

APPENDIX A

STRESS-STRAIN DIAGRAMS FOR TENSILE AND BOND TESTS

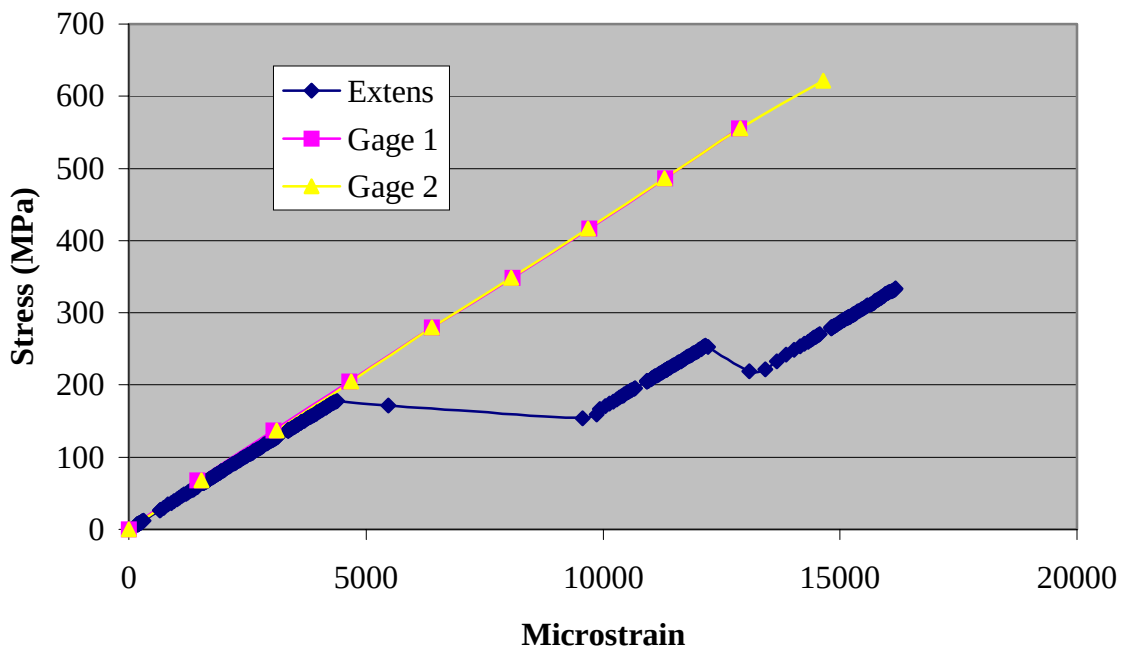
A.1: Tensile Test

Legend entries are as follows:

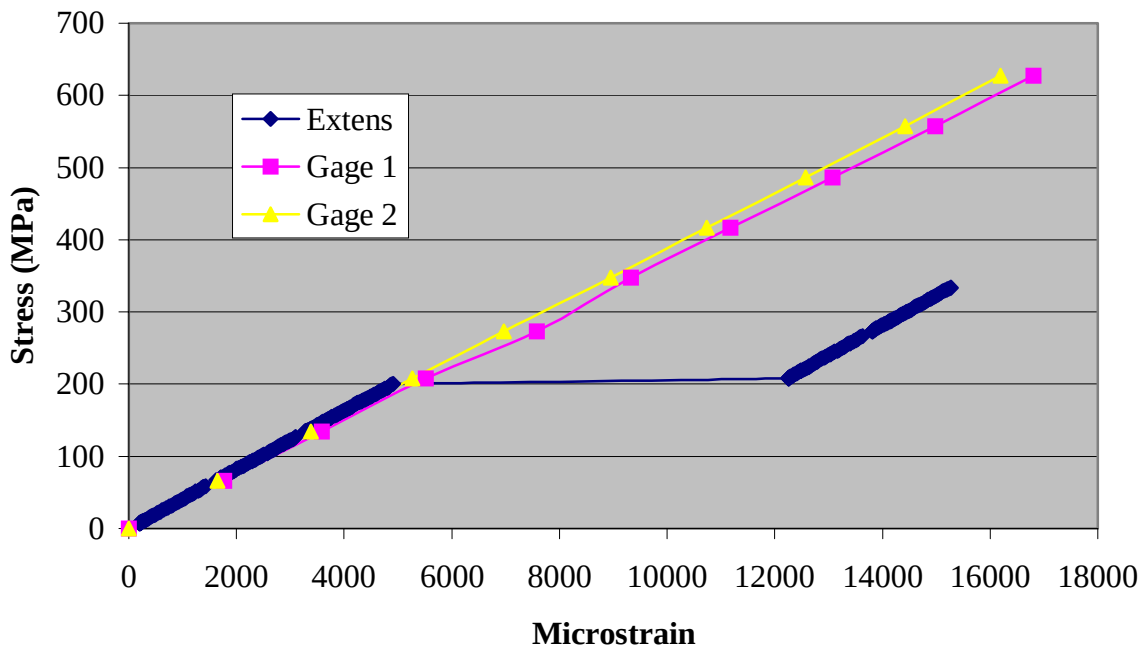
- Extens = Data collected by the two inch clip on extensometer
- Gage 1 = Data collected by a strain gage mounted at the mid-point of the bar.

Gage 2 = Data collected by a second strain gage mounted at the mid-point of the bar (where available).

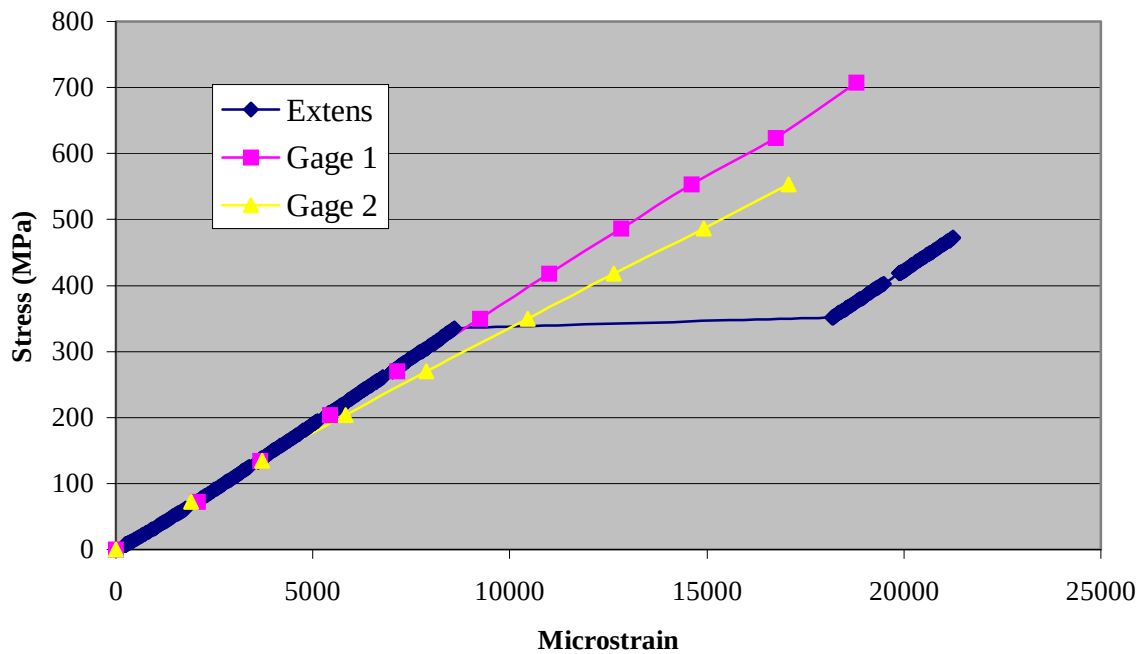
Tensile Test #1 - #4 Marshall



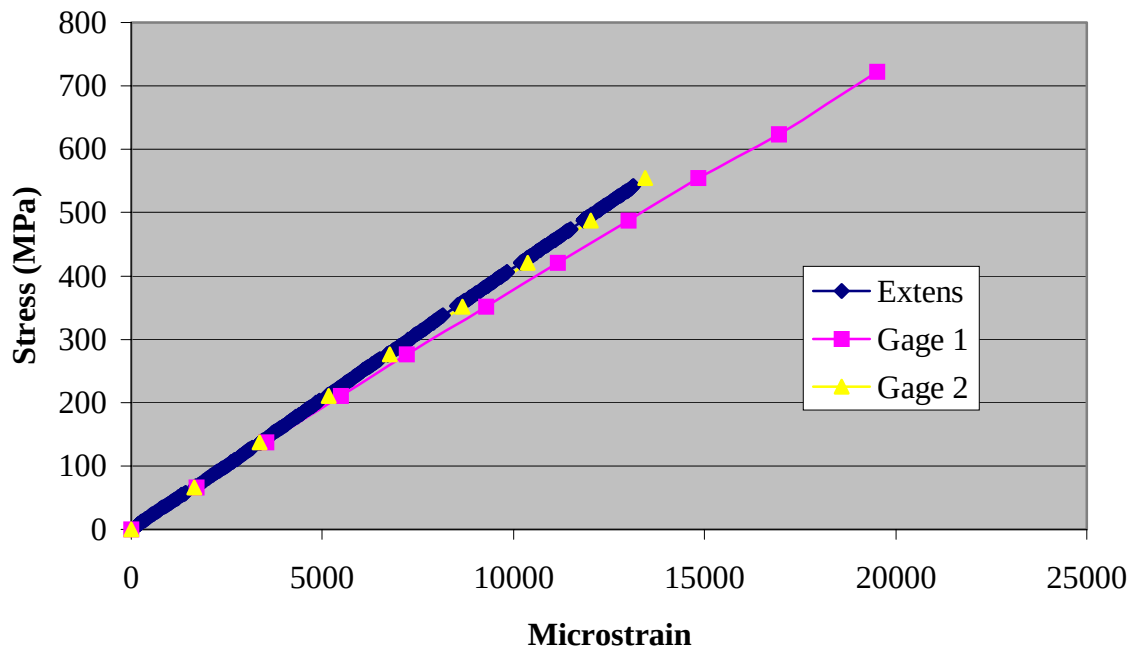
Tensile Test 2 - #4 Marshall

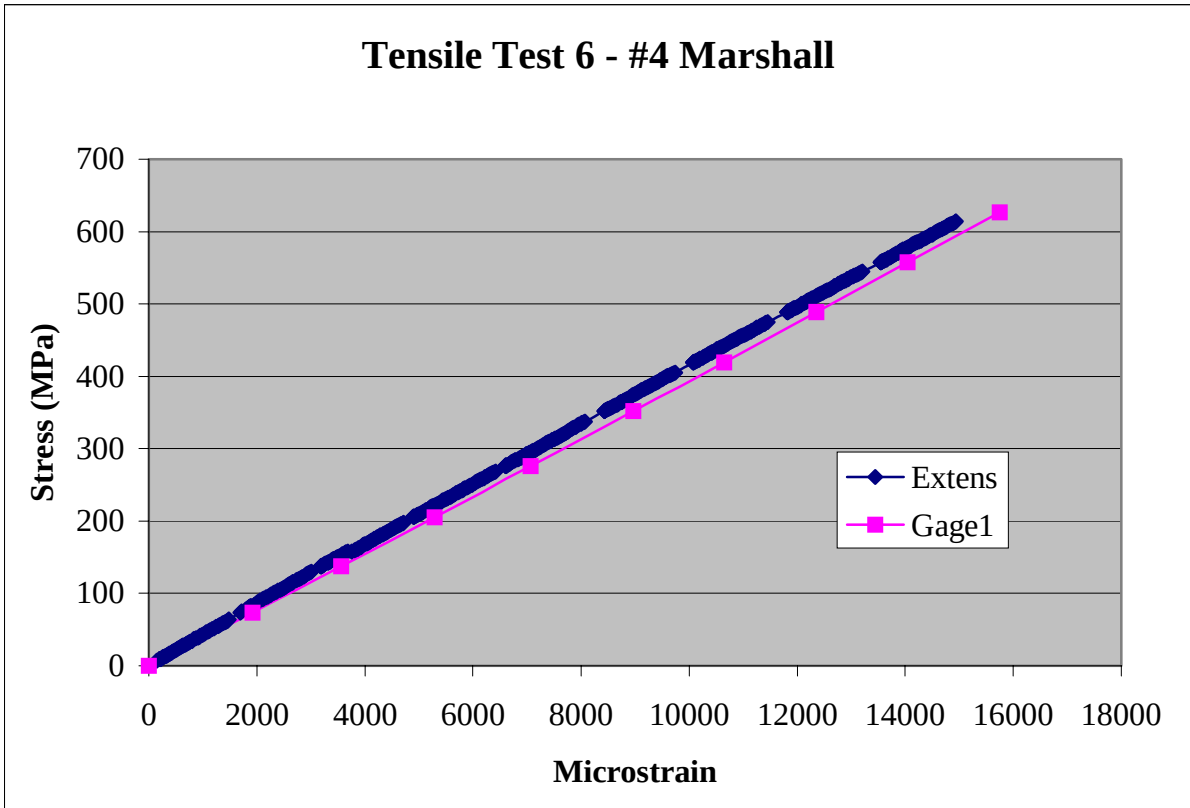
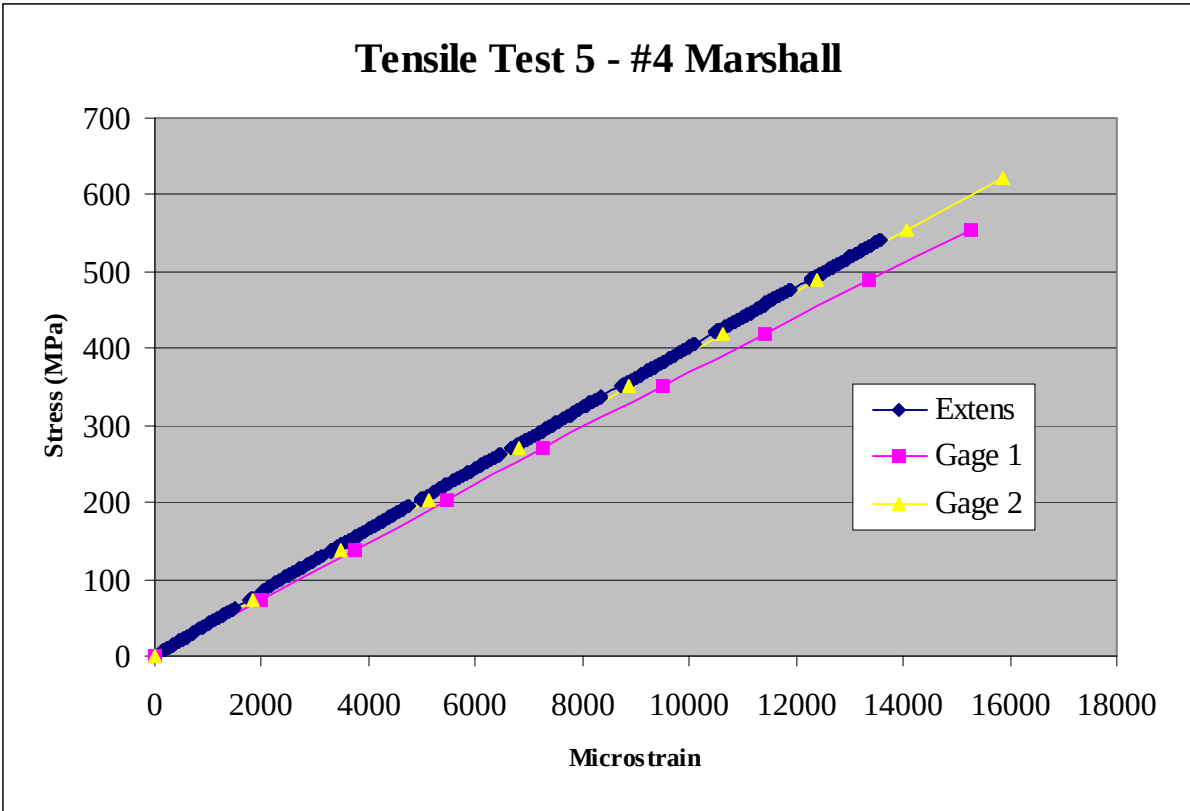


Tensile Test 3 - #4 Marshall

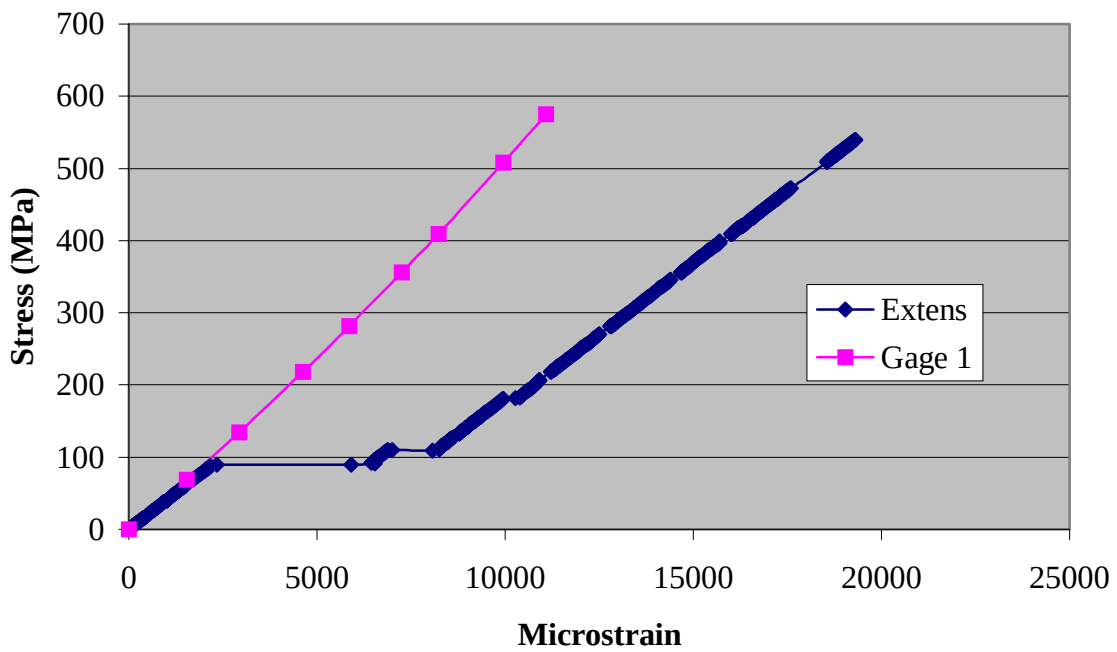


Tensile Test 4 - #4 Marshall

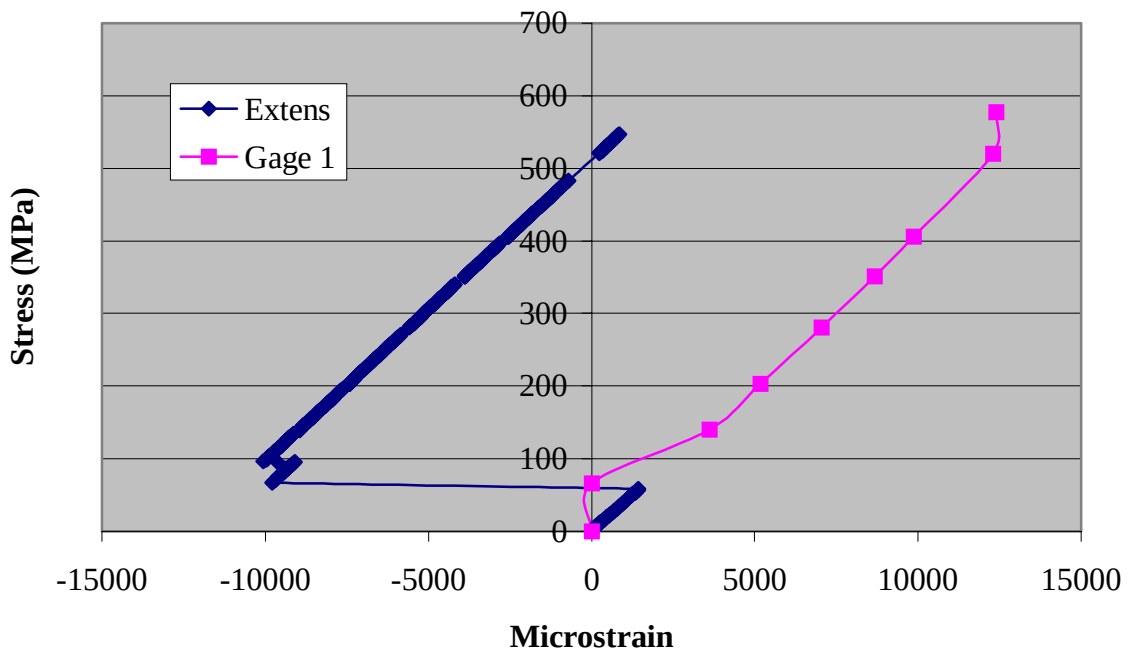




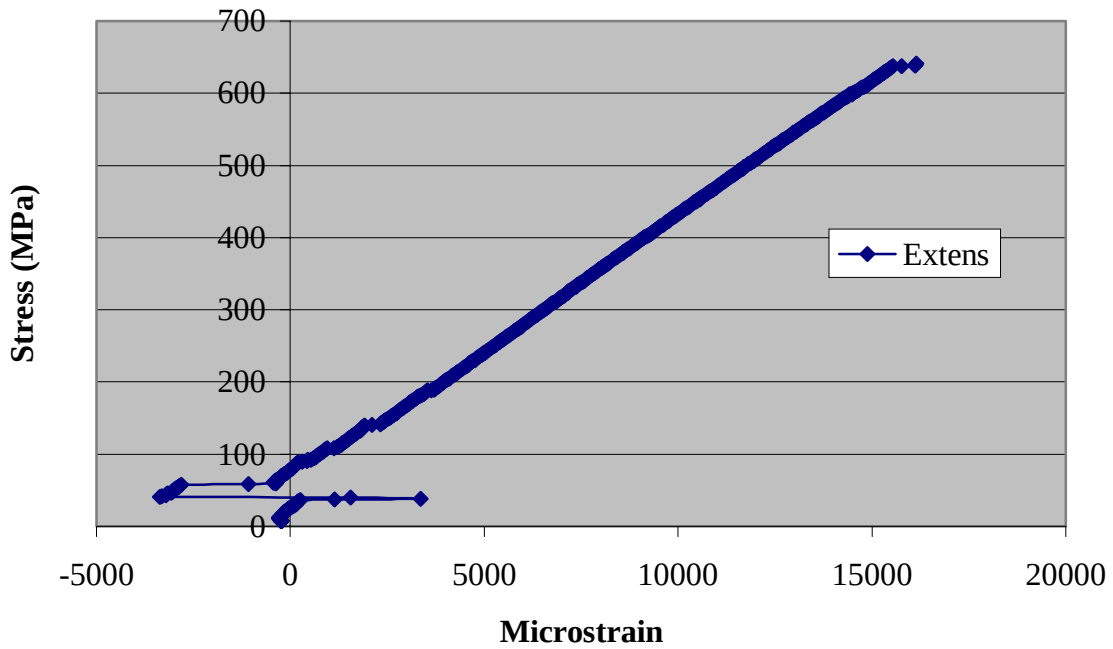
Tensile Test 7 - #5 Marshall



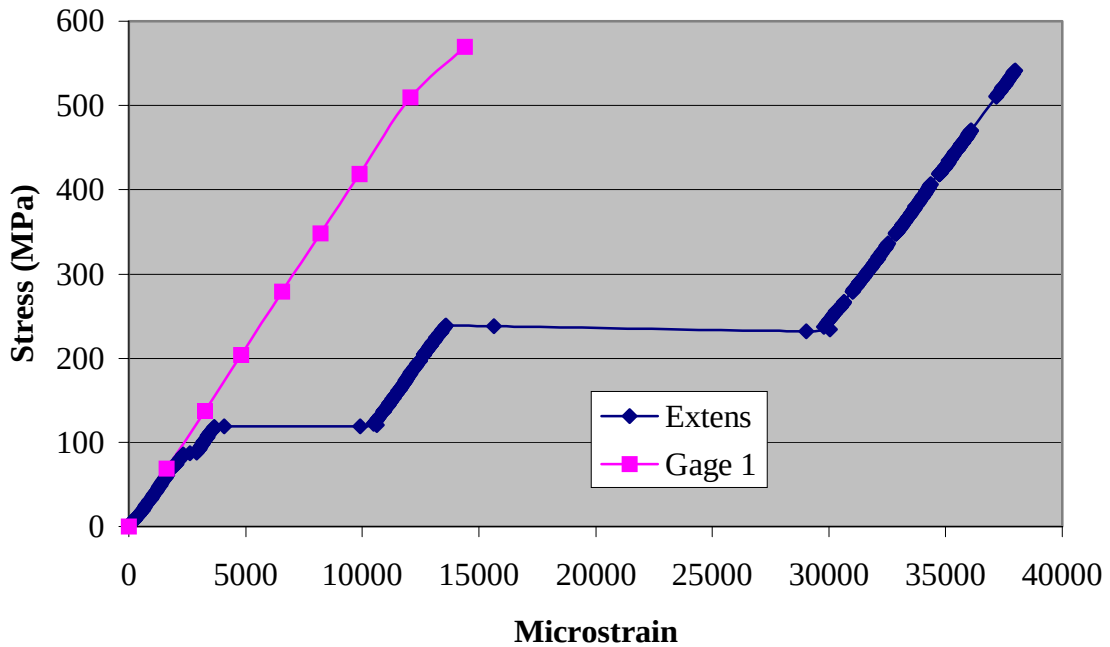
Tensile Test 8 - #5 Marshall



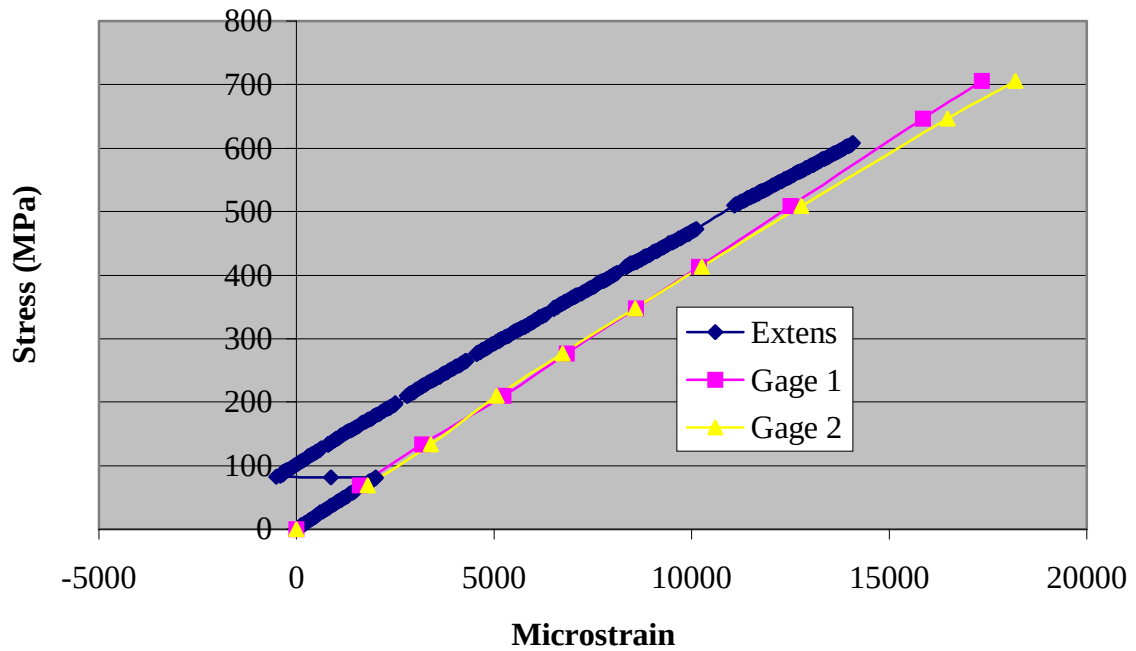
Tensile Test 9 - #4 Marshall



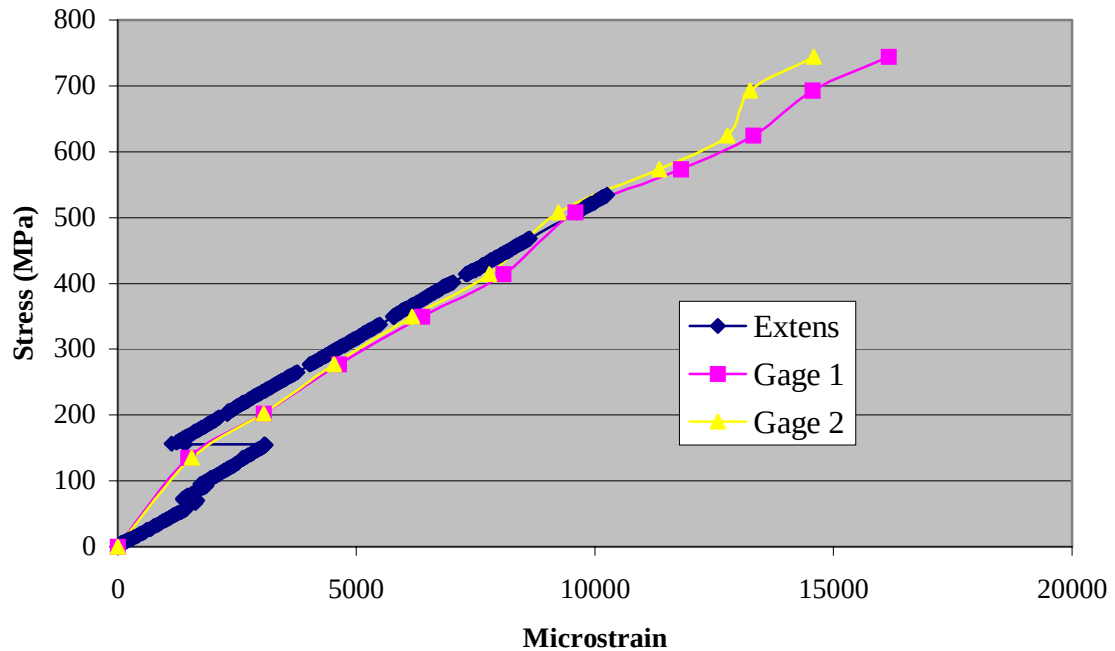
Tensile Test 10 - #5 Marshall



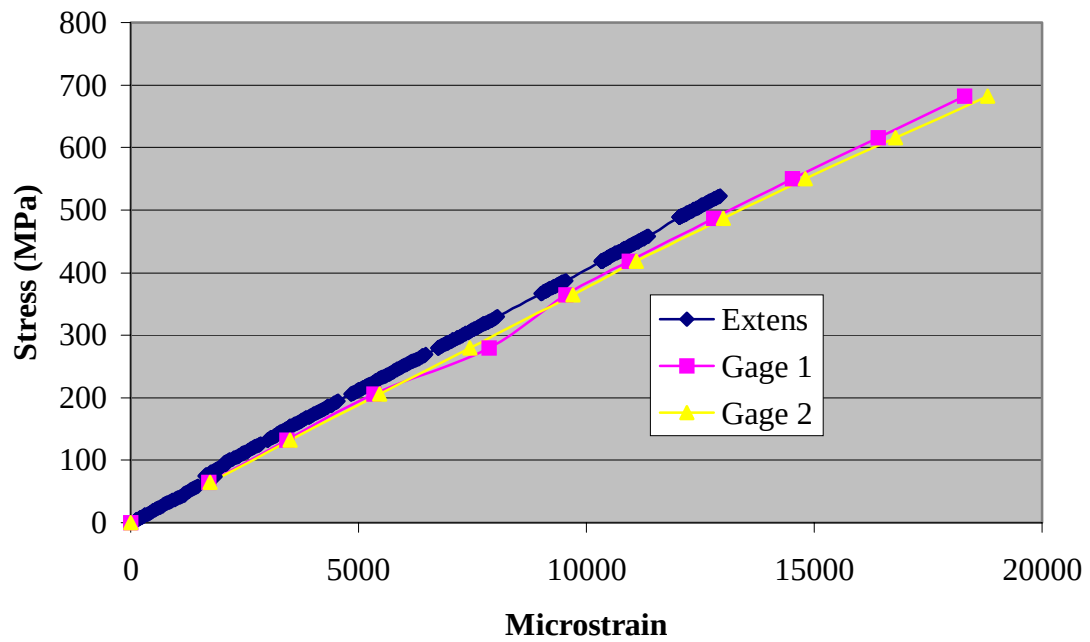
Tensile Test 11 - #5 Marshall



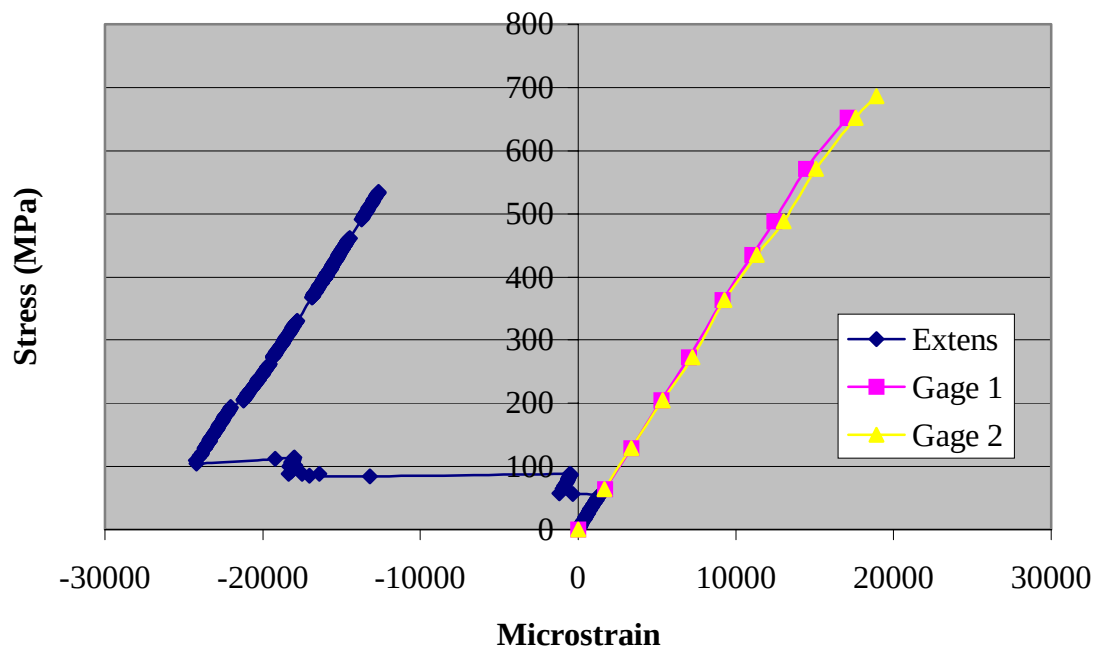
Tensile Test 12 - #5 Marshall



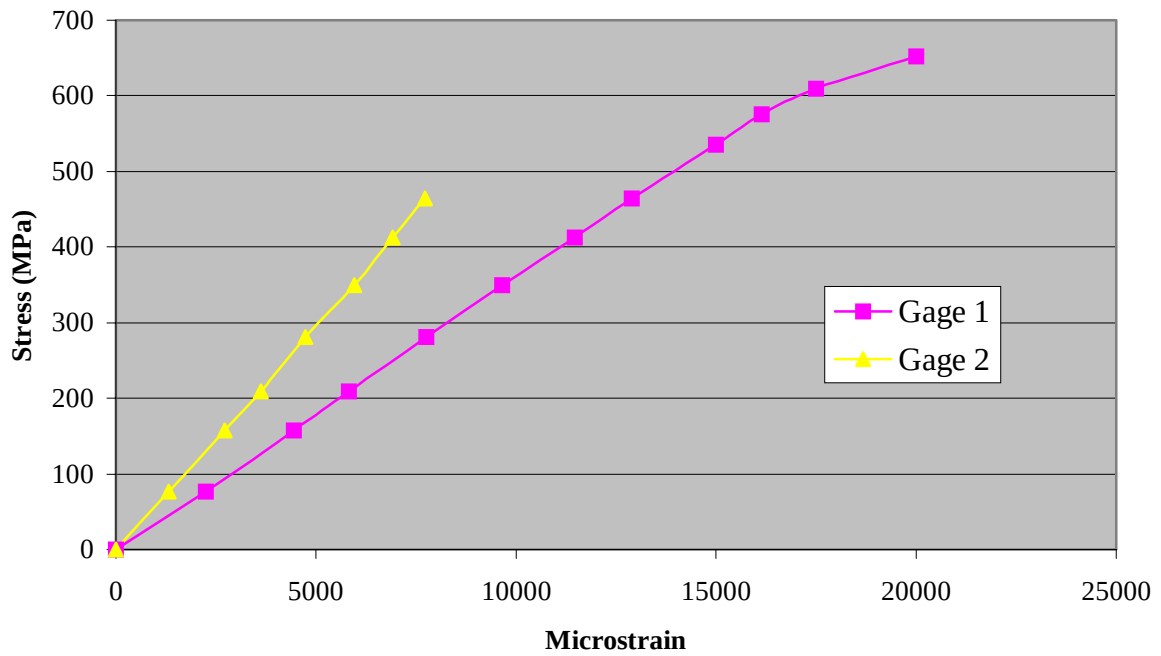
Tensile Test 13 - #6 Marshall



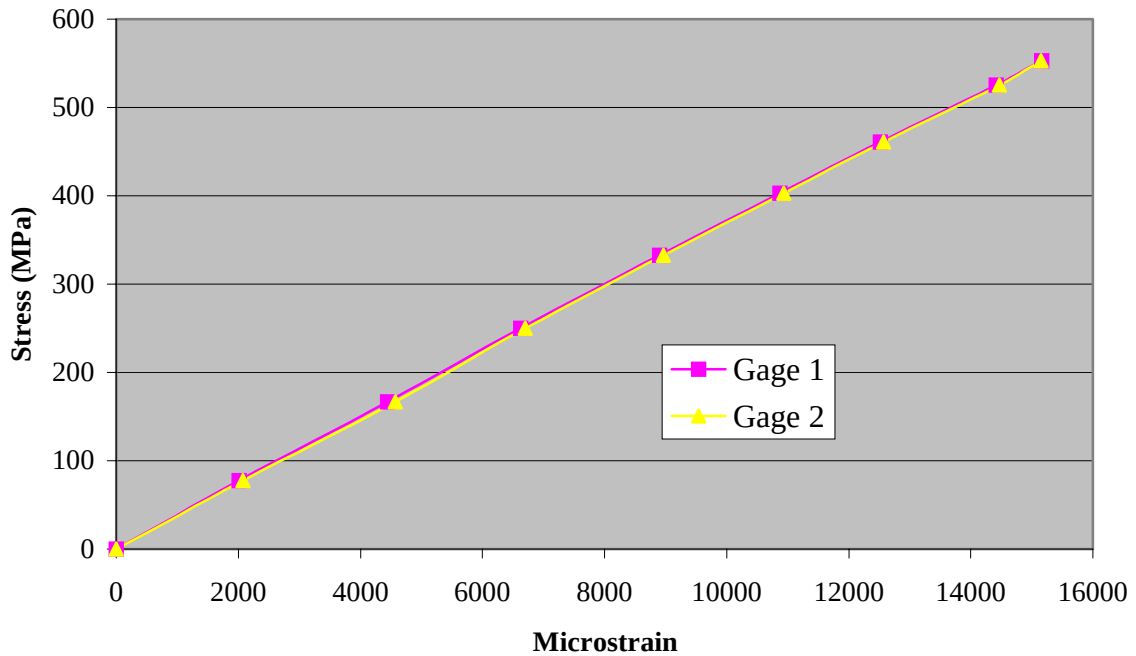
Tensile Test 14 - #6 Marshall



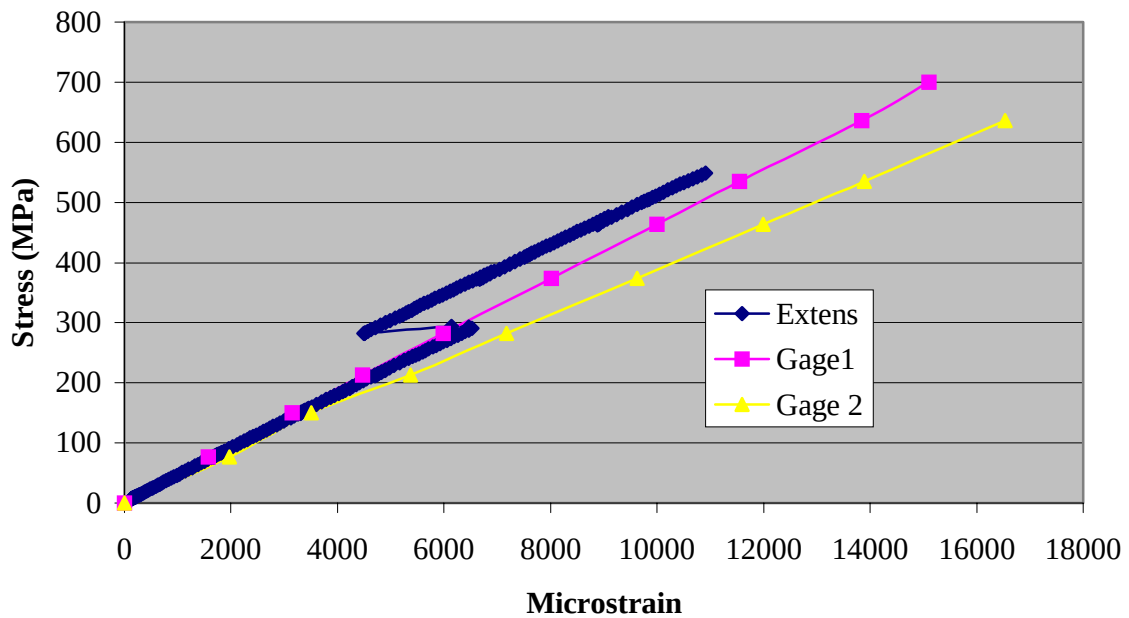
Tensile Test 15 - #6 Marshall



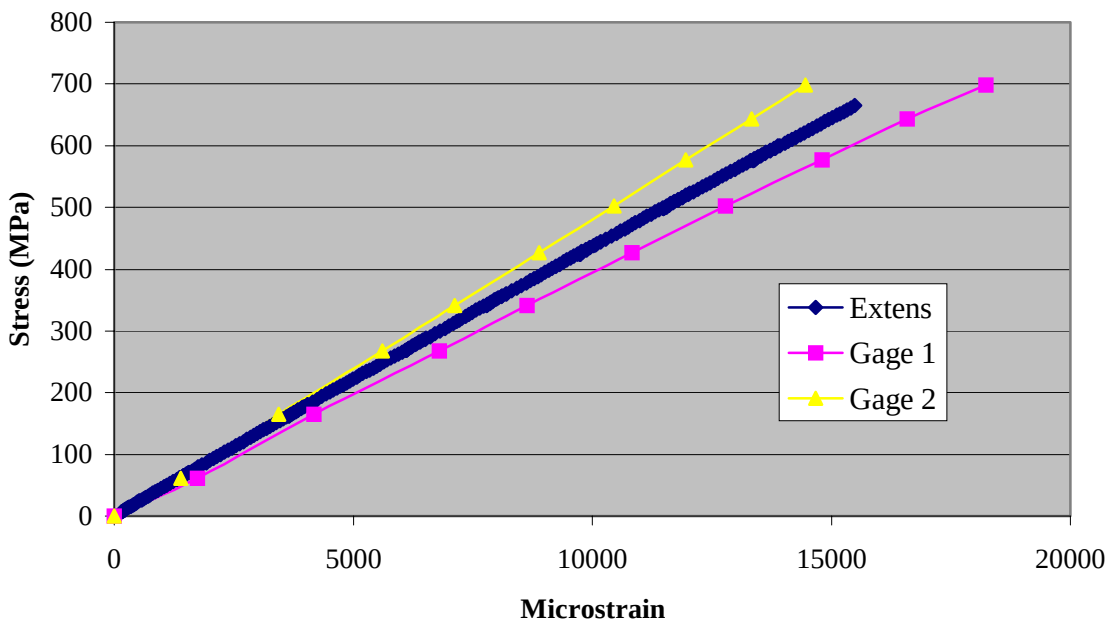
Tensile Test 16 - #6 Marshall



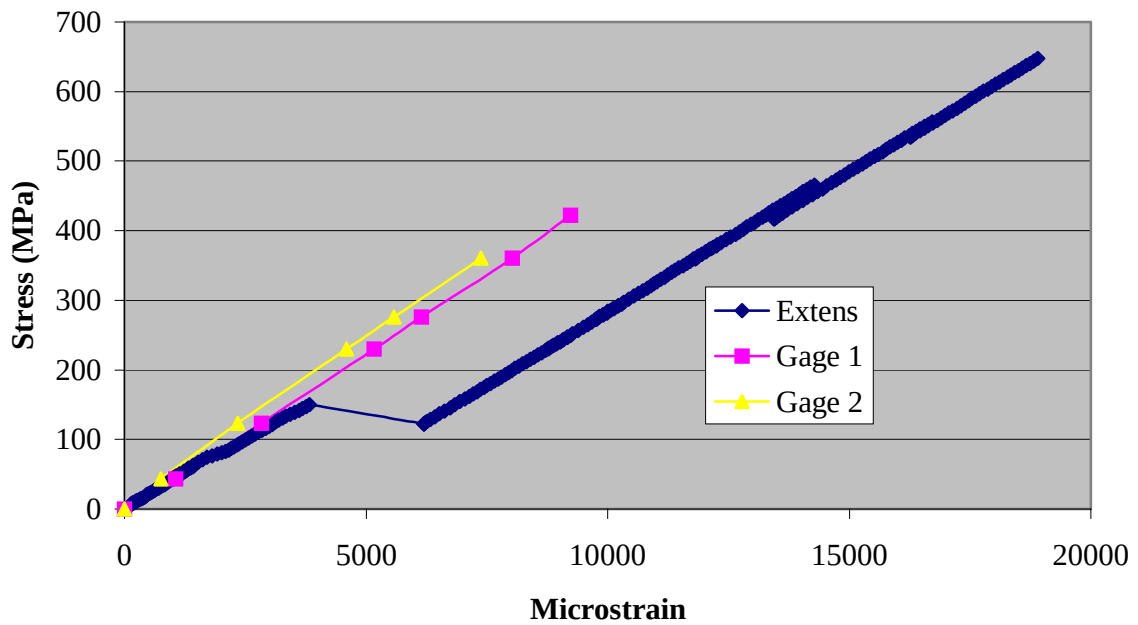
Tensile Test 17 - #4 Hughes Brothers



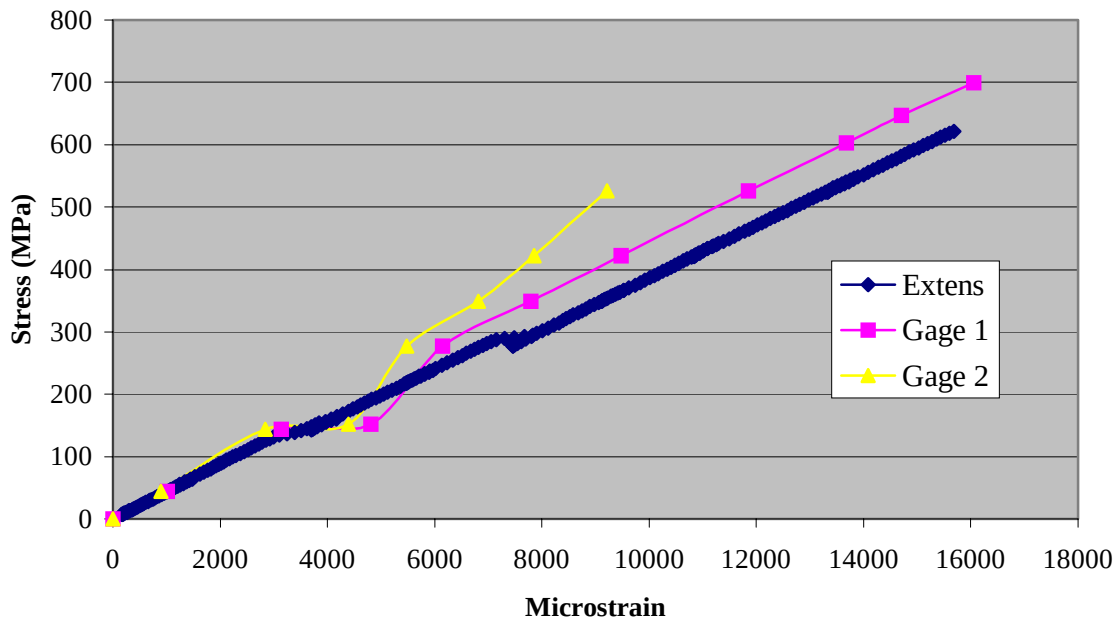
Tensile Test 18 - #4 Hughes Brothers



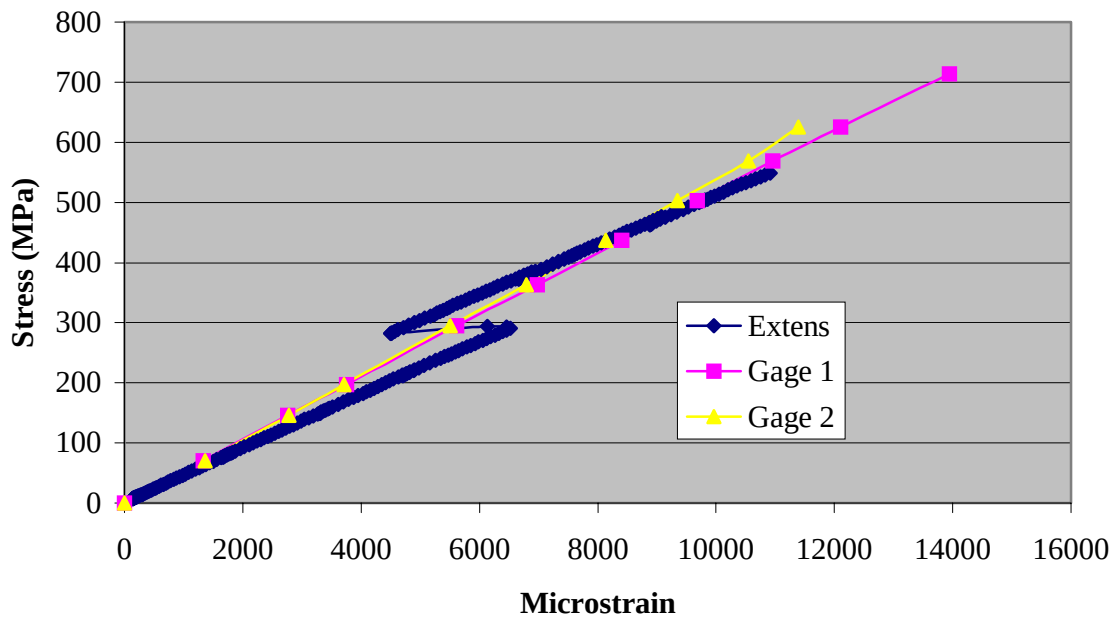
Tensile Test 19 - #4 Hughes Brothers



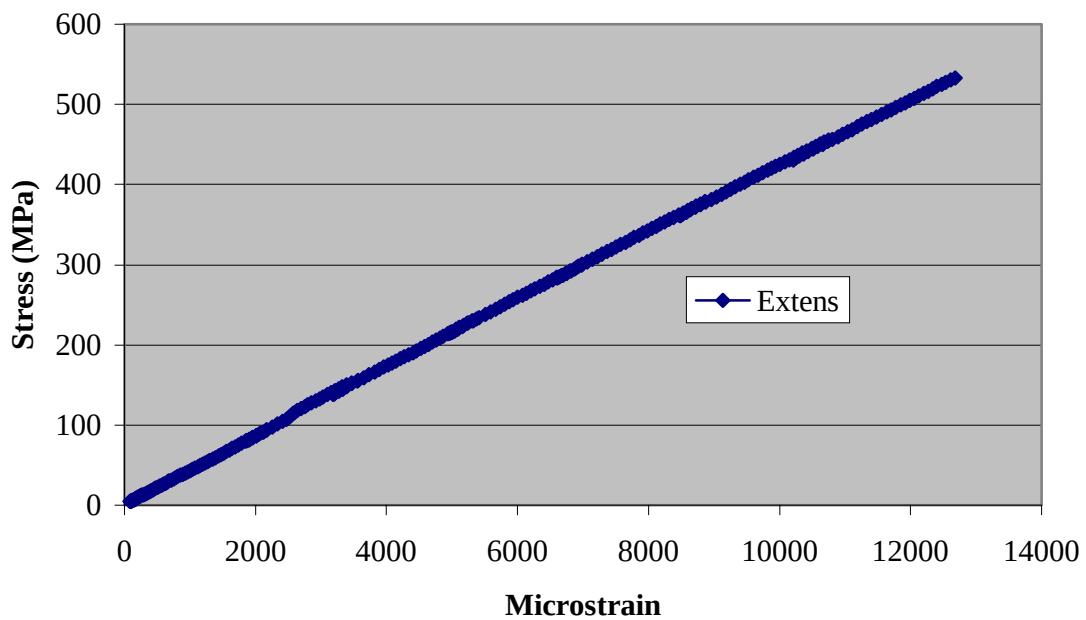
Tensile Test 20 - #4 Hughes Brothers



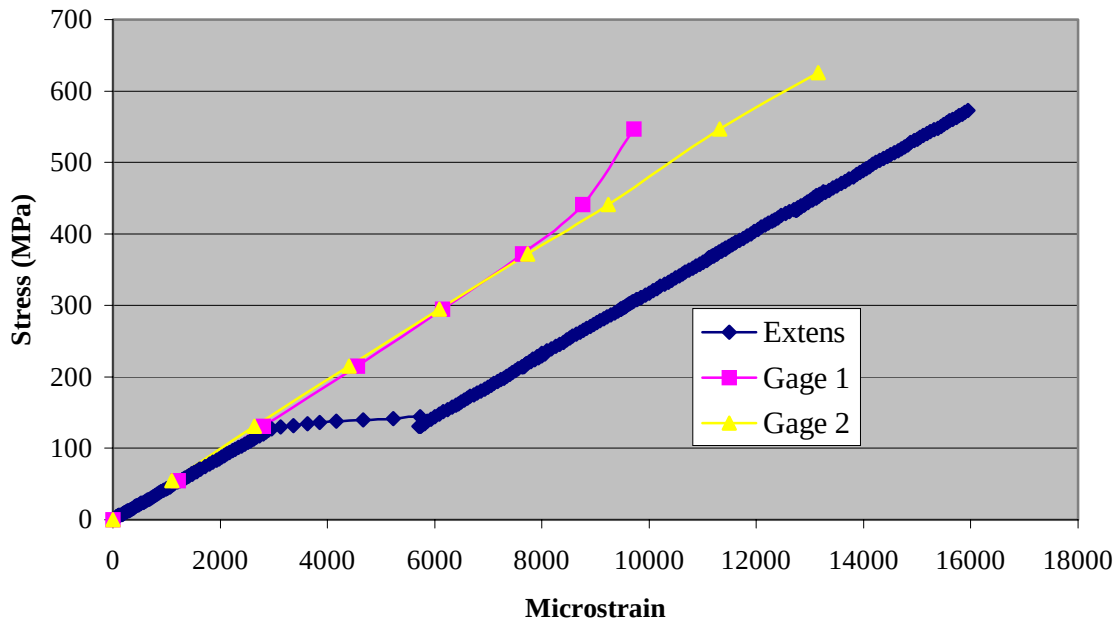
Tensile Test 21 - #4 Hughes Brothers



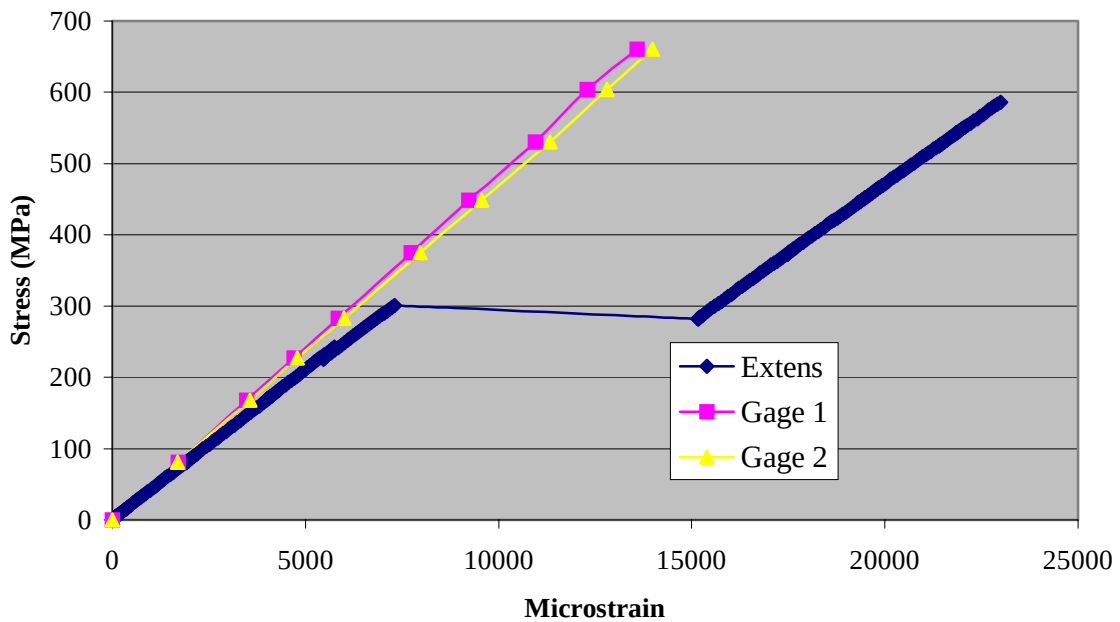
Tensile Test 22 - #5 Hughes Brothers



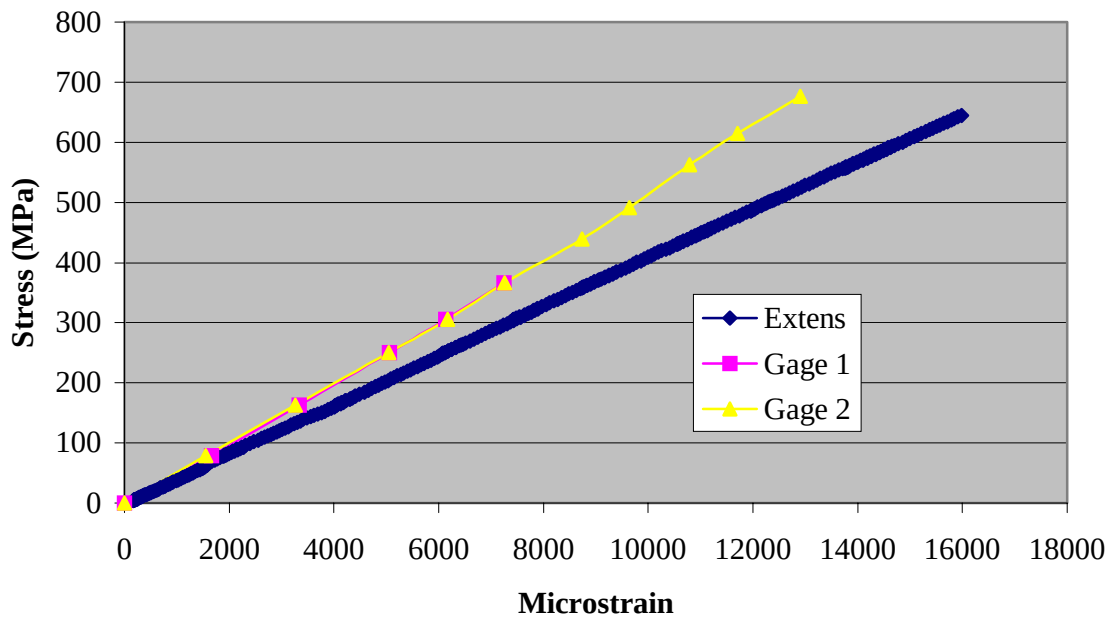
Tensile Test 23 - #5 Hughes Brothers



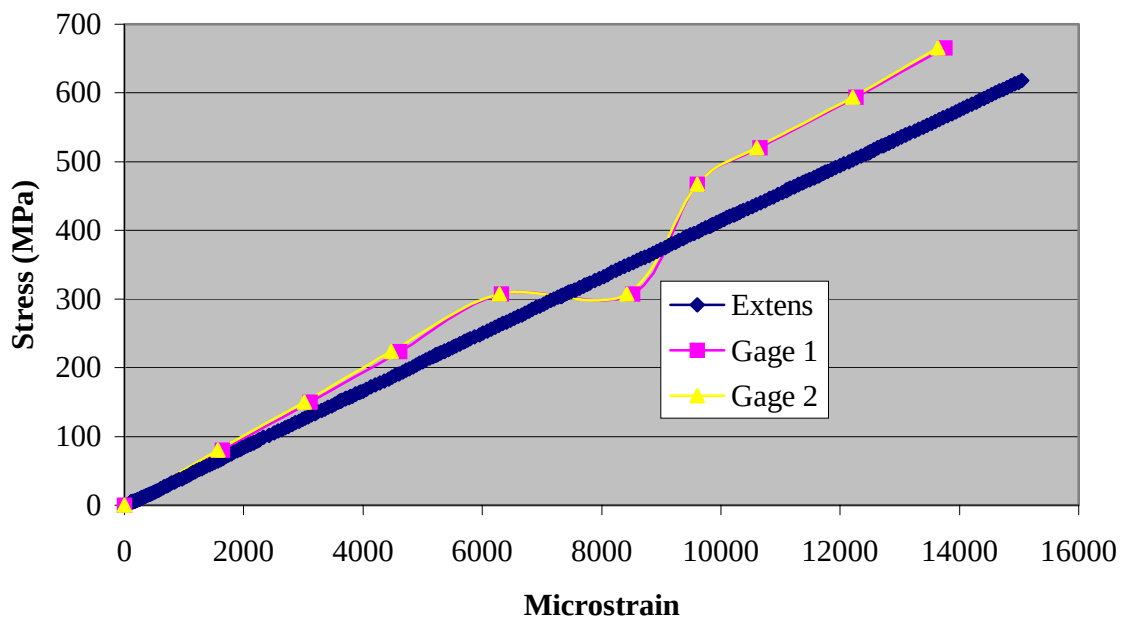
Tensile Test 24 - #5 Hughes Brothers



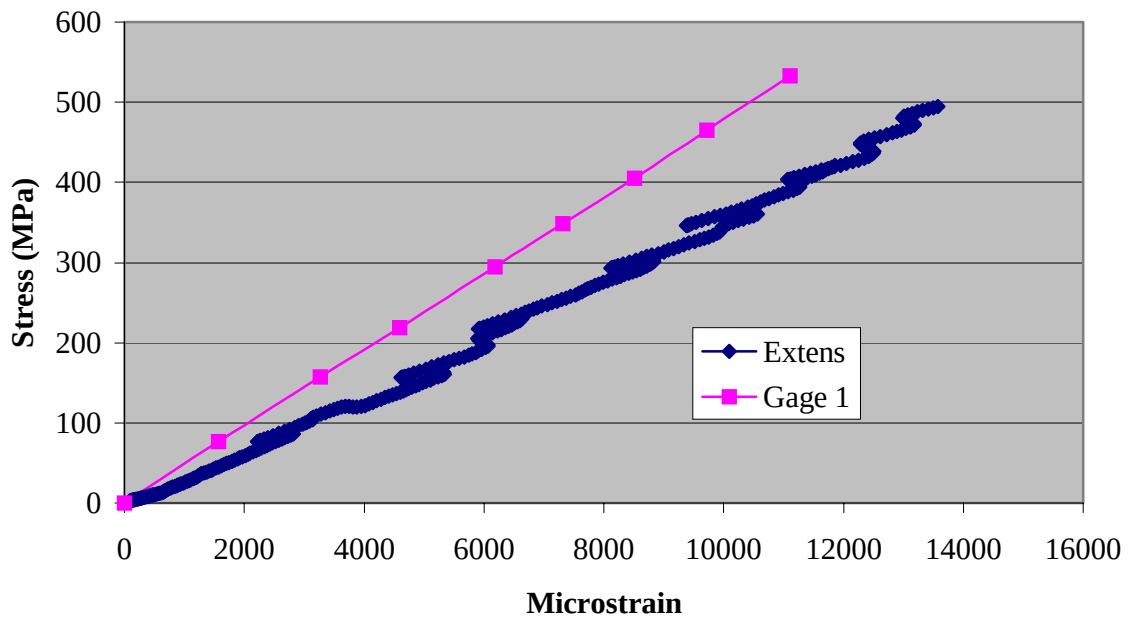
Tensile Test 25 - #5 Hughes Brothers



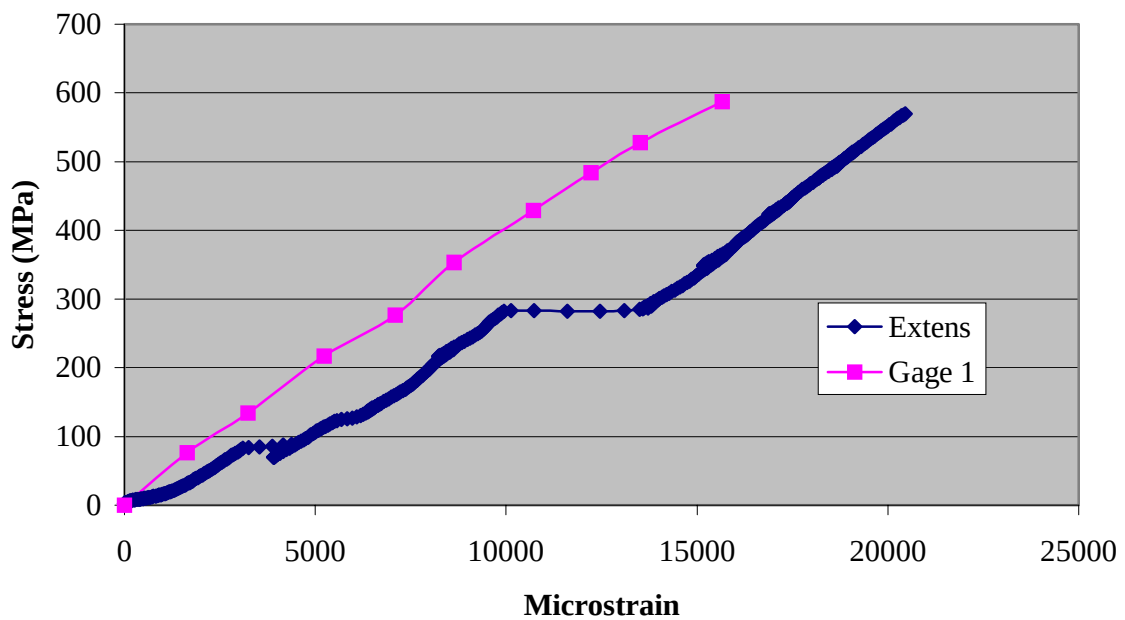
Tensile Test 26 - #5 Hughes Brothers



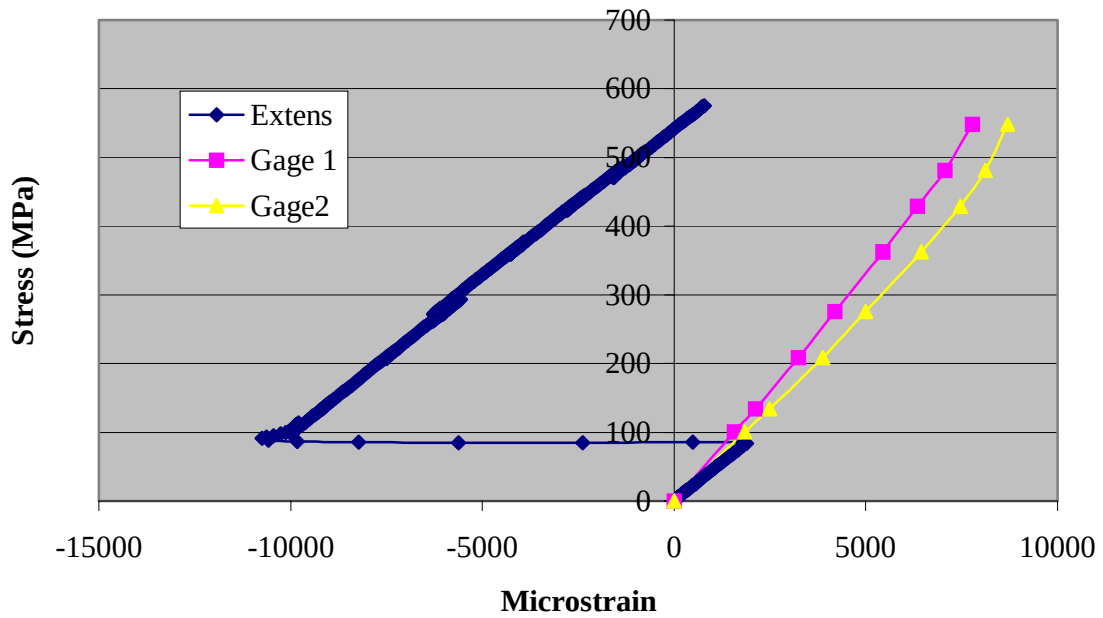
Tensile Test 27 - #6 Hughes Brothers



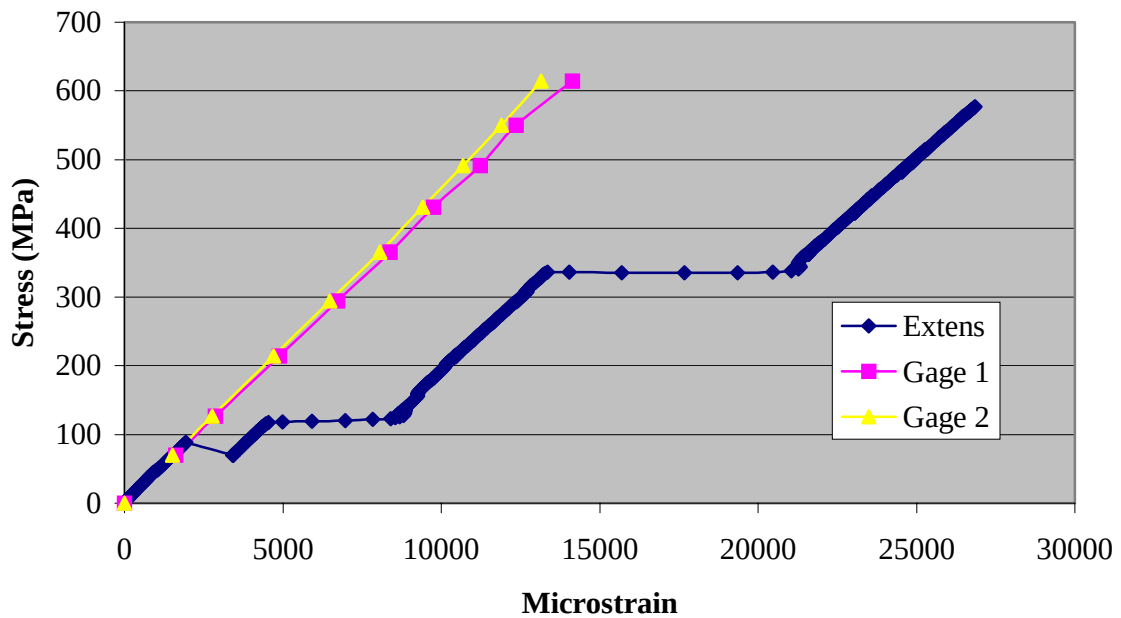
Tensile Test 28 - #6 Hughes Brothers



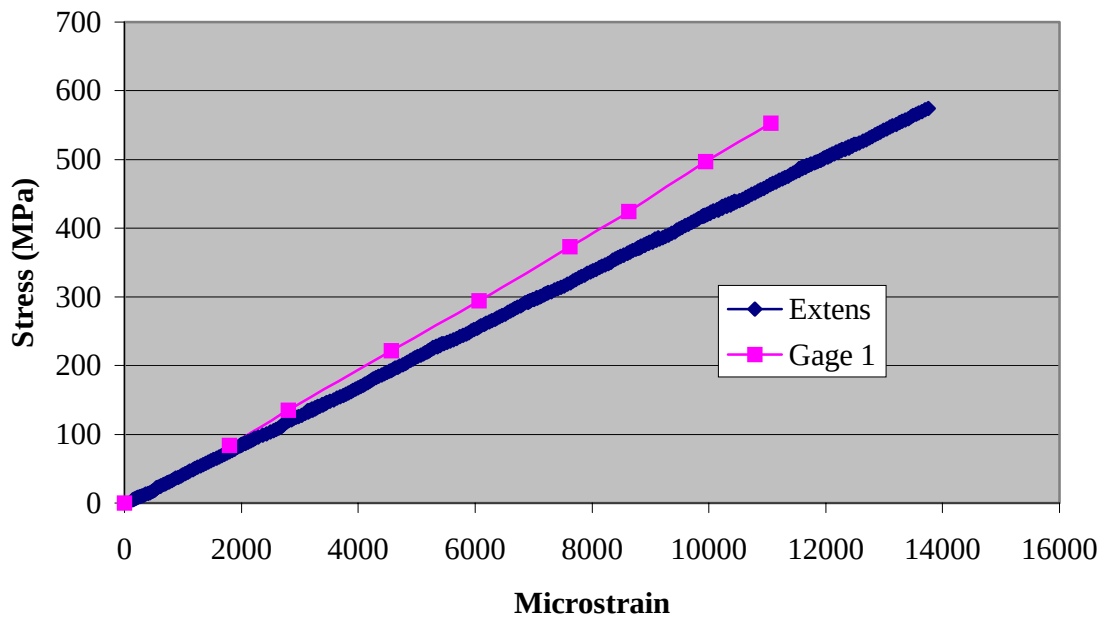
Tensile Test 29 - #6 Hughes Brothers



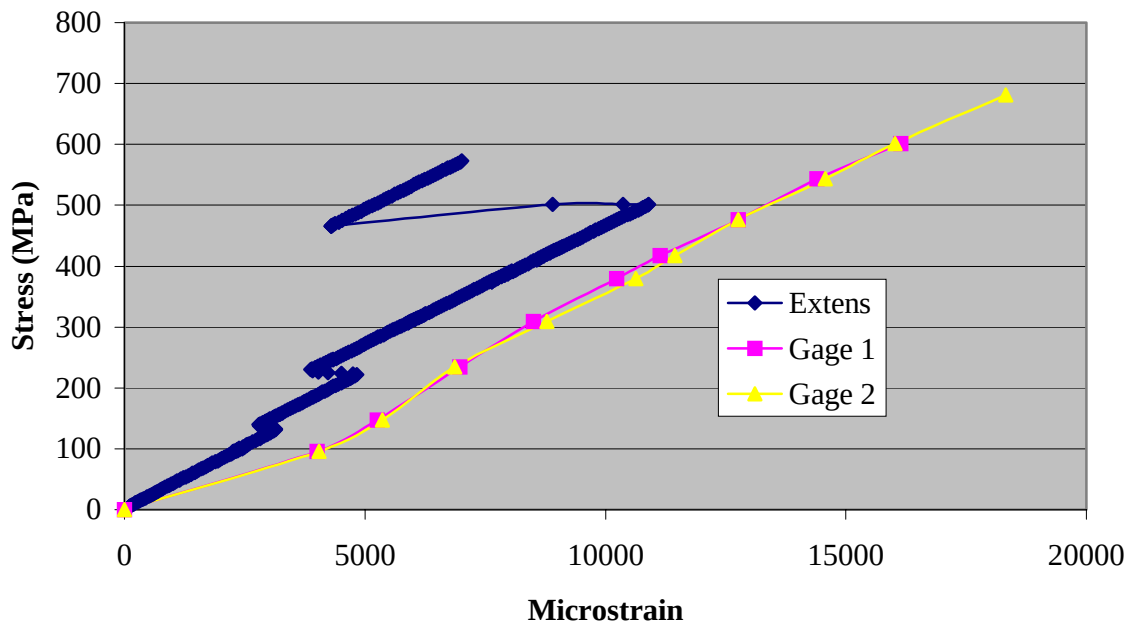
Tensile Test 30 - #6 Hughes Brothers

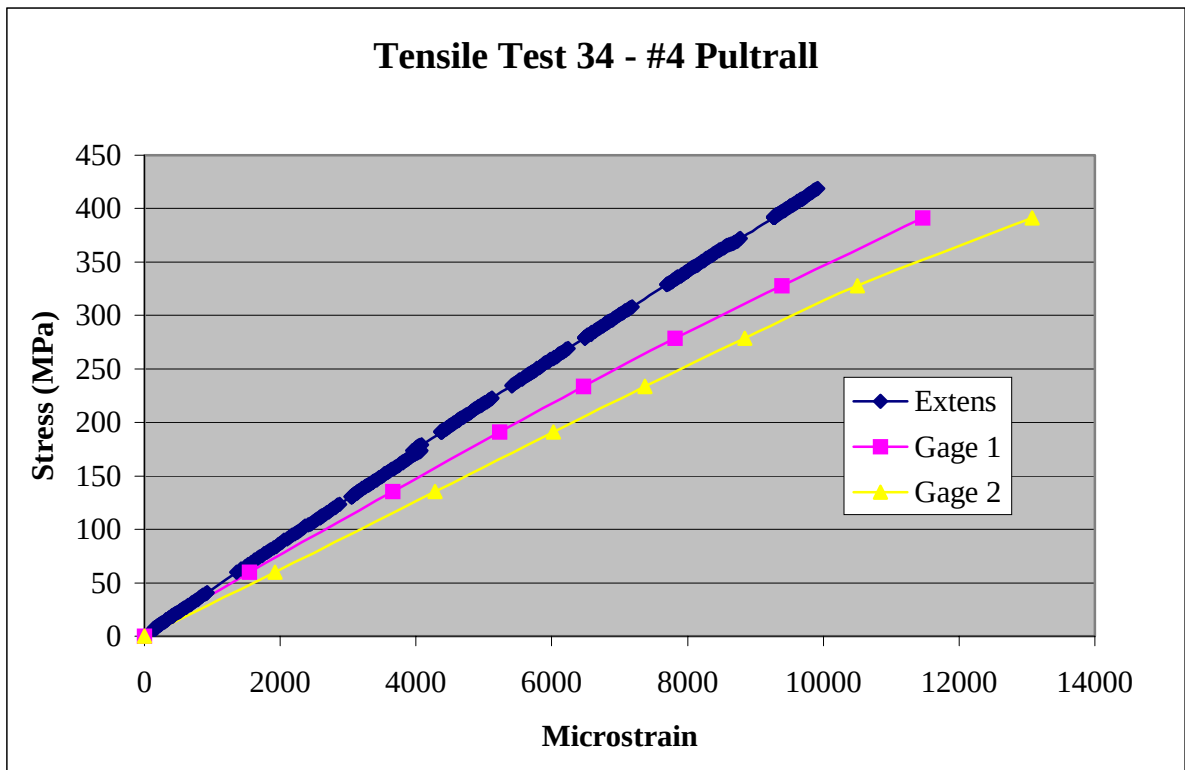
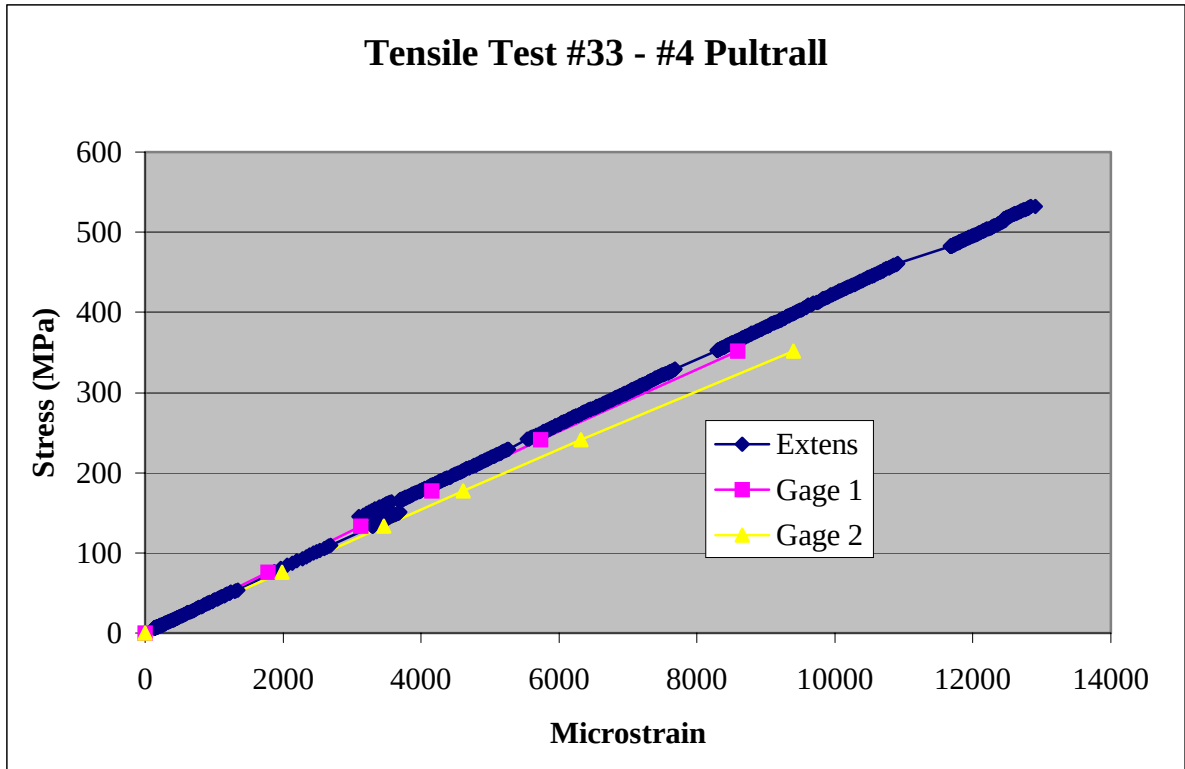


Tensile Test 31 - #6 Hughes Brothers

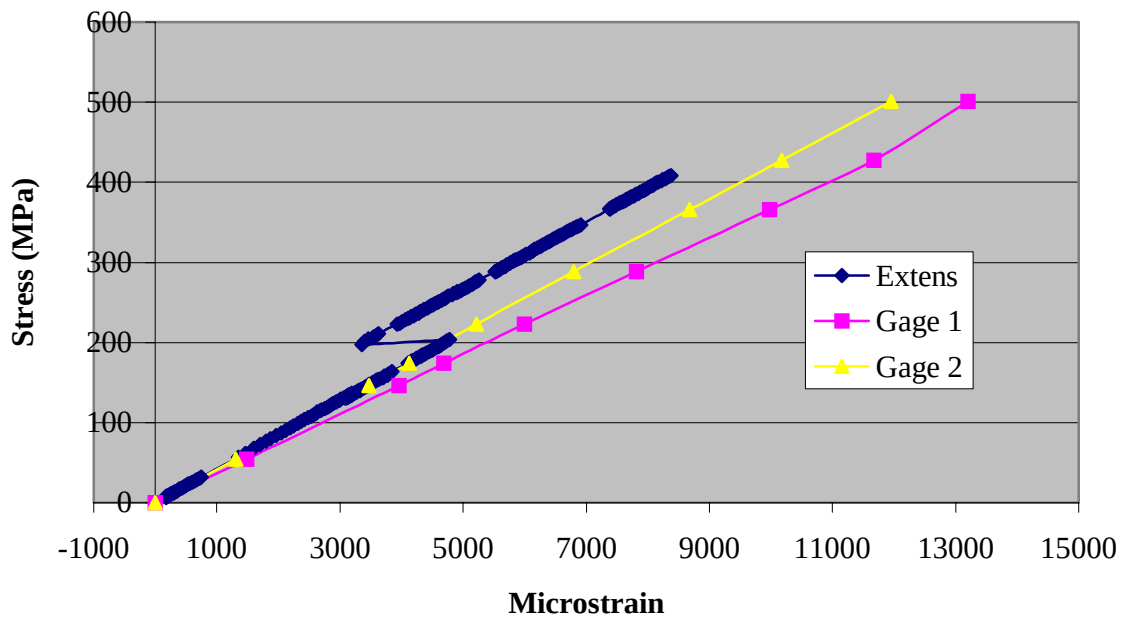


Tensile Test 32 - #6 Marshall

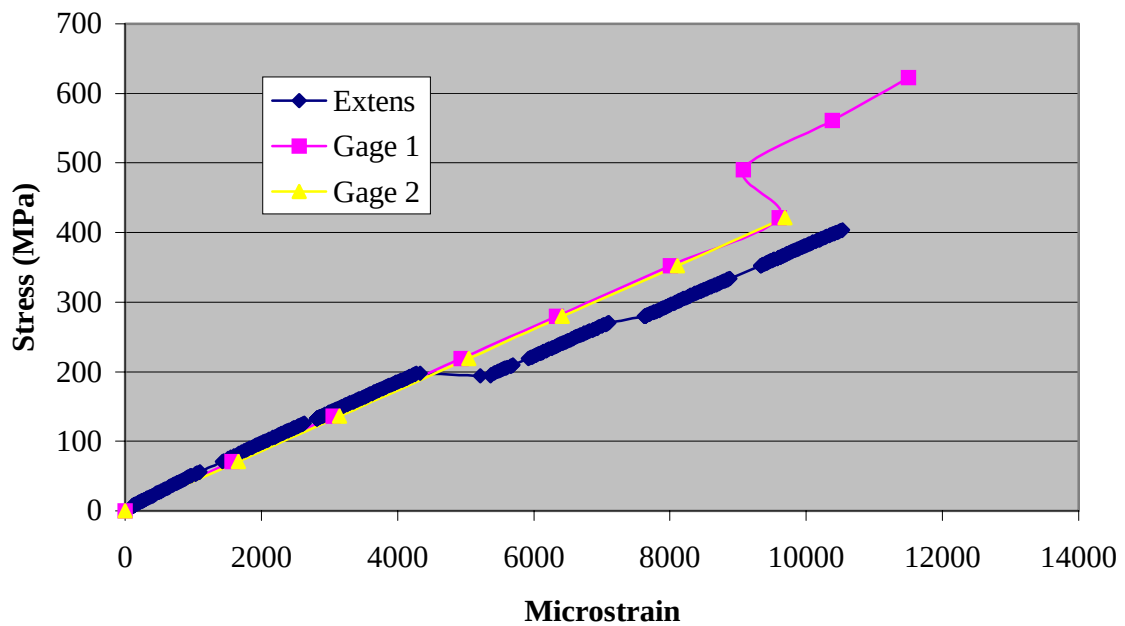




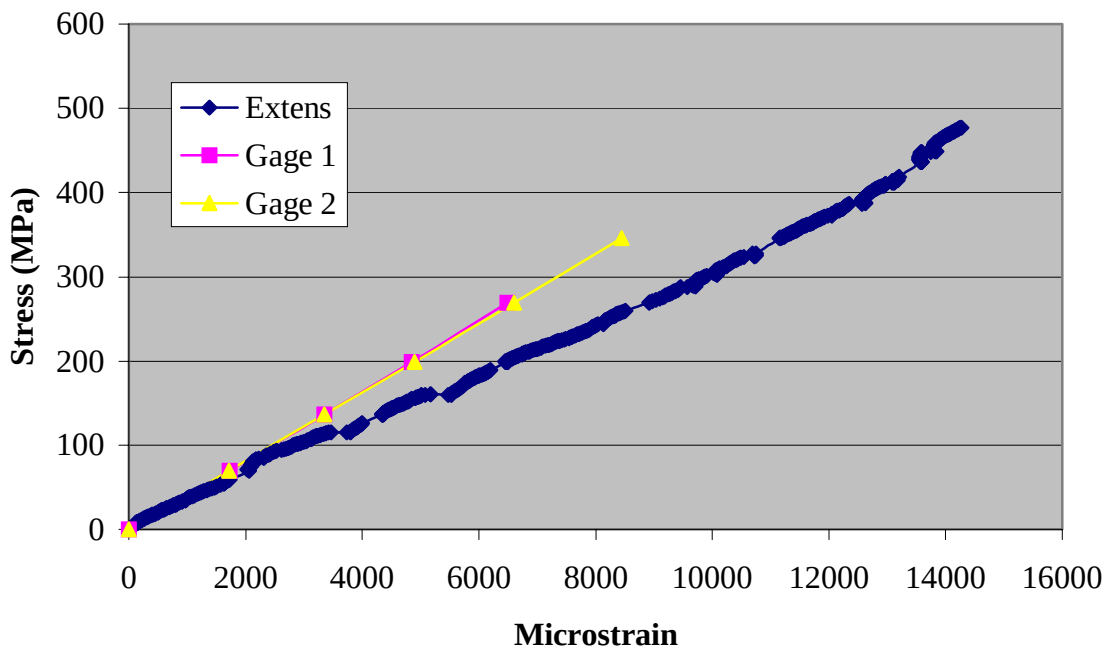
Tensile Test 35 - #4 Pultrall



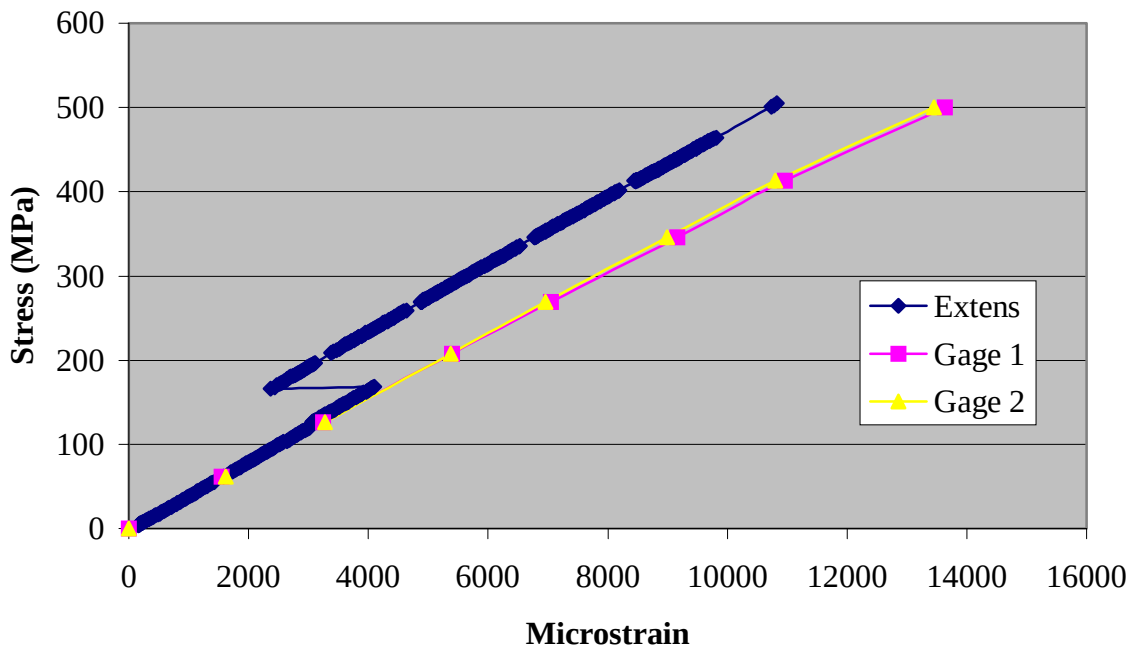
Tensile Test 36 - #4 Pultrall

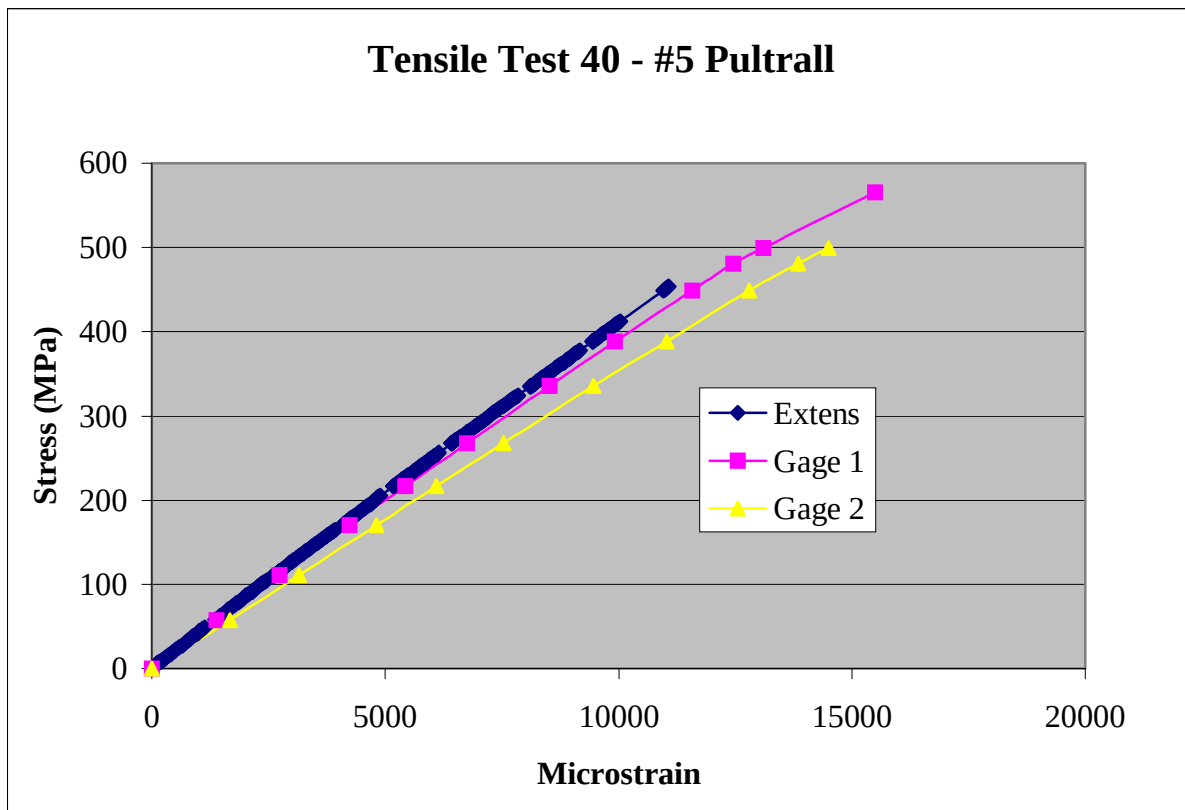
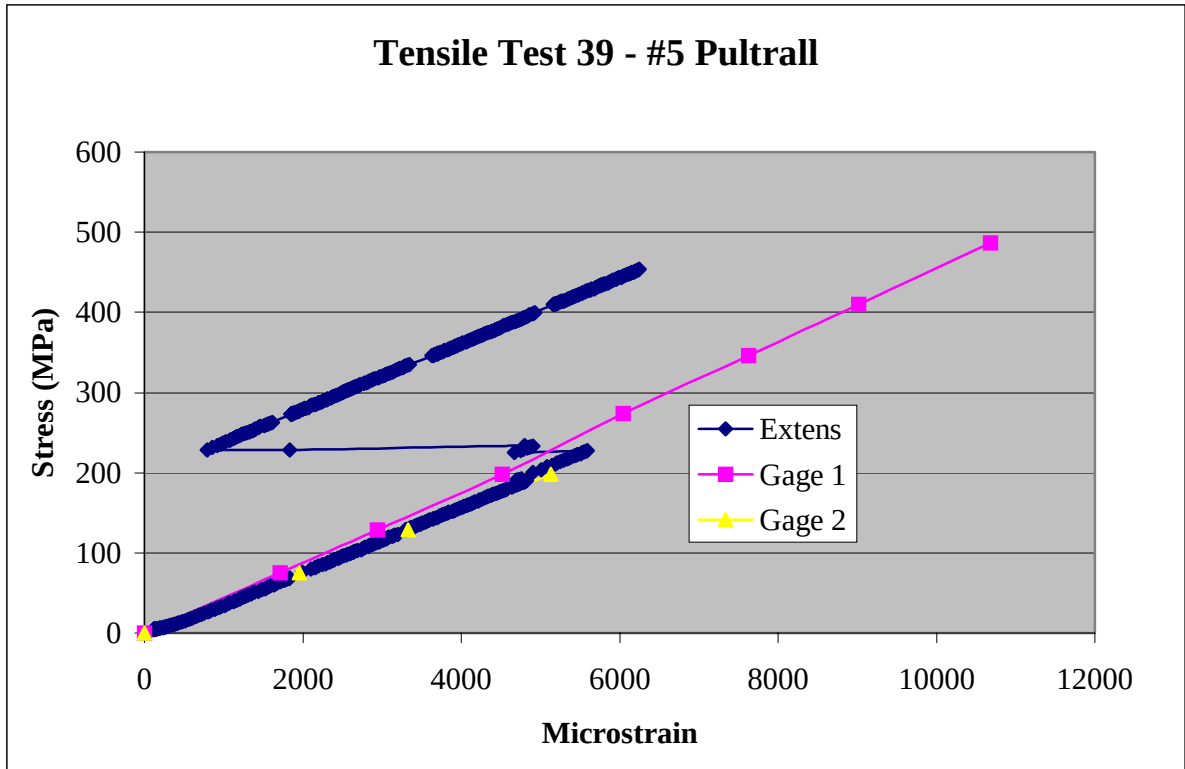


Tensile Test 37 - #4 Pultrall

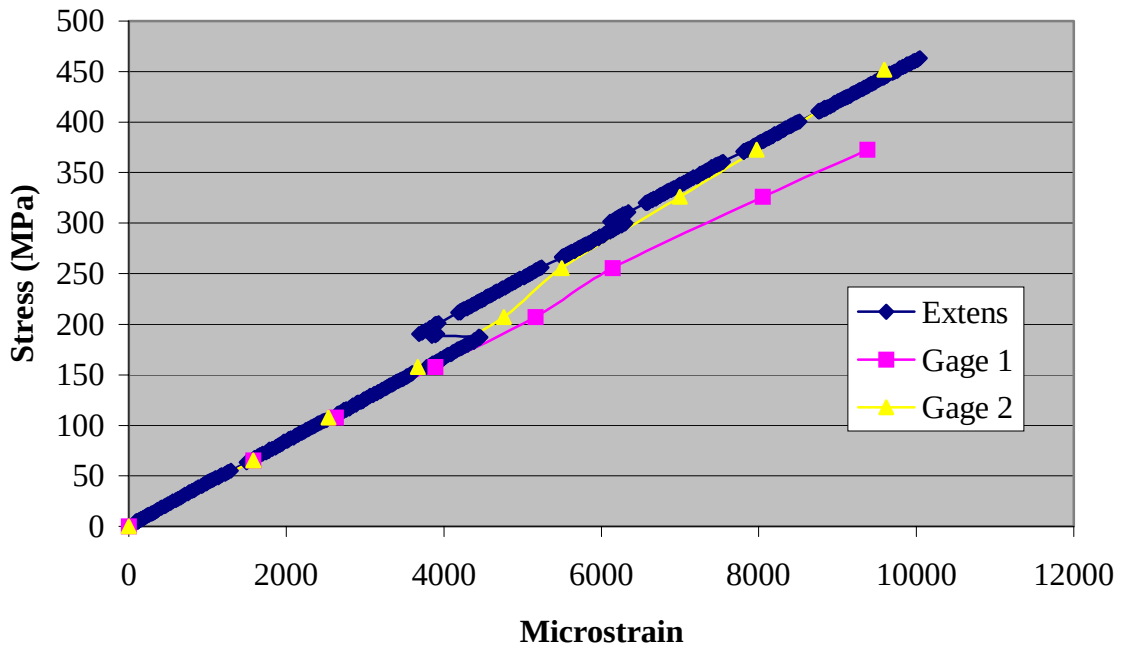


Tensile Test 38 - #5 Pultrall

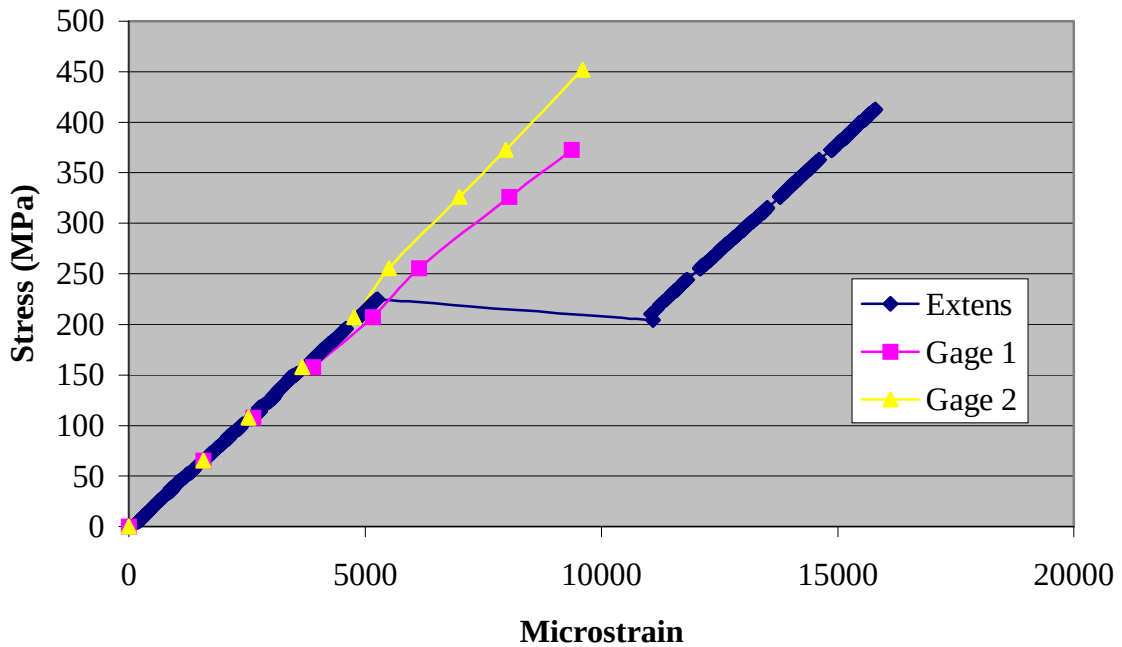




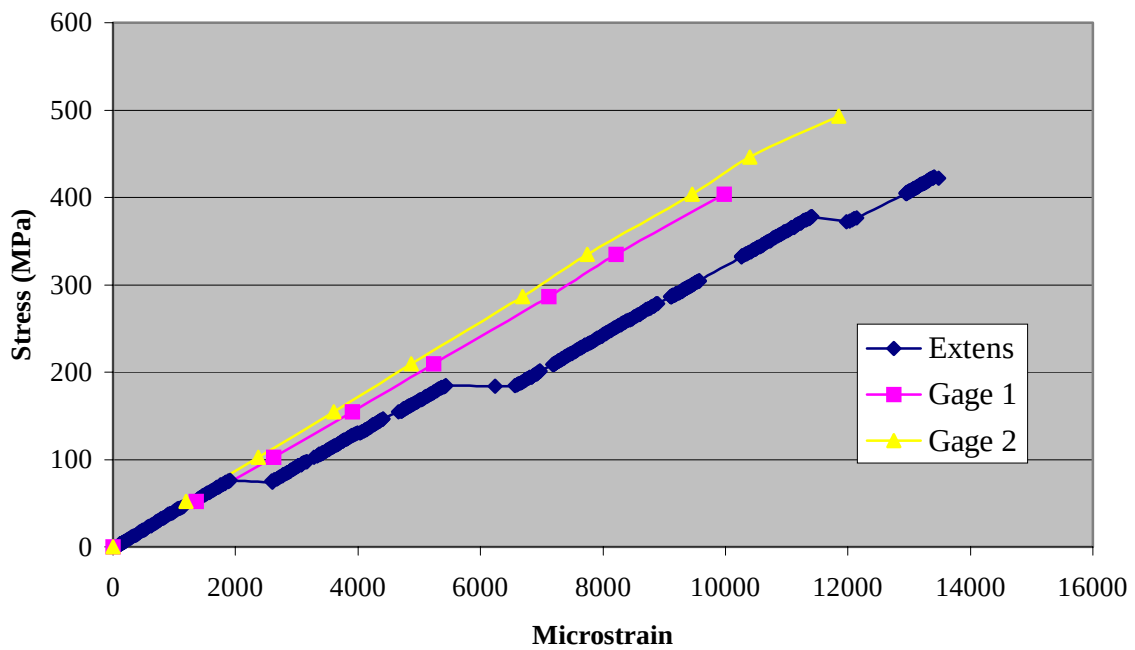
Tensile Test 41 - #5 Pultrall



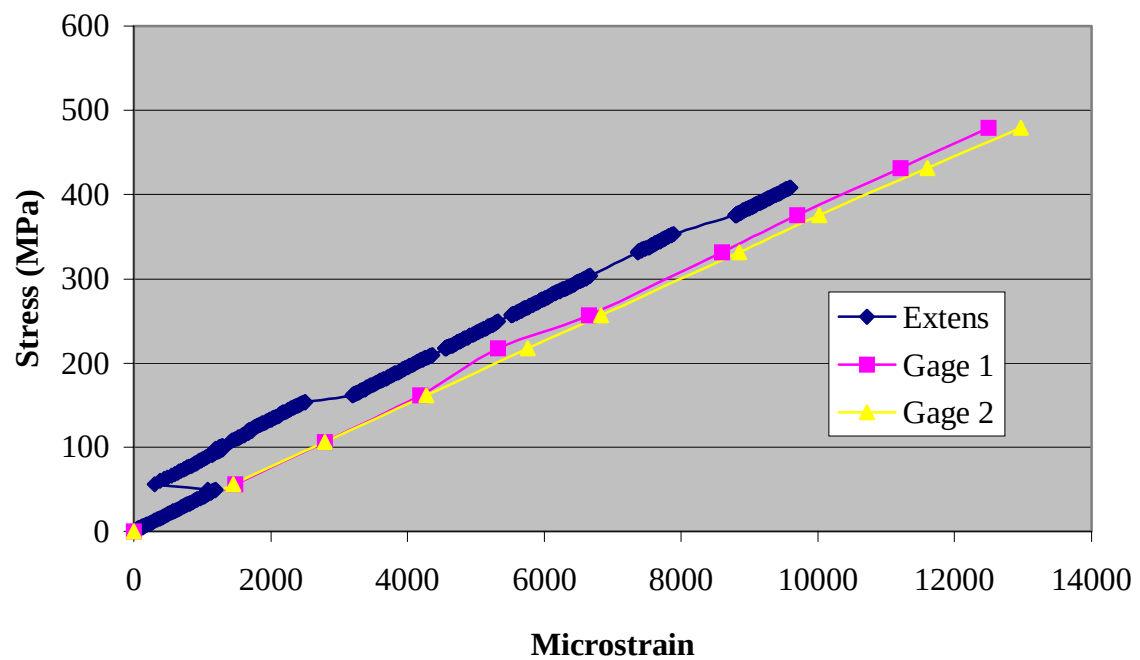
Tensile Test 42 - #5 Pultrall



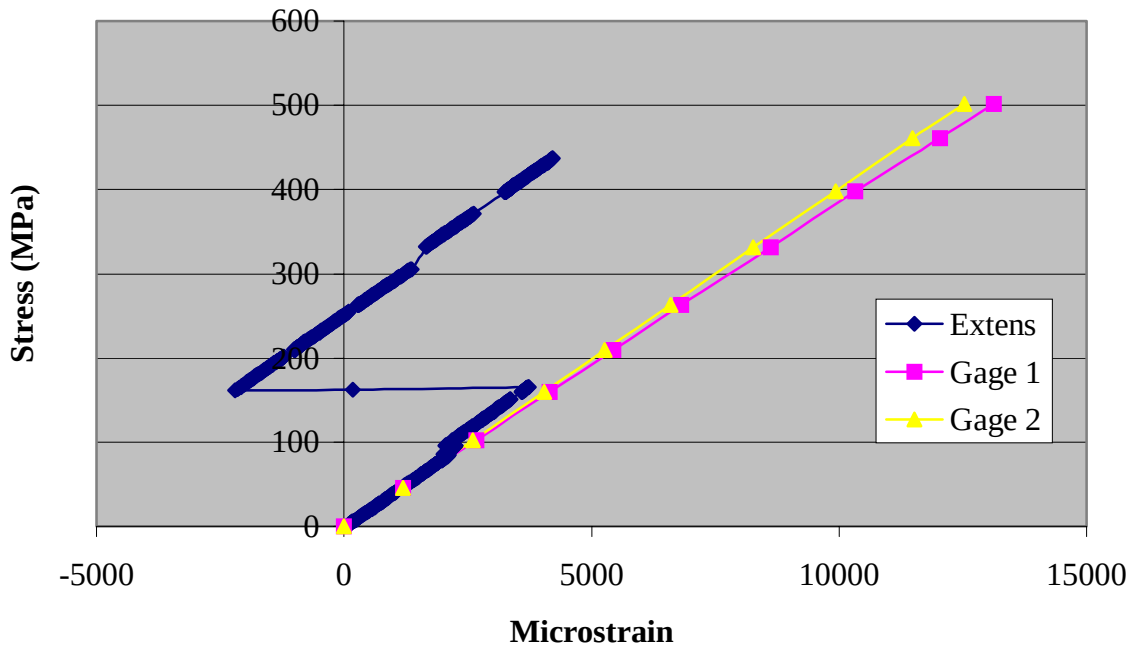
Tensile Test 43 - #6 Pultrall



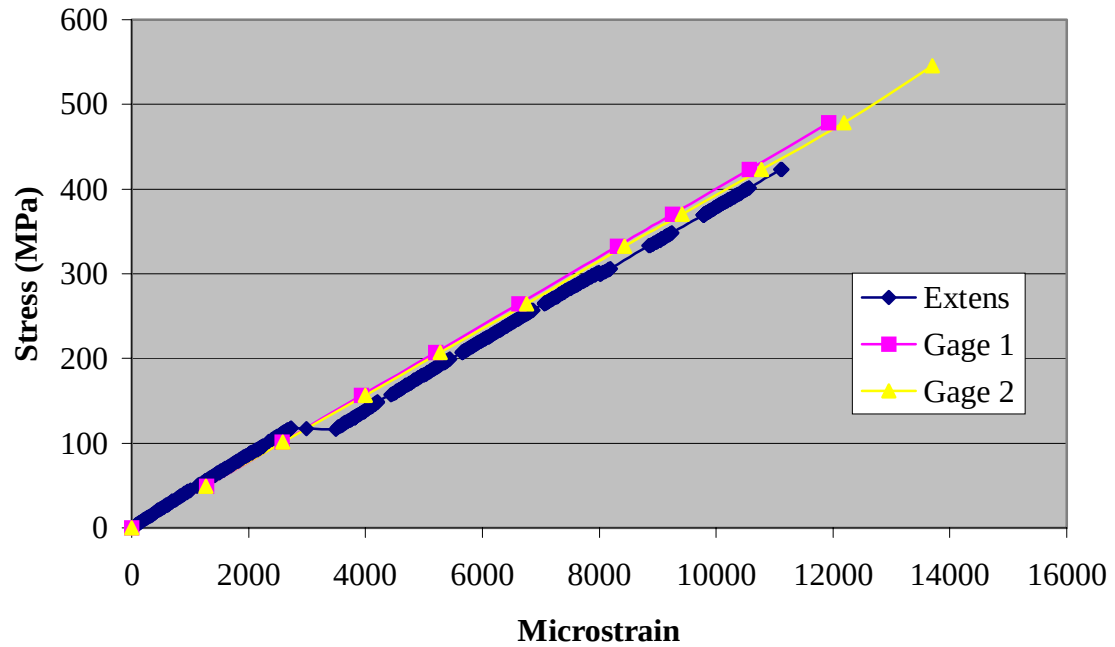
Tensile Test 44 - #6 Pultrall



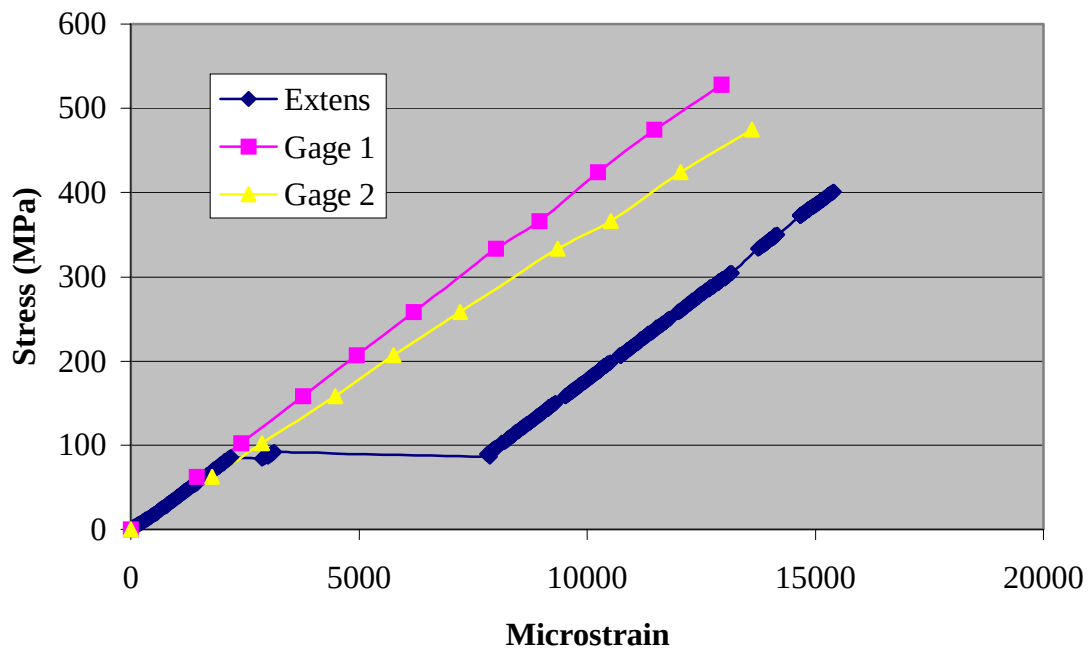
Tensile Test 45 - #6 Pultrall



Tensile Test 46 - #6 Pultrall



Tensile Test 47 - #6 Pultrall



A.2: Bond Tests

The format of a legend entry for the bond tests is shown below

$B_{xx} - x - \text{West}$

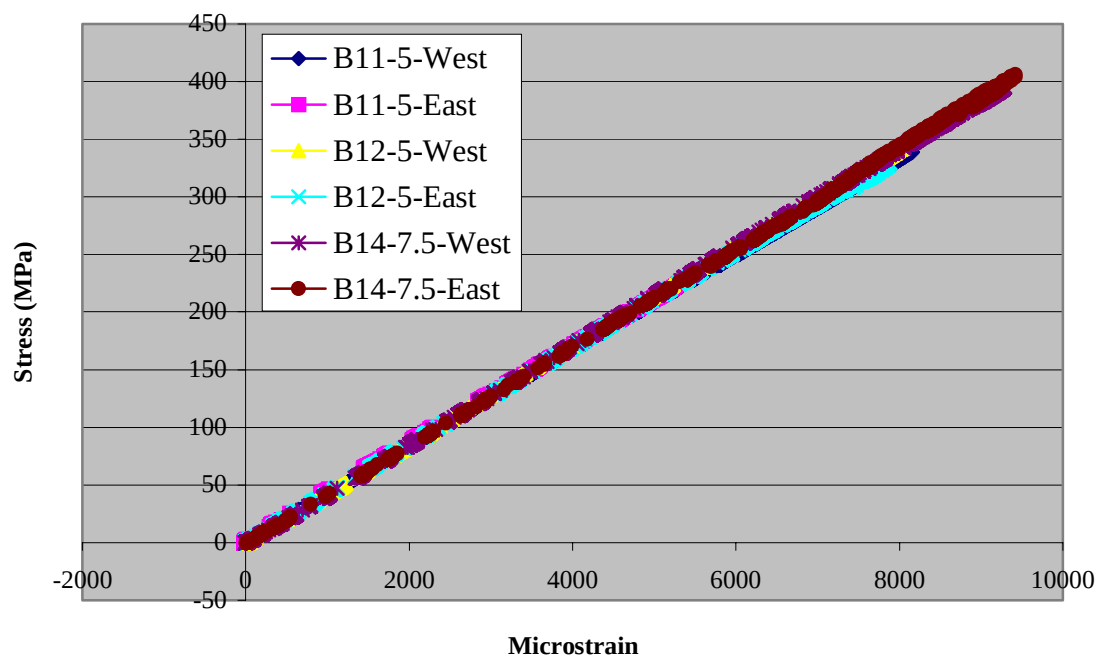
or

$B_{xx} - x - \text{East}$

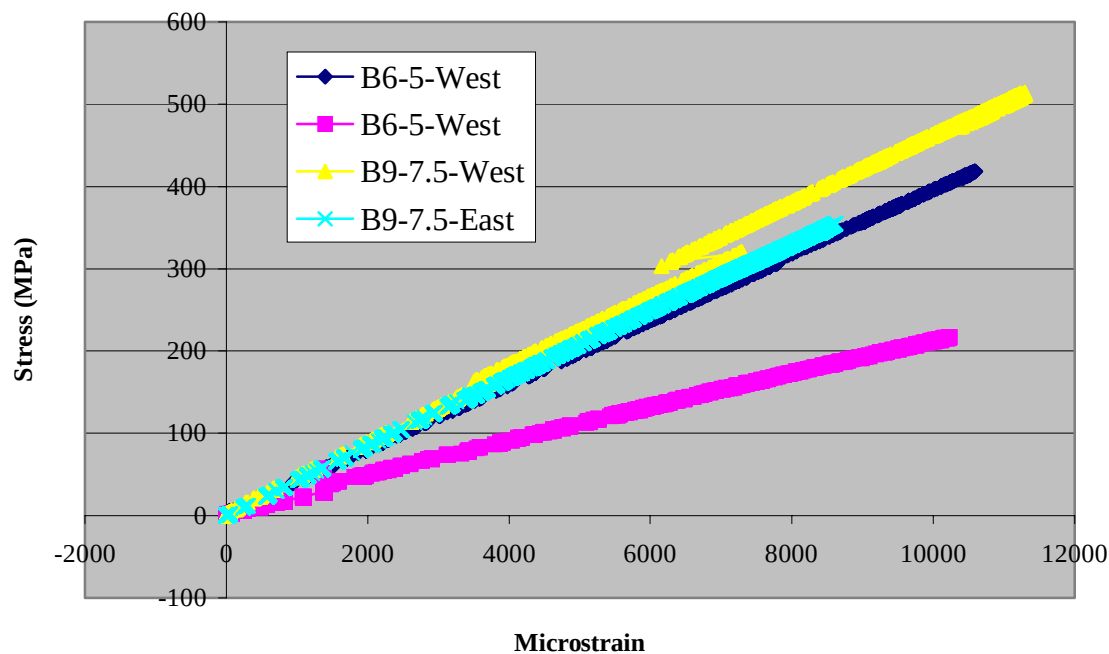
- The letter B denotes Block. What follows the B before the dash represents the block number
- The middle number represents the number of bar diameters of embedment length.

West or East denotes the side of the block that was tested.

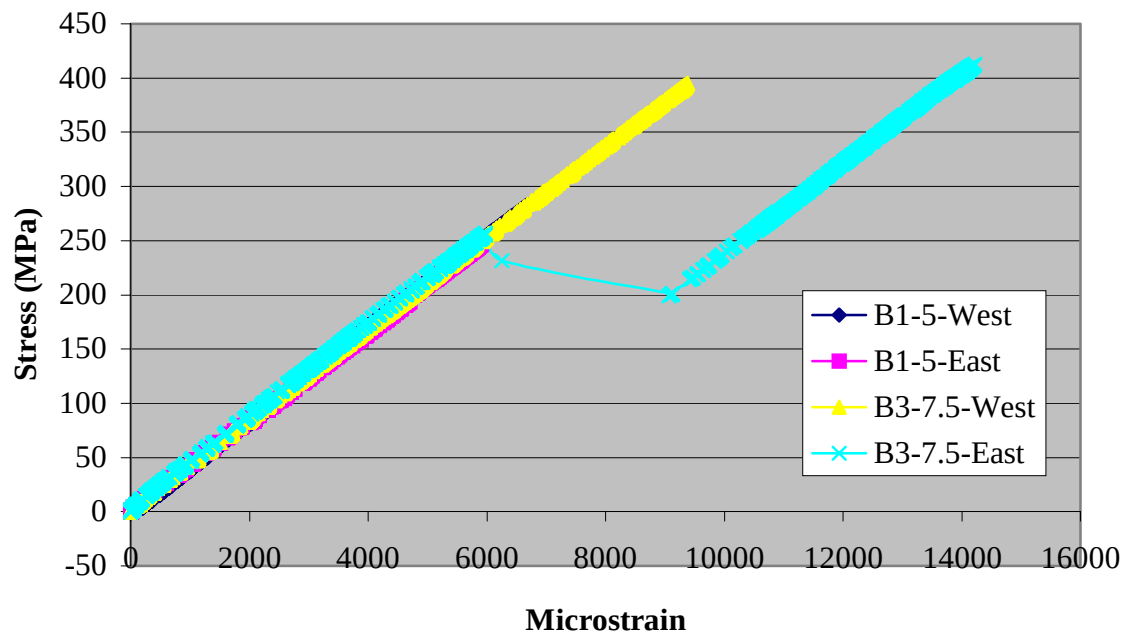
Bond Tests - Hughes Brothers #4 Bars



Bond Tests - Hughes Brothers #5 Bars



Bond Tests - Hughes Brothers #6 Bars



Bond Tests - Marshall #4 Bars

