

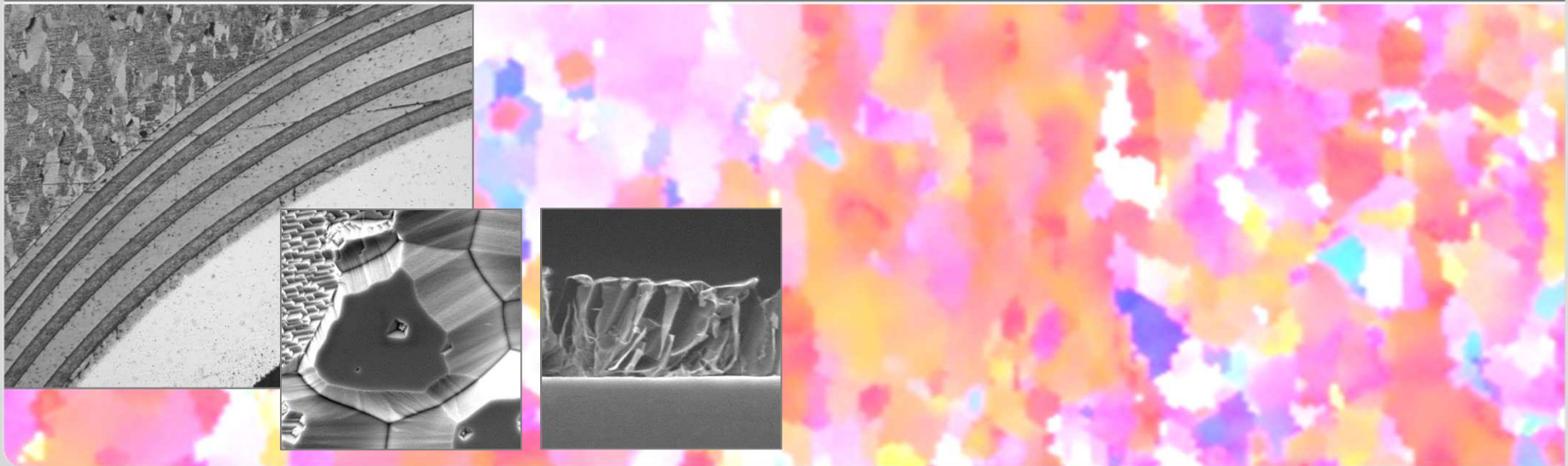
W Laminate Materials Made of UFG W foil

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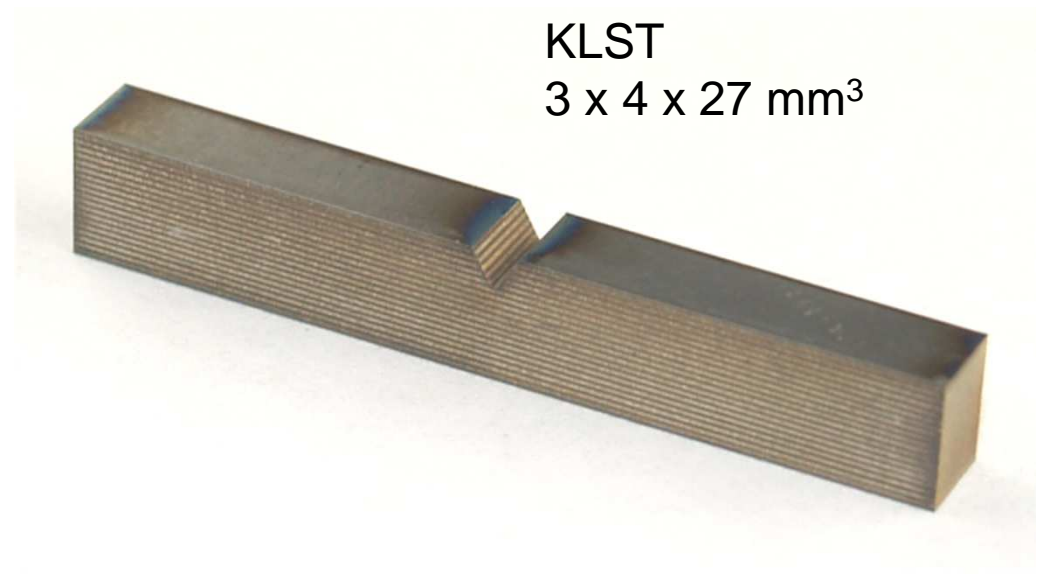
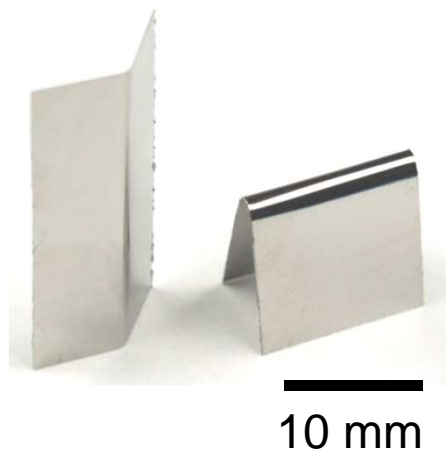
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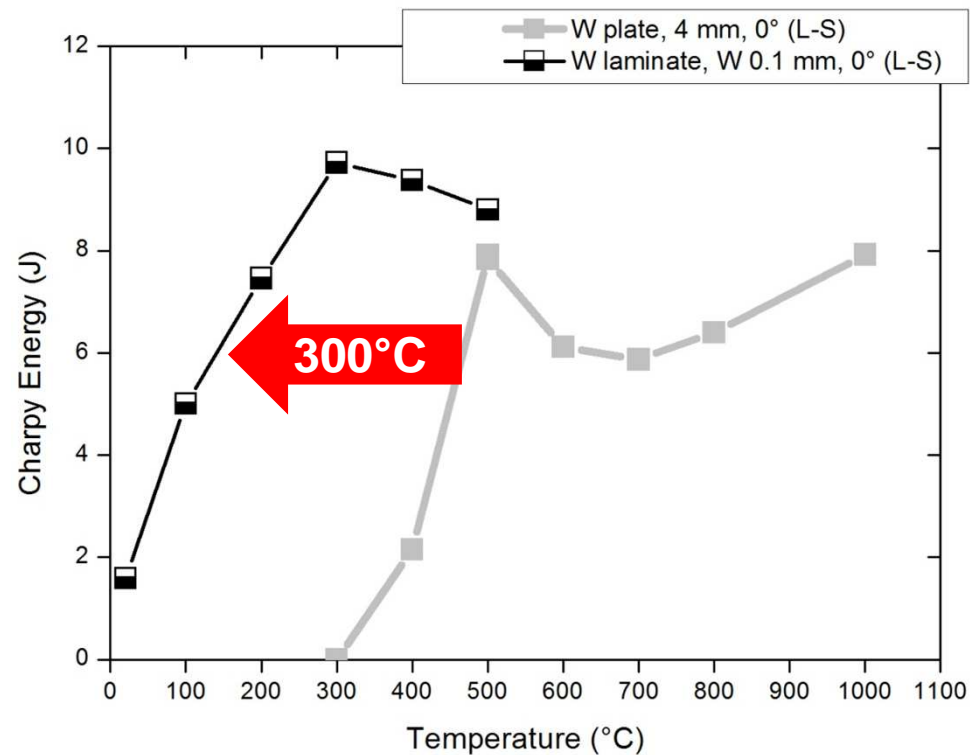
What is the problem?

- High temperature applications ask for advanced **structural** materials
- W is the metal with the highest melting point of all metals ($T_S = 3422^\circ\text{C}$)
- Disadvantages:
 - Low fracture toughness, K_{IC} [$\text{MPa m}^{1/2}$]
 - High brittle-to-ductile transition temperature (BDTT)



W laminates: Charpy impact tests

- Can the ductile properties of a W foil be transferred to the bulk?
 - As-received: improvement of 300°C



W laminate with
AgCu interlayer

Contents

- Paradoxes of W
- W foil
- W laminate plates
- W laminate pipes