STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF TEST FOR TEXTILES

PART 2—PHYSICAL TESTS

AS 2001.2.20
DETERMINATION OF SEAM BREAKING FORCE

PREFACE

This standard was prepared by the Association's Committee on Testing of Textiles.

The standard takes into consideration ISO Technical Committee 38—Textiles, draft document ISO/DP 9238, Textiles—Seam Strength of Made-up Textiles Articles and ASTM D1683—1981 Failure of Sewn Seams in Woven Fabrics.

This method describes a means whereby the seams of textiles assemblies are tested by application of force in either the transverse or longitudinal direction. It does not attempt to specify the method of preparation of various seams.

METHOD

1 SCOPE. This standard sets out methods for determining the breaking force of seams made in textile assemblies. It describes the use of two methods—Method A, testing of seams by the application of force in the transverse direction, and Method B, testing of seams by the application of force in the longitudinal direction.

The methods do not predict actual wear performance of seams since wear life can be dependent upon factors other than seam stressing.

2 APPLICATION. Method A is applicable to relatively inextensible fabrics, e.g. woven and stable warp knit structures, and their associated seams. Method B is particularly applicable to extensible fabrics, e.g. knitted fabrics and assemblies containing elastic and highly resilient materials.

3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 2001 Methods of Test for Textiles
2001.1 Conditioning Procedures

AS 2193 Methods of Calibration and Grading of Force-measuring Systems of Testing Machines

4 DEFINITIONS. For the purpose of this standard, the following definitions apply:

4.1 Seam—the unit obtained by joining fabrics.

4.2 Seam breaking force in the transverse direction—the force, acting perpendicular to the seam direction, required to rupture the seam.

4.3 Seam breaking force in the longitudinal direction—the force, acting in the seam direction, required to produce the first stage of seam rupture. In the case of stitched seams, this implies the first stitch breakage.

5 PRINCIPLE. A force is applied to a seam taken from a textile assembly in either the transverse direction or the longitudinal direction until the seam ruptures.

The maximum force required in the transverse direction to rupture the seam is recorded as the seam breaking force in the transverse direction and the maximum force in the longitudinal direction required to rupture the first stitch is recorded as the seam breaking force in the longitudinal direction.

6 APPARATUS. The following apparatus is required:

6.1 Conditioning facility. Means of providing and maintaining a standard atmosphere as described in AS 2001.1.

6.2 Tensile testing machine (CRE). The CRE machine shall have the following features:

(a) The machine shall comply with the requirements of Grade B machines as specified in AS 2193, except that the error in the measurement of length shall not exceed 1.0 mm.

(b) The machine shall provide means for indicating the force applied to the test specimens clearly and continuously on a dial, scale or chart.

(c) The capacity of the machine or the range selected shall be such that the force required to break the test specimens shall not be less than 20 percent of the selected range of the machine.

