

Australian Standard®

Geotextiles—Methods of test

Method 6: Determination of seam strength

METHOD

1 SCOPE This Standard sets out the method for determining the seam strength of geotextiles.

2 APPLICATION The method can be used for testing any type of seam or joint, either from manufactured rolls or joints made in situ, whether by stitching, heat bonding or other means.

3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

3704 Geotextiles—Glossary of terms

3706 Geotextiles—Methods of test

3706.1 Method 1: General requirements, sampling conditioning, basic physical properties, and statistical analysis

3706.2 Method 2: Determination of tensile properties—wide strip method

4 PRINCIPLE A specimen containing the seam is gripped across the entire width in the jaws of a tensile testing machine, which is operated at a prescribed rate of extension. A force (perpendicular to the seam axis) is applied to the specimen until the joint/seam of the geotextile ruptures. A corresponding specimen of unseamed material is tested by the wide strip method (see AS 3706.2). The strength of the seamed specimen as a percentage of that of the unseamed specimen, gives the seam efficiency.

5 DEFINITIONS For the purpose of this Standard, the definitions given in AS 3704 and the following apply.

5.1 Seam strength—The maximum resistance of the junction formed by stitching or joining two pieces of geotextile.

5.2 Seam efficiency The tensile strength of a joint or seam between two pieces of geotextile, expressed as a percentage of the tensile strength of the unseamed specimen, as determined by this test.

6 APPARATUS AND REAGENTS The apparatus and reagents shall be in accordance with AS 3706.2.

7 PREPARATION OF TEST SPECIMENS

7.1 Sampling A minimum of 10 pairs of test specimens which include the seam or joint shall be sampled in accordance with AS 3706.1.

The specimens shall be cut as follows:

(a) A minimum of five pairs of specimens with the larger dimension in the machine direction, and the seam running in the cross-machine direction.

(b) A minimum of five pairs of specimens with the larger dimension in the cross-machine direction, and the seam running in the machine direction.

Each pair of specimens shall be taken as shown in Figure 1, and of such size so that both a seamed and unseamed specimen can be prepared. Each pair of test specimens cut shall be marked as corresponding pairs.

7.2 Size of specimens

7.2.1 Seamed specimen Each seamed specimen shall be of sufficient length to ensure an initial jaw separation of 100 mm plus the joint or seam width (see Figure 2), and for the ends of the specimen to project not less than 20 mm beyond the jaws. The overall width of the specimen shall be 250 mm.