

**ELONGATION OF AN EXTRUDED, CORED OR UNCORED,
VINYL WELT ASSEMBLY UNDER TENSILE LOAD**

Application

This procedure is used to determine the elongation of extruded vinyl seat welting, cored or uncored, at an 89 N stretch load.

Apparatus Required

Electronic Tensile Testing Machine

Instron Tensile Tester, Model #TT-C, or equivalent.

Source: Instron Corporation
100 Royall Street
Canton, MA 02021
(781) 828-2500

Materials Required

Graph Paper

#103, Instron Paper, 0 - 10 Range.

Source: Graphic Controls
Recording Chart Division
189 Van Rensselaer Street
Buffalo, NY 14210
(716) 853-7500

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Date	Action	Revisions
2001 08 22	Revised	Editorial – no technical change A. Cockman
1992 07 07		

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Procedure

This procedure obtains the stress-strain load curve of a welt assembly. The percent elongation of a finished welt at a specific load, depicting the flex characteristics of a welt assembly in actual seating applications, can be determined from the curve.

1. Cut welt samples to a size that will allow a tensile tester jaw separation of 127 +/- 0.8 mm.
2. Set crosshead speed to 250 mm/minute by using proper gear combination as shown in gear selection chart for various crosshead speeds.
3. Set the chart speed to 500 mm/minute through the proper gear combination in the chart drive mechanism.
4. Use the "C" Tensile Load Cell (4.5 - 222 N range) and balance the Instron against this cell using a 454 g standard weight.
5. Set the **Full Scale Load** control on the Instron to the 222 N load range.
6. At a 127 +/- 0.8 mm jaw separation, mount the welt sample in the tensile tester jaws securely and with no apparent slack in the welt sample.
7. Manually dial a 0.45 N preload on the welt assembly with the crosshead speed control.
8. Recheck the jaw separation measurement to maintain a 127 +/- 0.8 mm distance.
9. Set **Gage Length** dial and Chart Pen to zero.
10. Set **Return** dial to 305 - 380 mm. (Note: This setting would allow a possible 300 % elongation for the welt sample.)
11. Set the **Cycle Control** indicator on "Manual" position in order to manually effect the traverse head return, after the 89 N load is reached.
12. Push "Down" button to start test.
13. When the chart indicates a 89 N load is obtained, push "Up" button to return crosshead to the initial zero load position.
14. Calculated % **Elongation at 89 N Load** from the graph of each determination, (one chart division is equal to 1 %).

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.