

Material Properties and Their Influence on the Behaviour of Tungsten as Plasma Facing Material

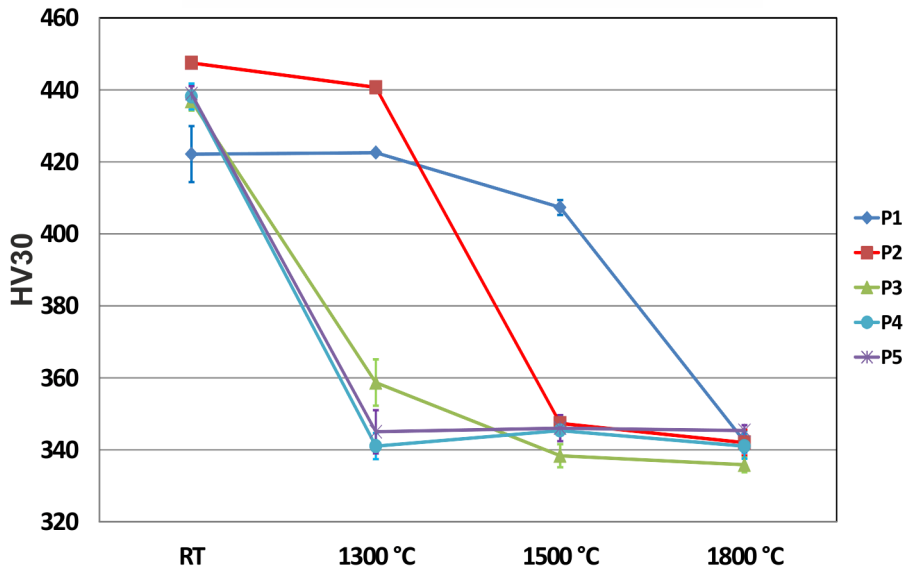


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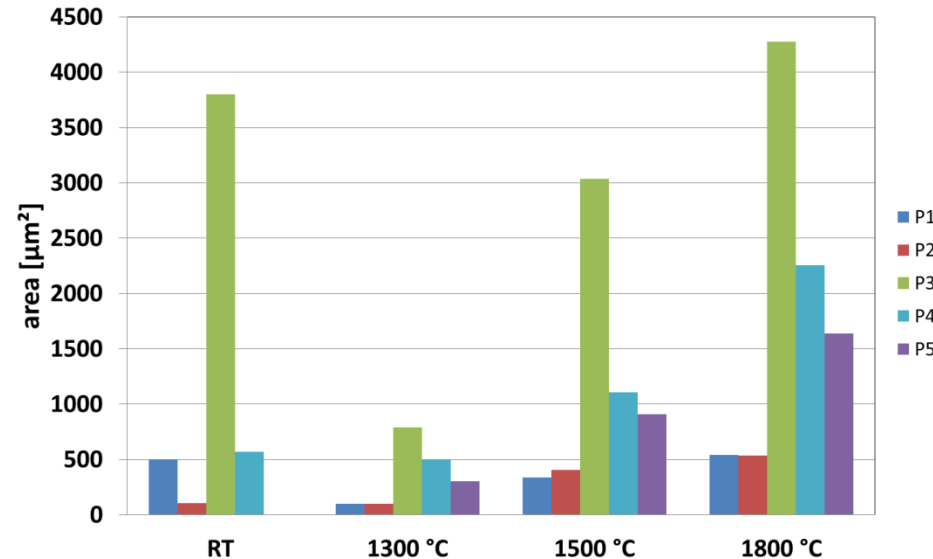
Recrystallization Sensitivity Tests for Five Different Pure W Materials (P1, P2, P3, P4, P5)

- Heat treatment at 1300 °C, 1500 °C, 1800 °C for 1 hour in vacuum
- Vickers hardness HV30 and grain size

Vickers hardness



Grain size



- ❑ Drop in hardness for all tungsten products, but at different temperatures (e.g. P1 and P2)
- ❑ Recrystallisation and grain growth in depends on the annealing temperature
- ❑ Different recrystallisation resistance for tungsten products with similar composition and production process
- Materials with higher recrystallisation resistance showed a better performance in the full-tungsten divertor target qualification program