



## Swabs Selection Guide

### WHY USE A SWAB?

Swabs are often thought of just tufts of cotton fibre wrapped around a stick. And while cotton swabs have their uses, more complex solutions are needed for critical industries like medical device assembly, cleanroom, electronic manufacturing, and PCB assembly.

Swabs are useful precision tools for technicians and operators to perform delicate and meticulous tasks like precision cleaning, repair and assembly.

### SWAB TYPES

The following swab types are available from Chemtronics

#### Cotton Swabs

The most common swabs has moderate absorbency, a soft head and is low cost. It can be used in many different industries. It is ideal for one-time use, but leaves fibres behind. In comparison to our other swabs, they aren't as strong or durable.

#### Foam Swabs

An upgrade from cotton due to the cleanliness and toughness. It is economical, does not leave behind fibres and ideal when used with alcohol. We don't recommend to scrub with harsh solvents like toluene and ketones.

#### Polyester

Polyester is resistant to even more solvents and has a better scrubbing ability than foam swabs. They are the best for sampling due to its great absorption and release ability. The polyester swabs are the lowest in non-volatile residue.

#### Electro-Static Dissipative Swabs

These swabs can be made out of foam or polyester. They protect delicate microcircuits from static discharge damage which can destroy or weaken sensitive microcircuits.

#### Wrapped Swabs

Can be made from cotton, foam or polyester and have no sealed edges, so no risk of scratching delicate substrates. No sealed edges reduces the amount of particle since most particles come from cut edges. It has high and low areas, the high spots wipe the surface like a squeegee and the low spots collect the soils.

### SELECTION REVIEW

When choosing a swab for cleaning, the substrate and soil must be considered. These conditions dictate if a cleaning solution is required and what kind is necessary.

#### Identify the substrate

Determining the substrate will narrow down the type of swab that is necessary. It also helps limit the type of solvents that are available to your application.

#### Identify the soil

Determine if it's easy to remove dust, particulates, and light oils or difficult to remove soils such as greases, fluxes, adhesives, waxes and coatings.

#### Decide if a cleaning solvent is necessary

By now you will have enough information to know if and what kind of solvent is necessary.

#### Select your swab

For gentle cleaning with nothing or a mild solvent, any swab is applicable. Foam for **cost effective, quick single use**, softness, and conformity to a surface. Polyester for highest cleanliness and highest strength. For **aggressive cleaning** with a chemical, consider a swab made from polyester. We also recommend polyester for if you are looking for the highest level of cleanliness or need to clean an abrasive surface. If you are working on **sensitive electronics**, we recommend one of our ESD-Safe swabs.

**Match the swab size** and shape to the area, recess, or crevice that you want to clean to determine which swab will suit your application.

## Precision Tools Used For



Semiconductor



Aviation



Fiber Optics



Disk Drive

In precision cleaning applications, swabs can be used on their own to remove contamination. However, often swabs are used together with a solvent to remove contamination. The success of cleaning effort depends in part on the compatibility between the swab and the solvent. The following chart is a quick reference guide to what swab materials are compatible with the various solvents.

### Swabs Solvent Compatibility

Solvent	Head Material		Handle Material	
	Foam	Polyester	Polypropylene	Acrylic (ESD)
Acetone	U	U	U	D
Acetonitrile	U	U	U	D
Benzene	S	U	U	D
Dimethylformamide	D	S		
Ethyl Acetate	S	U		
Ethyl Alcohol	U	U		
Hexane	U	U	U	U
Hydrochloric Acid 48%	D	D	U	U
Hydrogen Peroxide	D	U		
Isopropyl Alcohol	U	U	U	U
Methanol	S	U	U	U
Methyl Ethyl Ketone	S	U		
Toluene	S	U	U	D
Water	U	U	U	U
Xylene	S	U	U	D

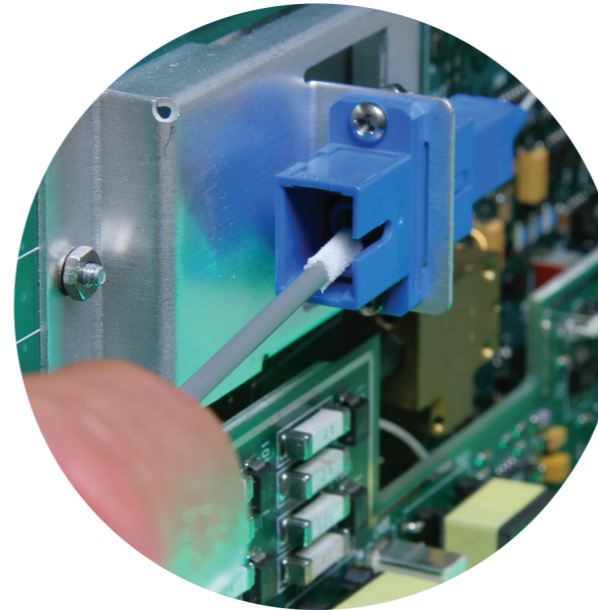
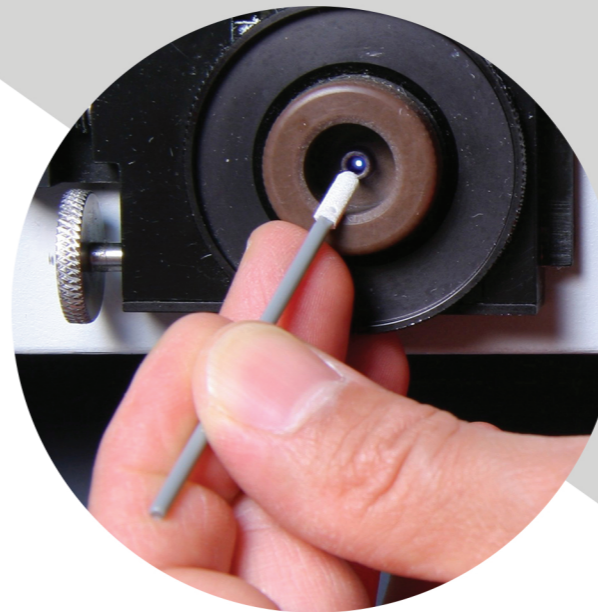
Key : D- Degrades; S - Swells; U - Unaffected

# Foam Swabs

For precision cleaning, polyurethane foam swabs are the most widely used. Foam usually offers the best balance of effectiveness and value. Its softness and pliability allow them to conform to the substrate or crevice being cleaned. The characteristic toughness of polyurethane polymers make the foam swab head tear resistant.



**Foamtip Swabs** are constructed from medical grade foam which features the best open cell structure providing excellent particle entrapment characteristics. The foam is thermally bonded to the swab handle without using adhesives. These foam swabs are ideal for general cleaning.



## Match the head to your application

Select your swab based on the application for which you want to use it, and the absorbency capacity. Swab size, shape, and geometry are the critical properties. Small pointed swabs are good for applying small precise drops of fluid to specific spots. However, if the task is applying fluid over a larger area, larger swabs with high fluid capacity are a better choice. **Match the size and shape of the area.**



Part Number	Head		Handle			Shape
	Width in mm	Length in mm	Length in mm	Width in mm	Material	
CF50	22.4	9.7	155	1.5	Wood	
CF1050	20.8 x 7.1	25.4	127	3.3 x 7.1	Polypropylene	
CF2050	11.7 x 8.6	25.4	130	3.3 x 4.8	Polypropylene	
CF3050	6.4	19.1	152	3.3	Polypropylene	
CF4050	4.8	12.7	73	2.5	Polypropylene	

	Industries			Uses		
	Disk Drive	Fiber Optics	Medical Devices	Applying Adhesives	Microscopic Work	Particle Removal
Performance	●	●	●	●	●	●

## COVENTRY™

**Coventry Sealed Foam Swabs** are constructed from reticulated 100 pores per inch medical grade foam which features the best open cell structure, providing excellent particle entrapment characteristics. The foam is thermally bonded to the swab handle without using adhesives. These swabs are the most economical and are ideal for general applications.

Part Number	Head		Handle			Shape
	Width in mm	Length in mm	Length in mm	Width in mm	Material	
41050	3.6 x 3.3	10.2	71	2.5	Polypropylene	
44070	3.3 x 2.8	9.9	81	2.5	Polypropylene	
21050	3.7 x 2.8	27.5	71	2.5	Polypropylene	

	Industries			Uses		
	Disk Drive	Fiber Optics	Medical Devices	Applying Adhesives	Microscopic Work	Particle Removal
Performance	●	●	●	●	●	●

● Good Performance    ● Excellent Performance    ○ Not recommended