

AMO's Basic Template

Fact Sheet
Technology

Application:

- Test template for process development
- Resist qualification
- Imprint tool qualification

Description:

UV Nanoimprint is a mechanical molding technique. A template made from quartz with a 3D relief is brought into intimate contact with a UV-curable resist spin-coated on top of a substrate. Applying the replication process at room temperature under low imprint pressure, features are filled within seconds due to the low viscosity of the imprint resist. The resist is hardened via UV-light through the backside of the template. Finally substrate and template are separated and the cured resist relief can be used for further processing.

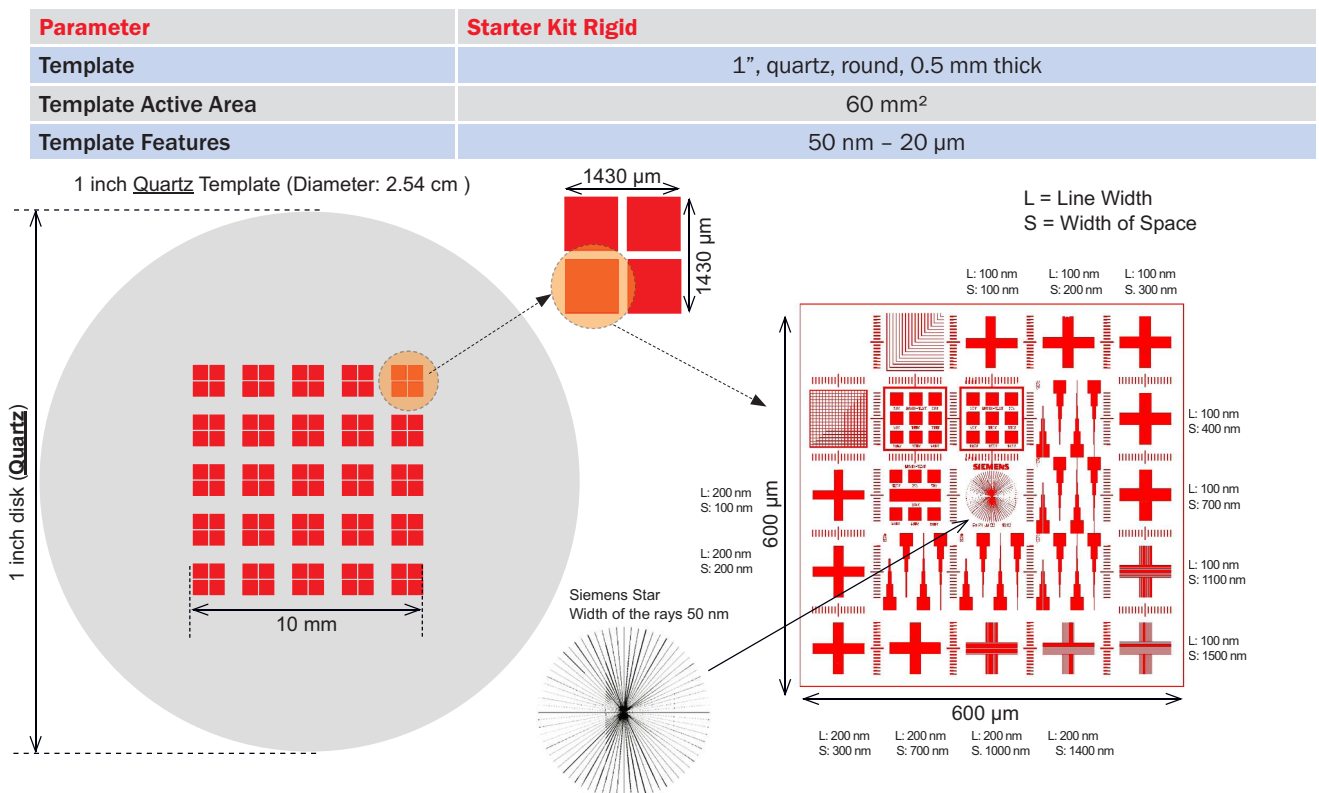
The Basic Template is a 1" quartz template with micro- and nanostructures etching 100 nm deep. It consists of a large variety of test structures to enable a comprehensive evaluation of the imprint process, the tool performance and resist properties. The large features up to 20 μm can be used to study the pattern filling. The small features allow the control of the resolution. Large and small features next to each other have been integrated to enable the observation of a pattern load effect (resist depletion) depending on your process or resist. The collection of structures has been proven in many experiments over years to characterize and qualify our process technology in-house.

Proposal:

AMO offers fabrication and development services for UV Nanoimprint with quartz templates. Through the NILCom Network AMO offers the integration of imprint material, templates and tools with custom oriented process development. In-house fabrication for high resolution quartz can be supplied.

Specification:

A 600 x 600 μm^2 design cell is repeated 100 times within an area of 10x10 mm^2 on the quartz template. The pattern consist of lines and space, cross lines, a Siemens star, crosses, pads, lines in a box.



Other dimensions are available on request ■ Contact: Christian Moormann ■ moormann@amo.de



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