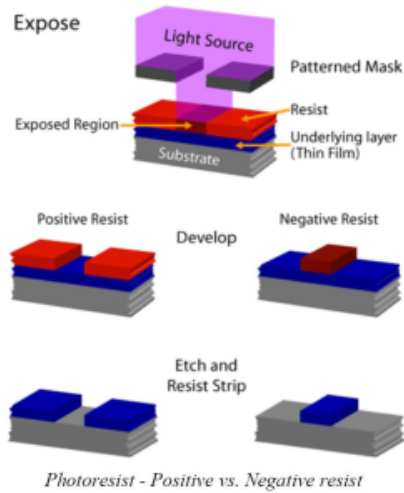


UV Exposure

During expose, the photoresist layer is exposed when ultraviolet (UV) light from a source travels through the mask to the resist, exposing the resist. UV light sources normally include mercury vapor lamps and excimer lasers. The UV light hitting the resist causes a chemical reaction between the resist and the light. Only those areas not protected by the mask undergo a chemical reaction.



Photoresist is a mixture of organic compounds held together in a solvent solution.

There are two basic types of photoresist: negative or positive. Their primary difference is how they respond to the light source (as shown in the graphic).

Negative resist and UV: The regions of resist exposed to ultraviolet light (UV) become insoluble or harden.

When developed, the hardened resist remains on the wafer and the non-exposed resist dissolves. The result is a negative resist pattern on the wafer.

Positive resist and UV: The regions of resist exposed to the UV become more soluble.

When developed, the exposed resist dissolves and the unexposed resist remains.

A good way to remember this is "What shows, goes". The result is a positive resist pattern on the wafer. Positive resist is more commonly used for microsystems fabrication.

1. During expose, the photoresist layer is exposed when ultraviolet light from a source travels through the mask to the resist, exposing the resist.
2. UV light sources normally include mercury vapor lamps and excimer lasers. The UV light hitting the resist causes a chemical reaction between the resist and the light. Only those areas not protected by the mask undergo a chemical reaction.