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KL Neg LO 1600

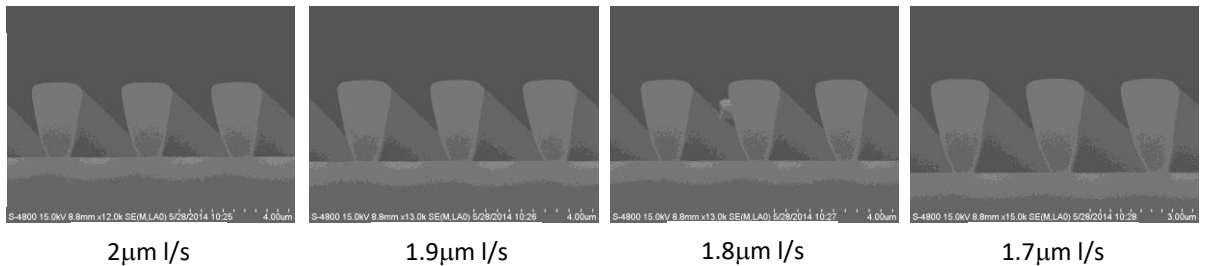
Negative Photoresist with Lift Off Profile

Description: *KL Neg LO 1600 Series Resist* is a negative photoresist with **Lift-Off profile** for i-Line, and broadband applications.

- Wide process window for consistency across substrates, while still retaining ability to adjust resist profile
- Film Thickness range of 2 – 10 μm
- Designed for use with industry standard developers
- Customization available to:
 - Adjust Lift-Off Angle
 - Adjust PhotoSpeed

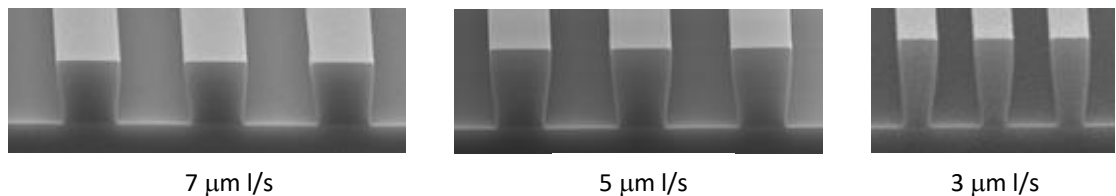
Stepper Performance

Stepper (365 nm):
Nikon i9c, 92 mJ/cm^2
3.8 μm FT



Broadband Performance

Broadband
90 mJ/cm^2
7 μm FT



KL Neg LO 1600 Photoresist

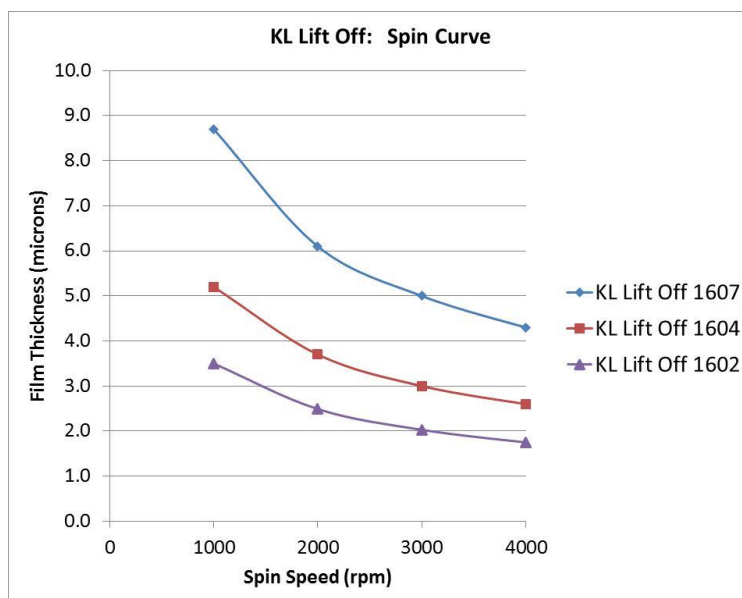
KL Lift Off Process Guide			
Product: Film Thickness	1607 7 μm	1604 4 μm	1602 2 μm
Softbake	110°C for 60 sec	110°C for 60 sec	110°C for 60 sec
Expose (broadband) on Si	90 mJ/cm ²	70 mJ/cm ²	50 mJ/cm ²
or Expose (i-line stepper) on Si	138 mJ/cm ²	92 mJ/cm ²	75 mJ/cm ²
PEB	110°C for 60 sec	110°C for 60 sec	110°C for 60 sec
Develop	Puddle, 45 sec	Puddle, 35 sec	Puddle, 30 sec

Substrate

KL Lift-Off Resist adheres to a variety of substrates; including gold, glass, aluminum, chromium and copper. For silicon, HMDS (hexamethyldisilazane) primer can increase adhesion.

Spin Coat

Film Thickness is targeted using the spin speed curve (right). Coat program includes a 5-10 second spread cycle. Spin time at final speed is 45 seconds. Spin curves are determined using 6 inch Si and static dispense of approximately 3 ml of photoresist.



Soft Bake

Soft-bake on contact hotplate: 110°C for 60 seconds

For films over 7 microns:

Soft-bake on hotplate: 110°C for 90 seconds

Exposure & Optical Parameters

KL1600 is suitable for i-Line and broadband exposure (see process guide above) & n,k curve (below)

Product	Film Thickness Range (microns)	Approx Viscosity (cst)
KL Lift Off 1607	5 - 10	140
KL Lift Off 1604	3 - 5	48
KL Lift Off 1602	2 - 3.5	24

Post-Exposure Bake (PEB)

PEB is necessary to crosslink the photoresist. PEB can be changed to modify performance.

PEB on contact hotplate at 110°C for 60 seconds.

For films over 7 microns:

PEB on contact hotplate: 110°C for 90 seconds

KL Neg LO 1600 Photoresist

Develop

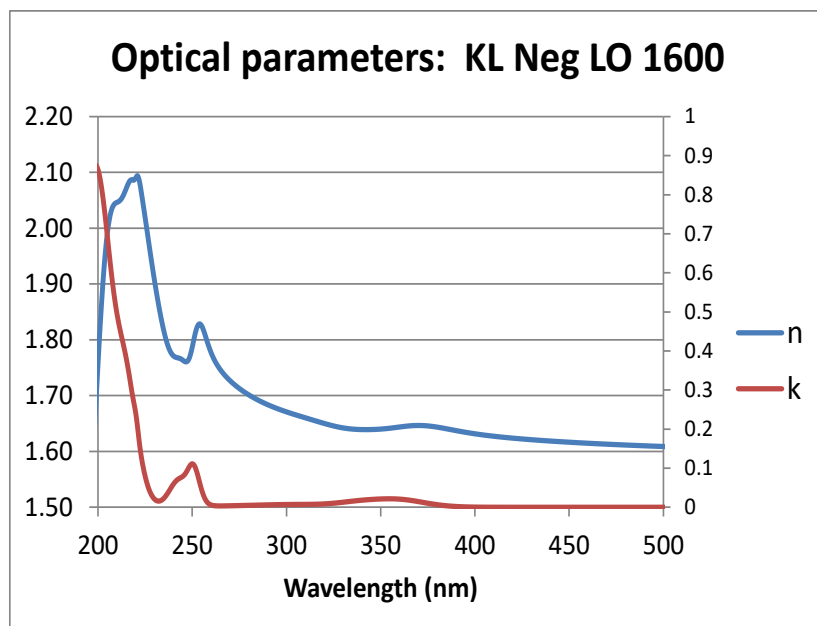
KL Lift Off Resists are optimized for use with 0.26N TMAH developers. They are also compatible with MIB developers.

Photoresist Removal

KL Lift Off Resists can be removed using industry standard removers (NMP, DMSO, etc.) at 50 – 80°C.

Storage

Store products upright in tightly closed containers at 40-70°F (4-21°C). Keep away from oxidizers, acids, bases and sources or ignition.



Handling & Disposal Considerations

Consult the SDS for handling and appropriate PPE. KL Lift Off PhotoResists contain a combustible liquid; keep away from ignition sources, heat, sparks and flames.

KL Lift Off 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.

The information is based on KemLab's 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.