service temperature from -55°F/-48°C to 600°F/315°C
- Meets the requirements of IPC-7721, 2.4.1

Applications:

- Ideal for repairing permanent solder mask before reflow applications
- Protects circuits and prevents shorting and arcing

CW2500	Adhesive Syringe	4 g / 0.14 oz
	Hardener Syringe	3.4 g / 0.12 oz

CircuitWorks® Overcoat Pen

The pen dispenser for precise application of a tough protective acrylic conformal coating

- Simple to use, single component system
- Hard, durable coating
- High dielectric strength helps prevent electrical discharge
- Dries quickly at room temperature
- Protects against moisture and abrasion damage
- Meets requirements of MIL-I-46058C and IPC-CC-830A
- Choice of clear, green, blue, black or white coating

Applications:

- Insulates and protects conductive pen traces
- Repairs permanent solder mask
- Prevents shorting and arcing

CW3300C	Clear	4.9 g / 0.16 oz
CW3300G	Green	4.9 g / 0.16 oz
CW3300B	Blue	4.9 g / 0.16 oz
CW3300BLACK	Black	4.9 g / 0.16 oz
CW3300WHITE	White	4.9 g / 0.16 oz

Flux and Solder



CircuitWorks® Flux Dispensing Pens

Pen for applying flux with precision and control

- Chisel tip marker provides exact delivery of flux to surface
- Easily removed with appropriate CircuitWorks® Flux Remover Pen

No Clean Flux Dispensing Pen

- Applies a patented noncorrosive, halide free, no clean flux
- Flux meets Bellcore TR-N-NWT-000078 and IPC SF-818 for Surface Insulation Resistance
- Flux meets ANSI/IPC J-STD-004, Type ROLO

CW8100 9 g / 0.32 oz

Lead-Free Flux Dispensing Pen

- Applies a noncorrosive, halide free, no clean flux for high temperature, lead-free application
- Can also be used for tin/lead solders
- Flux meets Bellcore TR-N-NWT-000078 and IPC SF-818 for Surface Insulation Resistance
- Flux meets ANSI / IPC J-STD-004, Type ROLO
- Easily removed with Lead-Free Flux Remover Pen, or Flux-Off® Lead-Free Flux Remover

CW8400 9 g / 0.32 oz

Rosin Flux Dispensing Pen

- Applies a noncorrosive, nonconductive Type R flux
- Flux meets MIL-F-14256 F Type R and ANSI/IPC J-STD-004, Type ROLO

CW8200 9 g / 0.32 oz

Water Soluble Flux Dispensing Pen

- Applies a neutral pH organic water soluble flux for rapid soldering
- Flux meets ANSI/IPC J-STD-004, ORH1 Classification
- Easily removed with water or Flux-Off® Water Soluble

CW8300 9 g / 0.32 oz



CircuitWorks® Lead-Free Pocket Solder

Lead free, high purity pocket sized solder dispenser for convenient rework and repair

- Precision manufactured lead-free solder alloy
- 96.5% Tin (Sn), 3.0% Silver (Ag), 0.5% Copper (Cu)
- Type ROLO flux per IPC J-STD-004
- Ensures even, reliable solder connections
- Cleans and wets heavily tarnished copper surfaces

Applications:

- SAC 305 for soldering lead-free applications

S200 1.0 mm / 0.04" Diameter,
3.18 m / 125" Length

CircuitWorks® Lead-Free Tacky Flux

Conveniently packaged flux gel formulated for easy lead-free BGA rework

- Specifically formulated for the higher temperature requirements of lead free applications
- Syringe applicator provides exact delivery of flux
- Long tack time, extended shelf life
- No refrigeration required
- Noncorrosive, halide and halogen free
- Meets IPC requirements for ROLO, No Clean
- Conforms to ISO 9454
- Meets Bellcore TR-NWT-000078 requirements
- Meets DIN EN 29454-1 1.1.3.C classification

CW8700 3.5 g / 0.12 oz Syringe

CW8710 12 g / 0.42 oz EFD Dispenser

CW8710BLK 12 g / 0.42 oz EFD Dispenser



Syringe

ESD dispenser

CircuitWorks® No-Clean Tacky Flux

Conveniently packaged no-clean flux gel formulated for easy BGA rework

- Formulated for No-Clean applications
- Syringe applicator provides exact delivery of flux
- Long tack time, extended shelf life
- No refrigeration required
- Noncorrosive, halide and halogen free
- Meets IPC requirements for ROLO, No Clean
- Conforms to ISO 9454
- Meets Bellcore TR-NWT-000078 requirements
- Meets DIN EN 29454-1 1.1.3.C classification
- RoHS Compliant

CW8500 3.5 g / 0.12 oz Syringe

CW8510 12 g / 0.42 oz EFD Dispenser

CW8510BLK 12 g / 0.42 oz EFD Dispenser

CircuitWorks® Water Soluble Tacky Flux

Conveniently packaged water soluble flux gel formulated for easy BGA rework

- Specifically formulated for water soluble and water removable applications
- Syringe applicator provides exact delivery of flux
- Long tack time, extended shelf life
- No refrigeration required
- Halide and halogen free
- Meets IPC ANSI-J-STD-006 requirements for ORLO, Water Soluble
- Conforms to ISO 9454
- Meets Bellcore TR-NWT-000078 requirements

CW8600 3.5 g / 0.12 oz Syringe

CircuitWorks® Lead-Free Flux

Convenient, easy-to-use flux for lead-free applications

- High thermal stability
- Excellent material compatibility
- No-clean flux is noncorrosive and halide-free
- Fast drying
- RoHS compliant
- Can be used for soldering with lead-free or tin/lead solders
- Flux passes J-STD-004 Surface Insulation Resistance Testing IPC-TM 650 Test Method 2.6.3.3

Applications:

- Printed circuit boards
- Chip carriers
- Surface mount device pads
- Switches and sockets

CW3220 32 oz / 1 qt



CircuitWorks® BA Dispensing Pen

Empty pen for easy filling, dispensing, and applying all types of liquids

- Fill with your choice of liquids; fluxes, cleaning solvents, oils, etc.
- Wide opening allows easy filling
- Wide base permits the pen to stand upright on your work bench, minimizing footprint
- Tough and durable body, valve and nib
- Anti-roll cap prevents pen from rolling off bench top

Applications:

- Portable and convenient way to apply the specific flux for your process
- Dispensing lubricants, contact preservatives or coatings
- Can be used with inks or marking materials

CW7000 2 Empty Pens per Package

Cleaning and Lubricating Pens



CircuitWorks® Conformal Coating Remover Pen

Pen for precise removal of silicone, acrylic and urethane coatings from PCBs

- Spot cleans tight tolerance areas on circuit boards
- Marker dispenser provides controlled and exact application
- Evaporates quickly
- Provides low surface tension for superior wetting
- Low VOC content

Applications:

- Removes most types of conformal coatings

CW3500 9 g / 0.32 oz

CircuitWorks® Flux Remover Pen

Pen for precise removal of flux from printed circuit boards

- Completely removes flux in seconds
- Spot cleans tight tolerance areas on circuit boards
- Marker dispenser provides controlled spot cleaning
- Dries fast

Applications:

- All cleaning applications where rosin or no clean flux must be removed

No Clean Flux Remover Pen
CW9100 9 g / 0.32 oz

Rosin Flux Remover Pen
CW9200 8 g / 0.28 oz



CircuitWorks® Lead-Free Flux Remover Pen

Pen for removing lead-free flux with precision and control

- Completely removes lead free flux residues in seconds
- Can also be used to remove tin/lead fluxes
- Marker dispenser provides controlled and exact application
- Dries fast

CW9400 9 g / 0.32 oz

CircuitWorks® Gold Guard™ Pen

Pen for cleaning and lubricating gold and other noble metal contacts and connectors

- Cleans and leaves protective polyphenyl ether lubricant in one step
- Chisel tip marker for exact delivery to the contact
- Safe on plastics

Applications:

- Cleans and lubricates gold contacts
- Extends life of noble metal contacts

CW7400 8.5 g / 0.3 oz



CircuitWorks® The Mighty Pen®

Powerful universal cleaning pen

- Outstanding cleaning ability
- Marker dispenser provides controlled and exact application
- Mild citrus aroma
- U.S. Patent 6,677,291 and 6,677,292, and foreign patents

Applications:

- General purpose cleaning and refurbishing of equipment
- Removes ink stains, label adhesives, and difficult to remove soils

CW3700 11 g / 0.39 oz

Conformal Coatings

Konform® Conformal Coatings are used to protect printed circuit boards, components and flex circuitry. These coatings provide excellent electrical insulation and withstand hot and cold operating environments, as well as heat generated by electronic circuitry. Formulated to protect components and circuits in the most demanding of environments, all Konform® conformal coatings contain a UV indicator for easy quality assurance. These tough, transparent coatings will not chip or crack, thereby providing excellent protection. All are convenient and ready to use.

Konform® Conformal Coatings are engineered for applications in:

- Aerospace, marine manufacturing, electrical equipment, instrumentation and data communication
- Printed circuit board and flex circuit protection
- Withstanding severe environmental stress, thermal shock, mold and fungus attack



Product Selection Guide

	Resistance					Underwriters Laboratories				Coating Characteristics				Product Characteristics					
	Temperature Resistance	Abrasion Resistance	Acid Resistance	Solvent Resistance	Humidity Resistance	Water Submersible Per UL	UL Recognized	UV Traceable	System	Flexibility	Solderability	Repairability	Dielectric Breakdown	Working Temperature	Aerosol	Liquid	Coverage @ 1 mil	Tack Free Time	Full Cure Time
Konform® SR	1	4	2	2	1	✓	✓	✓	Solvent	1	4	3	1100	-85°F to 390° (-65°C to 200°C)	21.0 sq. ft.	250 sq. ft.	15 min.	24 hrs. @ RT	
Konform® SR High Viscosity	1	4	2	2	1			✓	Solvent	1	4	3	1100	-85°F to 390° F (-65°C to 200°C)	NA	718 sq. ft.	15 min.	24 hrs. @ RT	
Konform® AR	2	1	1	3	1		✓	✓	Solvent	4	3	4	8300	-75°F to 270° F (-59°C to 132°C)	20.2 sq. ft.	254 sq. ft.	30 min.	24 hrs. @ RT	
Konform® Ultra	2	2	1	3	1			✓	Solvent	4	3	3	8300	-75°F to 270° F (-59°C to 132°C)	20.2 sq. ft.	254 sq. ft.	10 min.	24 hrs. @ RT	
Konform® Flexcoat	3	3	2	2	1			✓	Solvent	1	3	3	2550	-31°F to 212° F (-35°C to 100°C)	13.5 sq. ft.	144 sq. ft.	20 min.	24 hrs. @ RT	
Konform® UR-A	3	1	1	1	4			✓	Water-based	3	3	4	3340	-85°F to 257° F (-65°C to 125°C)	NA	577 sq. ft.	1 hr.	24 hrs. @ RT	
Konform® HR	3	1	2	2	4			✓	Water-based	4	3	4	7100	-31°F to 212° F (-35°C to 100°C)	NA	577 sq. ft.	1 hr.	24 hrs. @ RT	

1 – Outstanding 2 – Excellent 3 – Good 4 – Fair NA – Not Available

Konform® SR

The silicone coating engineered for maximum flexibility and protection from extreme temperatures and vibration damage

- Silicone coating working temperature from -85°F/-64°C to 390°F/200°C
- High dielectric strength of 1100 volts/mil
- Easily removed with Electro-Wash® Two Step, Electro-Wash® NXO, or CircuitWorks® Conformal Coating Remover Pen
- Meets MIL-I-46058C, Type SR
- Compliant to IPC-CC-830A
- Engineered for applications where flexibility and high temperature resistance are required
- Contains UV Tracer for easy quality control
- UL recognized

CTSR-12 10 oz / 283 g aerosol

CTSR1 1 gal / 3.7 L liquid

CTSR5 5 gal / 19 L liquid



ASK THE EXPERTS!

Chemtronics has application specialists standing by to identify the best solution for you. Call 800-645-5244 or e-mail askchemtronics@chemtronics.com.

Removal Method

Solvent removal, Burn through
Solvent removal, Burn through
Solvent removal, Burn through
Solvent removal, Burn through
Peel, Solvent removal, Burn through
Solvent removal, Burn through
Solvent removal, Burn through

Konform® SR High Viscosity

The high-viscosity silicone coating engineered for applications requiring a thicker coating

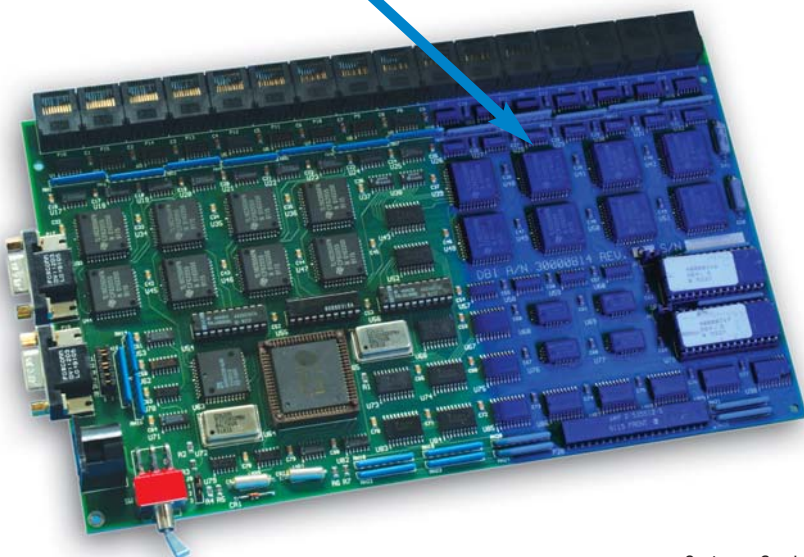
- Silicone coating working temperature from -85°F/-64°C to 390°F/200°C
- High dielectric strength of 1100 volts/mil
- Easily removed with Electro-Wash® Two Step, Electro-Wash® NXO, or CircuitWorks® Conformal Coating Remover Pen
- Meets MIL-I-46058C, Type SR
- Compliant to IPC-CC-830A
- High viscosity material provides thicker coat
- Contains UV Tracer for easy quality control

CTSR-HV1

1 gal / 3.7 L liquid



All Konform® conformal coatings contain a UV indicator for improved quality assurance.



Konform® AR

The acrylic coating engineered for effective insulation against high voltage arcing and shorts

- Acrylic coating working temperature from -75°F/-59°C to 270°F/132°C
- High dielectric strength of 8300 volts/mil
- Meets MIL-I-46058C, Type AR
- Compliant to IPC-CC-830A
- Designed to provide effective insulation against electrical shorts and harsh environments
- Provides excellent acid resistance
- Easily repairable
- Contains UV Tracer for easy quality control
- UL recognized

CTAR-12

11.5 oz / 326 g aerosol

CTAR1

1 gal / 3.7 L liquid

Konform® Ultra

Ultra-fast drying acrylic coating for superior insulation against high voltage arcing

- Extremely fast drying; allows quick throughput, minimizes processing time
- Acrylic coating operating temperature from -75°F/-59°C to 270°F/132°C
- High dielectric breakdown of 8300 volts/mil
- Meets MIL-I-46058C, Type AR
- Compliant to IPC-CC-830B Class B
- Designed to provide effective insulation against electrical shorts and harsh environments
- Provides excellent acid resistance
- Easily repairable
- Contains UV Tracer for easy quality control

CTUFD-12

11.5 oz / 326 g aerosol

CTUFD1

1 gal / 3.7 L liquid

CTUFD5

5 gal / 18.5 L liquid



Konform® Flexcoat

Exceptionally flexible, silicone free coating for superior vibrational protection

- Extremely fast drying and flexible silicone free conformal coating; allows quick throughput, minimizes processing time
- Coating operating temperature from -31°F/-35°C to 212°F/100°C
- High dielectric breakdown of 2550 volts/mil
- Compliant to IPC-CC-830B Class B
- Designed to provide effective insulation against electrical shorts and harsh environments
- Extremely easy to repair
- Contains UV Tracer for easy quality control

CTFC-12	11.5 oz / 326 g aerosol
CTFC1	1 gal / 3.7 L liquid
CTFC5	5 gal / 18.5 L liquid

Konform® UR-A

Water-based urethane conformal coating formulated for superior durability and moisture protection

- Water-based coating minimizes odor and VOC exposure
- Provides outstanding barrier and moisture protection
- Urethane coating offers outstanding abrasion and solvent resistance
- Coating operating temperature from -85°F/-65°C to 257°F/125°C
- High dielectric breakdown of 3340 volts/mil
- Compliant to IPC-CC-830B Class B
- Provides excellent acid resistance
- Contains UV Tracer for easy quality control

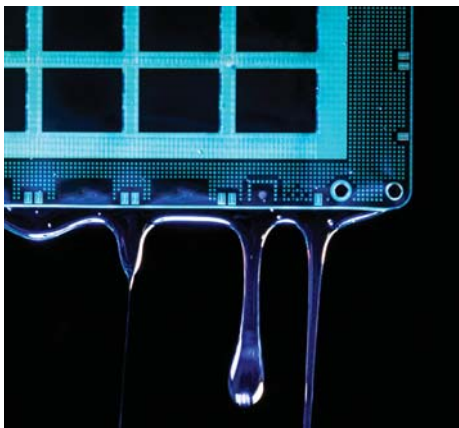
CTURA1	1 gal / 3.7 L liquid
CTURA5	5 gal / 18.5 L liquid

Konform® HR

Water-based conformal coating for superior dielectric and abrasion resistance

- Water-based coating minimizes VOC exposure
- Unique acrylic/urethane based coating; provides the flexibility and toughness of urethane, with the superior insulation protection of an acrylic
- Coating operating temperature from -31°F/-35°C to 212°F/100°C
- High dielectric breakdown of 7100 volts/mil
- Compliant to IPC-CC-830B Class B
- Provides excellent acid resistance
- Contains UV Tracer for easy quality control

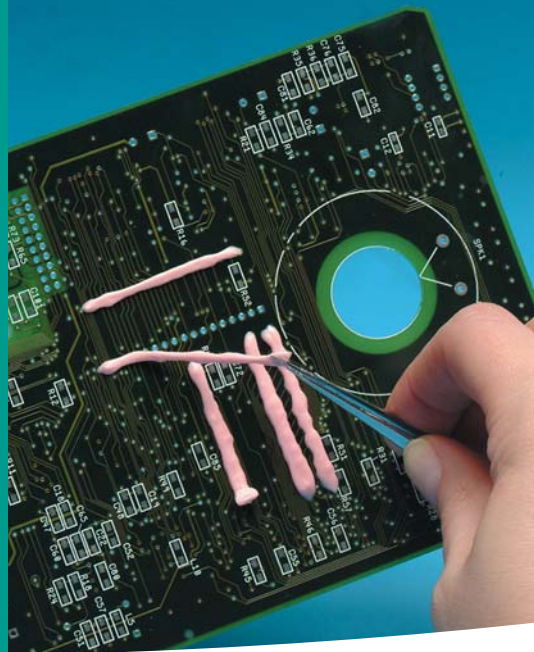
CTHR1	1 gal / 3.7 L liquid
CTHR5	5 gal / 18.5 L liquid



Chemask® Solder Masking Agents protect PC boards, plated thru-holes, contacts, pins, posts, terminals and gold fingers during reflow and wave soldering. They provide short-term high-temperature protection from molten solder to a minimum of 515°F/268°C. All products are nonflammable, non-contaminating and will not leave ionic or corrosive residue. Chemask® Solder Masking Agents are available in convenient squeeze bottles for precision application or in gallons for automated dispensing.

Chemask® products are:

- Plastic Safe
- Nonflammable



Chemask® — Peelable

Fast curing, peelable temporary solder masking agent

- Dries tack-free in 15 minutes
- Easy to use — just peel off dried Chemask® masking agent
- Latex material is compatible with all flux systems and stable with cleaning solvents

Applications:

- Ideal for protecting contacts during wave soldering
- Use as a protective mask during conformal coating process for: switches, pins, posts, contact and edge connections

CM8 8 fl oz / 236 ml liquid squeeze bottle
CM1 1 gal / 3.7 L liquid



Chemask® NA — Non-Ammoniated

High temperature, peelable, temporary mask safe for use on sensitive metals

- Will not affect gold, copper, nickel, silver and OSP finishes
- For lead-free or tin/lead processes
- Stable to 550°F (288°C)
- Phthalate-free, low toxicity and environmentally safe
- Compatible with rosin, no-clean and water soluble flux types
- Dries tack free in 15 minutes
- Can be placed directly into pre-heat oven without waiting
- Removes easily and leaves no residue
- Non-contaminating, non-staining and noncorrosive

Applications:

- Engineered for use with bare copper, silver and other reactive metals
- Ideal for SMT applications

CNA8 8 fl oz / 236 ml liquid squeeze bottle
CNA1 1 gal / 3.7 L liquid

Chemask® LF — Lead-Free

High temperature, peelable temporary mask ideal for lead-free applications

- Formulated for use with lead-free applications
- Can also be used with tin/lead solders
- Usable within five minutes of application with preheat cycles
- Provides short-term high temperature protection up to 550°F (288°C)

Applications:

- Engineered for high temperature lead-free applications
- Easily peeled off boards

CLF8 8 fl oz / 236 ml liquid squeeze bottle
CLF1 1 gal / 3.7 L liquid

Solder Masking Agents

Chemask® HT

High temperature, peelable, temporary mask safe for use on sensitive metals

- Stable to 550°F (288°C)
- Stable at long temperature exposure up to 300°F
- For lead-free or tin/lead processes
- Phthalate-free, low toxicity and environmentally safe
- Compatible with rosin, water soluble fluxes and cleaning solvents
- Dries tack free in 15 minutes
- Goes straight into the pre-heat oven
- Removes easily and leaves no residue
- Non-contaminating, non-staining and non-corrosive
- Compatible with gold, copper, nickel, silver and OSP finishes



Applications:

- Protects component-free areas during wave and reflow soldering
- Protects components and pin connectors
- Protects temperature sensitive components during wave or reflow soldering

CMHT8 8 fl oz / 236 ml liquid squeeze bottle
CMHT1 1 gal / 3.7 L liquid

Product Selection Guide

Product Characteristics

	Color	Flexibility	For Lead-Free Applications	Contains Ammonia	Safe for Sensitive Metal Surfaces	Tack Free Time @ Room Temperature	Full Cure Time @ Room Temperature	Preheat Activated	Flux Resistance	Solvent Resistance
Chemask® Peelable	Pink	1	4	Yes	NR	15 min.	30 min.	NA	All types	All types
Chemask® NA Non-Ammoniated	Green	2	1	No	Yes	15 min.	30 min.	Yes; can be placed directly into preheat	All types	All types
Chemask® LF Lead-Free	Pink	1	1	Yes	NR	15 min.	30 min.	Yes; 4 min. full cure	All types	All types
Chemask® HT Peelable	Green	1	1	No	Yes	15 min.	30 min.	Yes; 4 min. full cure	All types	All types
Chemask® HV High Viscosity	Pink	1	4	Yes	NR	15 min.	30 min.	Yes; 4 min. full cure	All types	All types
Chemask® Aqua Water Soluble	Orange	3	1	No	Yes	30 min.	60 min.	NA	All types	Remove with water and water-based cleaners
Chemask® WF Water Filterable	White	NA	1	No	Yes	30 min.	60 min.	NA	Not compatible with water-based flux	Remove with water and water-based cleaners
Chemask® W Water Soluble	Blue	4	2	No	Yes	30 min.	60 min.	NA	All types	Remove with alcohol, ketone, water and water-based cleaners

1 – Outstanding 2 – Excellent 3 – Good 4 – Fair NA – Not Applicable NR – Not Recommended

Chemask® HV — High Viscosity

High viscosity, peelable temporary solder masking agent

- Usable within five minutes of application with preheat cycle
- More controlled application
- Thicker coating does not seep through thru-holes
- Latex material is compatible with all flux systems and stable with cleaning solvents

Applications:

- Ideal for all thru-hole manufacturing applications
- Use as a protective mask during conformal coating process for: switches, pins, posts, contact and edge connections

CHV8 8 fl oz / 236 ml liquid squeeze bottle



Chemask® Aqua

High temperature, water soluble, temporary mask safe for use on component-free areas

- Protects boards from molten solder to 515°F (268°C)
- Prolongs deionized water system life
- Low foaming
- Compatible with most flux types
- Leaves no corrosive residue
- Does not contain Methanol
- Non-contaminating

Applications:

- During wave soldering, Chemask® Aqua Solder Masking Agent protects:
- Component free areas
 - Gold connectors
 - Gold fingers
 - Pin connectors

CMAQ8 8 fl oz / 236 ml liquid squeeze bottle
CMAQ1 1 gal / 3.7 L liquid



Chemask® WF — Water Filterable

Low-foaming, water filterable temporary solder masking agent

- Easily removed in water cleaning cycles
- Does not coat filtration equipment
- Noncorrosive; safe for sensitive contacts
- Removed with inexpensive filters, increasing the life span of activated carbon/resin beds
- US Patent Number 6,207,265

Applications:

- Ideal for use with closed loop cleaning systems
- Increases productivity by reducing cleaning system maintenance
- Short-term high-temperature protection from molten solder to 515°F (268°C)

CWF8 8 fl oz / 236 ml liquid squeeze bottle
CWF1 1 gal / 3.7 L liquid

Chemask® W — Water Soluble

Water soluble temporary solder masking agent

- Dissolves in water cleaning cycles
- Noncorrosive; safe for sensitive gold, silver and copper

Applications:

- Can be used as a water soluble tacking compound

CW8 8 fl oz / 236 ml liquid squeeze bottle



	Application Methods				Removal Methods		
	Automated Dispenser	Hand Dispenser	Stencils	Screens	Peelable	Water Washable Open Loop	Water Washable Closed Loop
	Yes	Yes	No	No	Yes	No	No
	Yes	Yes	Yes	Yes	Yes	No	No
	No	Yes	No	No	Yes	No	No
	Yes	Yes	No	Yes	Yes	No	No
	No	Yes	No	No	Yes	No	No
	Yes	Yes	Yes	Yes	No	Yes	Yes
	Yes	Yes	Yes	Yes	No	Yes	Yes
	Yes	Yes	Yes	Yes	No	Yes	No

ASK THE EXPERTS!

Chemtronics has application specialists standing by to identify the best solution for you. Call 800-645-5244 or e-mail askchemtronics@chemtronics.com.



Static Dissipative Products

Chemtronics Static Free™ products are engineered to protect electronic equipment and work spaces from static buildup while cleaning and reconditioning. These products provide everything required for a comprehensive surface treatment program as recommended by ANSI/ESDS 20.20.

All Static Free™ products are:

- Plastic Safe
- Nonflammable
- Ozone Safe

Look for the ESD symbol throughout this catalog for products designed for S20.20 compliant environments.



Static Free™ Floor Finish

Dissipates static charges while providing a high gloss finish for conventional flooring

- Provides static dissipative properties for resilient and non-resilient surfaces
- Gives a non-yellow high gloss finish for conventional flooring
- Easy to apply and maintain
- Apply to a variety of flexible and hard surfaces
- Eliminates need for static control tiles
- Dries in 30 minutes
- Provides a Surface Resistivity $10^8 - 10^9$ ohms per ANSI/ESD S7.1
- Meets slip resistance standard ASTM D-21.06

ES167 1 gal / 3.7 L container
ES567 5 gal / 18.5 L container

Static Free™ Floor Cleaner

Provides effective cleaning of the surface while enhancing static dissipative properties of the floor finish

- Removes oils, dirt and other contaminants from the floor surface
- Cleans and rejuvenates in one easy step
- Butyl free and low foaming
- Neutral to floor finish, will not harm most floor surfaces
- Concentrated cleaner, easy to dilute
- Long-lasting dissipative protection; up to 30 days
- Effective in relative humidity below 15%
- No Phosphates, EDTA, or NTA
- Meets static decay criteria of MIL-B-891705C

ES163 1 gal / 3.7 L container
ES563 5 gal / 18.5 L container

Static Free™ Hard Surface Treatment

Provides static dissipative properties on a variety of hard surfaces

- Long-lasting dissipative protection; up to 30 days
- Effective in relative humidity below 15%
- Noncorrosive, amine free formulation
- Meets static decay criteria of MIL-B-891705C
- Fast drying
- Nonflammable
- Safe on surfaces not harmed by water
- Nonabrasive
- No surfactants, no phosphates

ES3260 32 oz / 0.95 L spray container
ES160 1 gal / 3.7 L container

Static Free™ Floor Finish Stripper

Quickly removes floor finish from hard surfaces

- Quickly and effectively removes Static Free™ Floor Finish and other floor finishes
- Phosphate free and non-ammoniated
- Low odor
- Leaves no residue after rinsing

ES169 1 gal / 3.7 L container
ES569 5 gal / 18.5 L container





Static Free™ Carpet & Fabric Treatment

Prevents static electricity build up on carpet and other fabric

- Provides static dissipation to porous surfaces
- Reduces static build up for carpet and fabric
- Leaves no film
- Effective in relative humidity below 15%
- Chloride and amine free formulation
- Noncorrosive, neutral pH
- Meets static decay criteria of MIL-B-891705C
- Safe on surfaces not harmed by water
- No surfactants, no phosphates
- Low odor

ES3261 32 oz / 0.95 L spray container
ES161 1 gal / 3.7 L concentrate

Static Free™ Plast-N-Glas®

Foaming, non-streaking static dissipative cleaner for transparent surfaces

- Controls static, cleans and polishes in one application
- Effectively removes handling oils, finger soils and nicotine stains
- Prevents attraction of dust and dirt
- Compatible with plastics, glass and stainless steel
- Foaming spray won't run or drip; ideal for optical surfaces
- Not for use on anti-glare coatings or mesh screens

Applications:

- Cleaning computer monitors and housings
- Removing handling soils from precision glassware
- Maintaining cleanliness of observation windows on production equipment

ES1668 14 oz / 397 g aerosol



Static Free™ Hand Guard™

Hand lotion formulated to protect against electrostatic discharge

- Special formulation minimizes potential for static damage
- Penetrates deeply to moisten and refresh dry, chapped or chemically irritated skin
- Nongreasy formula contains Aloe Vera and Vitamin E
- Contains no lanolin, silicone or mineral oil that could inhibit solderability of printed circuits or components

Applications:

- Protecting and rejuvenating hands from harsh environmental stress
- Protecting circuits from destructive electrostatic discharge

C805 8 fl oz / 236 ml liquid



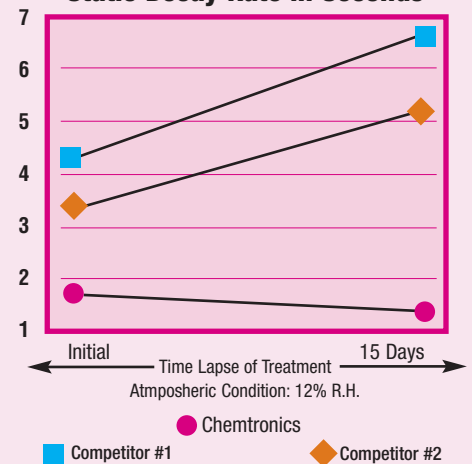
Static Free™ Mat and Benchtop Reconditioner

Cleans and rejuvenates ESD-safe surfaces

- Cleans and rejuvenates burned or dead spots on ESD mats
- Excellent for extending life of ESD mats
- Will not dry mat surfaces with repeated use
- Long-lasting dissipative protection; up to 30 days
- Effective in relative humidity below 15%
- Chloride and amine free formulation
- Noncorrosive
- Meets static decay criteria of MIL-B-891705C

ES1664T 16 fl oz / 472 mL Trigger Spray
ES3264 32 fl oz / 0.95 L Trigger Spray
ES164 1 gal / 3.7 L container

Static Decay Rate in Seconds



Static Free® Mat and Benchtop Reconditioner maintains a faster decay rate compared to other reconditioners, and actually improves over time!

Presaturated Wipes and Swabs

Presaturated swabs and wipes combine Chemtronics' highly effective cleaners and static dissipative treatments with the convenience of a disposable applicator.

- Presats are convenient to use and ideal for field service kits
- Every swab and wipe is hermetically sealed to prevent evaporation and maintain solvent effectiveness

Our presaturated products can be used in a wide variety of applications:

- Cleaning optical surfaces
- Cleaning fiber optic connectors and fusion splicers
- Cleaning computer keyboards
- Cleaning and applying ESD treatments to display screens
- Removing oil, dust and other contaminants
- Cleaning and protecting sensitive contact surfaces

All Presaturated Swabs and Wipes are:

- Plastic safe
- Flammable
- Ozone safe



Chemswab™ Presaturated Swab

Easy to use swab presaturated with alcohol

- Urethane foam swab (Foamtips™ #120) presaturated with ultra-pure IPA
- Evaporates quickly with no residue or contamination
- Nonabrasive
- Ideal for field service kits

Applications:

- Safely cleans computer keyboards, optical and magnetic tape devices and electronic components

CS25 25 presaturated swabs

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

Screen Prep™ Presaturated Wipe

Convenient to use cleaning and static control system for use on monitor screens



- Cleans and provides a static dissipative treatment
- Safely removes dust, dirt, oil and nicotine
- Controls static-generated contamination
- Wet pad cleans and applies static protection
- Dry wiper polishes screen optically clear

Applications:

- Cleaning monitors and preventing airborne recontamination for up to seven days

CSP20 25 twin packs
#1 presaturated pad
#2 polishing wiper





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

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 an aerosol — ES1621. See page 7.

IPA Presaturated Wipes

General purpose presaturated wipe in a convenient tub dispenser

- Features ultra pure mixture of 70% IPA and 30% deionized water, or 91% IPA and 9% deionized water
- High absorbency and liquid retention
- Strong, will not tear, shred, unravel or lint
- Holds up to the most rigorous scrubbing
- SIP100P and SIP91P pull-up presaturated wipes are ideal for cleaning of semi-automatic printer stencils, and touch-up cleaning of automatic printer stencils
- IPA100B is a lint free, precut wipe that is excellent for cleaning fine pitch apertures

SIP100P 100 pull-up presaturated wipes
70% IPA and 30% deionized water

SIP91P 100 pull-up presaturated wipes
91% IPA and 9% deionized water

IPA100B 100 c-fold presaturated wipes
70% IPA and 30% deionized water

Chemtronics® dry wipes are engineered and manufactured clean. They are designed for controlled environments, light industrial, benchtop, laboratory and high absorbency applications.

They feature:

- High absorbency
- Contamination control
- High-purity
- Little or no linting

They are ideal for use with strong solvents and the full range of engineered Chemtronics® cleaners; Electro-Wash® cleaner degreasers, Static Free™ static control products, Flux-Off® flux removers and Chemtronics® Eco-Rite™ cleaners.



Controlwipes™

Solvent resistant highly absorbent wipe

- Nonwoven, spunlaced polyester cellulose fabric
- Strong, will not tear, shred, unravel or lint
- High absorbency and liquid retention
- Will not abrade surfaces
- Resistant to most solvents, alcohols and dilute acids
- For applications requiring contamination control

Applications:

- Removing light surface contamination from CRT's and optical glass surfaces
- Cleaning and absorbing solvents from semi-critical work surfaces

C910 150 wipes 9" x 9" / 23 cm x 23 cm

Twillwipes™

Highly absorbent wipe for abrasion-free cleaning and drying of sensitive surfaces, components and equipment

- Strong, textured 100% cotton
- Minimal linting
- Resistant to caustic solvents and temperatures up to 302°F/150°C

Applications:

- Cleaning applications involving high temperature solutions
- Ideal for use with caustic solutions

C900 150 wipes 9" x 9" / 23 cm x 23 cm

Opticwipes™

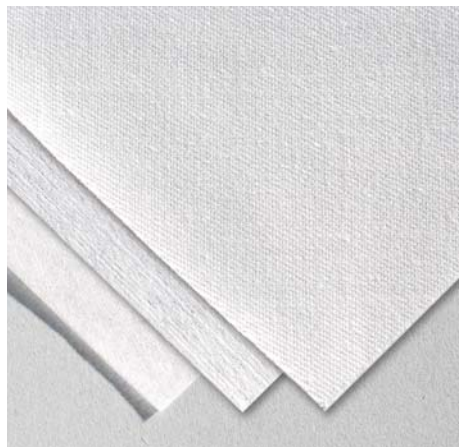
Soft laboratory-grade cellulose paper designed for use on optical and other sensitive surfaces

- 100% cellulose
- Highly absorbent; high wet strength
- Noncontaminating
- Solvent resistant
- Low in soluble extractable contamination and particle generation

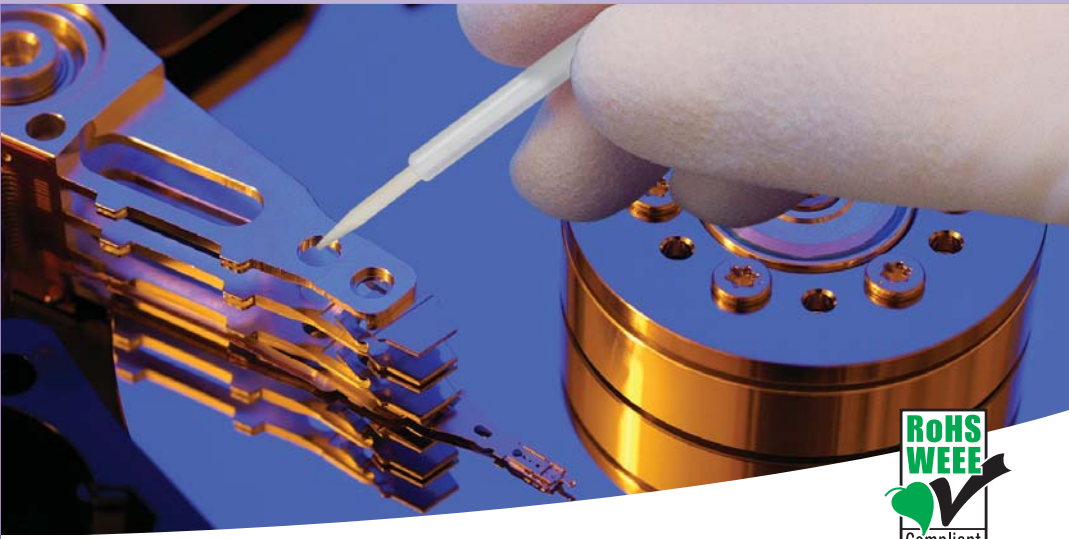
Applications:

- Cleaning optical surfaces, photo processing, lab equipment and other precision instrumentation
- Ideal for cleaning optical lenses

C920 500 wipes 9" x 9" / 23 cm x 23 cm



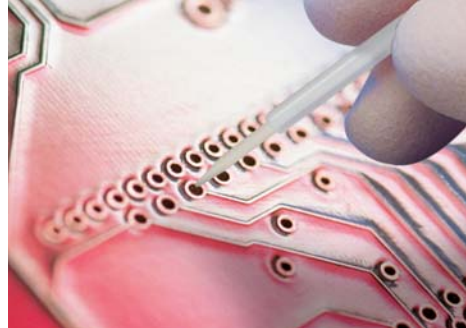
Chemtronics® Swabs and Applicators are engineered for use in a variety of environments and applications. They are ideal for use with our cleaner degreasers, head cleaners, flux removers and other solvents for fast, precision cleaning. From the innovative no-lint Chamois Tips™ Swab to the general purpose Cottontips™ Swab, Chemtronics® has the right swab or applicator for your job.



Microtips™

Precision applicator for pinpoint solvent, adhesive and lubricant application

- Porous polyvinylidene fluoride-tipped precision applicator and cleaning tool
- Low extractables and particulate levels
- Compatible with most solvents
- 1.9 mm tapered tip
- Excellent choice for dispensing and dispersing solvents, adhesives and primers
- Effective as a stylus or pick



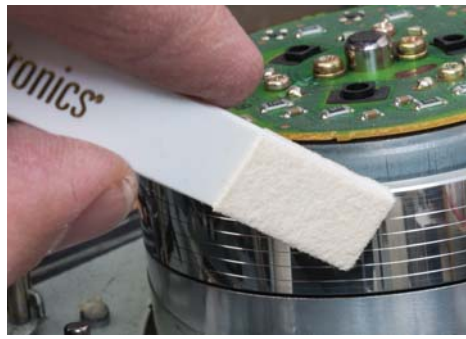
Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
CM502	50 swabs	6.7" 17.0 cm	0.13" x 0.13" 3.3 mm x 3.3 mm	0.62" 15.7 mm	0.07" 1.93 mm	polypropylene	polyvinylidene fluoride



Chamois Tips™

Ideal swab for cleaning magnetic and optical, audio and video heads

- Synthetic chamois cloth head
- Material is free of oils and residues
- Flexible handle bends to clean hard-to-reach areas
- Bonded without adhesives
- Seamless construction
- Effectively cleans excess ink from ink jet cartridges



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
CC50	50 swabs	3.25" 8.25 cm	0.38" x 0.07" 9.6 mm x 1.7 mm	0.88" 22.3 mm	0.38" 9.6 mm	ABS (acrylonitrile-butadiene-styrene)	synthetic chamois cloth

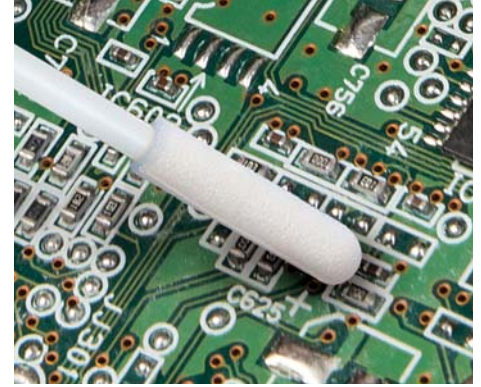


Swabs and Applicators

Foamtips™

Highly absorbent precision cleaning swab with a wide variety of head sizes and shapes

- Precision cleaning swabs with 100 ppi polyurethane open cell foam head
- Purest medical grade foam
- Foamtips™ Pro swab (CFP50) has a blue scrubber side and a soft absorbent side
- Available in a variety of head sizes and shapes with various handle lengths



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
Foamtips™ Pro CFP50	50 swabs	6.75" 17.1 cm	0.20" x 0.13" 4.8 mm x 3.3 mm	white head: 0.75" 19.1 mm	white head: 0.44" 11.1 mm	polypropylene	white side: 100 ppi open cell foam
				blue/white head: 0.69" 17.5 mm	blue/white head: 0.28" 7.1 mm		blue side: 75 ppi open cell



Foamtips™ #100 CF50	50 swabs	6.10" 15.5 cm	0.06" x 0.06" 1.5 mm x 1.5 mm	0.88" 22.3 mm	0.38" 9.6mm	wood	100 ppi open cell foam
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Foamtips™ #110 CF1050	50 swabs	5.00" 12.7 cm	0.19" x 0.13" 4.8 mm x 3.3 mm	0.38" 9.7 mm	0.82" 20.8 mm	polypropylene	100 ppi open cell foam
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Foamtips™ #120 CF2050	50 swabs	5.12" 13.0 cm	0.19" x 0.05" 4.8 mm x 1.3 mm	1.00" 25.4 mm	0.50" 12.7 mm	polypropylene	100 ppi open cell foam
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Foamtips™ #130 CF3050	50 swabs	6.00" 15.4 cm	0.13" x 0.13" 3.3 mm x 3.3 mm	0.75" 19.0 mm	0.25" 6.3 mm	polypropylene	100 ppi open cell foam
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Foamtips™ #140 CF4050	50 swabs	2.87" 7.3 cm	0.10" x 0.10" 2.7 mm x 2.7 mm	0.50" 12.7 mm	0.19" 4.8 mm	polypropylene	100 ppi open cell foam
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Flexitips™

Ideal flexible head for cleaning optics and small confined areas

- Superior flexibility
- Nonabrasive
- Provides gentle cleaning of sensitive surfaces
- 100 ppi open cell foam head
- Made without adhesives or glue



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
Flexitips™ CX50	50 swabs	4.45" 11.3 cm	0.16" x 0.16" 4.0 mm x 4.0 mm	0.81" 20.5 mm	0.25" 6.3 mm	nylon/polypropylene	100 ppi open cell foam



Flexitips™ Mini CXM50	50 swabs	4.13" 10.5 cm	0.16" x 0.16" 4.0 mm x 4.0 mm	0.53" 13.5 mm	0.19" 4.8 mm	nylon/polypropylene	100 ppi open cell foam
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Super Flexitips™

Durable flexible head for more aggressive cleaning

- Extra durability
- Nonabrasive
- Provides gentle cleaning of sensitive surfaces
- 100 ppi open cell foam head
- Made without adhesives or glue



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
Super Flexitips™ SX50	50 swabs	4.45" 11.3 cm	0.16" x 0.16" 4.0 mm x 4.0 mm	0.81" 20.5 mm	0.25" 6.3 mm	nylon/polypropylene	100 ppi open cell foam



Super Flexitips™ Mini SXM50	50 swabs	4.13" 10.5 cm	0.16" x 0.16" 4.0 mm x 4.0 mm	0.53" 13.5 mm	0.19" 4.8 mm	nylon/polypropylene	100 ppi open cell foam
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Swabs and Applicators

Cottontips™




Economical swab designed for general cleaning applications

- 100% pure pharmaceutical grade bleached white cotton head
- Soft and highly absorbent
- Compatible with most solvents
- Available with single or double head
- Rigid wooden handle

Cottontips™ Low Lint

Low particulate economical swab designed for precision cleaning applications

- Special low lint cotton fibers used for critical, low particle applications
- 100% pure pharmaceutical grade bleached white cotton head
- Soft and highly absorbent
- Soft and highly absorbent
- Rigid wooden handle

Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
Cottontips™ Single-Head							
CT100	100 swabs	6.00" 15.2 cm	0.08" x 0.08" 2.0 mm x 2.0 mm	0.63" 16 mm	0.19" 4.8 mm	wood	cotton
							
Cottontips™ Double-Head							
CT200	100 swabs	6.00" 15.2 cm	0.08" x 0.08" 2.0 mm x 2.0 mm	0.63" 16 mm	0.19" 4.8 mm	wood	cotton
CT2000	1000 swabs	6.00" 15.2 cm	0.08" x 0.08" 2.0 mm x 2.0 mm	0.63" 16 mm	0.19" 4.8 mm	wood	cotton
							
Cottontips™ Low Lint							
CT5000	1000 swabs	6.00" 15.2 cm	0.08" x 0.08" 2.0 mm x 2.0 mm	0.63" 16 mm	0.19" 4.8 mm	wood	cotton
							

Cottontips™ Precision



Low particulate cotton swab designed for precision applications

- Tightly wrapped head construction
- Small size for delicate precision cleaning
- Extremely Low linting
- High absorbency capacity and rate
- Good solvent compatibility
- Soft round tip point
- Non-static generating
- Rigid wooden handle

Cottontips™ MicroPoint

Low particulate, pointed cotton swab, designed for precision applications

- Tightly wrapped head construction
- Small size for delicate precision cleaning
- Extremely Low linting
- High absorbency capacity and rate
- Good solvent compatibility
- Sharp point
- Non-static generating

Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
Cottontips™ Precision							
CCT2025W	25 swabs	3.07" 7.8 cm	0.09" x 0.09" 2.3 mm x 2.3 mm	0.71" 18 mm	0.19" 4.7 mm	wood	cotton
							
Cottontips™ MicroPoint							
CCT2425	25 swabs	3.0" 7.5 cm	0.06" x 0.06" 1.5 mm x 1.5 mm	0.47" 12 mm	0.12" 3.0 mm	composite	cotton
							



Coventry™ Swabs and Wipes

At Coventry™, we understand exactly what you want from your wipes and swabs:

Reliability and Performance

Coventry products keep contamination out of your process, improve yield, and perform consistently, shipment to shipment. Wipe edges are sealed using our proprietary manufacturing technique.

Exclusive Post-Manufacturing Processes

Coventry's Aqua-Prime™ process reduces particles, ionic contamination and non-volatile residue. The Aqua-Prime™ process cleans the swabs with a purified proprietary solvent blend. Ideal for lab sample collection where background contamination has to be avoided. Aqua-Prime cleaning process can be added to any swab. Call 1-800-TECH-401 for more information.



Widest Selection of Critical Application Swabs

Coventry has a wide variety of swabs to meet your most demanding applications. The wrapped swabs, uniquely designed with no seams or edges, prevent scratching of delicate surfaces. Also included in the product line are sealed fabric, sealed foam and static control swabs. You're sure to find a swab from Coventry that meets your particular need.

Products That Bring Value, not Contamination, to Your Processes

Strict quality controls throughout ensure consistent reliability. Clean and static-free packaging seals in contamination-free quality.

Dedicated Customer Support

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

Swab Selection Guide

	Wrapped Polyester Swab	Microfiber Swabs	Sealed Polyester Swabs	ESD Polyester Swabs	Sealed Foam Swabs	ESD Foam Swabs	Wrapped Foam Swabs	Comments and Selected Product Recommendation and Examples
Classification Fed209D								209E / ISO
Class 1-10	1	2	2	2	3	3	3	M1–M3/ISO 3-4
Class 10-100	1	1	1	1	2	2	2	M3–M4/ISO 4-5
Class 100-10,000	2	1	1	1	1	1	1	M4–M6/ISO 5-7
Controlled Environment	3	2	2	2	1	1	1	

Industries

Optics	1	1	1	2	2	2	2	38040, 38540
Aerospace	1	1	1	1	2	2	2	36060
Disk Drive	1	1	1	1	1	1	1	38040, 41050, 48040, 44070ESD
Fiber Optics	2	1	1	1	1	1	1	25123, 25183, 48040, 38140, 38540
Life Sciences	1	1	1	2	2	2	2	36060, 36061I, 36850, 52121
Medical Devices	1	1	1	1	1	1	1	41050, 48040, 44070, 44070ESD
Semiconductors	1	1	1	2	2	2	2	51353I

Uses

Tight Crevices	2	1	1	1	2	2	2	34860, 44070
Particle Removal	1	1	1	1	1	1	1	41050, 48040, 38040
Microscopic Work	2	1	1	1	1	1	2	34860, 44070
Cleaning Validation	1	1	1	2	3	3	3	36060, 36061I, 36850, 51121, 52121
Applying Adhesives	2	1	1	2	2	2	1	51353, 21050, 20050, 20080
Applying Lubricants	1	1	1	2	2	1	1	51353, 21050, 20050, 20080
Cleaning Static Sensitive Parts	3	3	3	1	3	1	3	36060ESD, 31040ESD

Properties

Low NVR	1	1	1	1	2	2	2	51353, 38040, 31040ESD, 36060
Non-Abrasive	1	1	2	3	2	2	1	52121, 51121, 51353
Acid Resistance	1	1	1	1	2	2	2	All
Alkali Resistance	2	1	2	2	2	2	2	36850, 34860
Solvent Resistance	1	1	1	1	2	2	2	All
Low Ionic Contaminants	1	1	1	1	2	2	2	All
Snag and Abrasion Resistance	3	1	1	1	2	2	3	36850, 34860, 38040, 31040ESD

1– Excellent Performance, Recommended Application

2– Good Performance

3– Possible Performance but Not Recommended

ASK THE EXPERTS!

Chemtronics has application specialists standing by to identify the best solution for you. Call 800-645-5244 or e-mail askchemtronics@chemtronics.com.



Coventry™ Wrapped Polyester Pillow-Tip™ Swabs

Cleanroom washed fabric formed into a unique solvent-retaining swab

Engineered for unique applications requiring a combination of high solvent retention with the cleanliness of Class 10 (ISO Class 4) processed polyester. Seamless design is lint free. High-strength, adhesive-free swab, durable head construction. Pillow-tip swabs offer cotton bud characteristics without the fibers, lint and contamination of cotton. Glass filled nylon handles are rigid like wooden handles but are cleanroom grade.



Aqua-Prime available for special cleaning validation demands. Call 1-800-TECH-401 for details.



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
51121	25 swabs	2.8" 7.1 cm	0.10" 2.5 mm	0.40" 10.2 mm	0.25" x 0.23" 6.5 mm x 5.7 mm	glass filled nylon	knit polyester



52121	25 swabs	6.3" 15.9 cm	0.12" 3.1 mm	0.40" 10.2 mm	0.26" x 0.24" 6.5 mm x 6.0 mm	glass filled nylon	knit polyester
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Coventry™ Wrapped Polyester Diamond™ Swabs

Seamless, edgeless wrapped polyester swab

The patented Diamond™ Swab has a wrapped tubular knit polyester construction which eliminates all seams and cut edges where most particles are generated. Eliminating hard seams also reduces the potential for scratching delicate surfaces. The wrapped design also creates superior absorbency by wicking action.

U.S. Patent numbers 5214821 and 5346287 and foreign patents.

51353I cleaned with Aqua-Prime™ process.



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
51353	100 swabs	2.8" 7.1 cm	0.10" 2.6 mm	0.78" 19.8 mm	0.16" x 0.16" 4.1 mm x 4.1 mm	glass filled nylon	tubular knit polyester



For extra cleanliness

51353I	100 swabs	2.8" 7.1 cm	0.10" 2.6 mm	0.78" 19.8 mm	0.16" x 0.16" 4.1 mm x 4.1 mm	glass filled nylon	tubular knit polyester
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Coventry™ Sealed Polyester Swabs

Exceptionally clean, tough and durable swabs





An exceptionally clean swab produced by Coventry's proprietary process of forming and welding the swab head without the use of adhesives. Featuring either knit or nonwoven fabric heads, these swabs are acid and solvent resistant. Sealed edges build in high strength with no loose fibers or particulates. Coventry sealed polyester swabs have the strongest seams available and will not split. They are ideal for tough scrubbing around raised shapes. Class 10 (ISO Class 4) processing gives you low ionic, nonvolatile residue and particle contaminants.

36061I cleaned with Aqua-Prime™ process.



Aqua-Prime available for special cleaning validation demands. Call 1-800-TECH-401 for details.



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
36060	500 swabs	5.8" 14.7 cm	0.12" 3.1 mm	0.75" 18.9 mm	0.19" x 0.21" 4.7 mm x 5.4 mm	polypropylene	knit polyester
 For extra cleanliness							
36061I	25 swabs	5.8" 14.7 cm	0.12" 3.1 mm	0.75" 18.9 mm	0.19" x 0.21" 4.7 mm x 5.4 mm	polypropylene	knit polyester
							
36850	500 swabs	5.8" 14.7 cm	0.12" 3.1 mm	0.75" 18.9 mm	0.19" x 0.21" 4.7 mm x 5.4 mm	polypropylene	knit poly/nylon microfiber
							
34860*	500 swabs	2.8" 7.1 cm	0.09" 2.3 mm	0.47" 11.9 mm	0.10" x 0.10" 2.6 mm x 2.6 mm	polypropylene	knit poly/nylon microfiber
							<i>Conical Fabric Swab, 34860, is patented, U.S. Patent number 6629329.</i>
38040	500 swabs	2.7" 6.9 cm	0.09" 2.3 mm	0.44" 11.2 mm	0.09" x 0.12" 2.4 mm x 3.0 mm	polypropylene flexible tip	knit polyester
							
38140	500 swabs	2.7" 6.9 cm	0.09" 2.3 mm	0.48" 12.1 mm	0.06" x 0.12" 1.6 mm x 3.0 mm	polypropylene flexible tip	knit polyester
							
38540	500 swabs	2.7" 6.9 cm	0.09" 2.3 mm	0.46" 11.7 mm	0.04" x 0.12" 1.0 mm x 3.0 mm	polypropylene flexible tip	nonwoven polyester
							

Pages 66 to 69



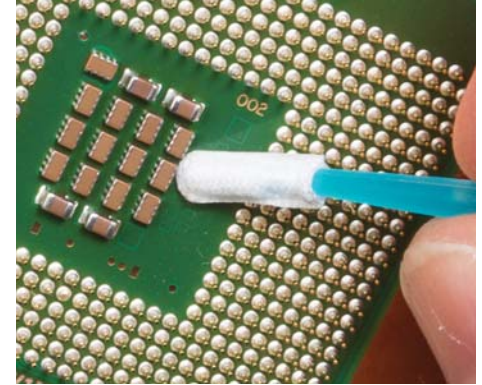
A full line of swabs designed specifically for cleaning fiber environments.

Coventry™ ESD Static Control Swabs

Protects components from destructive static discharge



Engineered to eliminate damage from static electricity. The handles of these swabs will dissipate 99% of a 5,000 volt (5 KV) charge in less than 2.0 seconds. The static dissipative plastic alloy used to make the handles is inherently static dissipative. It contains no additives, coatings or surfactants so it functions at any level of humidity and it is very resistant to solvents — even acetone. Choose between our Class 10 (ISO Class 4) laundered polyester or 100 pore-per-inch ultraclean polyurethane foam.



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
36060ESD	500 swabs	5.8" 14.7 cm	0.12" 3.1 mm	0.75" 18.9 mm	0.19" x 0.21" 4.7 mm x 5.4 mm	ESD	knit polyester
31040ESD	500 swabs	2.8" 7.2 cm	0.10" 2.7 mm	0.44" 11.0 mm	0.12" x 0.12" 3.1 mm x 3.1 mm	ESD	knit polyester
41050ESD	500 swabs	2.8" 7.2 cm	0.10" 2.6 mm	0.40" 10.2 mm	0.13" x 0.14" 3.3 mm x 3.5 mm	ESD	polyurethane foam
44070ESD	500 swabs	3.2" 8.0 cm	0.10" 2.4 mm	0.39" 9.9 mm	0.11" x 0.13" 2.7 mm x 3.3 mm	ESD	polyurethane foam



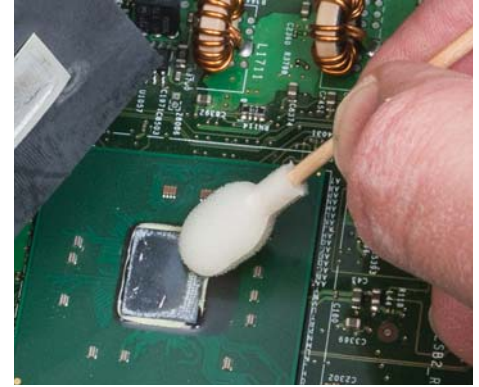
Coventry™ Sealed Foam Swabs

Economical versatile cleanroom swabs

The most cost-effective swabs for general-purpose applications. 100 ppi reticulated medical-grade foam provides excellent particle entrapment. The open-cell structure gives the best solvent holding capacity of any style of swab. These swabs are free of adhesives or binders that could contaminate your process. Fiberless construction does not generate particles.



Aqua-Prime available for special cleaning validation demands. Call 1-800-TECH-401 for details.



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
41050	500 swabs	2.8" 7.2 cm	0.10" 2.6 mm	0.40" 10.2 mm	0.13" x 0.14" 3.3 mm x 3.5 mm	polypropylene	polyurethane foam

AQUA PRIME For extra cleanliness:

41050I	500 swabs	2.8" 7.2 cm	0.10" 2.6 mm	0.40" 10.2 mm	0.13" x 0.14" 3.3 mm x 3.5 mm	polypropylene	polyurethane foam
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43170	500 swabs	6.0" 15.2 cm	0.09" 2.2 mm	0.80" 20.3 mm	0.33" x 0.35" 8.4 mm x 8.8 mm	wood	polyurethane foam over cotton
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44070	500 swabs	3.2" 8.0 cm	0.10" 2.4 mm	0.39" 9.9 mm	0.11" x 0.13" 2.7 mm x 3.3 mm	polypropylene	polyurethane foam
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48040	500 swabs	2.7" 6.8 cm	0.09" 2.2 mm	0.41" 10.5 mm	0.10" x 0.12" 2.5 mm x 3.1 mm	polypropylene	polyurethane foam
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49280	500 swabs	6.5" 16.4 cm	0.12" 3.1 mm	0.68" 17.3 mm	0.18" x 0.19" 4.7 mm x 4.7 mm	polypropylene	polyurethane foam
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Coventry™ Wrapped Foam Swabs

Durable wrapped foam swabs designed for precise applications

Our wrapped foam swabs provide good particle entrapment and work very well as adhesive, lubricant and solvent applicators. With the most durable head of any foam swabs, wrapped foam delivers superior abrasion resistance for removal of tough contaminants. Wicking action pulls solvent from surfaces. The small tips on some of the styles allow use in very tight tolerance areas, while the pointed ends work especially well as picks.



Product	Pkg Count	Swab Length	Handle Width	Head Length	Head Width	Handle Material	Head Material
20050	500 swabs	2.6" 6.7 cm	0.09" 2.2 mm	1.06" 27.0 mm	0.12" x 0.12" 3.1 mm x 3.1 mm	wood	polyurethane foam
20080	500 swabs	2.6" 6.7 cm	0.09" 2.2 mm	0.89" 22.6 mm	0.11" x 0.11" 2.8 mm x 2.8 mm	wood	polyurethane foam
21050	500 swabs	2.8" 7.1 cm	0.10" 2.5 mm	1.08" 27.5 mm	0.14" x 0.14" 3.7 mm x 3.7 mm	nylon	polyurethane foam

Coventry™ Ionizer Tip Cleaner

The compact, convenient tool for cleaning tips on ionizing grid systems

Designed to make cleaning the tips of ionization equipment simple and safe. Maintains the efficiency of these critical ionizing devices. Self contained ampule contains pure IPA and water for quick thorough removal of contamination on ionization tips.

- Controls tip build-up
- Recommended and used by leading manufacturers of ionizing systems

Product Name	Part Number	Quantity
Ion Emitter Tip Cleaner	2702	20 per bag



Cleanroom Wipes

Coventry™ Cleanroom Laundered Wipes

Coventry™ cleanroom laundered wipes offer an extra level of protection for critical applications

Our Poly-Wipes are made from 100% continuous filament polyester — the standard in cleanroom wipes — minimizing particle generation. The Cleanroom Chamois™ is the only wipe made from a 50/50 nylon/cellulose microfiber blend, providing superior toughness and particle entrapment. The microfibers in the Cleanroom Chamois™ have a unique wedge shape, which lifts all types of contaminants from the surface more effectively than conventional round fibers. Poly-Wipes and Cleanroom Chamois™ are both laundered in our Class 10 (ISO Class 4) cleanroom and are available with our exclusive laser-edge (LE) or heat cut (HC) sealing process.

Product Name	Part Number	Material	Quantity	Size
Poly-Wipes	6209	Light-weight polyester (high absorbency)	150	9" x 9" 22.9 cm x 22.9 cm
Poly-Wipes	6259	Heavy-weight polyester (high absorbency)	150	9" x 9" 22.9 cm x 22.9 cm
Sealed Edge Poly-Wipes	6259HC	Heavy-weight polyester (high absorbency)	150	9" x 9" 22.9 cm x 22.9 cm
Sealed Edge Poly-Wipes	6209HC	Light-weight polyester (high absorbency)	150	9" x 9" 22.9 cm x 22.9 cm
Sealed Edge Cleanroom Chamois™	7348LE	Microfiber (high absorbency)	50	8" x 8" 20 cm x 20 cm

Coventry™ Non-Woven Wipes

Coventry™ Econowipes™ are made from a hydro-entangled, 45/55 cellulose/polyester blend, for optimum purity in a nonwoven wipe. Econowipes™ are available in three convenient sizes.

Product Name	Part Number	Material	Quantity	Size
Econowipes™	6704	Polyester/cellulose blend, nonwoven	1200	4" x 4" 10.2 cm x 10.2 cm
Econowipes™	6704F	Polyester/cellulose blend, nonwoven	100	4" x 4" 10.2 cm x 10.2 cm
Econowipes™	6709	Polyester/cellulose blend, nonwoven	300	9" x 9" 22.9 cm x 22.9 cm
Econowipes™	6713	Textured polyester/cellulose blend, nonwoven, quarter-folded	50	12" x 13" 30.5 cm x 33.0 cm

ASK THE EXPERTS!

Chemtronics has application specialists standing by to identify the best solution for you. Call 800-645-5244 or e-mail askchemtronics@chemtronics.com.



Poly-Wipes



Cleanroom Chamois™



Econowipes™



F FOCUS™ *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.

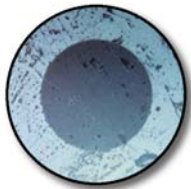
At Chemtronics, our mission is simple — to continue as the industry's innovative technology leader by providing our customers with the tools to achieve the highest degree of productivity and reliability. This has made us an innovative provider of solutions, products and comprehensive processes with the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

Dedicated Customer Support

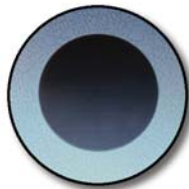
Live support is available via our Technical Hotline at 1-800-TECH-401. We even custom engineer products for special needs.



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

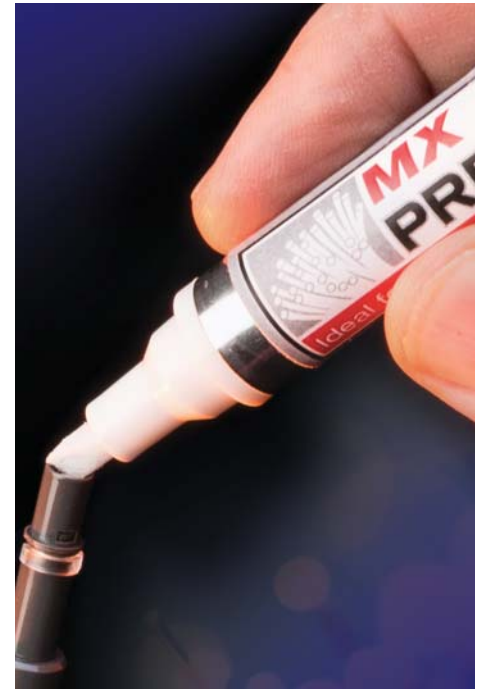
Applications:

- 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
Presaturated Wipes -
Page 61



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2.5mm Fiber Optic Foam Swabs - Page 66

1.25mm Fiber Optic Sleeve Cleaning Swabs -
Page 67



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



Durable, field-ready packaging



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

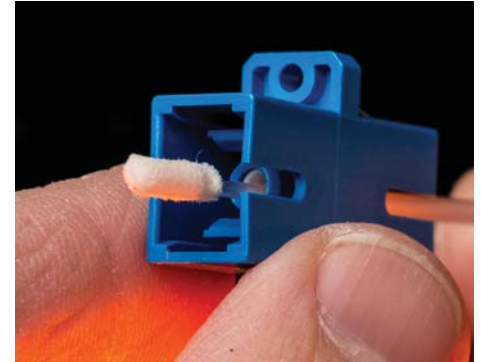
- Long, 6" super grip handle; 2.5mm precision swab tool for back plan
- Flexible swab head conforms to connector face
- 2.5mm Fiber Optic Foam Swab provides outstanding particle entrapment
- No adhesives, binders, or fibers to leave residues
- Open-cell structure gives the best solvent holding capacity,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

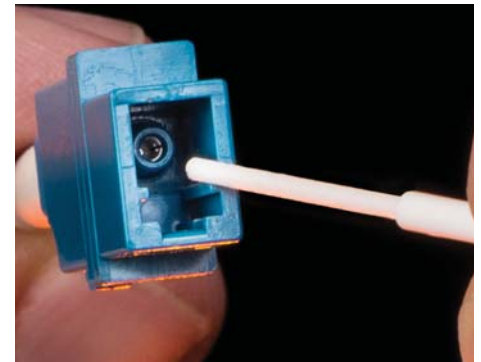
- Specifically designed to clean all 1.25 mm alignment sleeves, adapters and 1.25 mm back plane connections
- Free of fibers, adhesives, and binders that can generate residue
- Contains no seams or sharp surfaces that can generate particles or cause scratches
- Patented — US Patent 6,795,998 and foreign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

Product Specifications/Call Outs

U.S. Government

National Stock Numbers	Part #	Product Name	Page
0793-00-103-94802	ES1668	Plast-N-Glas®	39
3439-00-009-2334	7-5L	Chem-Wik® Rosin	25
3439-01-009-6448	80-5-5	Soder-Wick®	23,24
3439-01-198-9716	80-4-10	Soder-Wick®	23,24
3439-01-324-8208	80-2-5	Soder-Wick®	23,24
3439-01-371-1588	10-5L	Chem-Wik®	25
416850-01-514-1372	CW3500	CircuitWorks® Conformal Coating Remover Pen	31
4820-01-314-3601	ES710V	Chrome Trigger Valve	3,4
5836-01-453-8942	CC50	Chamois Tips™	43
5836-01-454-0401	ES820L	IPA	19
5836-01-454-0402	CP400	Chempad™	41
5970-01-417-4152	CTSR-12	Konform® SR	32,33
5970-01-417-4154	CTSR1	Konform® SR	32,33
5970-01-417-4156	CTAR1	Konform® AR	32,33
5970-01-417-4158	CTAR-12	Konform® AR	32,33
6616-00-077-3218	CF4050	Foamtips™ #140	44
6830-01-381-2675	ES1020K	Ultrajet® System	3,4
6830-01-388-6924	ES1020R	Ultrajet® Refill	3,4
6850-00-142-40716	ES1551	Freeze-It® Antistat	20,21
6850-00-146-38046	ES1217	Duster	3
6850-00-602-2347	ES1631	Flux-Off® Heavy Duty	17,19
6850-01-224-9211	ES2400	Tun-O-Wash®	13,14
6850-01-3064	C920	Opticwipes™	42
6850-01-333-1841	ES1550	Freeze-It®	20,21
6850-01-393-9054	ES1210	Electro-Wash® PX	7,60
6850-01-406-1356	ES1050	Freeze-It®	20,21
6850-01-412-0040	ES1020	Ultrajet®	2,3
6850-01-418-0499	ES1035	Flux-Off® Rosin	17
6850-01-436-4573	ES7300	Pow-R-Wash™ CZ	12,13
6850-01-436-4578	ES7200	Flux-Off® CZ	16,17
6850-01-436-4584	ES7100	Electro-Wash® CZ	6,7,6
6850-01-436-4585	ES7101	Electro-Wash® CZ	6,7
6850-01-456-4173	ES835B	Flux-Off® Rosin	17
6850-01-463-8043	ES1017	Duster	3
6850-01-463-8046	ES1217	Duster	3
6850-01-475-0987	CW8100	No Clean Flux Dispensing Pen	30
6850-01-484-3064	CP410	Optic Prep™	40,61
6850-01-506-5662	CW2200MTP	Conductive Pen	27
6850-01-560-5804	ES1051	Freeze-It® Antistat	20,21
6850-01-561-6998	ES1612	Pow-R-Wash®	13
7045-01-482-4037	23110	Coventry™ Wrapped Foam Swab	53
7045-01-517-4718	38040	Coventry™ Polyester Swab	48,50,69
7045-01-535-0276	CM502	Microtips™	43
7045-01-548-4966	CT5000	Cottontips™ Low Lint	46
7920-01-540-6172	6704	Econowipes™	54
7930-01-467-3289	CFP50	Foamtips™ Pro	44
7930-01-559-5328	CP421	Electro-Wash® MX Presaturated Wipe	7,41,61
8030-01-511-6308	CW3300C	CircuitWorks® Overcoat Pen	29
8510-01-358-8836	C805	Static Free™ Hand Guard™	39
9150-01-508-9999	CW7100	Conductice Grease	28
9390-01-552-1552	80-3-5	Soder-Wick®	23,24

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ES1020, ES1020R ES1620, ES1015	All Ultrajet®, and Ultrajet® 70	2,3	Fed Spec A-A-58060, ARI Standard 700, App. C
CM8, CM1	Chemask®	35,36	MIL-STD-2000A, Para.5.3.18
CHV8	Chemask® HV High Viscosity	36,37	MIL-STD-2000A, Para. 5.3.1835,36
CLF8, CLF1	Chemask® LF	35,36	MIL-STD-2000A, Para. 5.3.18
CNA8, CNA1	Chemask® NA	36,37	MIL-STD-2000A, Para. 5.3.18
CW8	Chemask® W	36,37	MIL-STD-2000A, Para.5.3.18
CWF8, CWF1	Chemask® WF	36,37	MIL-STD-2000A, Para.5.3.18
All Chem-Wik®	Chem-Wik®	25	MIL-F-14256F, Type R, ANSI/IPC J STD-004, Type ROL0 NASA-STD-8739.3
All Chem-Wik®	Chem-Wik®	25	MIL-STD-1686C, MIL-HDBK-263B
All CircuitWorks®	CircuitWorks®	26-31	ANSI/IPC J STD-001, IPC-7711
CW2500	CircuitWorks® Epoxy Overcoat	29	IPC-7721,2.4.1
CT40-5	CircuitWorks® Heat Sink Grease	28	MIL-DTL-47113D
CW3220	CircuitWorks® Lead-Free Flux	31	ANSI / IPC J-STD-004, Type ROL0; Bellcore TR-N-NWT-000078 and IPC SF-818 for Surface Insulation Resistance
CW8400	CircuitWorks® Lead-Free Flux Dispensing Pen	30	ANSI / IPC J-STD-004, Type ROL0; Bellcore TR-N-NWT-000078 and IPC SF-818 for Surface Insulation Resistance
CW8100	CircuitWorks® No Clean Flux Dispensing Pen	30	ANSI/IPC SF-818, ANSI/IPC J STD-004, Type ROL0 Bellcore TR-NWT-000078
CW3300C, CW3300G	CircuitWorks® Overcoat Pen	29	IPC-CC-830A, MIL-I-46058C, Type AR
CW8200	CircuitWorks® Rosin Flux Dispensing Pen	30	MIL-F-14256F, Type R, ANSI/IPC J STD-004, Type ROL0
CW8500	CircuitWorks® Tacky Flux	30	ISO 9454, Bellcore TR-NWT-000078, DIN EN 29454-1 1.1.3.C classification
CW8300	CircuitWorks® Water Soluble Flux Dispensing Pen	30	ANSI/IPC J-STD-004, ORH1
ES1017, ES1217, ES1617	Duster	3	Fed Spec A-A-58060, ARI Standard 700, App. C
ES7100	Electro-Wash® CZ	6,7,60	MIL-PRF-29608A (AS) Class C approved
ES1050, ES1550	Freez-It®	20,21	Fed Spec A-A-58060, ARI Standard 700, App. C
ES1052	Freeze Spray	20,21	Fed Spec A-A-58060, ARI Standard 700
CTAR-12, CTAR1	Konform® AR	32,33	MIL-I-46058C Type AR, IPC-CC-830A, UL Recognized
CTSR-12, CTSR1	Konform® SR	32,33	MIL-I-46058C Type SR, IPC-CC-830A, UL Recognized
CTSR-HV1	Konform® SR High Viscosity	32,33	MIL-I-46058C Type SR, IPC-CC-830A
ES7300	Pow-R-Wash™ CZ	12,13	MIL-PRF-29608A (AS) Class C approv
All Soder-Wick®	Soder-Wick®	22-24	MIL-F-14256F, Type R, ANSI/IPC J STD-004, Type ROL0 DOD-STD-883E, Method 2022, NASA-STD-8739.3
60 Series Soder-Wick® No Clean	Soder-Wick®	23,24	ANSI/IPC J STD-004, Type ROL0, DOD-STD-883E, Method 2022 NASA-STD-8739.3, Bellcore TR-NWT-000078, ANSI/IPC SF-818 Singapore Institute of Standards and Industrial Research (SISIR) for Solderability
All Soder-Wick®	Soder-Wick®	22-24	MIL-STD-1686C, MIL-HDBK-263B, MIL-B-81705C, MIL-STD-2000A
Static Dissipative (SD)		38,39	MIL-B-81705C, MIL-STD-2000A
C805	Static Free™ Hand Guard™	39	IPC-ESD-20-20, MIL-STD-1686C, MIL-HDBK-263B
ES1664T	Static Free™ Mat and Benchtop Reconditioner	39	IPC-ESD-20-20, MIL-STD-1686C, MIL-HDBK-263B

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Arctic Blast™ Antistat	20,21
Arctic Storm™	20,21
BrushClean™ System	18
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Chemask®	35,36
Chemask® Aqua	36,37
Chemask® NA	35,36
Chemask® HT	36
Chemask® HV	36,37
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