

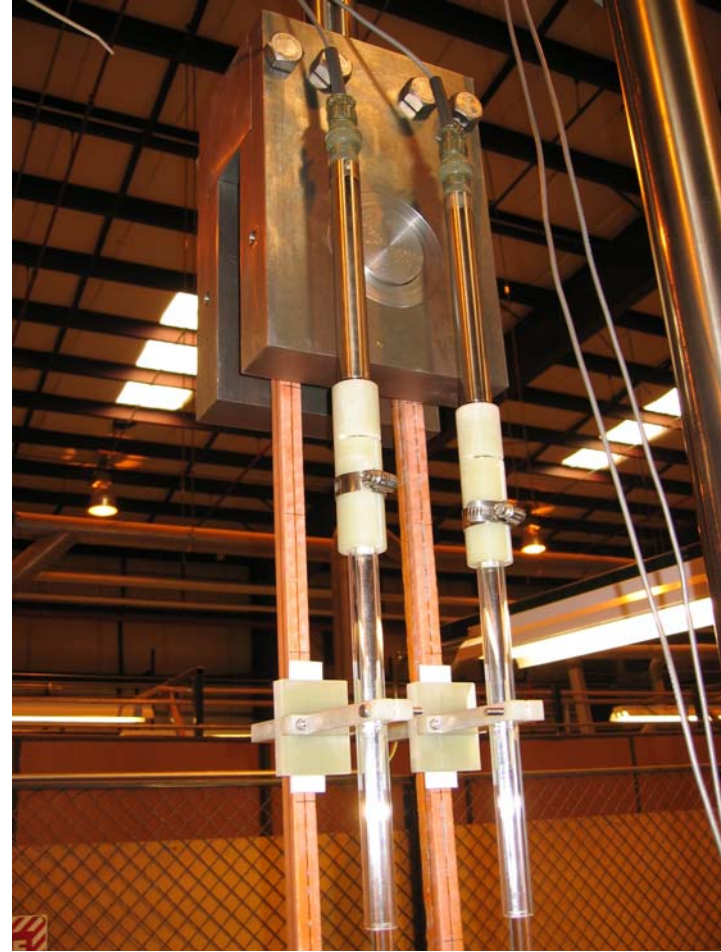
# Tensile Test of Long Race-Track Coil at Room Temp

28-Apr-2004

# Test Parameters

- 100 Kip MTS System
- Sample LRT1
- Extensometers:
  - One on each leg
  - Measurement range: 0 to 1.000 in
  - Measurement resolution: 0.001 in
  - Gauge length: 12.00 in
- Section area: *estimated* at 0.444 sq in for each leg

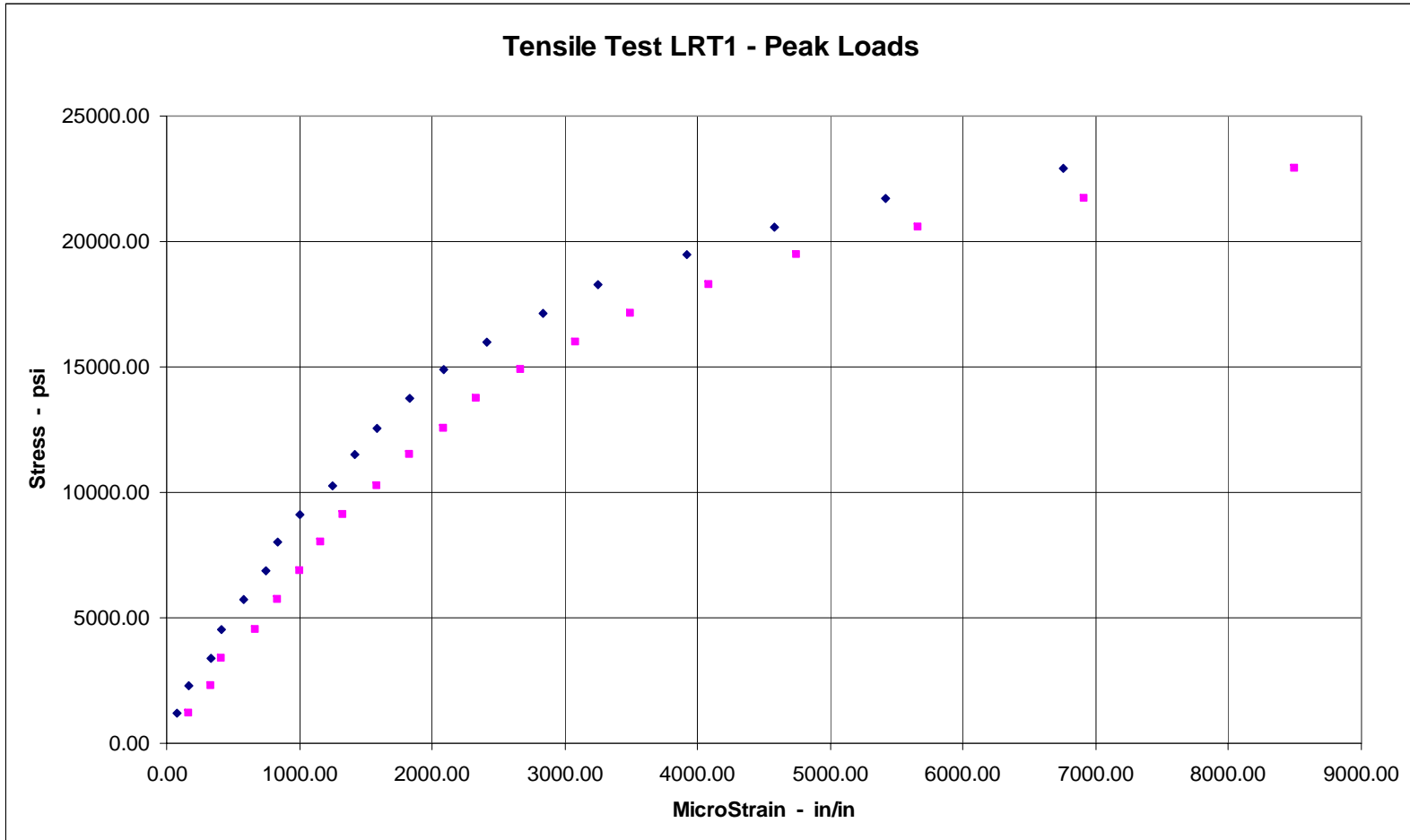
# Test Configuration



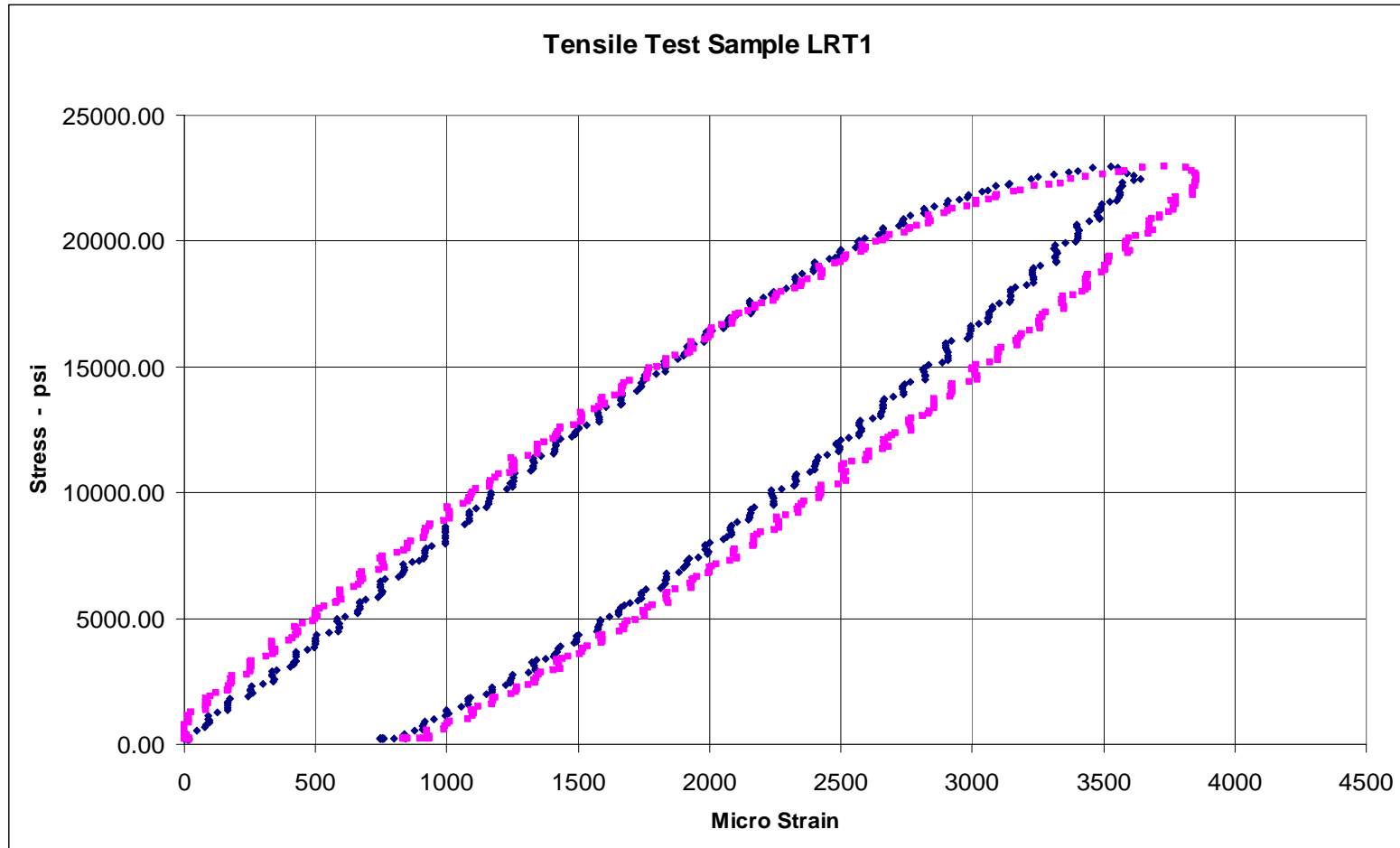
# Test Procedure

- Operated under load control
- Maintained minimum load of about 100 lb
- Ramped load from minimum to peak and back starting with 1000 lb
- Incremented peak load by 1000 lb up to 20000 lb

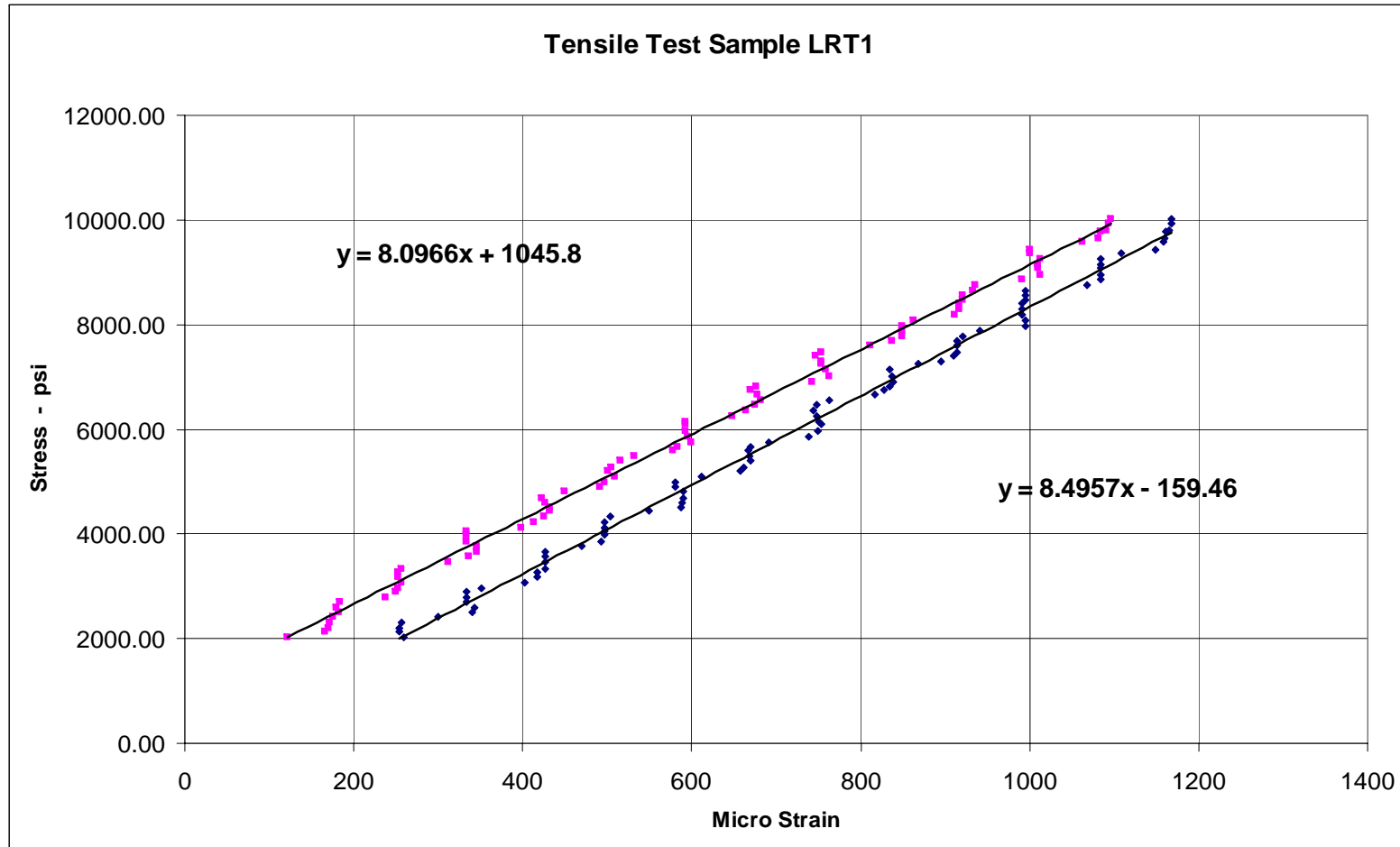
# Plot of Peak Values



# Stress-Strain Curve for 20000 lb Cycle



# Modulus



# Test Notes

- Modulus depends on the section area selected for the composite structure.
- At 20000 lb load, sample is near point of failure.
- After 19000 lb cycle, resistance changed from 0.00344 to 0.00345



# Next Tests

- Pull LRT1 to failure?
  - With or without extensometers installed?
- Test solid Cu sample
- Cycle SRT1 at 77 K