AUSTRALIAN STANDARD
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COMPRESSION STRENGTH OF PAPER AND BOARD— SHORT SPAN TEST

This Recommended Practice specifies the equipment required for and the method for determining the compression strength in the machine and cross directions of paper and board using a short span compression tester.

The test, which is sometimes incorrectly referred to as the STFI test, measures the resistance of paper and paperboard to in-plane compression. Corrugated and solid fibreboard containers are subjected to crushing forces in shipment and this test is used for two purposes:

(a) To indicate the in-plane compression strength of a board.

(b) To estimate the probable compression strength of the finished container.

1. FIELD OF APPLICATION

This Recommended Practice is intended primarily for testing paper and paperboard in the grammage range 100-400 g/m^2, used for the manufacture of containers and boxes. It may also be used for laboratory handsheets prepared for the testing of pulp. The grammage of such laboratory handsheets should be 120 g/m^2 on oven-dry basis.

2. DEFINITIONS

For the purposes of this Recommended Practice the following definitions apply:

Short Span Compression Strength: The maximum compression force per unit width that a test piece of paper or paperboard can support until the onset of failure in a compression test.

Short Span Compression Index: The compression strength divided by the grammage (Note 9.1).

3. APPARATUS

3.1 Short span compression tester, incorporating the following features:

The tester has two clamps (Fig. 1) for holding a test piece 15 mm wide. Each clamp has a stationary and a movable jaw.

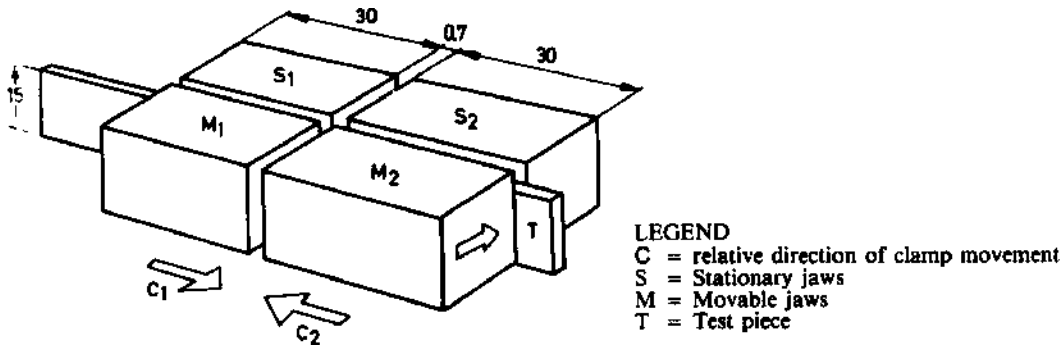

Fig. 1. Clamping arrangement (dimensions in mm).

The clamps shall be 30 mm deep and have a surface of high friction, e.g. a sand blasted surface.

The clamps shall be able to hold the test piece in position with a constant clamping force of 2300 ±500 N. The clamps shall be designed so that they grip the test piece firmly across its full width (see Appendix A1).

The stationary jaws shall be on the same side of the test piece and in the same plane. The clamping surfaces of the movable jaws shall be in the same plane and be parallel to those of the stationary jaws (see Appendix A2 for specification of parallelism).

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