1. **SCOPE**

1.1. **Description of Test**

This method describes the procedure for determining the bursting strength of woven fabrics by forcing a steel ball through a clamped area of fabric.

2. **APPARATUS AND MATERIALS**

2.1. **Equipment Required**

2.1.1. Compression testing machine (CBR machine).

2.1.2. A ring clamp mechanism having an internal diameter of 44.45 ± 0.2 mm (Figure 1) and means of support so as to keep it raised at least 25 mm.

2.1.3. A polished steel ball 25.4 ± 0.02 mm in diameter that can be pressed against the fabric in the opening of the clamping mechanism by means of a plunger or rod.

3. **PROCEDURE**

3.1. **Sample Preparation**

Using a circular template 12.5 cm in diameter, mark and cut out ten samples of the fabric from random areas so as to be representative of the entire sample.

No sample shall be taken nearer than 20 cm from the edge of the roll.

3.2. **Test Procedure**

Place the sample in the ring clamp as flat as possible with no wrinkles or tension and tighten the clamp. Centre the ball on the sample and set the assembly in the CBR machine. Operate the machine at top speed but no more than 300 mm/min until the fabric is ruptured by the steel ball (Figure 2). Read and record the bursting pressure of the fabric from the CBR machine dial.
4. RESULTS AND CALCULATIONS

4.1. Collection of Test Results

Suggested format for laboratory recording:

<table>
<thead>
<tr>
<th>GEOTEXTILE TESTING</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASS</td>
<td>Type &amp; trade name of material</td>
</tr>
<tr>
<td>Project</td>
<td></td>
</tr>
</tbody>
</table>

Sample No. 1 2 3 4 5 6 7 8 9 10 Ave.

Force (lbs)
1 psi = 6.895 kPa

Burst Strength
(kPa)

4.2. Calculations

The burst strength is expressed in kPa and is determined by the formula:

\[
\text{Force (lbs)} \times 6.895
\]

X-Section of the Sphere

The cross section of the sphere is calculated by:

\[
\frac{\pi d^2}{4} \div \frac{\pi (1\frac{d}{2})^2}{4} = 0.785 \text{ inches}^2
\]

4.3. Reporting Results

The burst strength shall be reported as the average of ten samples of any given material tested.
5. ADDED INFORMATION

5.1. References

ASTM D7910-64

CGSB CAN2-4.2-M77

5.2. General

For some heavier fabrics, the clamping ring may have to be tightened down with a series of six screws in the area of the grooves. It will be necessary to puncture six holes in the fabric.

5.3. Figures
APPROVAL SHEET

New  ____  Revision  X  Date of Previous Document 86-04-30

Effective Date:  ____  ____

Description of Revision (Reason for Revision):

- Format of test procedure updated.

Review/Implementation Process:

Reviewed by the Materials Section of the Technical Standards and Policies Branch.

Other Manuals/Policies Affected:

Nil

Follow Up/Training Required:

Nil

Comments/Concerns/Implications (Budget/Environment/Stakeholders):

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Approval Recommended by  A.R. Gerbrandt  ____________  -  -

Dir., Technical Standards & Policies Br.  Date

Approved by  D.G. Metz  ____________  -  -

Assistant Deputy Minister, Infrastructure  Date

Electronic File Updated  -  -

Update Mailed  -  -