



FORD LABORATORY TEST METHOD

BN 119-01

DETERMINATION OF SEAM STRENGTH OF TEXTILE TRIM MATERIALS

Application

This test method is used to determine the seam strength of sewn automotive seating fabrics and vinyl coated fabrics.

Apparatus and Materials Required

Sewing Machine

Capable of producing a lock stitched seam as described under Procedure, Para. 2.

Needle

Size 19/120 with Needle Point being Ball/Round-unless otherwise specified in the Engineering Material Specification

Thread

Tex 90 or Metric 30, WSS-M15H51-B2 for top and bottom, unless otherwise specified in the Engineering Material Specification.

Tensile Testing Machine

With a set of grab-clamps (clamping - jaw surface area shall be 25 mm x 25 mm). It must have a constant rate of jaw separation of 300 mm/minute and be equipped with a load recording device.

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.

Procedure

1. Cut 10 warp or wales specimens each 100 x 150 mm in size with the longer dimension parallel to the weft or courses direction, and 10 weft or courses specimens with the longer dimension parallel to the warp or wales direction.
2. Sew 5 pairs of warp or wales specimens and 5 pairs of weft or courses specimens with the sewn seams parallel to the longer dimension (as shown in drawing). Tie the loose ends of the stitching threads at either end. The ends of the stitching threads may also be secured by sewing an adjacent piece of fabric or sealing the thread ends with adhesive.

Date	Action	Revisions	Rev 02
2013 06 25	Revised	Technical changes see summary of revisions	D. Murtonen FNA
2001 09 24	Revised	Editorial – no technical change	A. Cockman
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Sewn-Seam Construction

The stitch shall be a simple lock stitch with a stitch length of 5-6 stitches per inch or 5.0-4.2 stitches per mm and shall run 8 mm (+/- 2) from the cut edges of the test specimen.

3. Insert and secure a prepared test assembly in the clamps of the tensile machine, as shown in drawing, with the seam centers between the clamps. The distance between the clamps at the start of the test shall be 75 +/- 1 mm.
4. Apply the load at a rate of 300 mm/minute and record the maximum load of each specimen in Newtons at time of break and note the type of failure occurring - material break, sewing thread break or material yarn slippage.

Evaluation

Report the average of the 5 results in Newtons in each direction from step 4.

Note: If, as a result of sewing thread break the minimum tensile strength required by the relevant material specification is not met, the test must be repeated taking newly prepared test assemblies.

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.

Summary of Revisions

2013 06 25

- Removed recommended suppliers for sewing machines and needles
- Updated needle size and point
- Updated stitches per inch/mm
- Updated seam allowance