High aspect ratio SU-8 microstructures

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PROJECT DESCRIPTION:

SU-8 microstructures can be made with as high precision as other resists. In addition, it is highly transparent and has very good mechanical properties, and thus can be made in large dimensions and high aspect ratio.

A patented UV lithography based ultra thick SU-8 process was developed for producing structures as thick as 1000 um, with highly vertical sidewall and an aspect ratio of 40:1. SU-8 components have been produced both as end products and as master moulds for fabrications of components in other materials.

Figure 1. A microgear with high quality sidewall and smooth surface.

Figure 2. An array of micropistons with 10:1 vertical trenches.

Figure 3. Three microspur gears with 0.4 mm through holes.

Figure 4. An SU-8 microhole of 2.05 µm in diameter.
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