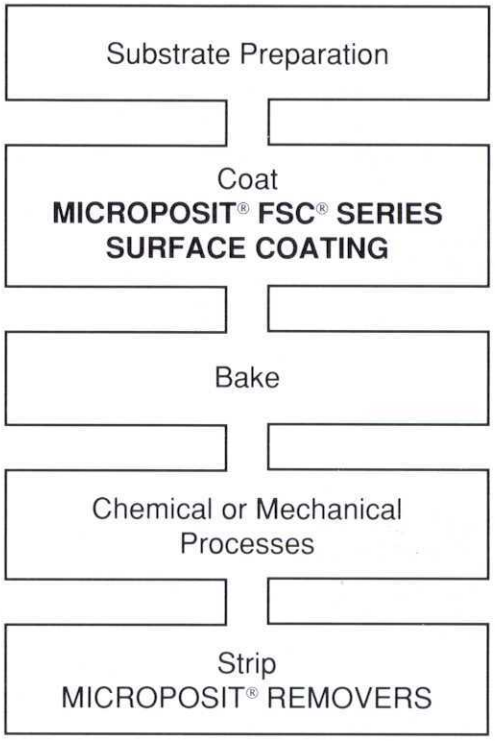
SHIPLEY

MICROPOSIT® FSC® SERIES SURFACE COATING

MICROPOSIT FSC SERIES SURFACE COATING is a nonimagable coating formulated as a protective coat for use during chemical or mechanical processes in microelectronic fabrication. The system has been formulated with a single solvent. It does not contain xylene, acetone, or Cellosolve[1] acetate.



Cellosolve Acetate-Free

Optimized Solutions

- Two coating thicknesses (L & M)
- Microfiltration
- Void-free coatings
- High visual contrast

Easy to Use

- Compatible with standard spin coating equipment
- Strippable with standard MICROPOSIT REMOVERS

Excellent Adhesion

- On semiconductor surfaces
- On thin film surfaces

Economic Value

- Cost effective for nonimaging applications
- Yield improvement through device and circuit protection

[1]Registered trademark of Union Carbide Corporation

FSC-B
0790

quality standards and is subjected to state of the art testing for physical, chemical, and functional properties to assure the user of maximum lot to lot reproducibility.

MICROPOSIT FSC SERIES SURFACE COATING is filtered to 0.2μm absolute. Each container is date coded.

Certificates of Analysis will be supplied with each shipment upon request. Quality Assurance Material Specifications and Analytical Testing Procedures may be obtained upon request from your Shipley Technical Sales Representative.

Table 1

MICROPOSIT FSC SERIES SURFACE COATING PROPERTIES (FSC-L, FSC-M)

	FSC-L	FSC-M
Solids, approximate	27	34
Kinematic Viscosity 25°C, cSt	23-30	78-88
Specific Gravity	1.04	1.06
Filterability constant, n/n_0	0.0075 maximum	
Color	Blue	
Water content	0.5% maximum	
Index of refraction	1.64 @ 6328 A 1.68 @ 4360 A	
Type of solution	solvent base propylene glycol monomethyl ether acetate	
Flash point (closed cup), approximate	46°C	
TLV rating*	100 ppm	

*Rating is for propylene glycol monomethyl ether.

Toxicological and Health Advantages

Ethylene glycol monoethyl ether acetate (also known as 2-ethoxyethyl acetate or Cellosolve acetate) is used as a diluent solvent for most conventional positive photoresists.

The solvent used in MICROPOSIT FSC SERIES SURFACE COATING is propylene glycol monomethyl ether acetate. It has been demonstrated in toxicological studies reported in the NIOSH Current Intelligence Bulletin 9, (5/2/83) that the propylene glycol derivatives contained in MICROPOSIT FSC SERIES SURFACE COATING do **not** demonstrate the adverse blood effects and reproductive effects that the ethylene glycol derived ether acetates do.

Equipment

MICROPOSIT FSC SERIES SURFACE COATING is compatible with most commercially available photoresist processing equipment. Recommended compatible materials include stainless steel, glass, ceramic, unfilled polypropylene, high density polyethylene, polytetrafluoroethylene, or equivalent materials.

Technical Literature

Please contact your Shipley Technical Sales Representative for information on the use and performance of Shipley products.

Handling Precautions

CAUTION! MICROPOSIT FSC SERIES SURFACE COATINGS are combustible solvent mixtures containing propylene glycol monomethyl ether acetate. Contact with eyes, skin and mucous membranes causes irritation. Handle with care. Do not get in eyes, on skin or on clothing. Avoid breathing vapors or mists. Use with adequate ventilation. Wash thoroughly after handling.

Wear chemical goggles, chemical gloves and suitable protective clothing when handling MICROPOSIT FSC SERIES SURFACE COATINGS.

In case of eye or skin contact, flush affected areas with plenty of water for at least 15 minutes. Then contact a physician at once.

Consult product Material Safety Data Sheet before using.

Storage

Store MICROPOSIT FSC SERIES SURFACE COATINGS only in upright, original containers in a dry area at 50°-70°F. Store away from oxidants. Do not store in sunlight. Store away from heat and sources of ignition. Keep container sealed when not in use.

Waste Treatment

MICROPOSIT FSC SERIES SURFACE COATINGS should be treated according to Shipley Waste Treatment Procedure WT 78-13. Contact your Shipley Technical Representative for more information. It is your responsibility to verify that this procedure complies with federal, state and local laws and regulations for wastewater discharge.

Due to the nature of MICROPOSIT FSC SURFACE COATINGS, disposal of them, or residues therefrom, should be made in compliance with federal, state and local environmental laws.

Instructions for Use

Intended Uses

MICROPOSIT FSC SERIES SURFACE COATING is designed as a protective coating for use on high value damage-prone surfaces.

General

The following instructions cover the use of MICROPOSIT FSC SERIES SURFACE COATING for most back end processes. Contact your Shipley Technical Sales Representative for specific information.

Substrate Preparation

Substrates should be clean and dry. Priming may be used to promote adhesion.

For maximum resist adhesion to all semiconductor surfaces, vapor phase priming with MICROPOSIT PRIMER is recommended. For liquid phase priming use MICROPOSIT PRIMER TYPE P.

Contact your Shipley Technical Sales Representative for specific recommendations and technical data sheets.

Coat

MICROPOSIT FSC SERIES SURFACE COATING is available in two coating thickness ranges.

Select the appropriate FSC product to give the desired coating thickness at the appropriate spin speed. Figure 1 shows typical coating thickness vs. spin speed for the MICROPOSIT FSC SERIES SURFACE COATING.

Use the following parameters to obtain maximum resist coating uniformity:

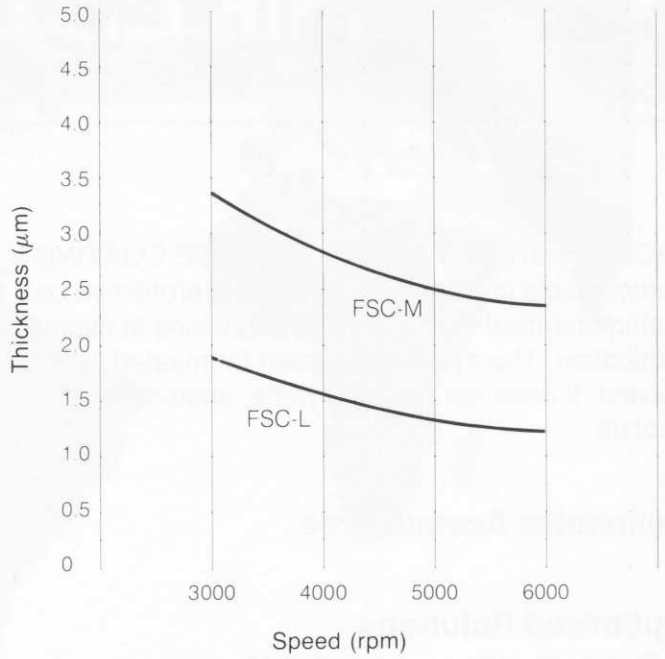
Dispense	Static
Spread	
Static	2 seconds recommended
or	
Dynamic	500 rpm, 2 seconds maximum
Ramp	Maximum acceleration
Spin	3000-6000 rpm
Spin time	25 seconds minimum

MICROPOSIT FSC SERIES SURFACE COATING is available in two thickness ranges.

- FSC-L: 1.3 to 1.8 µm
  For wet and dry etch protection
  0.2µm filtration
- FSC-M: 2.4 to 3.3 µm
  For front-side protection during backlapping
  0.2µm filtration

Figure 1, below, is a graph showing coating thickness for FSC products from 3000 to 6000 rpm.

Figure 1



Bake

The following baking parameters are optimum:

Oven	Forced air convection (do not use nitrogen)
Temperature	90°-100°C controlled to within ±1°C
Time	30 minutes (after recovery to operating temperature)
Cool	To ambient

Inline track baking equipment should be adjusted (speed/temperature) to yield FSC physical and chemical properties equivalent to or better than those obtained using the above forced air convection conditions.

Strip

MICROPOSIT FSC SERIES SURFACE COATING can be removed using MICROPOSIT REMOVER 140, MICROPOSIT REMOVER 1112 A, MICROPOSIT REMOVER 1165 or oxygen plasma. Refer to the individual remover data sheet for specific processing instructions, specifications, and other product information.

Properties as Delivered

MICROPOSIT FSC SERIES SURFACE COATING is manufactured with advanced manufacturing techniques in state of the art facilities to the highest