

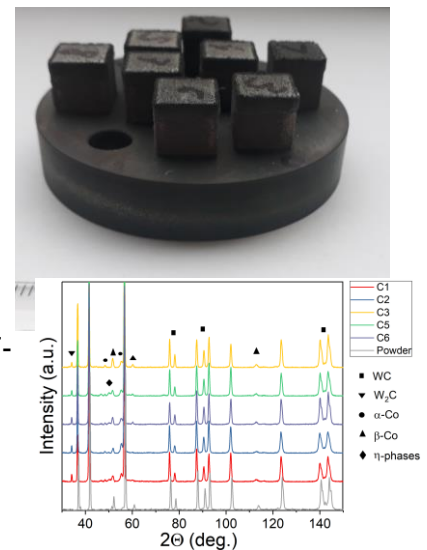
# Master thesis

## Influence of powder bed preheating on phase composition of cemented carbides

Are you interested in new materials applications? Do you want to be a part of implementation of additive manufacturing for cemented carbides? Are you interested in experimental and theoretical work?

### The project

Laser powder bed fusion (LPBF) is used for producing near-net shape parts in small batch sizes. Cemented carbides are known for excellent mechanical properties and are essential for tools manufacturing industry. However, cemented carbides cannot be successfully produced by LPBF, yet. The microstructure which is developed during the LPBF-process differs significantly from the one of conventionally produced cemented carbides. We try to understand, how the LPBF-process parameters affect the microstructure of cemented carbides.



### How you can help us?

- Preparation of polished cross-sections
- Quantitative evaluation of the phase composition using MAUD
- Relationship between process parameters and phase composition

### How we can help you?

- Introduction and comprehensive training
- Productive work environment and continuous support
- Chance to apply for a PhD-position

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