

WARP TEST ON CELLULOSE FIBRE BOARDS**Application**

This method is used to determine the form stability characteristics of semi-waterproof boards, bitumen impregnated boards, cellulose fibre hardboards, etc., after water immersion.

Apparatus Required

Warp Test Fixture (see Figure)

Steel Rod

12 mm diameter, 150 mm long.

Water Bath

Containing distilled water. Size must be suitable to permit total immersion of test specimen.

Wire Screen

Fine mesh stainless wire.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

1. Cut two test specimens each 150 x 430 mm, from the material under test, one in the longitudinal direction, and the other in the transverse direction.
2. Cut a 12 mm wide x 50 mm deep slot in the centre of one of the 150 mm sides of each specimen.

Date	Action	Revisions
2000 11 10	Revised	Editorial – no technical change A. Cockman
1994 02 28		

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Page 1 of 3

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Place the specimen in the fixture and move the adjustable bracket forward so that the length of the test specimen exposed between the two brackets of the fixture (the movable and the fixed one) is 400 mm, and tighten the wing nut.

Place the 12 mm diameter steel rod on the free end of the test specimen, which will prevent this end of the specimen from curling up but will allow free movement in warping during water immersion.

3. Immerse the fixture and test specimen on wire screen in distilled water bath at 20 +/- 2 °C, for the period of time required by the Engineering Material Specification and in such a way that the upper side of the test specimen lies 25 mm beneath the surface.
4. Remove the test specimen from the water and measure the maximum height to which the specimen has risen from the base plate of the fixture.
5. Repeat the test on the other specimen which was cut in the opposite direction.

Evaluation

Calculate the percentage warp in both the longitudinal and transverse direction, according to the following formula:

$$\text{Warp \%} = \frac{\text{Maximum Height}}{400 \text{ mm}} \times 100$$

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.