

# Micro•Wipe™ Stencil Rolls

## Boost Printer Productivity with a New DuPont Fabric

For nearly a decade, Micro•Wipe™ stencil rolls from Micro Care have been the industry's standard. Now, Micro Care introduces DuPont's newest stencil cleaning fabric, Sontara® Cleanmaster™ FP. Engineered specifically for fine-pitch stencils, they increase throughput while reducing defects. They are the smart choice for fine-pitch stencils.

### About the Paper

The Micro•Wipe FP fabric is different from traditional stencil papers. Inexpensive stencil rolls normally are made of cellulose fibers bonded together with glues. A better choice is DuPont's Sontara material — the previous benchmark in stencil cleaning rolls — which are based on a hydroentangled mix of cellulose and polyester. Bonded together without glues, the cellulose absorbs the solder paste while the polyester provides strength.



But the best choice of all are Micro•Wipe FP rolls. These are a hydroentagled mesh of only one material: a durable, absorbant polymer of synthetic rayon (traditional rayon is

made from wood fiber cellulose). As such, Micro•Wipe FP rolls are stronger, more consistent and more absorbent than the traditional Sontara fabric. The extra strength is vital because it reduces linting. In fact, the *new rolls are 10 times cleaner than classic Sontara*. This delivers a dramatic boost in fine pitch yields.

### Performance Results

Here are some specifics about the Micro•Wipe FP rolls:

**Less Cleaning, More Printing** — The new rolls reduce the number of time-wasting cleaning cycles. Each cleaning cycle avoided creates time for five printing cycles (~30 secs. vs. ~150 secs.). In addition, since the cleaning cycles are more effective there are fewer stoppages for manual stencil wiping. This produces stunning improvements in productivity. At a major PCB subcontractor, Micro•Wipe FP rolls helped engineers move from 14 minutes of cleaning cycles per hour to nine minutes per hour. Overall, Micro•Wipe FP rolls boosted hourly production from 32 to 55 boards — a 60% increase in productivity.

**Stronger Solder Joints** — A cleaner stencil allows more paste to flow onto the board, resulting in taller solder pads and stronger solder joints. In one prolonged test, Micro•Wipe FP rolls increased pad height an average of 11%.

**Fewer Defects and Misprints** — Defective printing is a huge waste of time and money. But, in a large-scale trial with five SMT lines the defect-free yield jumped to 99.55% from an average of 97.25% — an 83% reduction in defects.

### Product Summary...

- Micro•Wipe FP Rolls Cut Cleaning Cycles, Improving ThroughPut, Reducing Defects
- 10 Times Cleaner than Classic Sontara®
- 56% More Absorbent than Older Papers
- Overall Productivity Increases 60%+

### Available World-Wide from...



The World's Cleaning Experts

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**Lower Costs**

There is no argument that Micro•Wipe FP rolls are more expensive than standard rolls. But Micro•Wipe FP stencil rolls last longer because cleaning is less frequent, which saves money. The net result is an average decrease in the cost of stencil roll-equivalents of 20%.

In addition, these rolls generate other savings. They generate significant savings from the near-elimination of mis-prints. They also boost throughput with faster and less-frequent cleaning cycles. The boards produced have a much higher rate of fault-free yields, which reduces rework and labor costs. These rolls also minimize the cost of solvents and other consumables.

In short, the cost savings, productivity gains and quality improvements allow companies using Micro•Wipe FP rolls to cut their total printing costs significantly.

**Other Stencil Cleaning Fabrics**

In addition to the new Micro•Wipe FP rolls, Micro Care continues to offer other fabrics. The original Sontara is available for all the major printers. Sontara "E" is a thinner fabric, permitting more effective use of the vacuum feature. Micro Care also produces the "C" rolls for customers looking for the least expensive option, even though the "C" rolls only are suited for less critical SMT applications.

All of these are available in every popular configuration, with all the widths, lengths and configurations required.

**Technical Details**

**Table 1**  
**Sontara® Fabrics Compared**

Characteristic	Sontara® "Classic"	Micro•Wipe "E" Rolls	Micro•Wipe FP Rolls
<b>Weight</b>			
Ounces/Yd <sup>2</sup>	2.1	1.5	1.9
Grams/m <sup>2</sup>	71	50	64
Avg. Thickness (mils)	14.0	10.7	15.0
<b>Grab Strength</b>			
Pounds/Inch	35	25	27
Kilos/cm	40	28	31
<b>Absorption</b>			
H <sub>2</sub> O cc/100 cm <sup>2</sup>	32	29	39
<b>Linting</b>			
>(0.5 microns/m <sup>2</sup> )x10 <sup>3</sup>	1200	1130	127

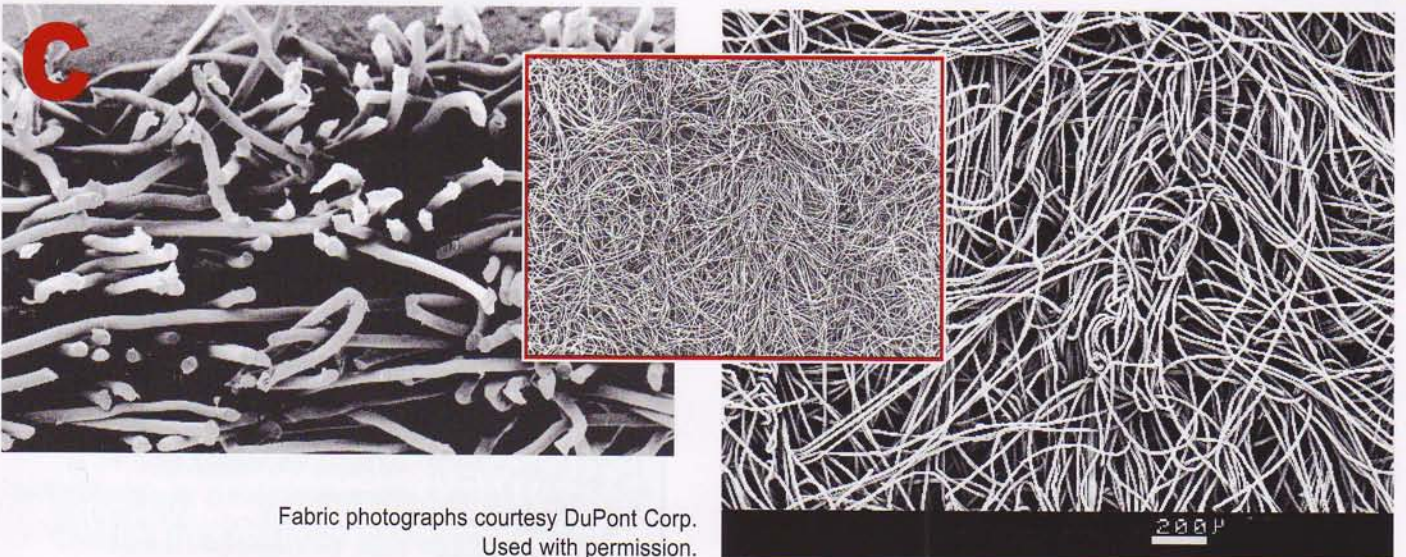
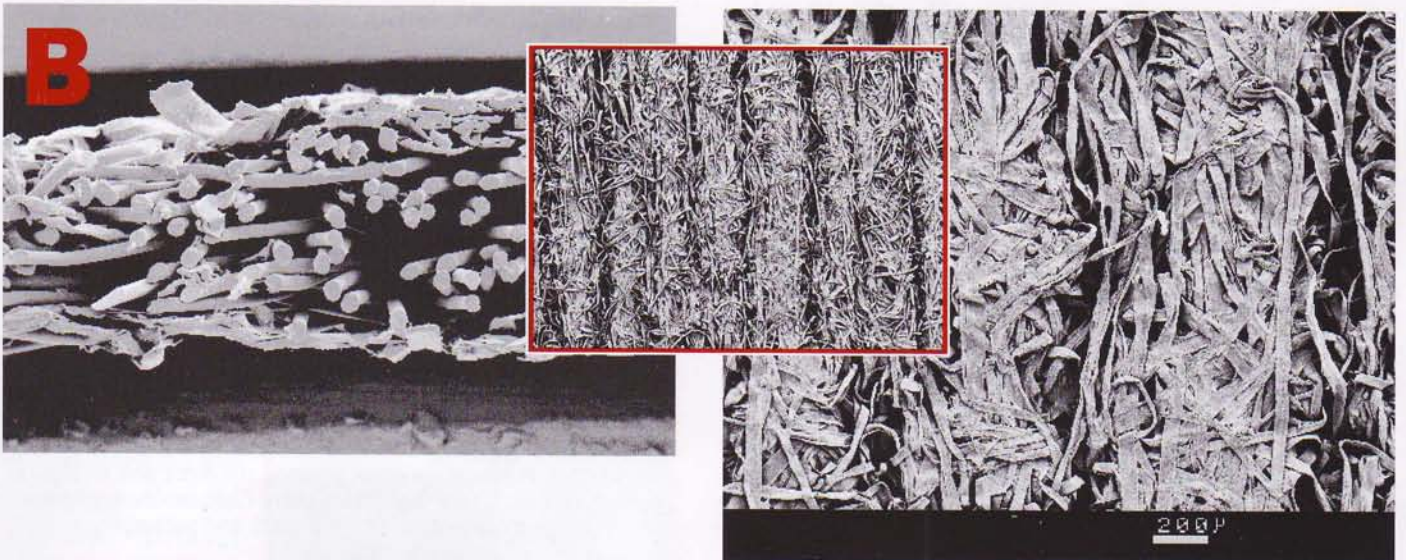
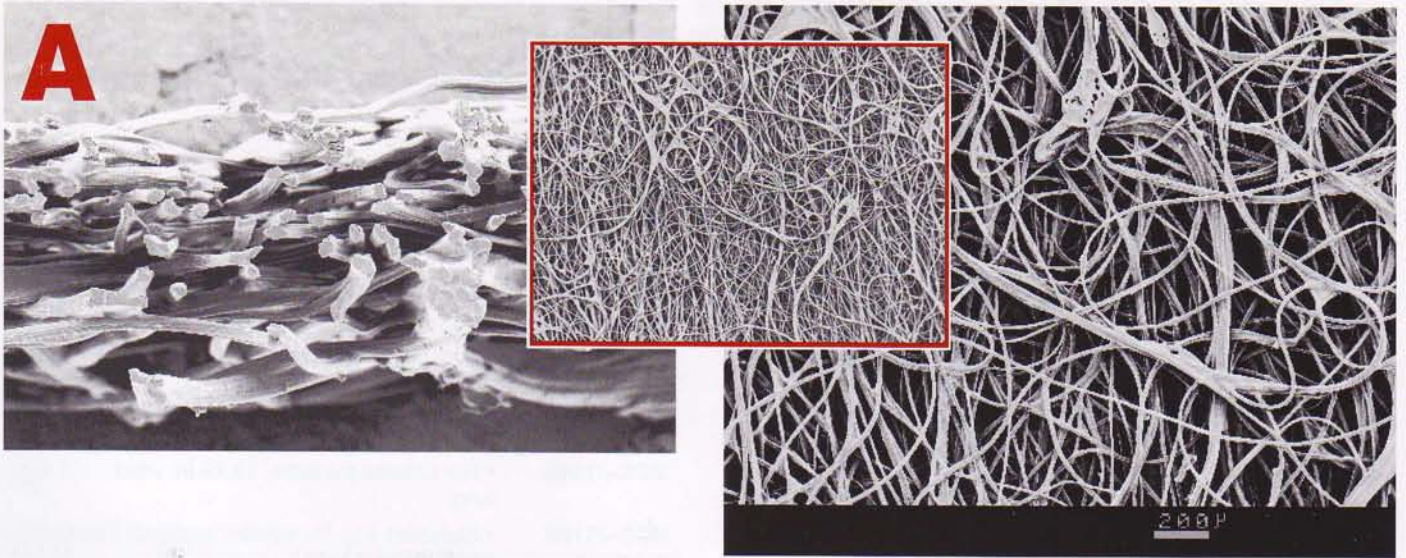
*Photos, right: These microphotographs were made with an electron scanning microscope to illustrate the differences in stencil wiping materials. The first picture, on the left-hand margin, is a cross-section of each material enlarged 200 times. The smaller inset is, in each case, a general overview of the material enlarged about twenty times. The largest pictures, on the right, are the same material enlarged fifty times.*

**A** First is a resin-bonded rayon and polyester (PET) material from a well-known US manufacturer. The resin is used to bond the fibers together. The material tends to be thinner than the Sontara materials. It is also less absorptive because the pores in the fibers are filled with resin. In many cases, the resins are dissolved by solvents in the stencil printing process or the solder paste itself. The resin can be transferred to the PCB during printing. In addition, as the resin is dissolved the paper weakens, shredding and linting on the jagged edges of a typical laser-cut stencil. While this paper is very inexpensive, it is completely unsuited for fine-pitch applications.

**B** This is the "classic" Sontara material, which DuPont calls "Sontara CleanMaster S." For years it was considered the benchmark in stencil rolls. It is a hydroentangled material using layers of cellulose and polyester. The flat, linguini-like fibers are the cellulose stands. They are primarily on the surface of the paper to wipe and absorb. The polyester lies below the cellulose and provides strength. No resins, binders or glues are used in this material. But cellulose fibers are ragged and fragile, so the material tends to leave some lint on stencils and in solder joints. There is a thinner style of Sontara material used in the Micro•Wipe "E" rolls. The appearance is similar.

**C** The consistent, regular shape of the synthetic fiber used in rolls of Micro•Wipe FP stands in sharp contrast to the other roll wipes. The structure is open, porous and free of glues and binders. The fibers are strong and identical, providing very consistent cleaning. Like all Sontara products, it will greatly resist shredding or linting and is sufficiently porous to work well with the vacuum-wiping systems on the stencil printers. For fine-pitch applications, it is the best stencil wipe on the market today.

# Different Fabrics Produce Important Differences in Stencil Printing Productivity



Fabric photographs courtesy DuPont Corp.  
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# Part Numbers and Availability

## Stencil Wipes for MPM Machines

- MCC-101DF** • Micro•Wipe FP roll for most MPM printers. 39 feet long, 18 in. wide, 2.5 in. O.D., paper core 0.75 in. I.D., 0.5 in. core extension on one end. Replaces MPM P1485 rolls on UP2000, UP3000, AP21S, AP23S, AP24 and AP25S systems. Packaged 10 rolls per box.
- MCC-101TEA** • Same as -101DF, but the Sontara® "E" paper. 10 rolls per box
- MCC-101TX** • Same as -101DF, but the Sontara® "E" paper and extra length on the roll; 50 feet long. 10 rolls per box.
- MCC-101TC** • Same as -101DF, but the affordable "C" paper. Not a Sontara® material. For fine-pitch stencils. 10 rolls per box.
- MCC-J109EA** • 22 feet long, 16.15 inches wide, 2.5 inch O.D., paper core 1.5 inch I.D. Replaces all Quad/SMTech rolls. 10 rolls per box

## Stencil Wipes for DEK Systems

- MCC-105DF** • Micro•Wipe FP, for the most popular DEK units. 30 feet long, 20.87 in. wide, 2.25 in. O.D., plastic notched core 20 mm I.D. 0.25 in. core extension on both ends. For DEK 265 and 288 systems. Packaged 10 rolls per box.
- MCC-105EA** • Same as -105DF, but with Sontara "E" paper. 10 rolls per box
- MCC-105C** • Same as -105DF, but using the affordable "C" paper. Not a Sontara® material. Not for fine-pitch applications. 10 rolls per box

## Fuji Choices

- MCC-J148EA** • Fits big Fuji systems - 500 mm width. Includes adhesive strip for faster change-outs
- MCC-J148EN** • Fits big Fuji systems - 500 mm width. Four notches on core end
- MCC-J189E** • Fits small Fuji systems - 400 mm width

## Other Information

NOTE: "O.D." means "outer diameter" and "I.D." means "inner diameter." Customized sizes and papers are available on a special order basis. Rolls are priced per roll; sheet wipes are priced per bag. Rolls are individually wrapped, packed ten rolls per case. Unlimited shelf life. The DuPont material can vary in thickness, so maintaining the outer diameter of the roll will take precedence over maintaining the length of the roll.

DISCLAIMER: Micro Care does not guarantee the accuracy of this data and assumes no liability for damages incurred using it. Liability is limited to the replacement of product. Specifications subject to change without notice.

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## KME Choices

- MCC-J205E** • Standard size for KME, 270 mm width

## EKRA Choices

- MCC-J174E** • Fits all Ekra systems; 500 mm width
- MCC-J178E** • Fits all Ekra systems; 450 mm width
- MCC-J177E** • Fits all Ekra systems; 420 mm width
- MCC-J171E** • Fits all Ekra systems; 350 mm width

## Panasonic Choices

- MCC-107E** • Standard roll, 540mm wide.
- MCC-108E** • Standard size for smaller systems, 360 mm width.
- MCC-J154E** • For smaller systems, 13.75 in. width, 108 feet long
- MCC-J170E** • Standard size for smaller systems, 16 in. width, 39 feet long
- MCC-J170EX** • For smaller systems, 16 in. width, 115 feet long
- MCC-J202E** • Jumbo - 119 ft. long, 750 mm wide

## Quad & SMTech Choices

- MCC-109E** • Fits QUAD 400 and smaller
- MCC-J139E** • Fits QUAD 400 and smaller. Same as -109E, with out-of-paper marker
- MCC-J206E** • For the larger QUAD 500 systems

Notes: Not all stencil printers have rolls available yet in the new DuPont Sontara Cleanmaster FP fabric. Those which are available are designated with a part number ending in "DF." Part numbers using Micro•Wipe "E" fabric, which is also a Sontara product, are widely available and have an "E" designation in the part number. Hundreds of other printers, roll sizes and configurations available. Check the latest Micro Care brochure or price list for more details, part numbers and packaging.

## Distributed Locally by

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