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TEAR STRENGTH, SELVEDGE, GEOTEXTILE

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1. SCOPE

1.1 Scope. This method is intended for determining the tear strength of the selvedge of geotextile woven materials.

2. TEST SPECIMEN

2.1 Specimen. The specimen shall be cut 3 x 8 inches, from the selvedge, inclusive of all selvedge yarns, with the long dimension parallel to the warp (machine) direction. Specimens shall be marked with an isosceles trapezoid, centered on the sample, with the 1" side of the trapezoid located on the selvedge edge (see FIGURE A).

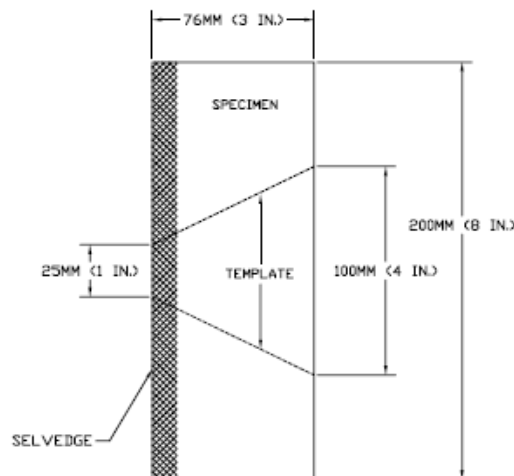


FIGURE A

3. NUMBER OF DETERMINATIONS

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3.1 Number of Determinations. Unless otherwise specified in the procurement document, six determinations shall be tested from each sample unit. At least three specimens shall be excised from each selvage.

4. APPARATUS

4.1 Tensile Testing Machine. A tensile testing machine with a constant rate of extension (CRE) and a load recording mechanism shall be used.

4.2 Clamps. The clamps shall have a flat surface capable of gripping the specimen and preventing slippage. The clamps shall measure 2 by no less than 3 inches, with the longer dimension installed perpendicular to the direction of application of the load.

5. PROCEDURE

5.1 Preparation of specimen. Unless otherwise specified in the procurement document, material testing shall be performed under standard conditions as specified in ASTM D 1776.

5.2 The specimen. The specimen shall be placed in the clamps of the machine with the long dimension parallel to the application of the load. The distance between the clamps (gage length) at the start of the test shall be $1 \pm .005$ ". The upper clamps shall be supported by a free swivel or universal joint which allows the clamp to rotate in the plane of the fabric. Secure the specimen in the machine, clamping along the nonparallel sides of the trapezoid. The end edges of the clamps must be in line with the 1" long side of the trapezoid. When secured, the short finished selvage is taut and the remaining fabric of the specimen lies in folds.

5.3 Operation Speed. The machine shall be set to operate at a speed of $12 \pm .5$ inches per minute (in/min).

5.3 Tear Strength. Start the machine and ensure the tearing forces will be recorded. Force shall be applied to the specimen so the upper clamp, through which the force is applied, moves at a rate of 12 in/min until the specimen has torn across. After completion, record the maximum force obtained in pounds force (lbf).

5.4 Slippage. Tears in or at the edges of the clamps or for any reason are attributable to faulty technique, shall be discarded and another specimen tested. If slippage continues to occur, the clamps may be padded, the fabric may be coated under the clamp face area, or the clamp face may be modified. If any of these modifications are used, state the method of modification on the report.

6. REPORT

6.1 Tear Strength. The tear strength of the sample unit shall be the average of the results obtained from 6 specimens tested and shall be reported to the nearest pound.

6.2 Calculation of average reporting. Each individual value used to calculate the average shall also be reported.