

## INSTRON 4400 TENSILE TEST Check List

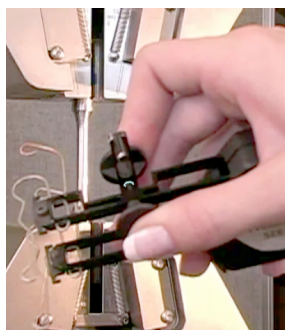
- Run proper Bluehill test method on computer (double-click “Tension\_Round”).
- See posted sheet for filenames. Use discipline, section, group, material, and heat treat condition. Your group is your Instron load frame (A, B, C, or D).
- Fill in the on-screen fields and follow the on-screen directions.
- Default crosshead speed = 4.0 mm/min.
- Measure and record hardness in the grip (average of 3).
- Check ZERO on calipers. *Use minimum pressure when measuring dimensions.*
- Measure specimen diameter in the gage section (average 3 and record).



- Measure and record the specimen diameter in the grip (1 measurement).
- Open both grips for insertion from the front.
- Check vertical clearance for specimen. Jog up if necessary.
- Slide specimen into both grips.
- Place the specimen in the V-groove of the lower grip.



- Position the specimen with 5 – 8mm of the grip end extending out of the grip fixture. (About the gage diameter of the specimen.)
- Turn the handle on the lower grip to lightly hold the specimen.
- Jog the crosshead so that 5 – 8mm (gage diameter of specimen) of the grip end extends out of the upper grip fixture.
- Lightly grip the specimen in the V-groove of the upper grip. (Ideally the preload is 0.0000 kN; ensure preload < 0.2500 kN)
- Press and hold the extensometer knobs. *Visually* check that the cup-cone engages. Cable hangs **down**.

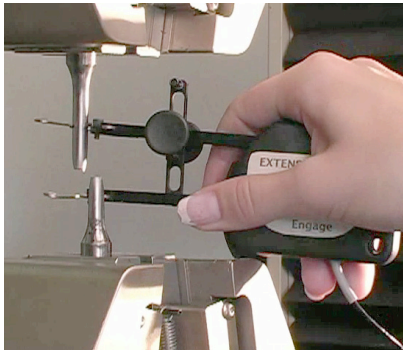


- Continue to hold the knobs and attach in the *center* of the gage length. (The case of extensometer is toward the front.)
- Check for *firm contact* at both extensometer clips. Carefully release the knobs.

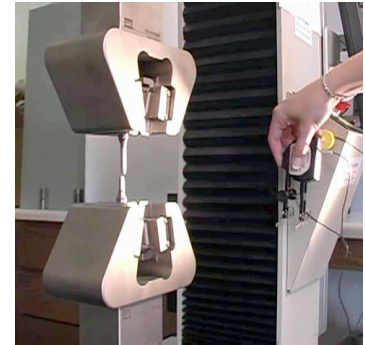


- Check that the Strain indicator is between -5% and +5%. (If not, reinstall the extensometer.)
- Balance strain (click at upper left of computer screen; strain ~ 0.0000%).
- Press 'Reset GL' on control panel (sets crosshead extension = 0.0000 mm).
- Check overall setup: (Extension = 0.0000 mm, Load < 0.2500 kN, Strain ~ 0.0000%)
- Stay clear of machine and start the test (click "Start" at upper right of screen).

***AFTER the test:***



- Protect fracture surfaces.
- Carefully remove extensometer and replace it on yellow cleat on machine.



- Remove specimen halves.
- Measure final diameter. Use the knife-edges of the calipers at the narrowest part.
- Enter final diameter and any fracture observation notes.



- Click 'Next' at upper right of computer screen. Review data plot.
- Click 'Next' at upper right of computer screen.
- Finish the test sample (click "Finish Sample", then "No" on computer screen)
- Press 'Return' on control panel to return the crosshead to original position.

***STAY CLEAR OF MACHINE DURING CROSSHEAD MOTION.***