

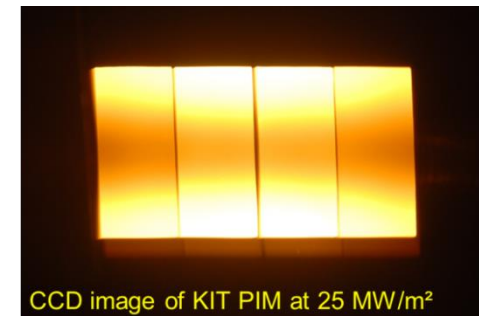
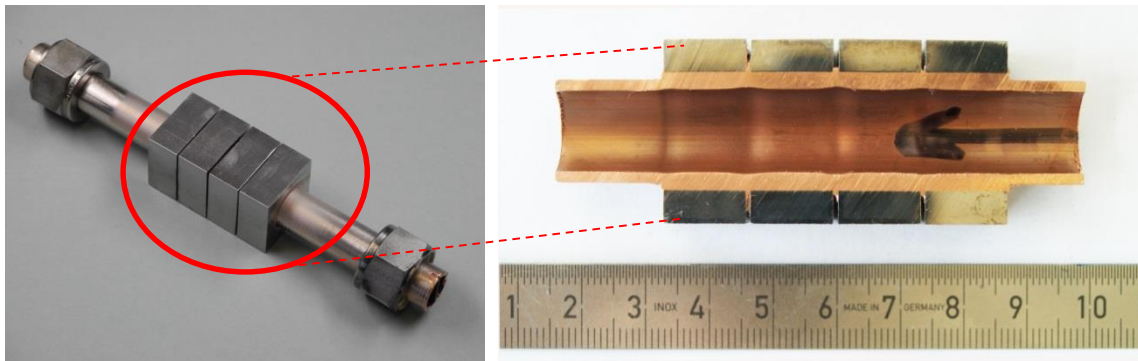
Testing of Divertor Plasma Facing Units

Approach: Tungsten monoblocks by Powder Injection Molding (PIM)

- “Tailored” properties controlled via grain size of feedstock, dopants, and process parameters
- Potential for quality-controlled, low-cost series fabrication

Previously: Simplified mock-ups

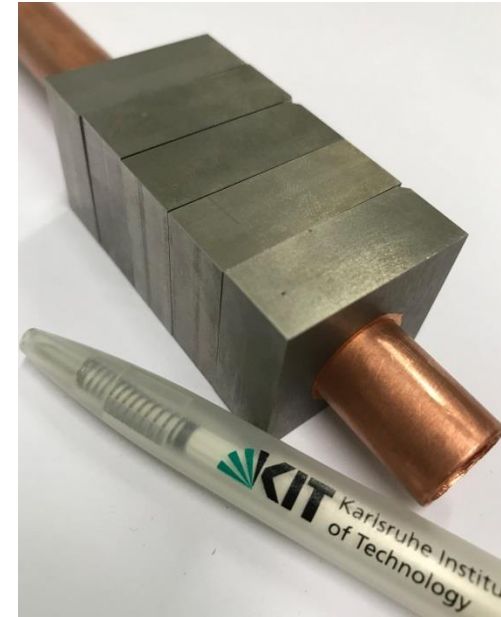
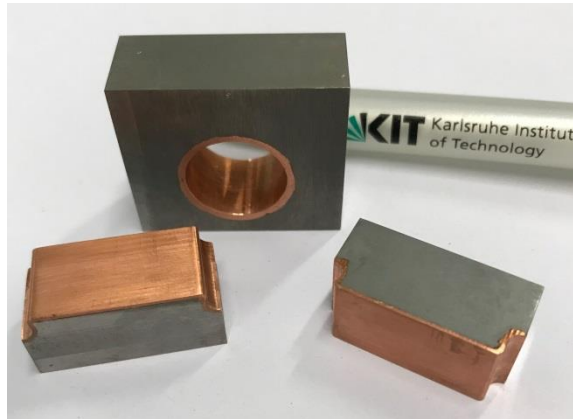
- HHF testing at GLADIS, IPP Garching: Screening up to 25 MW/m²
- HHF testing at JUDITH, FZJ Jülich: 1000 cycles @ 20 MW/m²



Testing of Divertor Plasma Facing Units

Present: Optimization

- PIM-Fabrication of pre-series mockups:
 - Monoblock & flat tile design
 - Pure W and advanced materials
- Connection to heat sink via HIP



Planning: PFU production & testing

- 2019 HHF Testing of optimized mock-ups at JUDITH planned for autumn
- 2020 Production of PFUs
- 2021 SATIR non-destructive defect control; installation on WEST