

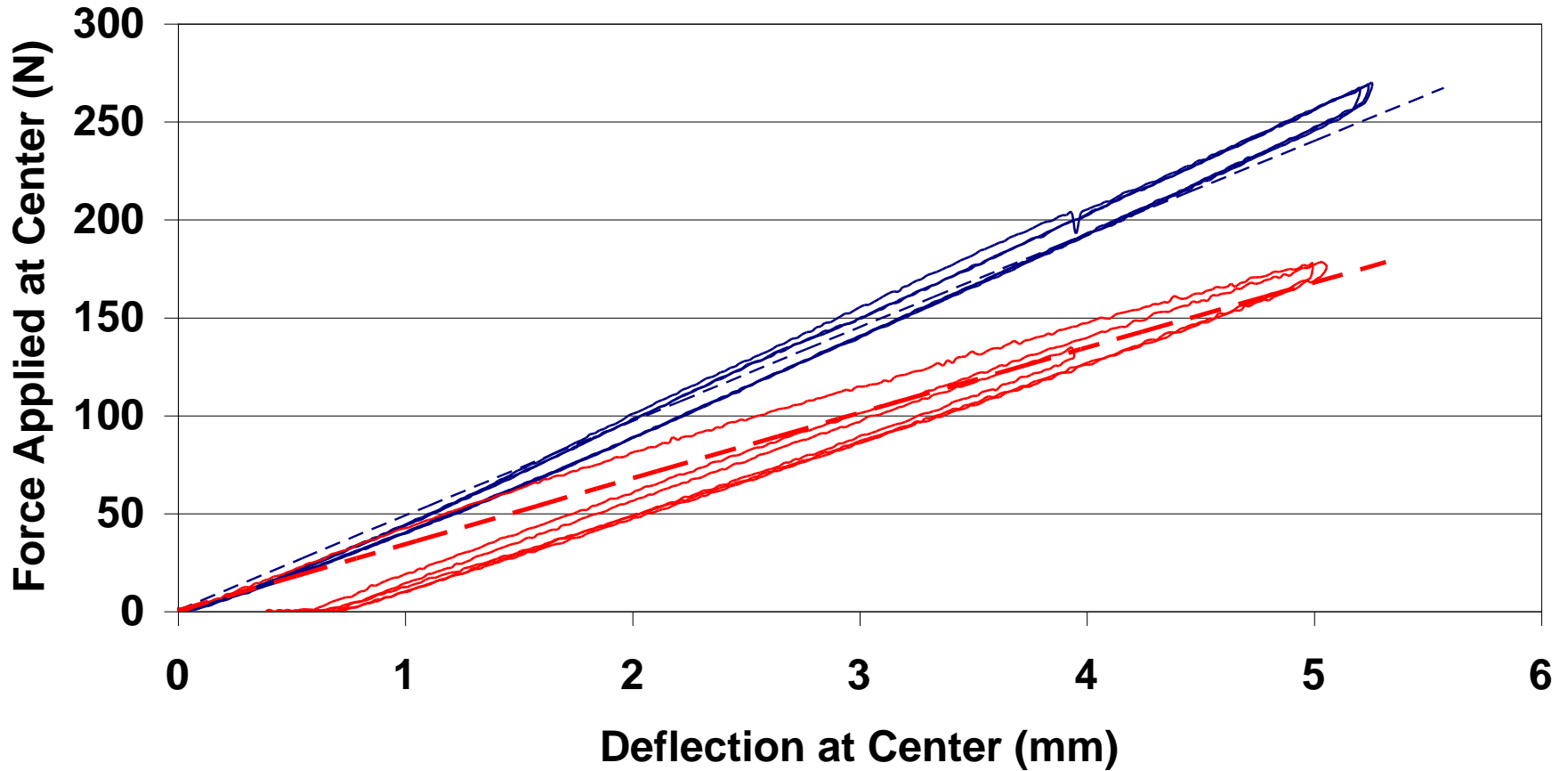
SMA Beam Testing II

July 20, 2007

Elastic Loading

Results in Full Martensite and
Full Austenite

Elastic 3-Point Bending of Beam

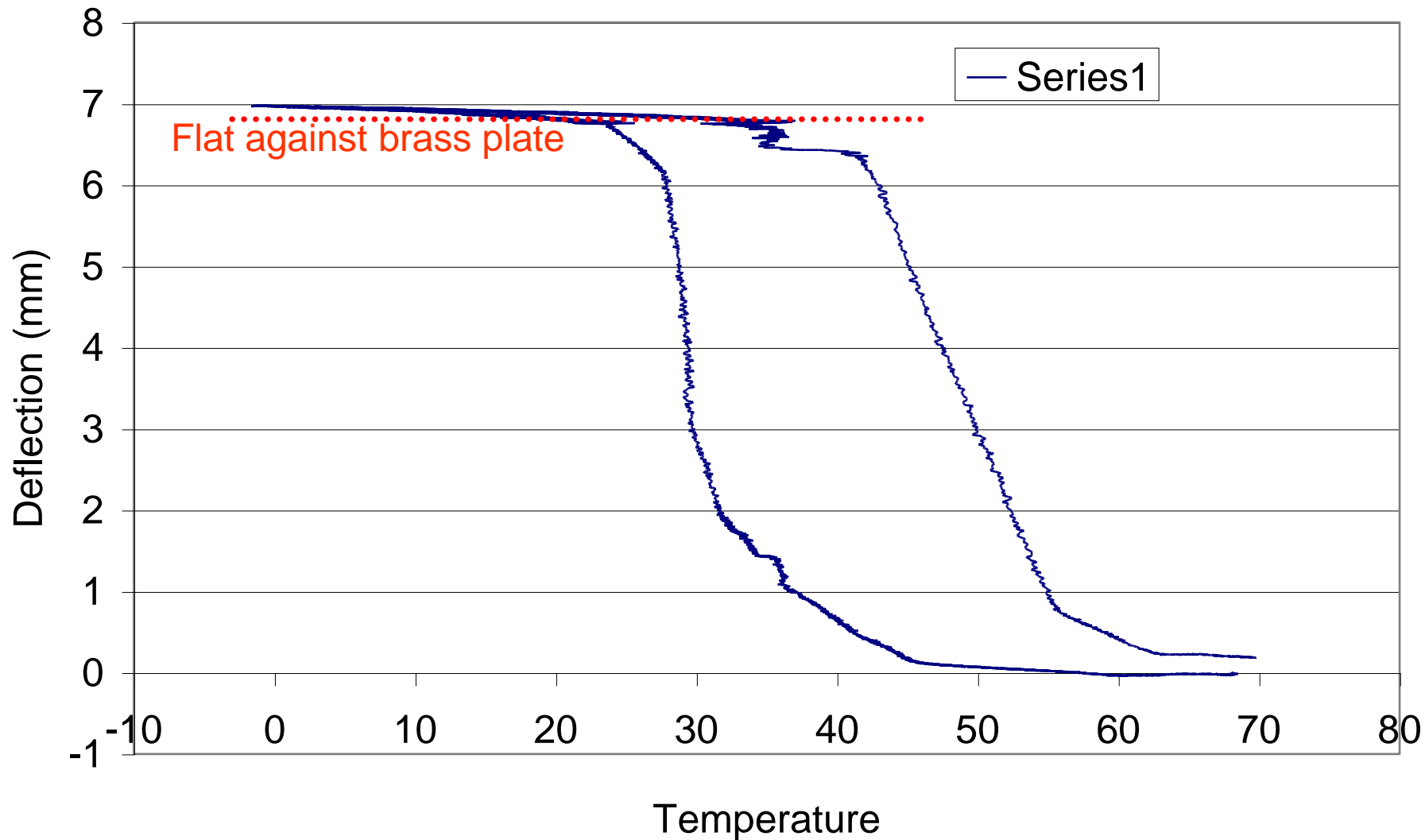


Transformation Loading

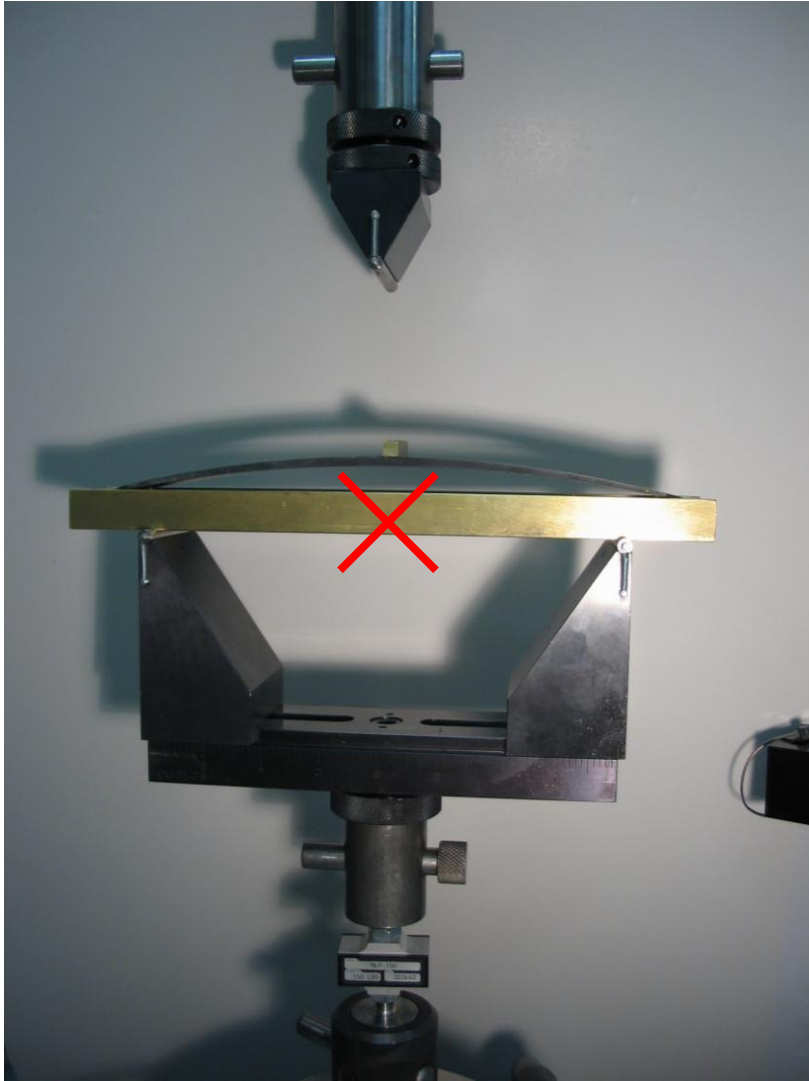
Original Test Results

Thermal Cycling at Constant
Loads

60lb Load, Test A



Edited Test Configuration

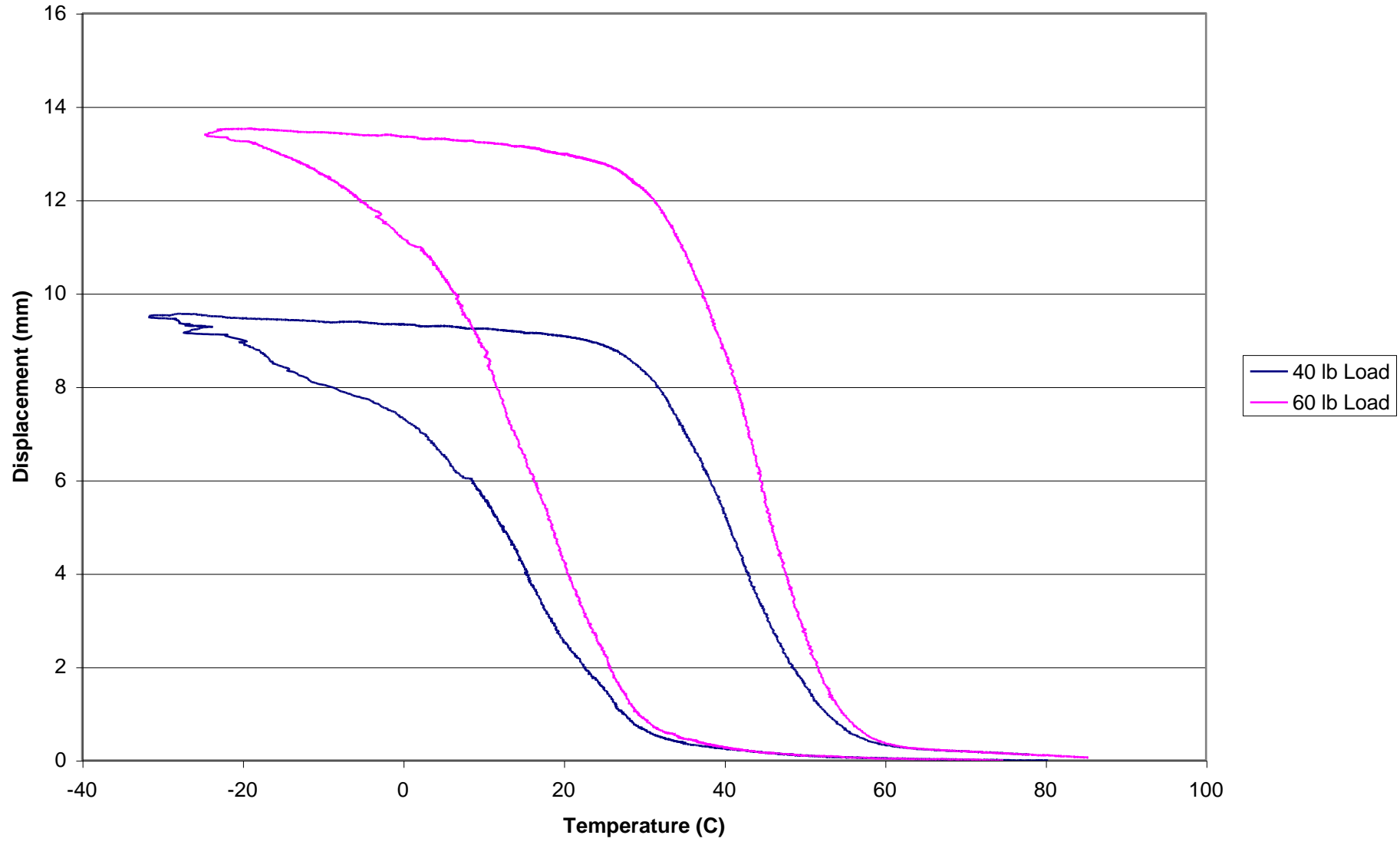


- New test configuration removes brass beam
- Current center brass piece used to keep beam perpendicular to bending frame and centered
- Two more thermocouples added

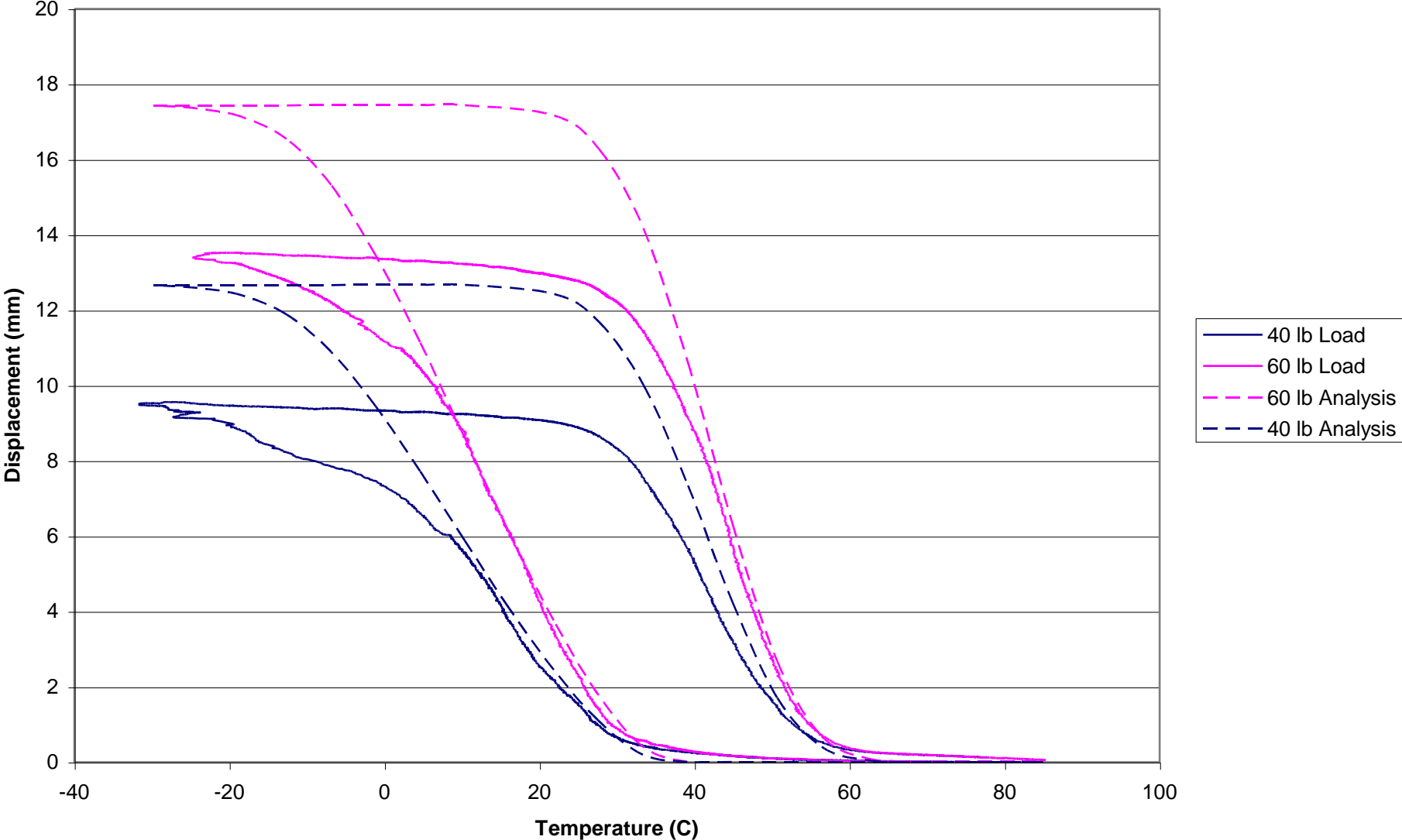
Second Test Results

Thermal Cycling at Constant
Loads

Constant Load, Test B



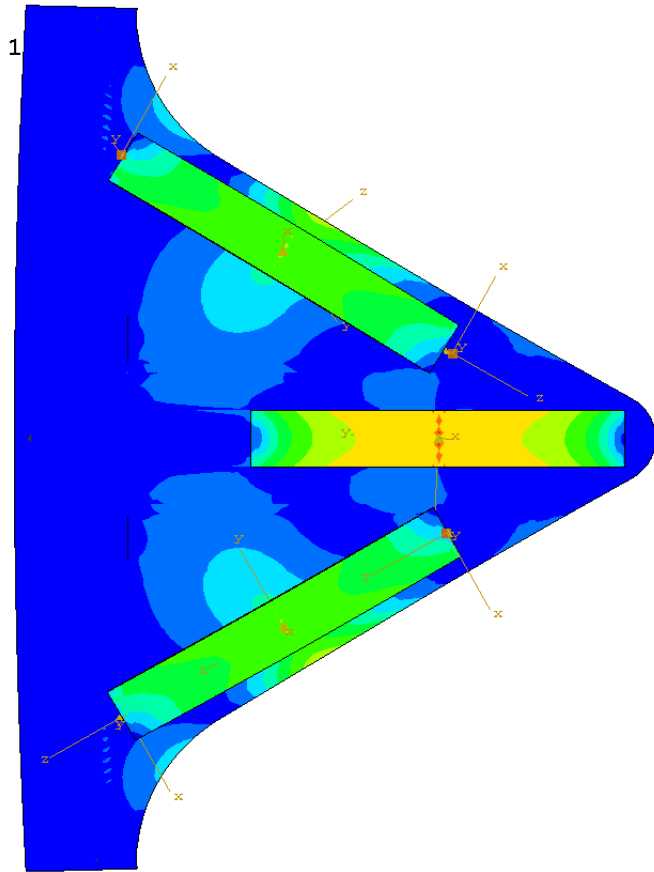
Constant Load, Test B with Analysis Data



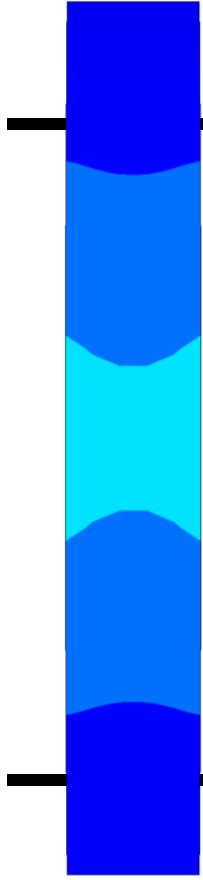
Von Mises Stress

Stress contours for the chevron
and individual beam

Chevron heated to 80°C



Beam heated to 80°C with 40lb centerline load



Beam heated to 80°C with 60lb centerline load

