AUSTRALIAN STANDARD
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LINER ADHESION OF CORRUGATED BOARD

The liner adhesion of a corrugated board is defined, for the purpose of this Standard, as the minimum load necessary to cause complete separation of one of the liner plies from the corrugated medium of the board when tested under the prescribed conditions. It is used as a measure of the tendency of the glue line to fail when under stress.

The load is expressed in kilonewtons per metre of glue line.

1. APPARATUS

1.1 Motor driven crush testing machine as described in AS 1301.449. (Note 6.1).

1.2 Test piece holder consisting of two sets of prongs (Note 6.2). The prongs should be sufficiently rigid that the least possible amount of bending occurs under load, and for this reason the prong length should not be more than is required to comfortably hold the test piece. One set is mounted in a frame which constitutes the base of the holder, and supports the upper liner of the test piece. The other set is supported entirely by the lower liner of the test piece and is fitted to a frame which can accept load from the upper platen of the compression tester. When assembled and under load the platens through each of the sets of prongs are subject to the same requirements of parallelism as the platen surfaces of the compression tester (see AS 1301.449). Differently dimensioned test piece holders are required for each type of flute (i.e. A-, B- or C- flute), and within each type of flute several slightly different prong spacings are required to accommodate variations in the number of flutes per metre. The prong spacings should be such that each prong bears on the liner at a point close to midway between adjacent glue lines. The dimensional requirements of the various sets of prongs are given in Table 1 (Note 6.3). The effective length shown in the table is the length available for supporting the test piece after assembly.

A number of optional designs of holder (Reference 7.1 and 7.2) meet these requirements. However, the one described in Reference 7.1 is to be preferred. Holders for A-flute which were acceptable under the previous edition of this Standard may have insufficient effective prong length to accommodate test pieces of the width specified in paragraph 2.2. In such cases it is permissible to reduce the test piece width by up to 5 mm and make an appropriate variation to the factor *K* in paragraph 3.5.

TABLE 1

Flute type	Flutes/m Tol. ±5	Prong spacing (mm) centre/centre Tol. ±0.1	Prong thickness (mm) Tol. ±0.1	No of prongs		Effective prong length (mm) Tol. ±5
				Set 1	Set 2	
A	110	8.9	3.2	6	5	66
A	120	8.5	3.2	6	5	66
B	155	6.4	1.6	14	13	39
B	165	6.0	1.6	14	13	39
B	175	5.6	1.6	14	13	39
C	130	7.8	2.6	7	6	56
C	140	7.3	2.6	7	6	56

2. PREPARATION OF TEST PIECES

2.1 Condition the sample in accordance with AS 1301.414 in the standard atmosphere prescribed in AS 1301.415. Other conditioning atmospheres are sometimes used where this method is being adopted for other purposes, but such procedures are not part of this Standard.

2.2 For A-flute, cut at least six test pieces, each 60.0 ±0.5 mm wide (parallel to the direction of the flutes) and of such length that each test piece has six corrugation crests (six complete glue lines) on each side of the board.

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