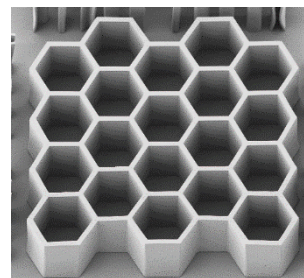
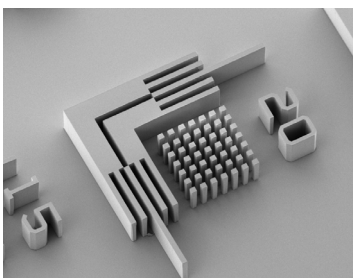


# SQ QuickDry

## Fast Drying SU-8 Epoxy Photoresist

Film Thickness 2 - 150 microns



### DESCRIPTION

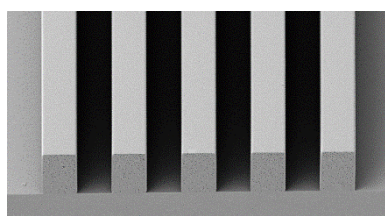
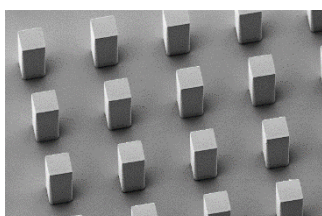
SQ QuickDry is an epoxy-based negative photoresist designed for polymeric MEMS, microfluidics, micromachining and other microelectronic applications. The SQ QuickDry system is designed for use in thin and thick film applications up to 200 microns and utilizes a faster drying solvent system which reduces processing times, leading to increased throughput.

### ADVANTAGES

- KemLab SU-8 epoxy photoresists use an epoxy resin manufactured for microelectronics with superior cleanliness and excellent lithographic reproducibility lot-to-lot compared to SU-8 legacy products
- Quick drying solvent for increased throughput
- High aspect ratio epoxy with vertical sidewalls
- Replaces SU-8 2000 series

### FEATURES

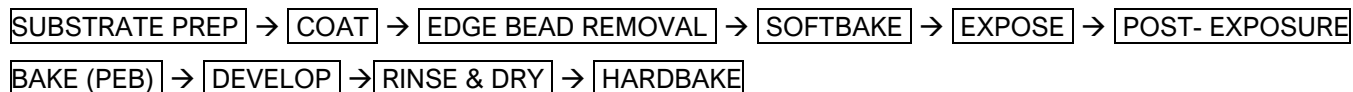
Chemistry:	SU-8 polymer epoxy
Tone:	Negative
Film Thickness:	Up to 200 $\mu\text{m}$ single coat
Sensitivity:	NUV, Broadband, i-line
Developer:	SQ Developer, SU-8 PGMEA
Products:	SQ QuickDry 2, 5 SQ QuickDry 25, 35, 50, 75



## PROCESSING GUIDELINES

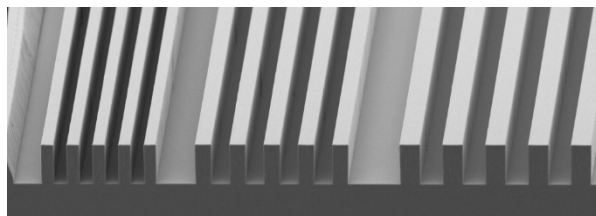
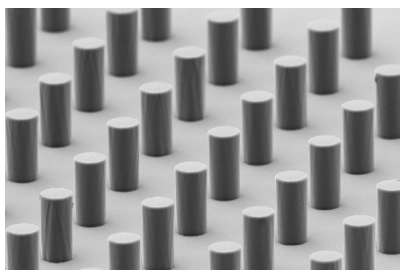
Product	Film Thickness @ 3000 rpm	Softbake	Exposure Broadband on Si with 360nm filter	Post Exposure Bake (PEB)	Develop Immersion
SQ QuickDry 2	2 $\mu\text{m}$	95°C for 1 min	225 mJ/cm <sup>2</sup>	95°C for 2 mins	1 min
SQ QuickDry 5	5 $\mu\text{m}$	95°C for 2 mins	225 mJ/cm <sup>2</sup>	95°C for 3 mins	1 min
SQ QuickDry 25	25 $\mu\text{m}$	95°C for 5 mins	165 mJ/cm <sup>2</sup>	95°C for 5 mins	4 mins
SQ QuickDry 35	35 $\mu\text{m}$	95°C for 5 mins	180 mJ/cm <sup>2</sup>	95°C for 5 mins	5 mins
SQ QuickDry 50	50 $\mu\text{m}$	65°C for 1 min 95°C for 5 mins	180 mJ/cm <sup>2</sup>	65°C for 1 min 95°C for 5 mins	6 mins
SQ QuickDry 75	75 $\mu\text{m}$	65°C for 1 min 95°C for 5 mins	210 mJ/cm <sup>2</sup>	95°C for 1 mins 95°C for 5 mins	12 mins

## PROCESS FLOWCHART



## SUBSTRATE PREPARATION

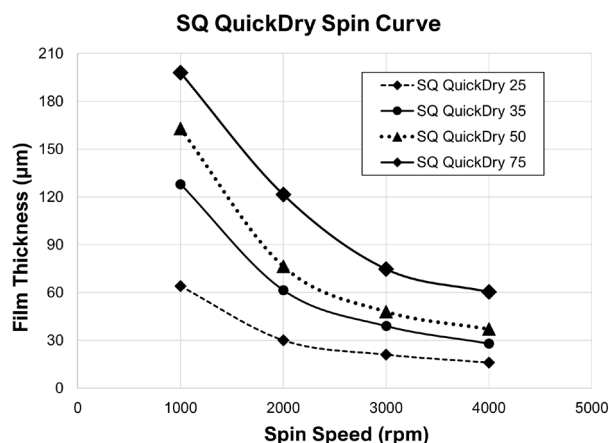
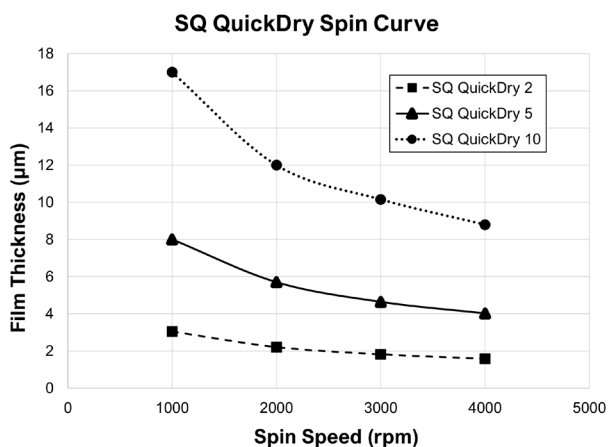
SQ QuickDry adheres to variety of substrates; including silicon, gold, aluminum, and glass. For maximum adhesion, substrates should be clean and dry prior to applying SQ QuickDry photoresist.



## COAT

Spin Coat: Film thickness is targeted using the spin speed curves shown below. The coat program uses a 5 - 10 second spread cycle. Spin time at final speed is 30 seconds.

Coat techniques such as spray coat, slot coating, and other additive techniques are possible; please contact [techsupport@kemlab.com](mailto:techsupport@kemlab.com) for more information.

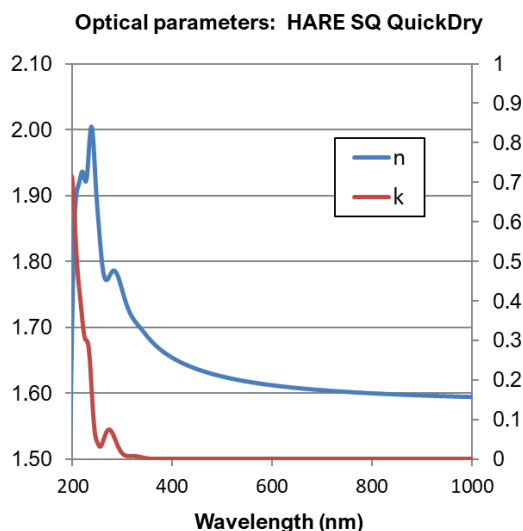
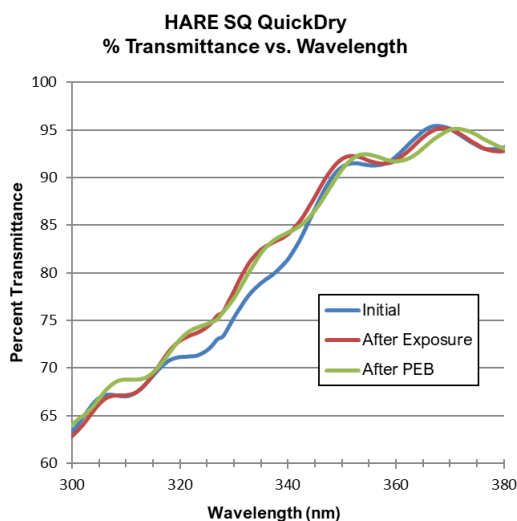


## SOFTBAKE

The recommended softbake for the SQ QuickDry resists are adjusted as a function of film thickness to minimize film stress. The faster drying solvent allows for reduced bake times and improved throughput. See Process Guide Table for details.

## EXPOSURE & OPTICAL PARAMETERS

SQ QuickDry is designed for near UV (300-400nm) exposure wavelengths. Exposure dose will vary depending on the exposure tool set, film thickness, and process conditions. Nominal exposure doses are shown in the Process Guide for broadband exposure with a 360nm cutoff filter at the thicknesses and processes shown.



## POST-EXPOSURE BAKE (PEB)

Recommended PEB time is adjusted according to film thickness to ensure sufficient crosslinking of the resist film. See Process Guide Table for details.

## DEVELOP

SQ QuickDry is designed for use with KemLab SQ Developer. It can be developed using immersion, puddle or spray puddle. Thicker films benefit from refreshing developer during the develop step; such as with a double puddle.

Rinse developer off substrate with isopropyl alcohol (IPA) and dry. See Process Guide Table for details.

## HARDBAKE

SQ QuickDry can be hardbaked for permanent applications that would benefit from further crosslinking.

Bake at > 120°C for at least 5 minutes (hot plate). A short hardbake can fuse cracks caused by film stress.

For permanent structures, temperatures above 150°C are recommended. Oven bake will increase crosslinking with minimal increase in stress.

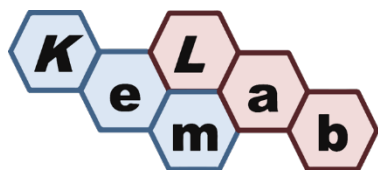
## STORAGE

Avoid light and store in an upright airtight container at 4–21°C or room temperature. If refrigerated, bring up to room temperature before opening. Keep resist away from oxidizers, acids, bases and sources of ignition.

## HANDLING & DISPOSAL CONSIDERATIONS

Consult the SDS for handling and appropriate PPE. SQ QuickDry epoxy photoresist contains a combustible liquid; keep away from ignition sources, heat, sparks and flames. This SQ QuickDry epoxy photoresist is compatible with typical waste streams used with photoresist processing. It is the user's responsibility to dispose in accordance with all local, state, and federal regulations.

DISCLAIMER: The information is based on KemLab experience and is, to the best of our knowledge, accurate and true. We make no guarantee or warranty, expressed or implied, regarding the information, use, handling, storage, or possession of these products, or the application of any process described herein or the results desired, since the conditions of use and handling of these products are beyond our control.



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