

- MAINTENANCE & REPAIR
- PRECISION CLEANING
- PCB ASSEMBLY
- REWORK & REPAIR



**PRODUCT CATALOG & APPLICATION GUIDE** 

V1.0



# **Alcohol Cleaners**

Techspray has the broadest line of isopropyl alcohol (IPA) in the industry, ranging from aerosol, pre-saturated wipes, and bulk packaging. Two grades of IPA are available: 99.8% anhydrous (containing as little water as possible) for fast-drying cleaning and 70% IPA / 30% DI for stencil and other cleaning when slower evaporation is desired.

- Plastic safe
- Non-corrosive
- Low toxicity



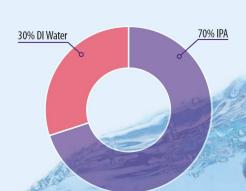
ltem#	Solvent	Wipe Material	Packaging
1610-12S	99.8+% IPA	_	12 oz aerosol
1608-P	70% IPA	_	1 pint bottle
1608-G4	70% IPA	_	1 gal container, 4/case
1608-54G	70% IPA	_	54 gal drum
1610-P	99.8+% IPA	_	1 pint bottle
1610-PT	99.8+% IPA	_	1 pint bottle w/sprayer
1610-G1	99.8+% IPA	_	1 gal container, 1/case
1610-G4	99.8+% IPA	_	1 gal container, 4/case
1610-5G	99.8+% IPA	_	5 gal container
1610-54G	99.8+% IPA	-	54 gal drum
1608-100DSP	70% IPA	Non-woven poly	Disposable tub, 100ct
1608CP-150DSP	70% IPA	Non-woven poly-cellulose	Disposable tub, 150ct
1608-100FL	70% IPA	Non-woven poly	Flip-top tub, 100ct
1608-100R	70% IPA	Non-woven poly	Refill rolls, 100ct
1608CP-150R	70% IPA	Non-woven poly-cellulose	Refill rolls, 150ct
1610-100DSP	99.8+% IPA	Non-woven poly	Disposable tub, 100ct
1610CP-150DSP	99.8+% IPA	Non-woven poly-cellulose	Disposable tub, 150ct
1610-100FL	99.8+% IPA	Non-woven poly	Flip-top tub, 100ct
1610-100R	99.8+% IPA	Non-woven poly	Refill rolls, 100ct
1610CP-150R	99.8+% IPA	Non-woven poly-cellulose	Refill rolls, 150ct
1608-50PK	70% IPA	Non-woven poly-cellulose	Individually wrapped, 50ct
1610-50PK	99.8+% IPA	Non-woven poly-cellulose	Individually wrapped, 50ct
1606-30PK	90% Ethanol	Non-woven poly-cellulose	Individually wrapped, 30ct

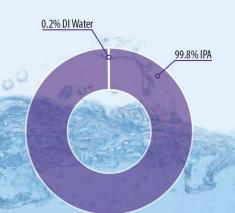


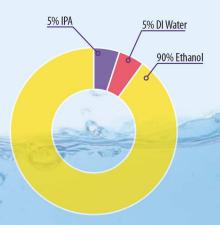




### **SOLVENT**







70% Isopropyl Alcohol (IPA)

Controlled evaporation allows soak time for thick soils (e.g. solder paste).

Effective on lipophilic viruses (e.g. herpes, vaccinia, and influenza)\*.

99.8% Isopropyl Alcohol (IPA)

Faster evaporation for efficient cleaning (e.g. flux removal from PCB).

90% Ethyl Alcohol (Ethanol)

Lower odor and up to 4X faster dry time.

Effective on lipophilic viruses (e.g. herpes, vaccinia, and influenza) and hydrophilic viruses (e.g. adenovirus, enterovirus, rhinovirus, and rotaviruses)\*.

\* Source: https://www.cdc.gov/infectioncontrol/guidelines/disinfection/disinfection-methods/chemical.html

### **WIPE MATERIAL**

### **Nonwoven Poly-Cellulose**

Ideal for high volume applications like SMT stencil cleaning and industrial applications.

- 5"x8" (127mm x 203mm) wipe
- More alcohol per wipe and more absorbent
- Lint-free & snag resistant
- 150 wipes per tube 50% MORE WIPES!

### **Nonwoven Polyester**

- 5"x8" (127mm x 203mm) wipe
- Lint-free
- 100 wipes per tub

### **WIPE PACKAGING**



### **Disposable Tubs**

Low cost container can be reused, but is often discarded after use.



**Flip-Top Tubs** 

Reusable container with springloaded flip-top lid to prevent dry-out.



### **Refill Rolls**

Presaturated refill rolls fit both flip-top and disposable tubs to save money and reduce trash.



### **Individually Wrapped Wipes**

One wipe per foil pouch avoids cross-contamination and is ideal for tool boxes and field service trucks.

Wipe size: 5.5" x 5.5" (140mm x 140mm)



# **Degreasers / Contact Cleaners**

Techspray offers a variety of solvents, industrial degreasers, and water-based cleaner that allows you to match the right products for your cleaning needs.

Degreasers are designed to remove grease, oils, cutting fluids, corrosion inhibitors, handling soils, finger prints, and other contamination common in assembly, stamping, other types of metal fabrication, refineries, motor repair, airplane hangars, and many other applications.

Contact cleaner are engineered to remove contamination from electrical contacts, the conductive surfaces of connectors, switches and other electrical and electronic components with moving surface contacts.

### Advantages of Techspray maintenance cleaners:

- Powerful cleaners grease and oil flow right off
- Safer solvents do not contain TCE, nPB or Perc
- Safe on the most common plastics
- Available in spray can and bulk packaging

DEGREASER / CONTACT ( SELECTION GUIDE			able programme for the formal of the formal	astics landarion	Rate 1	Slow 5 Leader	ast) A Bulk OCOO (AP	//	ROPERT all Bulk Bleetin Sur Relectin KBV	/	enthop	Jeaning Jitrasonic	APPLICATIO apprileggesting
3400 PWR-4 Maintenance Cleaner			5	75	95	75	95	24 kV	100		•	•	Strongest
1630 G3 Maintenance Cleaner			5	64	-	75	-	27 kV	83	•			
1632 G3 Contact Cleaner	•		5	64	-	75	-	36 kV	78	•			
1638 G3 Universal Solvent	•		5	-	61	-	100	27 kV	78	•	•		
1635 G3 Industrial Cleaner			4	69	-	69	-	-1	89	•			
2851-20S PWR4 Aviation Degreaser			5	65	-		-	12 kV	29				
1651 Precision-V		•	5	37	-	75		14 kV	54				
1620 E-LINE Maintenance Cleaner		•	4	75	-	75	-	-0	87				
1621 E-LINE Bulk Solvent		•	4	-	100	- 1	100		-	•			
1622 E-LINE Contact Cleaner		•	4	75	-	75	-	-1	8	•			
1647-16S Aviation Degreaser II		•	5	12.6	-		=>	î		•			
1610 E-LINE IPA			_	75	100	75	100		87				Most Plastic-Safe



### **Blue Shower Maintenance Cleaner**

### Nonflammable, powerful cleaner

Clean oil and contaminants off of metal parts, printed circuit boards, barcode instruments, switch boxes, gear relays, and electronic motor controllers.

- Nonflammable
- Powerful cleaner
- Rapid evaporation
- Non-ozone depleting
- Dielectric strength 27.3 kV
- NSF registered K1, K2

Specifications: Meets Boeing D6 17487, Rev P

 1630-16S
 16 oz. (454g) aerosol

 1638-G
 1 gal. (3.8L) pail

 1638-5G
 5 gal. (19L) pail

 1638-54G
 54 gal. (205L) drum



1630-16S



### **Transit Equipment Degreaser**

### Nonflammable, strong single purpose transit degreaser

Strong removal ability of an oxidized hydraulic fluid, carbonized oils and fuels, lubricating oils and greases, and other organic residues. It is fast evaporating, quick penetrating, and ideal for cleaning heavily soiled parts.

- Nonflammable
- Powerful, long-reaching spray to clean hard-to-reach parts
- Fast evaporation
- Zero residue
- Non-ozone depleting
- Does not contain n-propyl bromide, trichloroethylene, perchloroethylene or methylene chloride
- Dielectric breakdown of 28 kV per ASTM D877
- Patent 10920181

**2863-205** 20 oz (567g) aerosol





### **Maintenance Cleaner**

# Powerful, nonflammable & cost effective cleaner that is a safer nPB replacement

Blasts away oil and contaminants off of contacts, printed circuit boards, barcode instruments, switch boxes, gear boxes, and electronic motor controllers. Grease and oil flow right off, reducing the time and materials needed to scrub off stubborn soils.

- Nonflammable
- Much safer than most common industrial solvents TCE, nPB, perc & methylene chloride
- Powerful cleaner Ideal for degreasing and contact cleaning
- Available in aerosol or bulk for vapor degreasing, ultrasonic and immersion cleaning
- Rapid evaporation
- Non-ozone depleting
- Cleaning applications: electronics, relays, switches & breakers, transformers, and electric motors and generators
- NSF registered K1, K2

**3400-20S** 20 oz. (567g) aerosol **3400-G** 1 gal. (3.8L) pail **3400-5G** 5 gal. (18.9L) pail **3400-54G** 54 gal. (204L) drum









### **Industrial Maintenance Cleaner**

High power, fast evaporating maintenance cleaner

Blast away heavy oils and greases off of metal parts, gear boxes, and engines.

- All-in-one electronic maintenance & contact cleaner
- Rapid evaporation
- Non-ozone depleting
- Low toxicity compared to TCE, nPB & perc
- Dielectric strength 30.5 kV

**1635-20S** 20 oz. (567g) aerosol





### Flux Remover & Maintenance Cleaner

Nonflammable, powerful precision cleaner

Clean off flux residues, oil, and other contamination from electronics, other sensitive surfaces.

- Nonflammable
- Low VOC
- Safe on most plastics
- High precision residue-free
- Rapid evaporation
- Non-ozone depleting
- Dielectric strength 14 kV

**1651-16S** 16 oz. (454g) aerosol





### **Contact Cleaner**

Nonflammable, powerful contact cleaner

Clean oxidation, oil, and other contaminants from contacts, metal switches, relays, edge connectors, buss bars, and circuit breakers.

- Nonflammable
- Powerful cleaner
- Rapid evaporation
- Non-ozone depleting
- Dielectric strength 36.2 kV
- NSF registered K1, K2

Specifications: Meets Boeing D6 17487, Rev P

**1632-16S** 16 oz. (454g) aerosol





### **Blue Shower Maintenance Cleaner**

Powerful, economical aerosol cleaner

Clean oil, contaminants off of metal parts, printed circuit boards, barcode instruments, switch boxes, gear boxes, and engines.

- Powerful cleaner
- Ideal for sensitive plastics
- Low toxicity
- Non-ozone depleting
- NSF registered K1, K2

 1620-10S
 10 oz. (284g) aerosol

 1621-G
 1 gal. (3.8L) pail

 1621-5G
 5 gal (18.9L) pail

 1621-54G
 54 gal. (204L) drum



1620-10S







### **Contact Cleaner**

Powerful, economical electronic contact cleaner

Clean oxidation, oil, other contaminants from contacts, metal switches, relays, edge connectors, buss bars, and circuit breakers.

- Powerful cleaner
- Ideal for sensitive plastics
- Low toxicity
- Non-ozone depleting

**1622-105** 10 oz. (284g) aerosol **1622-135** 13 oz. (369g) aerosol





1622-10S

1622-



### **IPA Electronics Cleaner**

99.8% IPA in convenient aerosol package

Ideal for defluxing, stencil cleaning and fiber optic connector cleaning.

- 99.8% pure IPA
- Compliant with SCAQMD rule 1171
- Plastic safe
- Low toxicity
- Non-ozone depleting

Specifications for IPA: 99.8% IPA filtered to 0.2 microns, Fed spec TT-1-735A (amend 3, notice 2) grades A&B, ASTM D770-05

**1610-12S** 12 oz. (340g) aerosol





### **Eco-Shine™ Glass & Surface Cleaner**

Eco-friendly, nonflammable, streak-free glass cleaner

Cleans glass, stainless steel, chrome, mirrors, tile, plastic, ceramic and enamel and leaves a streak-free finish.

- Streak-free
- Nonflammable
- Non-ammoniated safe on sensitive surfaces
- Low VOC, no GWP
- Non-ozone depleting
- NSF registered K1, K2

**1505-QT** 1 qt. (0.95L) w/ trigger sprayer

### **Glass Cleaner**

Foaming aerosol glass and surface cleaner

- Foam clings to verticle surfaces
- Streak-free
- Safe on glass & plastics
- Nonflammable

Specifications: GM H1018, Ford Tox #142432

**1625-18S** 18 oz. (510g) aerosol

# **Label & Adhesive Remover**Fast acting, citrus-based label and adhesive remover

Citrus-based solvent safely and effectively removes labels and adhesive gums off equipment and products. Penetrates quickly and allows label to be peeled off without gummy residue.

- Removes labels and adhesive without scraping
- Penetrates rapidly
- Citrus-based solvent
- Safe on most plastics

4.5 oz. (128g) aerosol

Note: Not available in California

1613-6S



TECHSPR/

PLASTIC

# Specialized Degreasers for Aviation and Aircraft Parts

Techspray offers degreasers, presaturated wipes, and oxygen line validation fluid engineered specifically for the critical needs of aerospace and aviation MRO applications. Products are manufactured to strict quality standards and are tested to a wide variety of aviation specifications, including Boeing D6 17487, Boeing BSS7432, Airbus UK ABR9-0140 and NASA/TP-2015-218207.

For the full selection of Techspray's aerospace and aviation MRO products, check out the "Aviation Cleaning & Maintenance Selection Guide" or go to www.techspray.com/aviation.



### Aviation Degreaser

# Nonflammable cleaner for aircraft parts degreasing with 10' spray

Specially engineered aviation degreaser featuring powerful removal of hydraulic fluid, fuel oils, lubricating oils and greases, and other organic residues. Features a powerful, long reaching spray to clean hard-to-reach parts from as far as 10 feet.

- Nonflammable
- Long reach 10' spray
- Fast evaporation
- Zero residue
- Non-ozone depleting
- Does not contain n-propyl bromide
- Dielectric breakdown of 13.7 kV

Specifications: Meets Airbus UK ABR9-0140 General Purpose Cleaning Solvent, FedEx CPN 0311737, Boeing D6 17487, Rev T

**2851-20S** 20 oz (567g) aerosol



## Aviation 2000 Degreaser

High pressure cleaner to quickly flush out grease & other soils

Quickly blast away encrusted dirt, carbonized oils, grease and Skydrol from aircraft engine housings, parts and avionic components. Can be used as an electronic contact and plug cleaner for non-energized equipment. Excellent wetting action lifts and removes soils from the tightest areas.

- Trigger has a throttling action for better control
- Moderate evaporation for soak-in time
- Zero residue
- Low toxicity does not contain n-propyl bromide
- Does not contains CFCs, HCFCs or chlorinated solvents
- Meets EU F-gas requirements
- 360° valve sprays upside-down
- Extension tube included for pin-point accuracy

Specifications: Boeing BSS7432, Douglas CSD No.1 , Delta 032202077

**2859-135** 13 oz. (369g) aerosol





# PRECISION

### **Aviation Maintenance Cleaner**

Nonflammable aviation degreaser for cleaning sensitive surfaces

Removes dirt, oil, carbon, and oxide residues from airframe, power plant and flight control systems. Plastic safe, nonflammable cleaner formulated for cleaning painted aviation components and assemblies, and minimizing repair downtime. This precision cleaner is fast drying and has good solvency for oil, handling soils, dirt, and light residues.

- Ideal for aircraft surfaces exposed to hydraulic fluids and contaminants
- Nonflammable
- Safe on most commercial resins, plastics, urethanes, and synthetic gaskets
- Frost-free
- Rapid evaporation
- Zero residue
- Low toxicity does not contain n-propyl bromide
- Meets EU F-gas requirements
- VOC-free (per EPA) low GWP
- Dielectric withstand voltage of 41K
- Extension tube included for pin-point accuracy

Specifications: NASA/TP-2015-218207, SAE ARP1176 , Delta 032202077

**2870-19S** 19 oz. (539g) aerosol



# **Aerospace Approved Chemistries & Wiping Material**

Techspray® Clean & Prep Pre-Saturated Wipes combine aerospace approved chemistries and wiping material in easy-to-use dispensing tubs. Four solvents are available for paint and composite prep: isopropyl alcohol (IPA), acetone, methyl ethyl ketone (MEK), methyl propyl ketone (MPK).

Pre-saturated nonwoven, lint-free, durable rayon material reduces solvent consumption, environmental release of volatile chemicals (e.g. VOCs), accidental spills, and worker exposure.

Consistent wipe saturation allows for greater efficiency, error-free process repeatability, and final quality compared to saturating shop rags as you go.

- Durable, lint-free wipe
- Aerospace approved wipe material & solvents
- Meets or exceeds AMS3819C and BMS15-5
- Prevent cross contamination each wipe is new & clean
- Solvent-specific color-coded labeling
- Reusable canister reduces waste, solvent use & VOCs
- Refill rolls available to reduce cost & waste





2805-100-69-C

2810-100-69-C

### **Isopropyl Alcohol (IPA)**

For removing dust, debris, light oils, and fingerprints for paint surface prep. Reusable canister reduces waste, solvent usage & VOC emissions while maintaining consistent saturation.

2805-100-69-C	50% IPA, 6"x9" (15.2cm x 22.9cm) rayon wipe, 100 wipes/tub, 12 tubs/cs
2805-100-69-R	REFILL - 50% IPA, 6"x9" (15.2cm x 22.9cm) rayon wipe, 100 wipes/roll, 12 rolls/cs
2810-100-69-C	99% IPA, 6″x9″ (15.2cm x 22.9cm) rayon wipe, 100 wipes/tub, 12 tubs/cs
2810-100-69-R	REFILL - 99% IPA, 6"x9" (15.2cm x 22.9cm) rayon wipe, 100 wipes/roll, 12 rolls/cs



### **Acetone**

For removing dust, debris, oils, greases, adhesives, wet epoxy, and paint overspray in composite and paint surface prep. Very fast evaporating, powerful cleaner, and VOC exempt.

**2811-100-69-C** 100% Acetone, 6"x9" (15.2cm x 22.9cm) rayon wipe 100 wipes/tub, 12 tubs/cs

**2811-100-69-R** REFILL - 100% Acetone, 6"x9" (15.2cm x 22.9cm) rayon wipe, 100 wipes/roll, 12 rolls/cs

### **Methyl Ethyl Ketone (MEK)**

For removing dust, debris, and uncured resins during surface prep and clean-up of composite, metal bond and edge seal applications. Effective on removing PR-1422, 1435 and similar tank sealants.

**2812-100-69-C** 100% MEK, 6"x9" (15.2cm x 22.9cm) rayon wipe, 100 wipes/tub, 12 tubs/cs

**2812-100-69-R** REFILL - 100% MEK, 6"x9" (15.2cm x 22.9cm) rayon wipe, 100 wipes/roll, 12 rolls/cs

### **Methyl Propyl Ketone (MPK)**

For removing dust, debris, uncured epoxy in composite surface prep, and inks in printing clean-up.

**2813-100-69-C** 100% MPK, 6"x9" (15.2cm x 22.9cm) rayon wipe, 100 wipes/tub, 12 tubs/cs

**2813-100-69-R** REFILL - 100% MPK, 6"x9" (15.2cm x 22.9cm) rayon wipe, 100 wipes/roll, 12 rolls/cs



# **Flux Removers**

Flux removers (defluxers) remove flux residues and other contaminants left by manufacture, rework, or repair of printed circuit boards. Residues from higher, lead-free temperatures are more baked on and harder to clean. PWR-4™, G3®, E-LINE™ and Precision-V™ flux removers have been proven very effective at removing fluxes baked on at lead-free temperatures.

Micro-components and fine pitch leads are delicate and easily damaged, so brushing and scrubbing should be avoided if possible. Techspray flux removers have a powerful spray and strong solvent that blasts off residues and cleans areas under components that a brush cannot touch.

Techspray offers traditional solvent-based cleaners and cutting edge water-based technologies marketed under the Techspray Renew™ brand.

### All Techspray flux removers have the following advantages:

- Help create bright, shiny solder joints
- Improve PCB reliability
- Prevent conformal coating defects
- Prevent corrosion from contamination
- RoHS compliant

FLUX REMOVER SELECTION GUIDE		onfaring	adde Prositive Pr	astics	17. Rate 17.	Stow 5 1	dastil M. Bulk OCO/o (CAP		ERTIES M. Rulk Values		le aning Jitrasonic	apor Degr	APPLICATIONS  June 19 Seem  Ju
3401 PWR-4 Flux Remover	•		5	73	95	70	100	100	•	•	•		Strongest
1631 G3 Flux Remover			5	64	-0	75	-	83	•				
1634 G3 No-Clean Flux Remover			5	64		75	-	83					
1638 G3 Bulk Solvent			5	_	61	-	100	78	•				
1651 Precision-V			5	37		75	-	54					
1621 E-LINE Flux Remover			4	75	-,,	75	-	87	•				
1610 E-LINE IPA			3	75	100	75	100	-	•				
1520 Eco-dFluxer SMT200			1	_	22	-	52	-		0		•	Most Plastic-Safe
		Test for se requi		ate com	npatibil	ity as a	part o	f your q	ualifica	tion pro	cess.		

### **Solvent Defluxers**



### Flux Remover

### Strong, fast-acting flux remover

Remove flux residues, other contaminants left by manufacture, rework, or repair of printed circuit boards.

- Nonflammable
- Powerful cleaner
- Proven effective for lead-free processes
- Residue-free
- Rapid evaporation
- Non-ozone depleting

Specifications: Meets Boeing D6 17487, Rev P

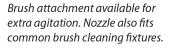
**1631-16S** 16 oz. (454g) aerosol

**1631-16SB** 16 oz. (454g) aerosol w/brush attachment

**1638-G** 1 gal. (3.8L) pail **1638-5G** 5 gal (19L) pail **1638-54G** 54 gal. (205L) drum









### **Flux Remover**

### Powerful, nonflammable and cost effective cleaner

Cleans away flux residues and other contaminants in vapor cleaning and ultrasonic application. Easily removes residues from high temperature lead free soldering operations, no-clean fluxes and all handling soils.

- Nonflammable
- Much safer than most common industrial solvents TCE, nPB, perc & methylene chloride
- Powerful cleaner Effective on R, RMA & no-clean fluxes
- Effective for vapor degreasing, ultrasonic and immersion cleaning
- Residue-free





### **No-Clean Flux Remover**

### Strong, fast-acting no-clean flux remover

Remove no-clean flux, white residues left by manufacture, rework, or repair of printed circuit boards.

- Nonflammable
- Ideal for no-clean fluxes
- Proven effective for lead-free processes
- Residue-free
- Rapid evaporation
- Non-ozone depleting

Specifications: Meets Boeing D6 17487, Rev P

**1634-12S** 12 oz. (340g) aerosol



### **Video Guide to Flux Removers**

Check out our step-by-step guide to the best practices for cleaning electronics





### PRECISION

### Flux Remover & Maintenance Cleaner

Nonflammable, powerful precision cleaner

Formulated to reduce VOCs within your facility. Ideal for aviation and other applications where strict VOC caps apply (based on EPA VOC exemptions).

- Nonflammable
- Low VOC
- Residue-free
- Rapid evaporation
- Non-ozone depleting
- Safe on most plastics

1651-16S 16 oz. (454g) aerosol



1651-16S

# **E**L!N=

### **IPA Electronics Cleaner**

99.8% IPA in convenient aerosol package

Ideal for defluxing, stencil cleaning and fiber optic connector cleaning.

- 99.8% pure IPA
- Compliant with SCAQMD rule 1171
- Plastic safe
- Low toxicity
- Residue-free
- Non-ozone depleting

Specifications for IPA: 99.8% IPA filtered to 0.2 microns, Fed spec TT-1-735A (amend 3, notice 2) grades A&B, ASTM D770-05







### Flux Remover

Powerful, economical flux remover

Hydrocarbon-based defluxer formulated to be powerful, yet very economical. Eliminates brushing and scrubbing, saving time and materials.

- Powerful cleaner
- Proven effective for lead-free processes
- Residue-free
- Non-ozone depleting
- Ideal for sensitive plastics

Specifications: GM H1013; Ford Tox #142431, USDA: NSF registered K-2 aerosol and bulk.

1621-10S 10 oz. (283g) aerosol

1621-10SB 10 oz. (283g) aerosol w/brush attachment

1621-G 1 gal. (3.8L) can 1621-5G 5 gal (19L) pail 1621-54G 54 gal (205L) drum 1. 111 TECHSPR ELINE 1621-5G 1621-G

1621-10S

1621-10SB



### **Water-Based Defluxers**

### **Eco-dFluxer SMT200**

Water-based Inline & Batch Flux Removers

Superior metals compatibility, preventing oxidation and leaving shiny solder joints. Eco-friendly formula reduces shipping and disposal costs. Effective with reduced concentration even on the toughest no-clean, R, RMA, OA and new halide-free fluxes.

Eco-dFLuxer cleaners are water-based, environmentally friendly and designed to work in both inline and batch cleaning equipment. They are optimal combinations of solvents and saponifiers that lower surface tension for penetration under low stand-offs, and powerful cleaning action to remove all flux residues.

High compatibility with common PCB metals and plastics. Eco-dFluxer cleaners are highly filterable with long bath life.

High performance cleaning gives you brilliant solder joints and allows you to increase dilution, increase line speeds, reduce waste water, decrease cost per board, and most importantly... eliminate field failures due to ionic contamination!

- High performance cleaning
- Nonflammable
- Low VOC, zero GWP
- Also used for pallet cleaning in batch systems

**1520-G** 1 gal. (3.8L) bottle **1520-54G** 54 gal. (205L) drum

### **Defoamer DF1**

### **Defoaming Agent for Inline & Batch Cleaners**

Reduce foaming as cleaner becomes loaded to extend bath life. Add directly to sump at 1 to 4 fl oz. (30-120ml) per 100 gallons (379L). Dilute in spray bottle to 15% with DI water to eliminate foaming issue on the spot.

- Effective at all processing temperatures
- Extends bath life
- Silicone & particulate free
- Nonflammable

**1555-P** 1 pt. (473mL) container







# Comparison of Water-based Cleaners vs. Solvents

Check out our article that explains when to use water-based cleaners, and when solvent cleaners are your best option.





# **Vapor Degreaser Solvents**

Techspray offers a wide variety of vapor degreaser formulas engineered to meet challenging requirements like cleanliness specifications, difficult-to-clean soils, solvent-sensitive materials, and restrictive regulations.

All Techspray solvents have azeotropic properties that allow them to remain stable as they are cycled in a vapor degreaser. They are not reactive or corrosive to metals commonly found in the construction of vapor degreasers.

PWR-4™ solvents are designed to replace nPB, TCE and perc, matching and surpassing cleaning performance without the safety concerns.

Precision-V<sup>™</sup> vapor degreaser solvents are ideal replacements for AK-225 based cleaners, which were phased out due to the ozone depletion restrictions of the Montreal Protocol.



For full product descriptions:

PWR-4 Maintenance Cleaner ..... pg. 5

PWR-4 Flux Remover ...... pg. 11





### **Vapor Degreaser Selection Guide**

Part#	Product Name	Base Material	kB value	Boiling Point (°F/°C)	EPA VOC (wt %)	CARB VOC (wt %)	SCAQMD VOC (g/l)	GWP	Degreasing	Defluxing	Plastic- Safe	Cleaning Performance
3400	PWR4 Maint CInr	HFE	100	118/48	95	100	1206	ND	•			Strongest
3401	PWR4 Flux Remvr	HFE	100	118/48	95	100	1206	ND		•		
1656	VC-1600	HFC	100	106/41	67	100	863	264	•	•	*	
1686	ME-1500	HFE	58	104/40	69	83	874	43	•	•	*	
1654	VC-1200	HFC	62	94/34	41	100	552	684	•		*	Most
1655	VC-1500	HFC	56	90/32	43	100	562	663		•	*	Plastic-Safe

<sup>\*</sup> Test First



### PRECISION

### **VC-1200 Vapor Degreaser Parts Cleaner**

Powerful, high precision solvent

- Nonflammable
- Ozone-safe replacement for AK-225
- Effective on cutting fluids, heavy greases & oils

**1654-5G** 5 gal. (19L) pail **1654-54G** 54 gal. (205L) drum

# PRECISION

# VC-1500 Vapor Degreaser Flux Remover Powerful, high precision defluxer

weriui, iligii precision deli

- Nonflammable
- Ozone-safe replacement for AK-225
- Effective on rosin, RMA, no-clean & lead-free fluxes

1655-G1 gal. (3.8L) pail1655-5G5 gal. (19L) pail1655-54G54 gal. (205L) drum

# PRECISION

### **VC-1600 Vapor Degreaser Solvent**

Powerful solvent for degreasing & defluxing

- Nonflammable
- Ozone-safe replacement for AK-225
- Effective on fluxes, heavy greases, oils & waxy corrosion inhibitors
- Safe on most plastics

**1656-5G** 5 gal. (19L) pail **1656-54G** 54 gal. (205L) drum

## PRECISION

### **ME-1500 Vapor Degreaser Solvent**

Powerful, high precision solvent for degreasing & defluxing

- Nonflammable
- Ozone-safe replacement for AK-225
- Effective on fluxes, heavy greases, oils & waxy corrosion inhibitors
- Safe on most plastics
- Low global warming potential (GWP)

**1686-54G** 54 gal. (205L) drum





HIGH PERFORMANCE ECO-FRIENDLY CLEANERS

# **Stencil Cleaners**

### **Eco-Stencil UM**

Manual & Under Stencil Cleaner

- Quickly clean paste or uncured adhesive
- Safe for stencils, tools, misprinted boards
- Nonflammable
- Low VOC, zero GWP

### **Applications:**

- Manual stencil tool, work surface, and squeegee cleaning
- Automatic underside wipe stencil cleaning
- Batch ultrasonic cleaning
- Removes unsoldered leaded & lead-free solder pastes
- Cleans off uncured adhesives

Specification: Compliant with Speedline / ITW EAE compatibility criteria for Accelta, Momentum and MPM 125 printers.

**1570-100DSP** 100 count pre-saturated wipes, 6"x8" (15cm x 20cm) **1570-QT** 1qt. (0.95L) w/ trigger sprayer

### **Eco-Stencil RF**

Rinse-Free Batch Stencil Cleaner

- Nonflammable
- Rinse-free
- Drop in replacement for IPA
- Effective at ambient temperature
- Low VOC, zero GWP
- Highly concentrated 20% dilution

**1571-G** 1 gal. (3.8L) bottle



1571-G

# **SMT Equipment Maintenance**

### **Eco-Oven**

Reflow Oven, Wave Finger & Pallet Cleaner

- Quickly clean flux residue from oven & wave fingers
- Safe on warm ovens
- Nonflammable
- Low VOC, zero GWP

### **Applications:**

- Removal of baked-on flux residues from SMT oven and wave equipment
- Maintenance cleaning for heat exchange systems (NOTE: rinse thoroughly from aluminum and copper)
- Finger cleaning in wave solder equipment
- Remove accumulated flux from wave solder pallets

**1573-QT** 1 qt. (0.95L) w/ trigger sprayer



# **ESD Products**



# LICRONGRYSTAL

### Permanent ESD Coating

- Rugged static dissipative coating
- Surface resistivity of 10<sup>6</sup> To 10<sup>9</sup> ohms
- Operating temperature range up to 302°F (155°C)
- Humidity independent
- Superior adhesion to variety of surfaces: glass, plastic, etc.
- Non-ozone depleting

8 oz. (226g) aerosol (coats up to 200ft<sup>2</sup>) 1756-8S 1756-G 1 gal. (3.8L) jug (coats up to 1600ft²)

54 gal. (204L) drum 1756-54G



1756-8S

# Zero Charge Anti-Stat Coating

Anti-static coating for fabrics & flexible surfaces

- All-purpose static control
- For plastics, fabrics, and carpet

**1726-QT** 1 qt. (.95L) bottle with trigger sprayer







Zero Charge Screen & Keyboard Cleaner

Cleans surfaces and leaves behind dissipative residue

- Cleans plastic & glass
- Leaves ESD-safe coating
- · Leaves no insulative residue
- Non-corrosive

**1743-50PK** 50 pre-saturated wipes in packets 1743-OT 1 qt. (.95L) bottle w/trigger sprayer



- Rejuvenates ESD-safe mats
- Will not dry out surfaces
- Leaves no insulative residue
- Nonflammable
- No ammonia
- Non-corrosive

1 qt. (.95L) bottle with trigger sprayer 1733-G 1 gal. (3.8L) bottle

# **Zero Charge Hand Lotion**

Non-contaminating hand lotion for ESD sensitive environments

- Improves wrist and heel strap contact
- Does not contain silicone or lanolin
- Non-contaminating does not interfere with soldering
- Non-greasy

**1702-8FP** 8 fl. oz. (237ml) bottle with finger pump

1702-G 1 gal. (3.8L) bottle



1733-QT

1702-8FP

### Zero Charge® ESD-Safe Floor Coating

ESD-safe floor coating

- Resistivity between 106 To 1010
- Effective in low humidity
- High gloss polymer
- Zinc free
- Slip resistant

1 gal. (3.8L) bottle 1720-G (coats @1,200 ft<sup>2</sup>)



# **Temporary Solder Masks**

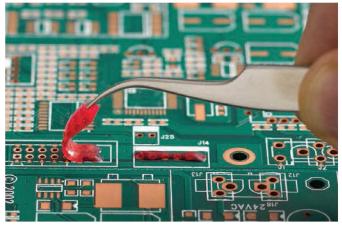
Techspray's WonderMASK is the industry leading temporary solder mask brand because of quality and versatility. Depending on the product, mask can be peeled off manually, or washed off in a batch or inline system.

# All Techspray WonderMASK products have the following advantages:

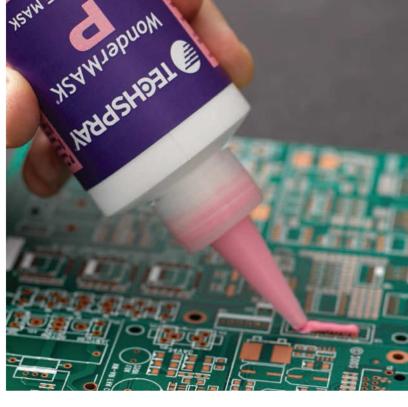
- Can be cured in pre-heat
- Withstands lead-free soldering temperatures up to 640°F (343°C) in wave soldering process
- RoHS compliant



Peelable Masks Used with solvent cleaning and no-clean processes.



Cure indicator prevents breakage. Transluscent bright pink means it is ready to be removed.



### **WonderMASK P**

Non-ammoniated, low odor peelable mask

Techspray's original ammonia-free synthetic latex peelable solder mask.

- Easily peelable
- Low odor
- Cure indicator darkens as it cures
- Compatible with gold and copper leads
- Non-corrosive
- Nonflammable

Specifications: MIL-STD-2000 paragraph 5.3.18 parts a,b, and d. Ford Tox #039772.

**2211-8SQ** 8 fl. oz. (237mL) squeeze bottle

**2211-G** 1 gal. (3.8L) bottle **2211-5G** 5 gal. (19L) pail **2211-54G** 54 gal. (205L) drum



2211-8SQ

### **TEMPORARY SOLDER MASK SELECTION GUIDE**

PRODUCT	APPLICATION	VISCOSITY	SUGGESTED THICKNESS	THINNER	CURE TIME	REMOVAL
PEELABLE						
2211 WonderMASK P	Template, Hand, Pneumatic, Robotic	28,000 — 32,000 cps	20 – 30 mils	D.I. Water	1 hr. Ambient 30 min. @65° C 20 min. @82° C	Peelable
2222 WonderMASK PX	Hand Applied	9,000 — 16,000 cps	15 mils	D.I. Water	15 min. Ambient	Peelable
TC-533 Techform	Hand Applied	9,000 — 15,000 cps	15 mils	D.I. Water	1 hr. min. Ambient 30 min. @65° C	Peelable
WATER-SOLUBLE						
2204 WonderMASK WSOL	Hand, Pneumatic	11,500 — 15,500 cps	5 — 15 mils	Methanol	30 min. <i>@</i> 65° C	Soluble in Water 49° C or higher
2205 WonderMASK W	Hand Applied	8,000 — 12,000 cps	10 — 15 mils	D.I. Water	30 min. @80° C 1–2 hrs. Ambient	Soluble in Water 49° C or higher
2206 WonderMASK W	Pneumatic, Robotic	6,050 — 6,450 cps	10 — 15 mils	D.I. Water	1–2 hrs. Ambient 30 min. @80° C	Soluble in Water 49° C or higher

### WonderMASK PX

### Natural latex peelable solder mask with fastest cure time.

Natural latex temporary solder mask that is specially formulated to cure in half the time of other masks.

WonderMASK PX cures over its entire surface area, including where it adheres to the PCB. This allows it to be peeled quickly and easily when other masks are still sticky at the bottom. Even the thickest bead of mask cures completely.

Specifications: Meets MIL-STD-2000 paragraph 5.3.18 parts a, b, and d.

- Fastest full cure
- Easily peelable
- Highest strength to avoid breakage
- Nonflammable

**2222-8SQ** 8 fl. oz. (237ml) squeeze bottle **2222-G** 1 gal. (3.8L) bottle





WonderMASK PX peels after 15 min.



Typical mask after 15 min.



### Washable Masks Used with aqueous cleaning processes.



### WonderMASK W

### Nonflammable, water-washable

Quick drying water-washable mask. Quickly and easily removed with in-line and batch cleaning systems.

- Water washable
- Non-corrosive
- Low odor
- Nonflammable

Note: do not use in closed-loop wash systems.

Specifications: Meets MIL-STD-2000 paragraph 5.3.18 parts a,b, and d. (2206) HP 8500-4214

### **Hand Applications:**

**2205-8SQ** 8 fl. oz. (237mL) squeeze bottle

**2205-G** 1 gal. (3.8L) bottle

### Robotic & Pneumatic Applications:

**2206-G** 1 gal. (3.8L) bottle



2205-8SQ

### WonderMASK WSOL

Water-washable mask, safe on ion beds and filters Ideal water-washable mask for closed-loop systems. Quickly and easily removed with in-line and batch cleaning system.

- 100% Water-soluble
- Safe on ion beds & filters in closed-loop cleaning systems
- Non-corrosive
- Low odor

**2204-8SQ** 8 fl. oz. (237mL) squeeze bottle

**2204-G** 1 gal. (3.8L) bottle

# **CONFORMAL COATING**

Techspray offers a variety of coating formulas to match field and engineering requirements. Specifications generally depend on the type of protection needed: e.g. thermal, moisture, and static resistance (see reference chart on the next page).

### **Application method considerations:**

**Dip** - High volume method to fully coat boards. Thickness of final coating is controlled by viscosity and withdrawal speed from the pot.

**Selective spray system** – Computer controlled selective spray systems, eliminate the need for masking. Higher viscosity than full coverage sprayer is generally needed (70-200 cps) to create precise edge definition and prevent splattering.

**Manual Application** – Aerosol and brushing are generally used for small production runs, rework and repair. If using for rework, the aerosol needs to be compatible with the original coating.



### **CONFORMAL COATING SELECTION GUIDE**

	2127 Fine•L•Kote SRV	2127-950 Fine•L•Kote SRV 950	2102 Fine•L•Kote SR	2103 Fine•L•Kote AR	2104 Fine•L•Kote UR	2106 Fine•L•Kote HT	2108 Turbo-Coat	
Product Benefits	Moisture & Vibration Resistant	Moisture & Vibration Resistant	Moisture & Vibration Resistant	Economical	Durable & Chemically Resistant	High Operating Temperature	Economical With Fastest Cure	
Selective Spray System	•	•	0	0	•	•	0	
Atomized Spray System	•	•	•	0	•	0	•	
Dip	•	•	•	0	•	•	•	
Aerosol Available	NO	NO	YES	YES	YES	YES	YES	
Thermal Resistant	•	•	•	0	0	•	0	
Moisture /Fungus Resistant	•	•	•	•	•	•	•	
Chemical Resistant	•	•	•	0	•	•	0	
Vibration Resistant	•	•	•	0	0	•	0	
Ease of Rework	•	•	•	•	0	•	•	
Tack Free Time (minutes)	10	10	60	15	15	45	3	
Accelerated Cure Time/Temp	2 Step 30 Min.@ 32℃ 45 Min.@ 93℃	2 Step 30 Min.@ 32℃ 45 Min.@ 93℃	2 Step 30 Min.@ 32℃ 45 Min.@ 93℃	2 Step 20 Min.@ 120°F 30 Min.@ 180°F	2 Step 20 Min.@ 49℃ 30 Min.@ 82℃	1 Step 15 Min.@ 49°C	1 Step 20 Min.@ 65℃	
Ambient Cure Time	24 Hrs.	24 Hrs.	72 Hrs.	24 Hrs.	24 Hrs.	24 Hrs.	<15 Hrs.	
IPC-CC-830 Qualified			YES		YES	YES	YES	
UL 94 Rated	V-0	V-0	V-0		V-0	V-0	V-0	
Solids Content (% by weight)	48%	85%	Aerosol 11% Bulk 14%	Aerosol 6.1%	Aerosol 7% Bulk 20%	Aerosol 16% Bulk 25%	Aerosol 7% Bulk 17%	
Viscosity (centipoise)	Bulk 82	Bulk 950	Aerosol 4-10 Bulk 4-10	Aerosol 22	Aerosol 12-22 Bulk 10-20	Aerosol 15-25 Bulk 15-25	Aerosol 10-20 Bulk 15-25	
UV Indicator	YES	YES	YES	YES	YES	YES	YES	
Operating Temp Range	-65° to 200° C	-65° to 200° C	-65° to 200° C	-65° to 125° C	-30° to 121° C	-40° to 350° C	-65° to 125° C	
Dielectric Strength	720 kV/Mil	720 kV/Mil	1.1 kV/Mil	2086 kV	380 V/Mil	560 V/Mil	1 kV/Mil	
Dielectric Constant	1.017	1.017	2.66	3.1	3.8	2.5		
Insulation Resistance (ohms)	>1.4 x 10 <sup>12</sup>	>1.4 x 10 <sup>12</sup>	6.87 x 10 <sup>15</sup>	4 x 10 <sup>13</sup>	1.78 x 10 <sup>16</sup>	1.33 x 10 <sup>16</sup>	4.89 x 10 <sup>16</sup>	
VOC	Bulk 13%	Bulk 4%	Aerosol 46% Bulk 58%	Aerosol 29%	Aerosol 52% Bulk 54%	Aerosol 51% Bulk 79%	Aerosol 33% Bulk 64%	

Key:  $\bullet$  = Best  $\bullet$  = Acceptable  $\circ$  = Not applicable / Not recommended

### FINE-L-KOTE™ SR

### Silicone coating that's ideal for moisture and vibration protection

- UL recognized
- Thermal resistance to 392°F (200°C)
- Dielectric strength 1100 volts/mil
- Moisture resistant
- Chemically resistant
- Vibration resistant flexible

Specifications: Meets or exceeds IPC-CC-830B. UL94 V-0 rated. Passes the laboratory tests of MIL-I-46058C. However, it is not qualified on QPL-46058.

2125

Fine-L-Kote LED2

Optically Clear

### Standard Viscosity — 4-10 CPS

Coverage (1 mil dry film): 1 aerosol can - 16 ft² (1.5 M²) 1 gal. liquid - 224 ft² (20.8 M²)

2102-12512 oz. (355ml) aerosol2102-P1 pt. (473mL) can2102-G1 gal. (3.8L) can

**High Viscosity** — **60-90 CPS 2102-GHV** 1 gal. (3.8L) pail

2109

**Turbo-Coat HV** 

Economical With

Fastest Cure





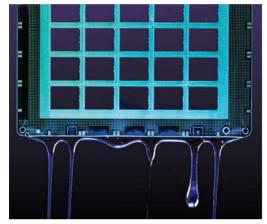


Application with manual spray gun.

### FINE-L-KOTE™ SRV

Low VOC coating that's ideal for corrosion, moisture, thermal and vibration protection

- Low VOC
- High gloss, superior transparency
- •Thermal resistance 392°F (200°C)
- Dielectric strength 720 volts/mil
- Moisture and chemically resistant
- Vibration resistant & flexible
- Low toxicity HAPs free
- Meets IPC-CC-830B
- UL 94 V-0 flammability rating
- Meets MIL-STD 810G & MS941-04 salt spray tests



Dip coating.

Specifications: Meets or exceeds IPC-CC-830B. UL94 V-0 rated. Passes the laboratory tests of MIL-I-46058C. However, it is not qualified on QPL-46058.

# Fine-L-Kote SRV – Standard Viscosity

 2127-P
 1 pint / 0.47L liquid

 2127-G
 1 gallon / 3.8L liquid

 2127-5G
 5 gallon / 18.9L liquid

 2127-54G
 54 gallon / 204L liquid

### Fine-L-Kote SRV 950 – High Viscosity

**2127-G950** 1 gallon / 3.8L liquid **2127-5G950** 5 gallon / 18.9L liquid **2127-54G950** 54 gallon / 204L liquid



Selective spray system application.

### USE 2108-12S NO. 0 0 0 0 9 10 2 Step 1 Step 30 Min.@ 32℃ 55 Min.@ 55℃ 45 Min.@ 93℃ <15 Hrs 24 Hrs. YES YES V-0 V-0 Bulk 24% Bulk 48% Bulk 55-60 Bulk 66-76 YES NO -65° to 200° C -65° to 125° C 1 kV/Mil 1 kV/Mil 720 kV/Mil

4.89 x 1016

Bulk 7%

 $> 1.4 \times 10^{12}$ 

Bulk 13%



### FINE-L-KOTE™ HT

Silicone coating engineered for superior thermal and moisture resistance

- Designed for high temperature environments
- Fast-drying silicone 1-step process
- Thermal resistance to 662°F (350°C)
- Dielectric strength 560 volts/mil
- Moisture resistant
- Vibration resistant flexible

Specifications: Meets or exceeds IPC-CC-830B. UL94 V-0 rated. Passes the laboratory tests of MIL-I-46058C. However, it is not qualified on QPL-46058.

Coverage (1 mil dry film): 1 aerosol can - 20 ft² (1.9 M²) 1 gal. liquid - 880 ft² (81.8 M²)

**2106-12S** 12 oz. (355ml) aerosol **2106-G** 1 gal. (3.8L) can



2106-125

### FINE-L-KOTE<sup>™</sup> UR

**Urethane Conformal Coating** 

- Thermal resistance to 248°F (120°C)
- Dielectric dtrength 380 volts/mil
- Moisture resistant
- Chemically resistant
- Abrasion resistant
- UL94 V-0 nonflammable final coat

Specifications: Meets or exceeds IPC-CC-830B. UL94 V-0 rated. Passes the laboratory tests of MIL-I-46058C. However, it is not qualified on QPL-46058.

Coverage (1 mil dry film): 1 aerosol can - 10 ft² (0.9 M²) 1 gal. liquid - 320 ft² (29.7 M²)

**2104-125** 12 oz. (355ml) aerosol **2104-G** 1 gal. (3.8L) can **2104-5G** 5 gal. (19L) pail



2104-125

### FINE-L-KOTE<sup>™</sup> LED2

### Silicone conformal coatings designed to coat over LEDs

Coat directly over LEDs without the time and expense of masking. Optical clarity prevents light from diffusing, scattering, or changing wavelength. Fine-L-Kote LED provides maximum protection from extreme temperatures on the flexible and rigid PCBs found in LED displays.

- Fully transparent will not block or change light intensity or wavelength
- Protects against adverse environments
- Flexibility prevents cracking
- Resists moisture, salt, fungus and corrosive vapors from severe environments

 Withstands high heat from PCB and operating environment

• Thick film build

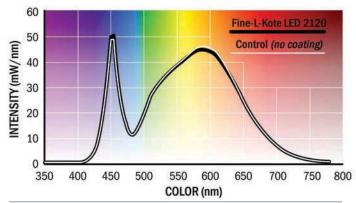
• High gloss -- repels dirt & dust

• Low VOC

Coverage (1 mil dry film): 1 gal liquid - 723 ft² (67.2 m²)

**2125-P** 1 pt. / 473 mL can **2125-G** 1 gal / 3.7 L liquid **2125-5G** 5 gal / 18.5 L liquid





3rd party testing by Intertek, standards IESNA LM-79-2008 and ANSI NEMA ANSLG C78.377:2015

# CASE STUDY: Fine-L-Kote LED2 Improves Reliability of Grow Lights without Affecting Light Properties

### FINE-L-KOTE™ AR

### Acrylic Conformal Coating

- Fast & easy rework & repair
- Rigid, hard coating
- UV indicator for black light QC inspection

Coverage (1 mil dry film): 1 aerosol can - 12 ft<sup>2</sup> (1.1 M<sup>2</sup>)

2103-125 12 oz. (355ml) aerosol



### **Acrylic Conformal Coating**

- Fastest cure dry to touch in 3 minutes!
- Low toxicity
- No toluene, xylene or MEK
- UL94 V-0 rated nonflammable final coat
- Fast & easy rework & repair
- UV indicator for black light QC inspection

Specifications: Meets or exceeds IPC-CC-830B. UL94 V-0 rated. Passes the laboratory tests of MIL-I-46058C. However, it is not qualified on QPL-46058.

Coverage (1 mil dry film): 1 aerosol can - 14 ft<sup>2</sup> (1.3 M<sup>2</sup>) 1 gal. liquid - 272 ft<sup>2</sup> (25.3 M<sup>2</sup>)

2108-12S 12 oz. (355ml) aerosol 2108-P 1 pt. (473mL) can 2108-G 1 gal. (3.8L) can 2108-5G 5 gal. (19L) pail



TEGHSPRA

AR

2103-125

2108-125

# 77(1)???(O)=(Q)O):\\T\\\\

### **Acrylic Conformal Coating**

- Designed for selective sprayers
- · Low toxicity
- No toluene, xylene or MEK
- Dry to touch in under 10 minutes!
- UL94 V-0 nonflammable final coat

Specifications: Meets or exceeds IPC-CC-830B. UL94 V-0 rated. Passes the laboratory tests of MIL-I-46058C. However, it is not qualified on OPL-46058.

Coverage (1 mil dry film): 1 gal. liquid - 391 ft<sup>2</sup> (36.3 M<sup>2</sup>)

**2109-P** 1 pt. (473mL) can **2109-G** 1 gal. (3.8L) can 2109-5G 5 gal. (19L) pail



### **Turbo-Coat Thinner**

### Conformal coating thinner for Turbo-Coat

Turbo-Coat Thinner is available to reduce the viscosity to fit ideal process parameters.

- Compatible with all Turbo-Coat coatings
- MEK, toluene & xylene free
- Low toxicity
- Also used as stripper & nozzle cleaner

### FINE-L-KOTE™ **Conformal Coating Remover XT** Safer Conformal Coating Stripper

- Strong cleaner for dissolving most common types of coatings
- Removes silicones, acrylics, urethanes and one component epoxies
- Safer solvent no MEK, xylene and other highly toxic solvents
- Non-corrosive
- Controlled evaporation for longer soak time

1 gal. (3.8L) can 2130-54G 54 gal. (204L) drum



### **Conformal Coating Remover**

Coating stripper for acrylic, silicone and urethane

Quickly and precisely removes most conformal coatings including acrylic, urethane, and silicone.

- Fast stripping action
- Non-corrosive
- Rapid evaporation

2510-N 2510-P 1 pt. (473mL) can





2110-P 1 pt. (473mL) can Techspray dusters blow away dust, microscopic contaminants, lint, metallic oxide deposits and other soils that can cause heat build-up or shorts in sensitive electronics. They are completely portable, ultra-pure, and free of moisture, oil, and other contaminants.

- Moisture free
- Non-ozone depleting
- Zero residue
- VOC exempt
- Safe on plastics

### **Nonflammable Duster**

Nonflammable duster

- Nonflammable
- Safest choice for energized equipment
- Velocity 11.3 M/s

**1671-10S** 10 oz. (283g) aerosol **1671-15S** 15 oz. (425g) aerosol

**CAN1671-10S** 10 oz. (283g) aerosol Canada compliant packaging

**CAN1671-15S** 15 oz. (425g) aerosol Canada compliant packaging





1671-155

# Vortex™ High Velocity Duster

High velocity, nonflammable duster

- Most powerful blast
- Nonflammable
- Safest choice for energized equipment
- Vortex 360° sprays upside-down
- Velocity –14.6 m/s

**1697-8S** Vortex 360° 8 oz. (227g) aerosol **1697-10S** 10 oz. (283g) aerosol



1697-85



1697-105



- Best value 30% more volume
- Lower global warming potential
- Velocity 11.4 m/s

**1673-10S** 10 oz. (283g) aerosol

Note: not for use on powered electrical equipment, on hot surfaces, and around open flames or sparks.



### Renew-Duster

- Eco-friendly, nonflammable duster
  - Ultra-low GWP of <1
  - Nonflammable, low global warming HFO-1234ze
  - Velocity 12 m/s

**1580-10S** 10 oz. (283g) aerosol





### **DUSTER SELECTION GUIDE**

	Spray Power	Nonflammable	360° Spray	Contents	GWP*	Use On Live Circuits
1697-10S Vortex Duster	Best	Yes	No	HFC-134a	1300	Yes
1697-85 Vortex 360° Duster	Best	Yes	Yes	HFC-134a	1300	Yes
1671 Duster	Good	Yes	No	HFC-134a	1300	Yes
1673 Economy Duster	Good	No	No	HFC-152a	140	No
1580 Renew-Duster	Good	Yes	No	HFO-1234ze	<1	Yes

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

# **Freeze Sprays**

Freeze sprays blast fast evaporating liquid that super-chills isolated areas. Used as a troubleshooting aid for intermittently faulting capacitors, resistors, semiconductors, and other defective components. They also increase visibility of cold solder joints, cracks in printed circuit boards and oxidized junctions.

- Nonflammable
- Safe on plastics
- Zero residue
- Moisture free
- Non-ozone depleting
- VOC exempt

### **Freeze Spray**

- Chills down to -60°F (-51°C)
- Nonflammable
- Safe for energized equipment

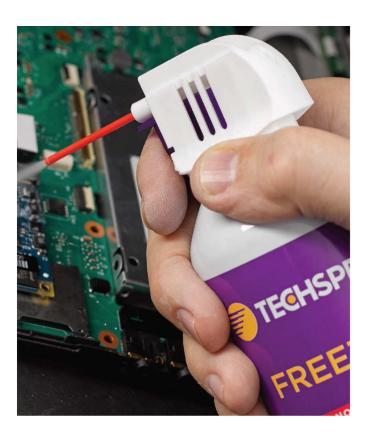
**1672-10S** 10 oz. (283g) aerosol **1672-15S** 15 oz. (425g) aerosol



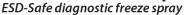


1672-10S

1672-155



### Anti-Static Freeze Spray 💪



Diagnostic freeze spray for static sensitive assemblies. Contains additive that avoids static build-up, critical when working with ESD-sensitive components.

- Avoids static build-up
- Prevents latent failures
- Chills down to -60°F (-51°C)
- Nonflammable
- No frost buildup

**1747-10S** 10 oz. (283g) aerosol



### **Eco-Freezer**

Eco-friendly freeze spray

Eco-Freezer is formulated with new HFO-1234ze propellant, with a fraction of the global warming potential (GWP) of HFC-134a based freeze sprays. HFO-1234ze has a GWP of <1, compared to HFC-134a with GWP of 1300. Eco-Freeze can be a drop-in replacement when GWP needs to be lowered.

- Chills down to -49°F (-45°C)
- Ultra-low GWP of <1
- Nonflammable

**1583-10S** 10 oz. (283g) aerosol



# **Desoldering Braid**

Desoldering braid (wick) is pre-fluxed copper braid that is used to remove solder, which allows components to be replaced and excess solder to be removed.

Techspray wick is available in static dissipative bobbins (except where indicated) for static sensitive environments.

Techspray No-Clean wick is coated with proprietary flux that only leaves a slight clear residue, which does not cause service issues. Cleaning after using Techspray No-Clean wick is strictly optional.

Specifications: Meets or Exceeds MIL-F-14256; NASA NHB 5300, 4 (34-1); NASA NPC 200-4; NASA SP5002; 1821:HP 8690-0588; 1823: HP 8690-0577; IPC Standard-J-STD-004

DESOLDERING BRAID SELECTION CHART											
#1	#2	#3	#4	#5	#6						
White	Yellow	Green	Blue	Brown	Red						
.035" (0.9mm)	.055" (1.4mm)	.075" (1.9mm)	.098" (2.5mm)	.130" (3.3mm)	.193" (4.9mm)						
Wick in selection chart shown actual size.											



### Pro-Wick® Rosin — ESD-Safe Bobbin (🛦



For the fastest wicking action, rosin flux coated braid is ideal for high volume PCB production/repair environments.

		Size/Color	5′	10′	25′	100′	500′
	1808	#1 White	1808-5F	1808-10F	_	1808-100F	_
TEGHSPRAY.	1809	#2 Yellow	1809-5F	1809-10F	1809-25F	1802-100F*	1802-500F*
1811-5F (A)	1810	#3 Green	1810-5F	1810-10F	1810-25F	1810-100F	1803-500F*
5'L 1.5m	1811	#4 Blue	1811-5F	1811-10F	1811-25F	1811-100F	1804-500F*
PROWICK	1812	#5 Brown	1812-5F				_
	1813	#6 Red	1813-5F	_	_	1806-100F*	_

<sup>\*</sup> Not packaged in ESD-safe bobbins

### No-Clean Wick — ESD-Safe Bobbin (

The cleanest No-Clean braid in the industry. The proprietary flux formula is specially designed to avoid catastrophic and latent PCB failures caused by ionic flux residue.

		Size/Color	5′	10′	25′	50′	100′
	1820	#1 White	1820-5F	1820-10F	_	1820-50F	1814-100F*
TENHSPRAY	1821	#2 Yellow	1821-5F	1821-10F	1821-25F	1821-50F	1815-100F*
	1822	#3 Green	1822-5F	1822-10F	_	1822-50F	1822-100F
	1823	#4 Blue	1823-5F	1823-10F	1823-25F	_	1823-100F
TO-CLEAN	1824	#5 Brown	1824-5F		1824-25F		
	1825	#6 Red	1825-5F	_	_	_	_

### Unfluxed Wick — ESD-Safe Bobbin ( )

For customers who use water-soluble flux, or their own flux for aqueous processes.

		Size/Color	5′	10′
TEGHSPRAY.	1830	#1 White	_	1830-10F
(3)	1831	#2 Yellow	_	1831-10F
5°L 1.5m	1832	#3 Green	1832-5F	
ONFLUXE	1833	#4 Blue	_	1833-10F



Match braid width to contact area

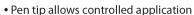
# **Rework & Repair Pens**

# **TraceTech**

### Flux Remover Pen

Spot cleaning for PCB rework and repair FLUX REMOVER PEN

- Safe on plastics
- Rapid evaporation



Single-pack of 11.5 ml pen



### **No-Clean Flux Dispensing Pen**

No-clean flux applicator pen for PCB rework and repair

- Excellent wetting
- · Works with lead and lead-free solders
- Boosts wetting for lead-free wire solder
- No cleaning necessary
- Halide free

2507-N Single-pack of 11.5 ml pen

**2507-N100** 144 pack of 11.5 ml pens, 12 boxes of 12



# TraceTech.

### Conductive Pen

Silver ink pen for repairing electronic traces

- Repairs traces
- Makes smooth jumpers

2505-N Single-pack of 4.9 ml pen





# TraceTech<sup>®</sup>

### **Overcoat Pen**

Resist repair pen for PCB rework and repair TECHSPRAY GREEN OVERCOAT PEN

- Repairs solder resist
- Green to match resist
- Prevents shorting and arcing

2509-GN Single-pack of 5 ml pen

# TraceTech.

### **Conformal Coating Remover Pen**

Spot coating remover in applicator pen for PCB rework and repair

- Fast stripping action
- Non-corrosive
- Rapid evaporation

2510-N 11 ml pen 2510-P 1 pt. (0.47L) can



### **Thermal Paste**

### Silicone Heat Sink Compound

Heat sink compound for electrical applications

- Thermal conductivity 0.70 W/m-K
- Functional temperature Range -67°F to 401°F (-55°C to 205°C)
- Easy application
- Will not harden and crack

**1977-DP** 4 oz. (118ml) squeeze tube



### Silicone-Free Heat Sink Compound

Heat-sink for electronics, avoid silicone contamination

- Thermal conductivity 0.92 W/m-K
- Functional temperature range -40°F to 392°F (-40°C to 200°C)
- · Avoid solder defects due to silicone contamination
- Easy application
- Will not separate
- Will not harden and crack

1978-DP 4 oz. (118ml) squeeze tube 1978-1 1 lb. (454q) jar





Precise, reliable cutting action at an economical price. Thin profile handle and light weight design is ideal for smaller hands.

- Cut up to 18 AWG copper wire (.04"/1mm)
- Economical, disposable cutter
- Thin blade profile for trimming in tight areas
- Ergonomic handle design
- Spring-back action

**170** 1 cutter, 10/case

175 1 cutter w/safety guard, 10/case





### **Lead Cutters**

Plato cutters give you the precision of a high-end tool, but at a disposable cutter price. Assemblers love the effortless shearing action, comfort, and safety. Plato cutters use the shear cutting method, which requires 50% less operator effort and extends cutting life.

The thin profile design is perfect for hard-to-reach areas in electronic assembly. Handles are cushioned for comfort all day, and automatically spring back to their original position after each use.



### **Lead Cutter**

Ergonomic, ESD Safe Lead Cutter

The 170LX is a remarkable advancement in cutter design. Carefully crafted precision cutting blades combine seamlessly with curved, palm shaped handles to deliver effortless lead cutting and user comfort

- Comfortable, ergonomic design
- ESD safe to protect sensitive components
- Responsive sprinback action for quick, comfortable cutting of multiple leads
- Thin profile design to reach tight areas in electronics assembly

**170LX** 1 cutter, 10/case



# **Wipes**

Techspray offers a large array of wipes for a variety of applications, including cleanroom, PCB rework, polishing, and maintenance. A large number of different materials are available to meet each unique requirement.

• Cleanroom Wipers: Meet the particulate count and extractables for Class 10 / ISO Class 4 and Class 100 / ISO Class 5 cleanrooms.





- Maintenance Wipers: Lower cost, high quality wipers for heavyduty cleaning.
- Microfiber Wipes: Polishing wipes that are ideal for screen and display cleaning, with or without a cleaner.
- SMT Roll Wipes: DEK and MPM understencil roll wipes to fit the most common printers.



### **TECHCLEAN® WIPES SELECTION GUIDE**

Key:  $\bullet$  = Best  $\bullet$  = Acceptable  $\circ$  = Not applicable / Not recommended

		Properties			Application								
	Cleanroom	Material	Construction	Absorbency	Strength	Electronics	ESD- Sensitive	LCD Cleaning	Stencil Cleaning	Lab	Optics	Industrial	Office
2350 Wiper	100 / ISO 5	Poly / Cellulose	Non- woven	•	0	•	0	0	•	•	0	•	•
2351/2352 Absorbwipe	100 / ISO 5	Polyester	Non- woven	0	0	•	0	0	0	0	•	0	0
2355 Purewipe	100 / ISO 5	Polyester	Knit	0	•	•	0	0	•	•	0	0	0
2357 Twill Wipe	n/a	Cotton	Woven	•	•	0	0	0	0	0	0	•	0
2359/2364/2365 Maintenance Wipe	n/a	Poly / Cellulose	Non- woven	•	0	•	•	0	•	•	0	•	•
2362 Antistatic Wipe	10 / ISO 4	Polyester	Knit	0	•	•	•	0	0	•	0	0	0
2363 Microfiber Wipe	n/a	Poly / Nylon	Knit	0	•	0	0	•	0	0	•	0	•
2366/2367 Roll Wipes	n/a	Poly / Cellulose	Non- woven	•	0	0	0	0	•	0	0	0	0

 $Note: To\ qualify\ for\ your\ clean room\ requirements, please\ refer\ to\ www.techspray.com\ for\ full\ data\ sheets.$ 



# TechClean Wiper General Purpose Wipe

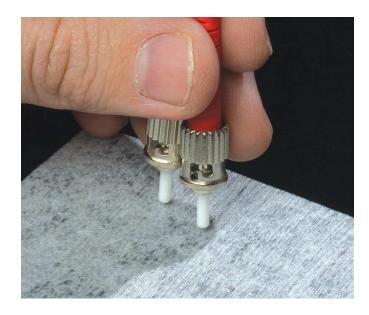
Hydroentangled cellulose/polyester wipe with high absorbency and extra low particulate count and no chemical extractables.

- Class 100 cleanroom qualified
- High absorbency
- Very low particulate count

Specifications: Exceeds U.S. Air Force requirements for surface contamination, HP 9300-1618

2350-100

100 - 8"x10" (20cm x 25cm) c-fold wipes, double-bagged





### **TechClean Purwipe™**



Low-Linting Poly Wipe

100% polyester wipe is a strong, low-linting wipe that is ideal for SMT stencil cleaning and PCB rework. Tear resistant to allow cleaning around leads without fraying.

- Class 100 cleanroom qualified
- Very low particulate count
- Tear resistant

**2355-100** 100 - 9"x9" (23cm x 23cm) flat wipes, double-bagged

### **TechClean Maintenance Wipes**

Hydroentangled cellulose/polyester wipe with high absorbency. Economical, but very high quality wipes are ideal for production and maintenance applications.

- High absorbency
- Economical

**2359-300** 300 - 9"x9" (23cm x 23cm) flat wipes

### **Economy Grade**

**2364-50** 50 - 12"x 12" (30.5cm x 30.5cm) dry wipes **2365-300** 300 - 9"x 9" (23cm x 23cm) dry wipes



## **TechClean Absorbwipe™**



For Sensitive Surfaces

Very soft and absorbent hydroentangled polyester wipe for cleaning optical equipment, fiber optics, and other sensitive surfaces.

- Non-abrasive
- Extremely soft
- Highly absorbent

**2351-100** 100 - 4"x4" (10cm x 10cm) flat wipes, double-bagged 100 - 9"x9" (23cm x 23cm) flat wipes, double-bagged



Polyester wipe that is interwoven with DuPont's NEGA-STAT carbon yarn. NEGA-STAT dissipates static charge, preventing static buildup and allowing dissipation. Perfect for dry wiping ESD-sensitive components and boards. Tear resistant to allow cleaning around through-hole leads without fraying.

- Anti-static will not generate charge
- Class 10 cleanroom laundered & qualified
- Tear resistant

**2362-150** 150 - 9"x9" (23cm x 23cm) flat wipes

### Microfiber Glass & Plastic Cleaning Wipes

Cleans and polishes glass or plastic. Ideal for removing fingerprints and light oils without the use of solvent cleaners.

- Cleans & polishes glass or plastic
- Low-linting
- Washable (avoid fabric softener)

**2363-50** 50 - 8" x 8" (20cm x 20cm) dry wipes w/hemmed edges, double-bagged



### **TechClean Twill Wipe**

**Tear Resistant Cotton** 

100% cotton twill weave designed for wiping abrasive surfaces. Tear resistant to allow cleaning around leads without fraying. Low static generation, so good for static sensitive areas.

- Tightly woven 100% cotton
- Tear resistant
- Low static generation

**2357-100** 100 - 6"x6" (15cm x 15cm) flat wipes, double-bagged

# **SMT Cleaning Wipes**

# Alcohol Wipes for Stencil & Surface Cleaning

Techspray offers 70% isopropyl alcohol wipes in a variety of packaging configuration, for fast convenient cleaning of solder paste, adhesives, flux and more.

 1608-100DSP
 100ct in disposable tub

 1608-100F
 100ct in flip-top tub

 1608-100R
 100ct refill

**1608CP-150DSP** 150ct in disposable tub

**1608CP-150R** 150ct refill





### Flip-Top Tubs

Reusable container with spring-loaded flip-top lid to prevent dry-out.

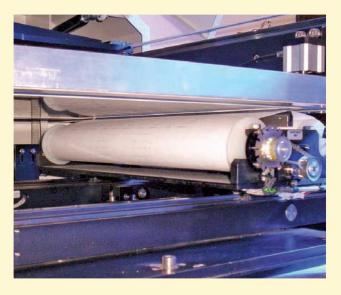


### **Refill Rolls**

Presaturated refill rolls fit both flip-top and disposable tubs to save money and reduce trash.



Low cost container can be reused, but is often discarded after use.



# Roll Wipes for DEK and MPM SMT Printers

Made from low lint fabric and designed for vacuum operation.

- Maximum absorbency
- Strong both wet & dry
- Textured non-woven poly-cellulose fabric
- Low linting prevents misprints
- Density 68 GSM



Part #	OEM Brand	Equip model	Core ID	Notch	Paper Width	Core Width	Matl Length
2366-DEK	DEK	DEK 265, #129051/GS, GSX & 288	0.75" (19mm)	1	20.3" (515mm)	20.9" (530mm)	39' (11.9 M)
2367-MPM	MPM	MPM #1485/AP & UP2000	0.75" (19mm)	0	17.5" (444mm)	18" (457mm)	39' (11.9 M)

# **TechSwabs**

Precisely designed, manufactured and packaged to serve a wide variety of cleaning and maintenance needs. TechSwabs are manufactured in accordance with Techspray's rigid specifications, using specialized materials to ensure low particle generation.



### Foam TechSwabs



All foam swabs are manufactured with 100 pores per inch reticulated polyurethane foam, which ensures excellent absorbency while minimizing contamination. Tips are affixed by heat seal to prevent tip loss, even while saturated with solvent. Flexible tips provide versatility and softer touch, while rigid heads allow for more aggressive cleaning.

Product	Tip Width	Attachment of Tip	Handle Length	Handle Material	50 Pack Bag	1000 Pack Bag
2302	0.44" (11.2mm)	Heat Sealed	6" (15cm)	Polypropylene	2302-50	2302-1000
	Cotton Bud Wrapped in Fo	oam, Rigid Head				
2303	0.19" (4.8mm)	Heat Sealed	6" (15cm)	Polypropylene	2303-50	2303-1000
Rigid Head	100					
2306	0.5" (13mm)	Heat Sealed	5" (13cm)	Polypropylene	2306-50	2306-1000
Rigid Head						
2307	0.19" (4.8mm)	Heat Sealed	4" (10cm)	Polypropylene	2307-50	2307-1000
Flexible Tip	-	-				
2309	0.125" (3.2mm)	Heat Sealed	3" (7.6cm)	Polypropylene	_	2309-1000
Rigid Head	0.125"	Heat Sealed	2.625"	Polypropylene		2311-1000
	(3.2mm)	ricat Scaled	(6.7cm)	Готургоругстве		2311 1000
Flexible Tip	(3.2mm)		(6.7cm)			

# Fiber Optic TechSwabs



All swabs shown actual size - 1:1 scale

Ideal for removing transmission disrupting contaminants in bulkhead connectors. The head conforms to the various connector shapes, cleaning the conductor bulkhead corners inside the bulkhead pocket. Tips are heat bonded, so no contaminating adhesives have been used.

	Tip	Attachment	Handle	Handle	50	1000
Product	Width	of Tip	Length	Material	Pack Bag	Pack Bag
2316	0.05" (1.25mm)	Heat Sealed	6.25" (16cm)	Polypropylene	2316-50	2316-1000
Flexible Tip						
2317	0.1" (2.5mm)	Heat Sealed	6.25" (16cm)	Polypropylene	2317-50	2317-1000
Flexible Tip	No. of Street, or other	Marketon States and States of St.	THE RESIDENCE OF STREET	NAME OF STREET OF STREET	Company of the September 1	THE PERSON NAMED IN

### **Cotton TechSwabs**

Tightly wrapped, pre-cleaned cotton ensures the least amount of extractable contaminants. The most economical choice for high volume usage.

All swabs shown actual size - 1:1 scale

Product	Tip Width	Attachment of Tip	Handle Length	Handle Material	30 Pack Bag	100 Pack Bag	1000 Pack Bag
2300	0.1875" (4.8mm)	Wrapped	6" (15cm)	Wood	_	2300-100	2300-1000
2301	0.1875" (4.8mm)	Wrapped	6" (15cm)	Wood	_	2301-100	2301-1000
2313	0.125" (3.2mm)	Wrapped	<b>3 .25"</b> (8.3cm)	Paper	2313-30PK	_	_



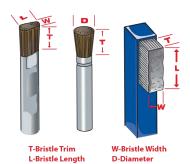
# **Brushes**

Techspray's TechClean® brushes are made of premium grade materials. Don't be fooled by cheap imports. Bristles are securely stapled in place, eliminating loose bristles.

### Choose the Right Bristle Material for Your Needs:

**Natural** — Soft, resilient and long lasting. Hog bristles are stiffer than horsehair.

**Metal** — For burnishing, polishing, non-sparking static dissipation and deburring. Brass is a softer bristle than stainless steel.



Selecting the right brush: Brushes dimensions are specified as bristle length (L), width (W), and trim (T).

### **General Cleaning Brushes**

A wide variety of sizes and bristle material for general maintenance cleaning. All handles are made of strong, static neutral wood.

FRONT VIEW	SIDE VIEW	Product	L Bristle Length	W Bristle Width	T Bristle Trim	Bristle Material	Handle Material	Handle Length
	Minan	2020-1	1.375" (35mm)	0.25" (6.4mm)	0.44" (11mm)	Horse Hair	Wood	7.75" (19.7cm)
	MINIM	2021-1	1.375" (35mm)	0.25" (6.4mm)	0.44" (11mm)	Hog Bristle	Wood	7.75" (19.7cm)
	MAMANA	2022	2.125" (54mm)	0.875" (22mm)	0.75" (19mm)	Hog Bristle	Wood	8.375" (21.3cm)
		2025-1	1.375" (35mm)	0.25" (6.4mm)	0.44" (11mm)	Brass .003" (0.08mm)	Wood	7.75" (19.7cm)
		2027-1	0.875" (22mm)	0.375" (9.5mm)	0.5" (12.7mm)	Hog Bristle	Wood	4.94" (12.5cm)



### **Static Sensitive Brushes**

Ideal for cleaning static sensitive electronics or components. Anodized aluminum falls withing the static dissipative range (10<sup>5</sup> to 10<sup>12</sup> ohms/square per ASTM D-257). Steel bristles are conductive, and horse hair is dissipative when saturated with solvent.



FRONT VIEW	SIDE VIEW	Product	L Bristle Length	W Bristle Width	T Bristle Trim	Bristle Material	Handle Material	Handle Length
		2040-1	1.19" (30.2mm)	0.125" (3.2mm)	0.44" (11.2mm)	Horse Hair	Anodized Aluminum	6.44" (16.4cm)
		2042-1	1.19" (30.2mm)	0.375" (9.5mm)	0.44" (11.2mm)	Horse Hair	Anodized Aluminum	6.44" (16.4cm)
		2043-1	1.19" (30.2mm)	0.375" (9.5mm)	0.44" (11.2mm)	Stainless Steel .003" (0.08mm)	Anodized Aluminum	6.44" (16.4cm)

### **Technical Brushes**

Small, precision brushes for technical cleaning and coating or adhesive application. Double-sided brushes include tapered end for tight areas.

FRONT VIEW	SIDE VIEW	Product	L Bristle Length	W Bristle Width	T Bristle Trim	Bristle Material	Handle Material	Handle Length
		2030-1	0.125" (3.2mm)	0.0625" (1.6mm)	0.125" (3.2mm)	Goat Hair	Stainless Steel	3.5" (8.9cm)
	Top View	2031-1	0.25" (6.4mm)	0.19" (4.8mm)	<b>A</b> - 0.25" (6.4mm) <b>B</b> - 0.5"	Horse Hair	Stainless Steel	4.5" (11.4cm)
	A Side View B				(13mm)			
	Top View	2032-1	0.5" (13mm)	0.375" (9.5mm)	<b>A</b> - 0.19" (4.8mm) <b>B</b> - 0.25"	Horse Hair	Zinc Plated Steel	4.5" (11.4cm)
	A Side View B				(6.4mm)			
		2033-1	0.44" (11.2mm)	0.375" (9.5mm)	0.75" (19mm)	Horse Hair	Zinc Plated Steel	4.5" (11.4cm)

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