

Minutes of Life Prediction Planning Meeting April 4, 2001

Chin-Chan Chu Chairperson

CCC: We will make sure that the high mean stress data is on the web site.

Q: Smooth? A: Yes, Smooth axial SAE1045 normalized data

R.Stephens: Could we add things? Bolted situations  $R=0.97$

A: Sure, collect all the details in one spot. Post on web.

Comment: (there was) a High Mean Stress Project, ASTM STP in 1962 on S.Steel Sheet.

A discussion ensued on bolt testing which has notched failure at very high mean stresses. 1045 heat treated bolts? Rolled threads. Bending may not be necessary, but a  $K_t$  of 3. Bolts are  $K_t=2.5$  to ?

Damage Tolerance Task Group, Ric Liest reported:

- Cracks at holes (is most interesting problem)
  - through and part-through cracks
- Symetric, single crack
- collect information: solutions for  $\Delta K$ , Beta etc
- Glinka & Kudowsky were going to run weight function.
- We (need) find a data set to correlate.
- Const.Ampl., Ti, Aircraft Alum., couple of steels
- Evaluate prediction programs
- Verify Newman's FEA -> regression factors to fix data with other results
- plane strains would be preferred

A.Conle suggested that Nowack's data might be useful, and would forward reference of paper.

Dannbauer suggested (using FEA) to compute stress and strain

Rc - We want to verify the analytical solutions.

FAC.