

**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.

Singer 211 U566

or

Juki lock stitch industrial type

Source: Singer Sewing Machine Co. Ltd.  
415 Bonhill Street  
London E.C.2

Source: M. J. Foley Company  
16580 Eastland  
Roseville, MI 48066  
Phone (810) 779-5050  
Fax (810) 776-1278

**Needle**

Type 180/24 (1.8 mm dia, set R (round point)) - unless otherwise specified in the Engineering Material Specification.

Source: Singer Sewing Machine Co. Ltd  
See above

or M. J. Foley Company

or

Eurosew Ltd.  
7 Stafford Place  
Moulton Park Ind. Estate  
Northampton  
Northamptonshire  
NN3 1NN

or

Ferd. Schmetz GmbH  
512 Herzogenrath, Merkensteinerstrasse 53  
Germany

| Date       | Action  | Revisions                                  |
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| 1995 10 04 |         |                                            |

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or

Approved alternative

**Thread**

WSD-M15H51D and E respectively or equivalent, 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.

**Sewn-Seam Construction**

The stitch shall be a simple lock stitch with a stitch length of 4.2 - 5.1 mm (5 - 6 stitches/25 mm) and shall run approximately 10 mm 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.