

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF TESTING CONVEYOR AND ELEVATOR BELTING

AS 1334.8
DETERMINATION OF RESISTANCE TO TEAR
PROPAGATION AND RESISTANCE OF CARCASS TO
TEARING*

1 SCOPE. This standard sets out a method for determining the resistance to tear propagation and resistance of carcass to tearing in conveyor belting.

2 REFERENCES. This standard requires reference to the following standards:

AS 1334.3 Determination of Full Thickness Tensile Strength and Elongation of Conveyor Belting

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

3 PRINCIPLE. The resistance to tear is determined as the force necessary to propagate at a given speed an initial tear made in a test piece with covers removed.

4 APPARATUS. A tensile testing machine as described in AS 1334.3 shall be used.† The natural frequency, inertia and damping characteristics shall be such that the machine is capable of recording fluctuations of the tearing force.

The machine shall be set so that the traverse rate of the driven grips is 100 ± 10 mm/min.

The free distance between the jaws shall be capable of being adjusted to at least 30 mm.

5 TEST PIECES. The test pieces shall be prepared as follows:

- (a) Prepare two test pieces 300 mm long and 100 ± 1 mm wide and the full thickness of the belting with covers removed. The covers may be removed either by buffing or stripping.

If the cover contains a breaker ply, strip the cover without cutting the breaker over a width of 20 mm, 10 mm on each side of the longitudinal centreline with the exception of the zone held in the jaws of the testing machine (see Figs 1, 2 and 3).

Test pieces shall be cut parallel to the longitudinal centreline of the belting and not closer than 10 mm from the edge.

- (b) One test piece shall be tested as shown in Arrangement A and one as shown in Arrangement B of Fig. 4.

- (c) Each test piece shall be cut a distance of 90 mm to 100 mm from one end along the longitudinal centreline as shown in Figs 1 and 2, depending on whether there is a breaker in the cover. If necessary, a portion of the test piece to be gripped may be tapered symmetrically as shown in Fig. 3 to suit the width of the jaws of the testing machine. The taper shall not exceed 100 mm in length.

6 CONDITIONING OF TEST PIECES. The belting shall be tested not less than 5 days after manufacture during which period the test pieces may be prepared and conditioned. Test pieces shall be conditioned at a standard temperature of $23 \pm 2^\circ\text{C}$ for a period of not less than 16 h immediately prior to testing.

7 PROCEDURE. After conditioning, the test pieces shall be tested as follows:

- (a) The test pieces shall be mounted in the jaws of the testing machine by the two edges as indicated in Fig. 4, so that the inner jaws of the cut are situated at the centre of each jaw.
- (b) The testing machine shall be set so that the jaws separate at the rate of 100 ± 10 mm/min. The test shall proceed until the tear has extended for at least 100 mm.

* Derived from ISO 505, Tear Propagation Resistance of Carcass of Conveyor Belts.

† This requirement is in accordance with that for a testing machine graded as Grade B of AS 2193.