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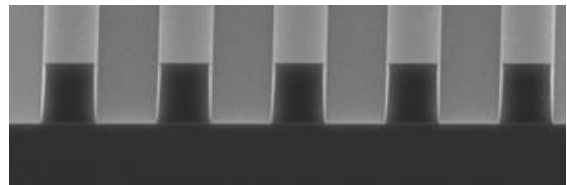
KL P4800

Positive Photoresist for Packaging Applications

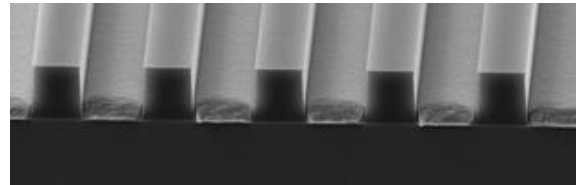
Description: KL P4800 is a positive photoresist for use in i-Line, g-Line and broadband packaging applications.

KL P4800 offers high sensitivity, high throughput, and excellent process latitude.

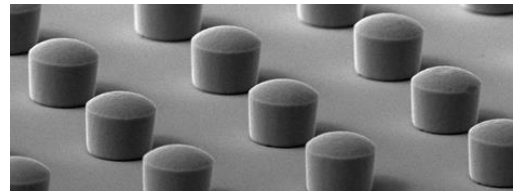
- Increased Heat Resistance
- Cover 10 – 25 microns in a single coat
- Designed for use with industry standard KOH, TMAH, and potassium borate developers
- No PEB needed



Silicon: Film Thickness 25 μm : 15 μm line/space



Copper: Plated Cu on Cu substrate
Film Thickness 15 μm : 10 μm line/space 1:1



Copper: Photoresist strip - 10 μm Cu Post on Cu substrate

KL P4800 Process Guide

| | Film Thickness | | |
|----------------------|------------------------|------------------------|------------------------|
| | 10 microns | 15 microns | 25 microns |
| Soft bake | 115°C for 3.5 minutes | 115°C for 4 minutes | 115°C for 5.5 minutes |
| Rehydration Time | 30 minutes | 30 minutes | 30 minutes |
| Exposure (broadband) | 160 mJ/cm ² | 210 mJ/cm ² | 380 mJ/cm ² |

KL P4800 Positive Packaging Photoresist

Substrate

KL P4800 adheres to a variety of substrates; including silicon, gold, glass, aluminum, chromium and copper. Adhesion promoters, such as HMDS, will increase adhesion of KL P4800 to many substrates. Substrate preparation should include dehydration bake.

Spin Coat

Film Thickness is targeted using the spin speed curve (right).

Soft Bake

The recommended soft-bake by hotplate is 115°C. Typical bake time is 3 – 4 minutes.

Rehydration Time Rehydration time of 30 minutes at 35 – 50% relative humidity is recommended.

Exposure & Optical Parameters

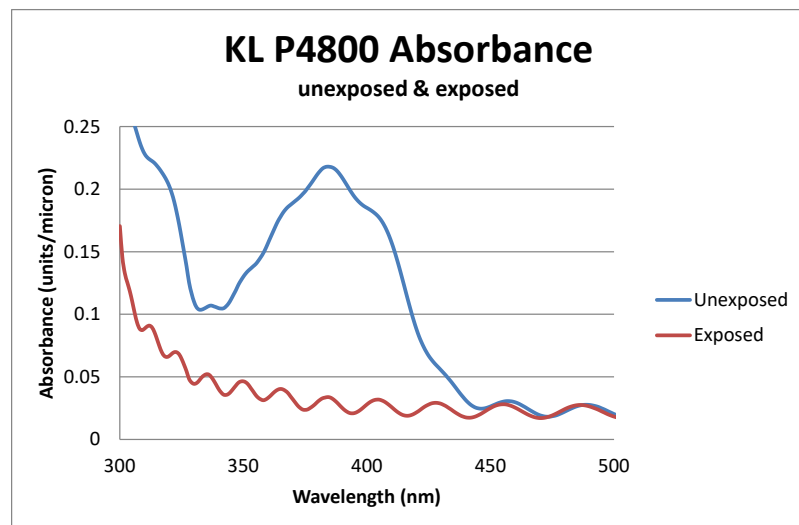
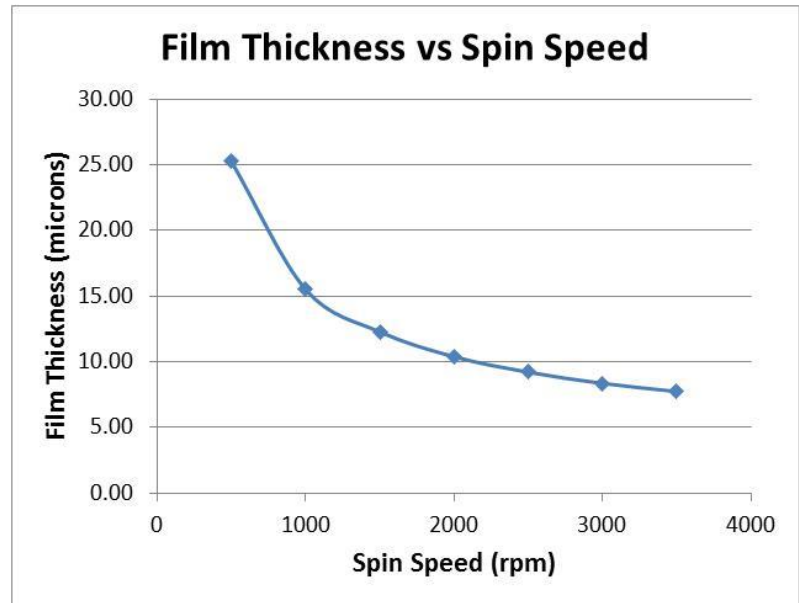
KL P4800 is suitable for i-Line, broadband or g-Line exposure. Absorbance curve is shown right.

Post-Exposure Bake (PEB) - not recommended.

Develop

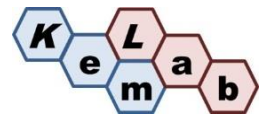
KL P4800 is designed for use with a variety of industry standard developers such as: 0.26N TMAH, 0.21N KOH and Potassium borates. It can be developed with immersion, puddle or spray puddle.

These thick films benefit from refreshing developer during the develop step. For example, use two developer baths for immersion; or multiple puddles.



Etch Resist

Wet chemical etchants (for Au, Cu, Cr, Al, etc) do not degrade the patterns made with KL P4800.



KL P4800 Positive Packaging Photoresist

Photoresist Removal

KL P4800 can be removed using industry standard removers (such as NMP) at 50 – 80°C.

Thicker films may benefit from using a two bath process; the first bath removes the bulk of the resist, and the second bath to clean it off thoroughly.

Storage

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

Handling & Disposal Considerations

Consult the MSDS for handling and appropriate PPE. KL P4800 contains a combustible liquid; keep away from ignition sources, heat, sparks and flames.

KL P4800 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.

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