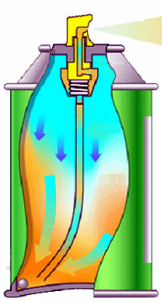
MICRO • CHEM



SU-8 MicroSpray™
Photoresist Aerosol Can

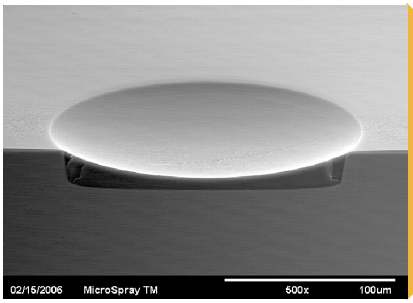
MicroChem's aerosol spray-can photoresists are well suited for a variety of micromachining, and etching processes, requiring semi-conformal coatings on irregular or perforated substrates. MicroSpray™ addresses many of the process and capital requirements for MEMs, microfluidics, opto-electronics and "one-up" printed circuit boards.

APPLICATIONS & USES

- Uniform coatings without spin-coater tool
- Striation free coatings over deep topography
- Perforated or irregular substrates
- Large substrates
- Microfluidic electrophoresis analysis
- Lab-on-Chip
- Patterned through-wafer vias
- "One up" PCBs
- Spray coater tool pre-evaluation
- Backside coatings
- Touch-up coatings

Striation free Deep Topography

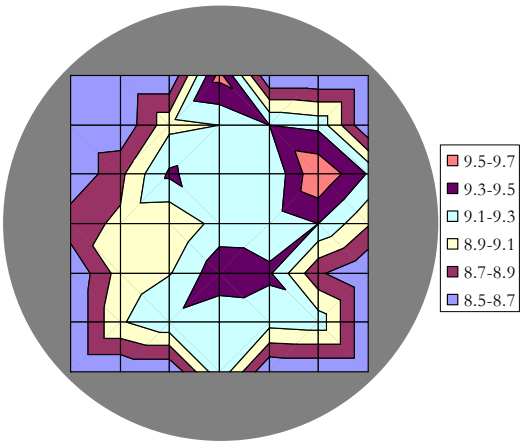
"The coverage of the 100um sidewalls is exactly what I wanted to see on these wafers and I was unable to get this result using spin on resist. Your product is very good and I would recommend it to others that have similar processing challenges." Gwen Donahue, MEMS Engineer, MicroCHIPS, INC., Bedford, Massachusetts.



Striation free 5 µm Coating of SU-8 MicroSprayTM over 20 µm deep trench

HOW TO USE MICROSPRAY

- Store can refrigerated for best use
- Place can at room temperature 1 hour prior to use
- Shake can vigorously 10 times
- Wait 5 minutes
- Make sure substrate is clean
- Hold can 3 inches from surface
- Spray surface using 6 to 9 overlapping patterns
- Wait 5 to 10 minutes (bubbles will disappear)
- Bake coated substrate for 10 minutes at 95°C (200°F)
- Expose coated substrate to UV light (250 mJ/cm^2)
- Bake again for 3 minutes at 95°C (200°F)
- Develop for 5 minutes in SU-8 Developer
- Rinse and Dry



COATING UNIFORMITY

- **9 µm +/- 3% (100 mm wafer)**
- **Mean 9.14 mm**
- **Stdev 0.24 mm**
- **% variability 2.6%**

SU-8 MicroSpray™ Process Parameters

Substrate: Silicon	
Photoresist:	SU-8 MicroSpray™
Coat:	Spray 6-9 right angle passes
Pause:	20°C/5-10 min.
Soft bake:	95°C/10 min.
Exposure:	EVG 620 350-450 nm, 250 mJ/cm^2
Develop:	SU-8 Developer 5 min.