

# Summary of Plansee Visit

Reutte/Austria  
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# Main Discussion Points

- Dimensions (biggest possible plate today)
  - Thickness and Flatness tolerances
    - Machining & Mechanics
      - Cost

# Results 1

Today's max. ingot weight is about 500kg

- Typical max dimensions are:
- 15mm x 1300mm x 1500mm or f. ex.
- 12mm x 1200mm x 1600mm

**Consequence for a prototype plate:**

600x600 or 1200x1200 preferable to 800x800  
or 900x900

# Results 2

- Flatness tolerance ca. 1.5 mm (<1mm possible)
- Thickness tolerance  $\pm 0.5$  mm
- With machining  $\pm 0.1$  mm (cost  $\uparrow$ )
- Abrasive water jet cutting very well adapted for
- Holes, slots, cut-outs of nearly any sort,
- Precision  $\pm 0.1$  mm

# Results 3

Except Young's modulus, it is not easy to get the other engineering values like stress- strain diagram, tensile strength, elongation after fracture or impact values due to the brittleness of Tungsten and its situation between metals and ceramics.

Therefore a single load test gives not enough evidence; one has to work with series in order to apply statistics (Weibull etc.)

Plansee is willing to help us with these values

# Conclusion

- Concerning our designs no show-stoppers
- Pure Tungsten plates are available
- Price has to be evaluated
- As well as the advantages of tungsten w.r.t. other and cheaper metals