Update on HEC Absorber Plate Production

July LAr Week

HEC Hardware Meeting

James L. Pinfold

HEC Inner Wheel Machining Finished!

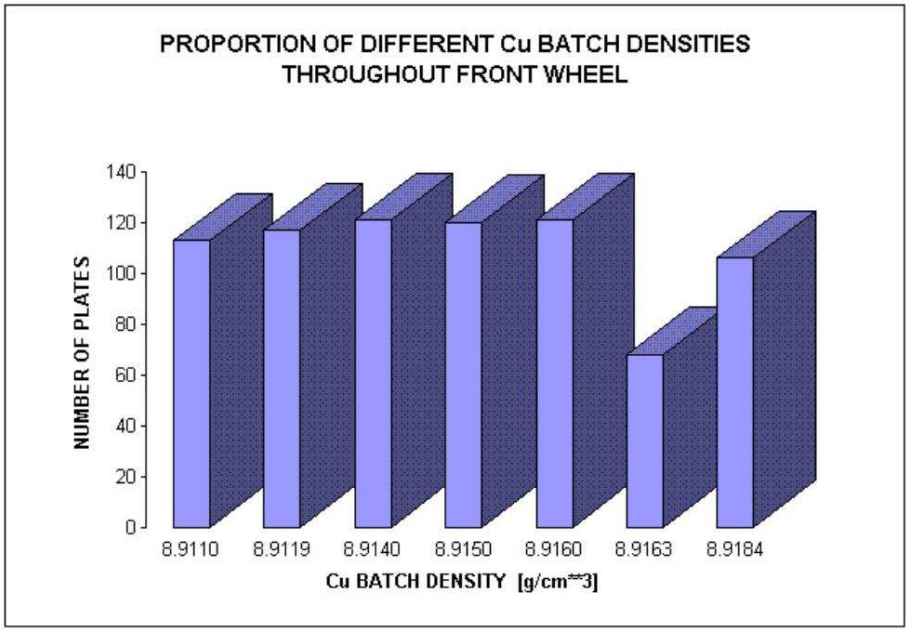
Production to date

- One complete inner wheel has been finished.
- Production rate was approximately one sector per shift per calendar month.
- The last four sectors of the inner wheel and the spare sector will be delivered to TRIUMF by the 5th of July
- The outer wheel will be started in July. Two shift production will restart on the 1st of September.

Copper Density Variation for 2.5 cm Copper

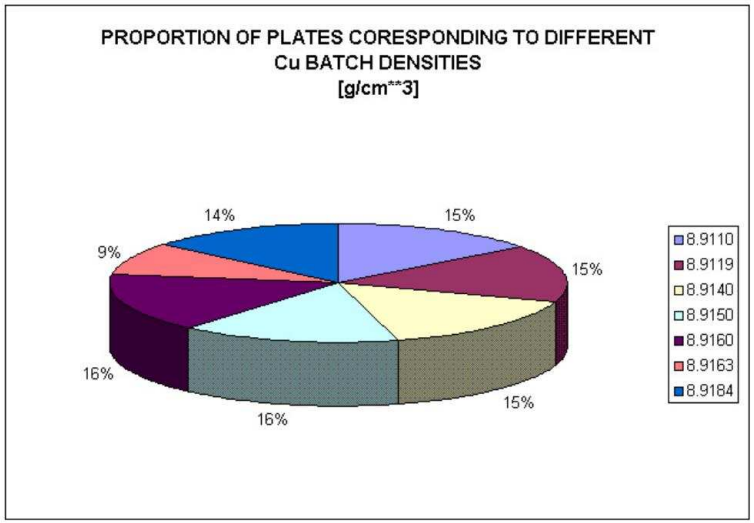
QC DATABASE IN COPPER MACHINING

AT THE UNIVERSITY OF ALBERTA



QC DATABASE IN COPPER MACHINING

AT THE UNIVERSITY OF ALBERTA

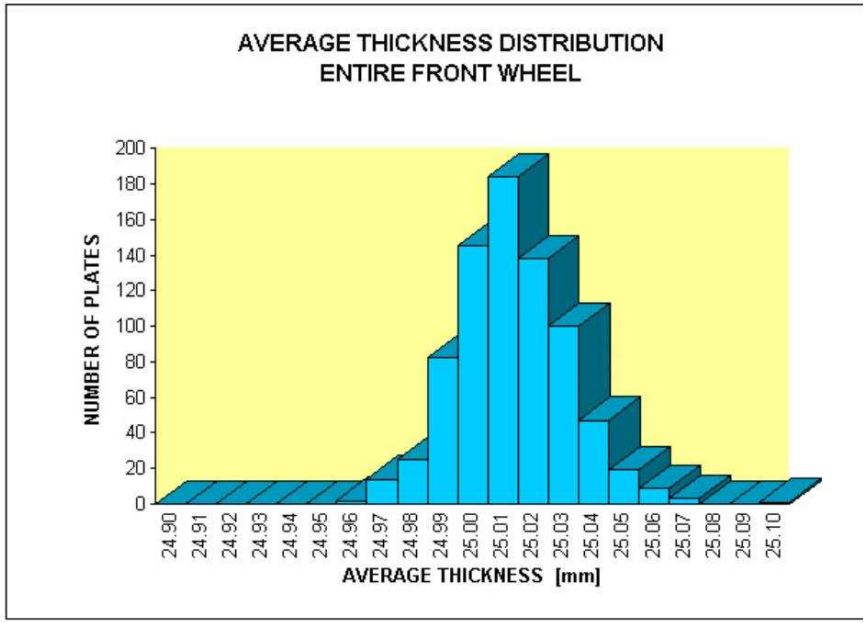


Each set sampled by 5 Cu cores 14 mm x 22 mm long

Copper Thickness Measurements

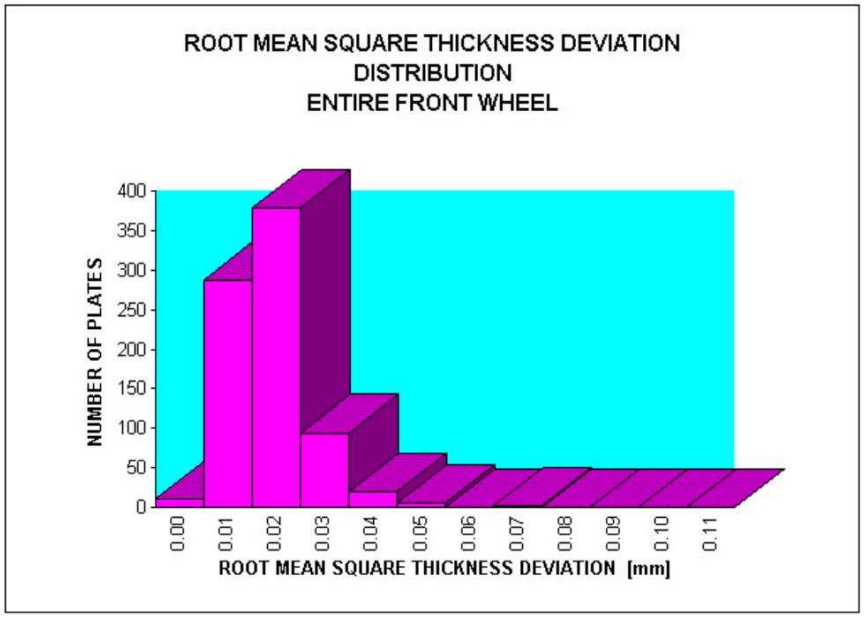
QC DATABASE IN COPPER MACHINING

AT THE UNIVERSITY OF ALBERTA



QC DATABASE IN COPPER MACHINING

AT THE UNIVERSITY OF ALBERTA

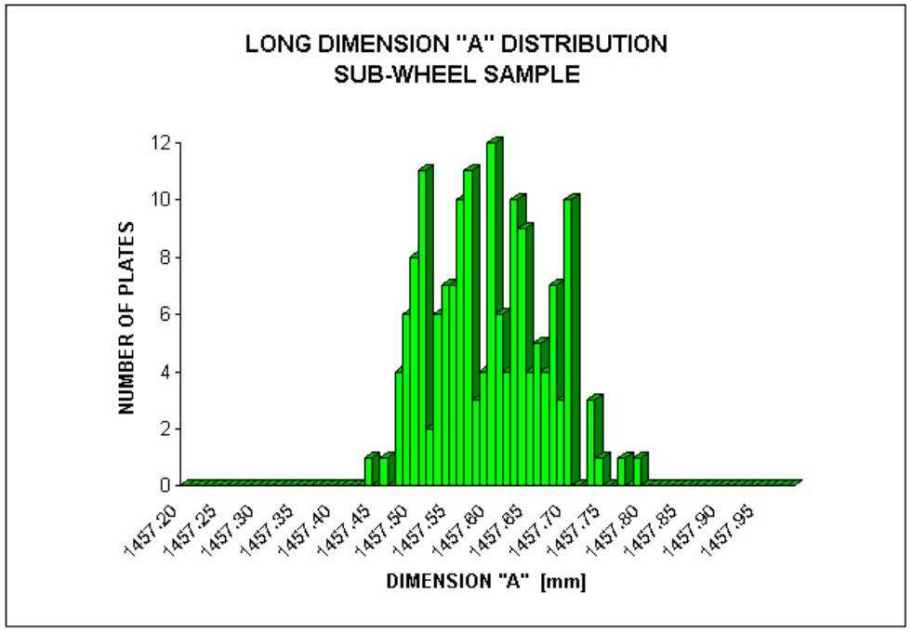


Tolerance on plate thickness: 25.00 ± 0.05

The “Long Dimension”

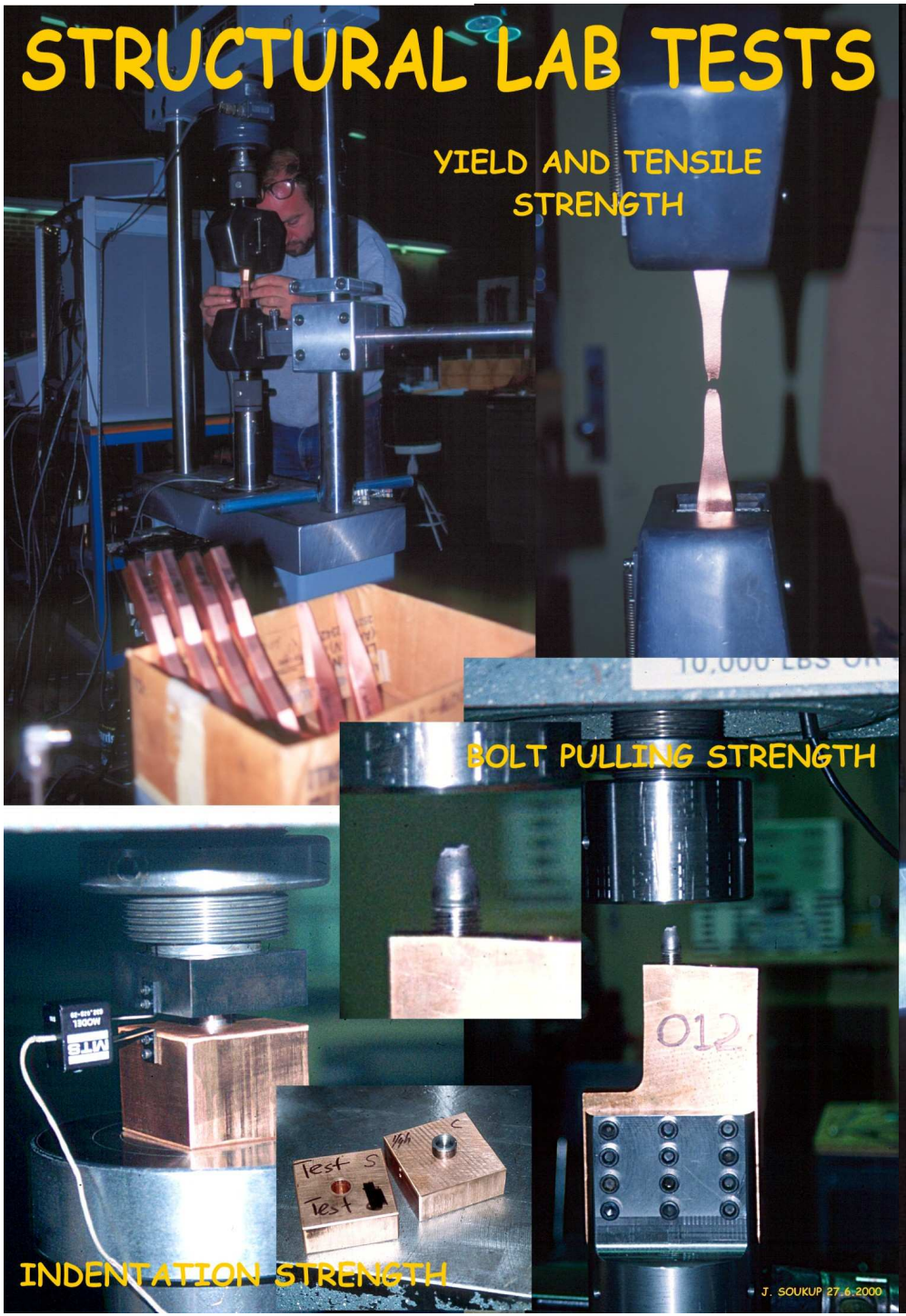
QC DATABASE IN COPPER MACHINING

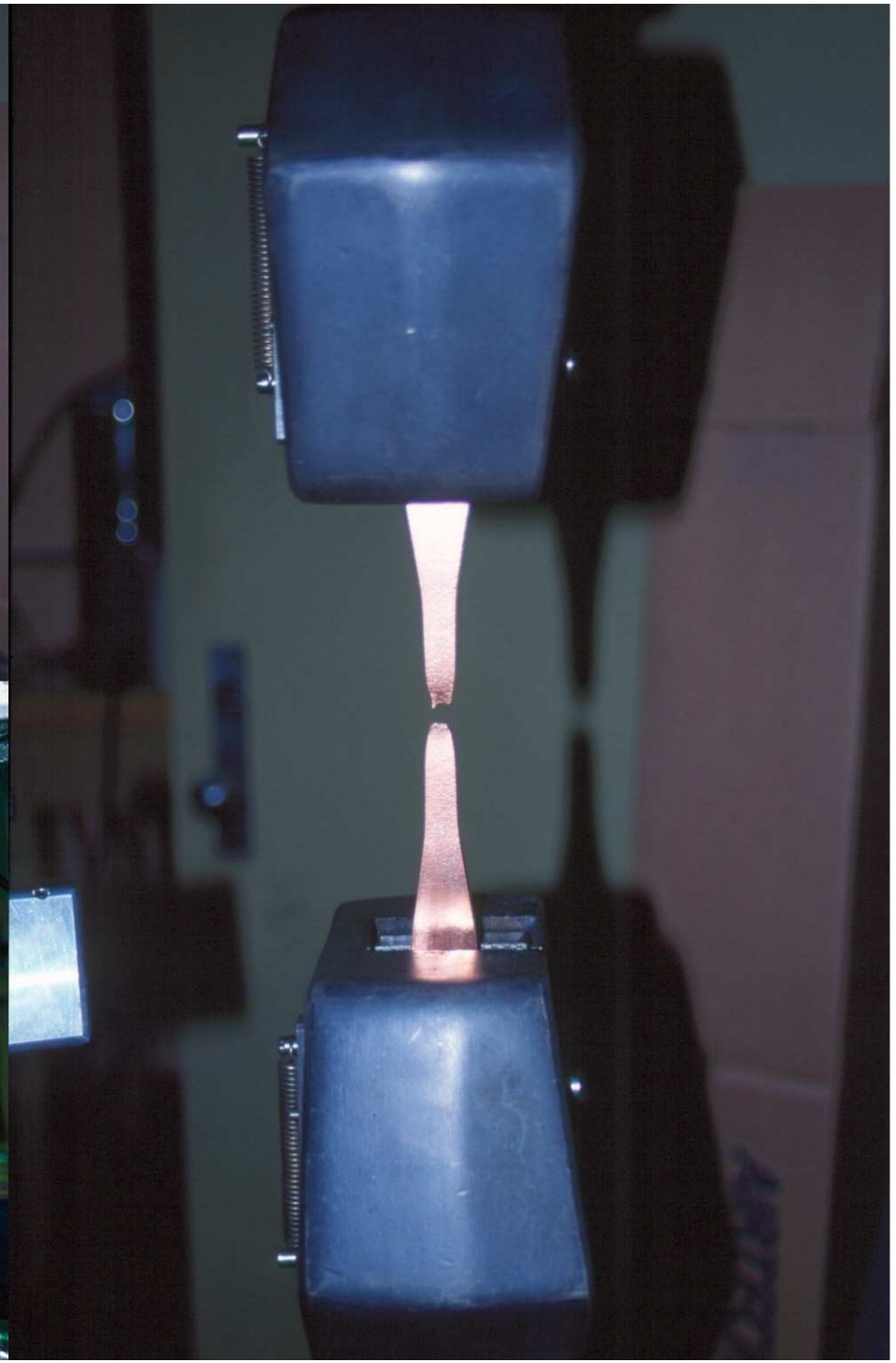
AT THE UNIVERSITY OF ALBERTA



Tolerance on Dimenison A = 1457.77 ± 0.10

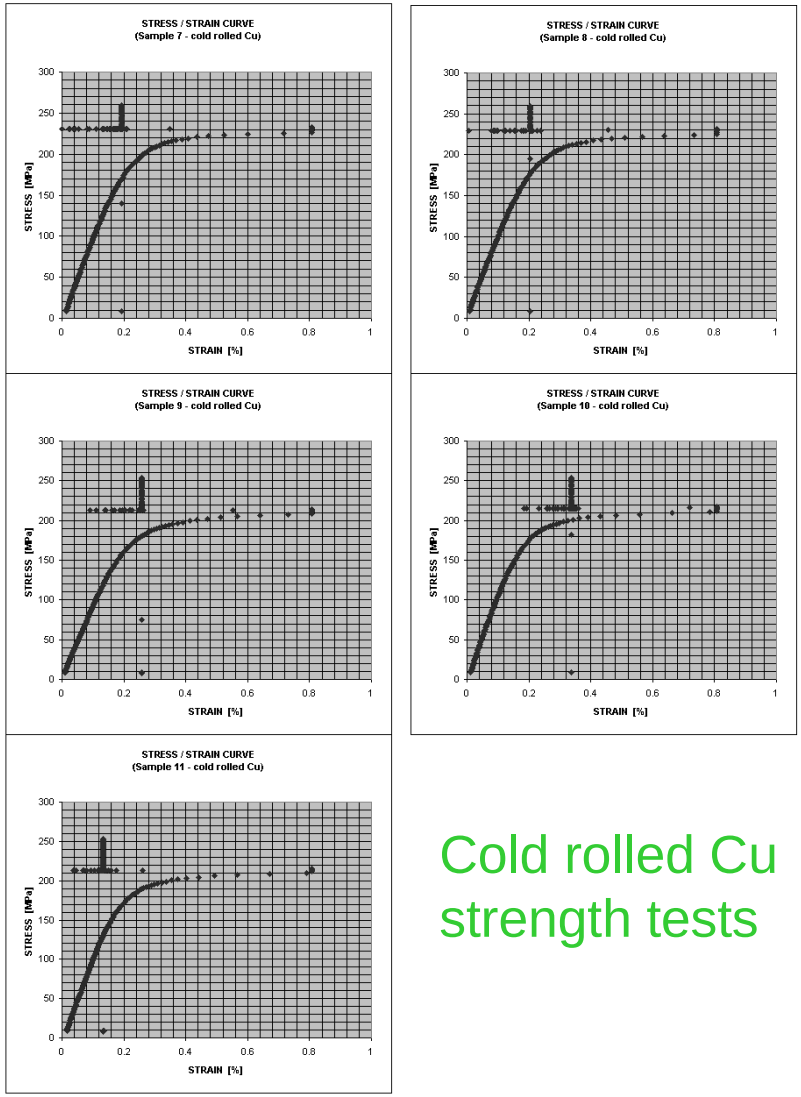
STRUCTURAL LAB TESTS





Tensile Strength and Yield Strength

- Requirements:
  - Cold rolled (hard)
    - **Tensile strength 260 MPa**
    - **Yield strength 205 Mpa (0.5% extension under load)**
  - Hot rolled (soft)
    - **Tensile strength 220 MPa**
    - **Yield strength 205 MPa**
- Measurements
  - *Hard Cu* both yield strength & tensile strength are OK.
  - *Soft Cu*
    - **The tensile strength is according to requirements**
    - **The yield strength is somewhat below at 57- 59 MPa**



Cold rolled Cu strength tests