

## Metallography

### Description of facility

It is the purpose of the metallography to prepare any material in such a way that the microstructure can be analyzed. In our metallographic laboratory, appropriate microsections are prepared for the investigation of microstructure, deformations, cracks or other features of interest.

At the institute, the necessary procedures are maintained at high level, especially for titanium alloys, metal matrix composites and ceramic matrix composites. Furthermore, new preparation procedures are developed for new materials. For the accomplishment of these tasks, various cut-off-, grinding machines and mounting presses as well as possibilities for chemical etching are available. As continuous control by light microscopy is necessary during the preparation processes, light-optical microscopic facilities are integrated into the metallographic laboratory.

The various optical equipments enables preparation control as well as elaborated investigations by means of bright- and dark-field microscopy as well as polarization and DIC methods with integrated documentation. Besides metallographic courses in cooperation with industrial partners, we also offer support in developing and conducting difficult preparation procedures for external customers.

Equipment:

- Two optical microscopes Leica MM6
- Various other optical microscopes
- Microhardness tester (ATM)
- Different cut-off- and grinding machines as well as mounting presses

### Application

- Investigation of microstructure, deformations, cracks or other features of interest

### Contact

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*This handout, and cross-references to related measurement techniques and facilities are available at: <http://messtec.dlr.de/link-276-en>.*

Microstructure of a cast Ti 7 6% Al 7 4% V alloy

