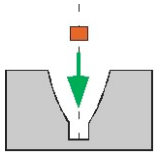
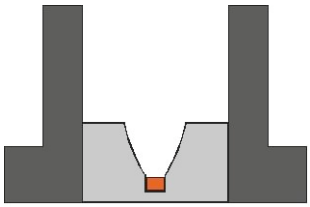
Core competence

The DieMount GmbH core competence is the fiber-chip coupling between electro-optical semiconductor dice and optical waveguides. The novel process allows to achieve high precision coupling by passive alignment even in large volume series. High precision in large volumes is the technology basis for the fabrication of local access optical tranceiver modules at low costs.

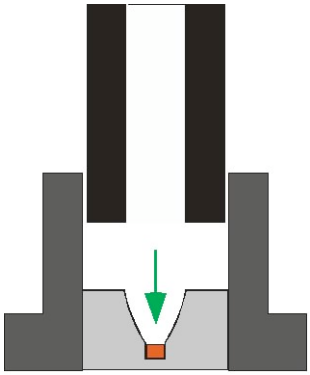
The process steps are schematically drawn in the following 4 figures:



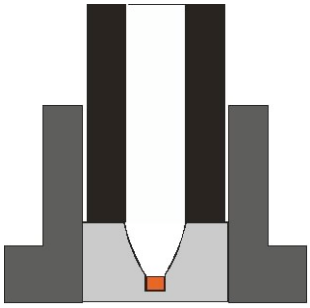
- **In the first step the electro-optical semiconductor die is mounted on a micro-structured submount with high precision by passive alignment.**



- **Subsequently, a coupling element is press fit connected to the submount.**



- **In the next step the optical wave guide/fiber and optical connector, respectively, is plugged into the coupling element.**



In summary this set-up technology guarantees the high precision coupling between optical waveguide and electro-optical semiconductor die.

"Thick" waveguides with a diameter of about 700µm and more (as e.g. the 1mm optical polymer fiber) benefit in addition by a parabolic micro-mirror design that is integrated to the micro-structured submount during the submount fabrication process.

DieMount products base on the fabrication process as described in the figures above.

DIEMOUNT