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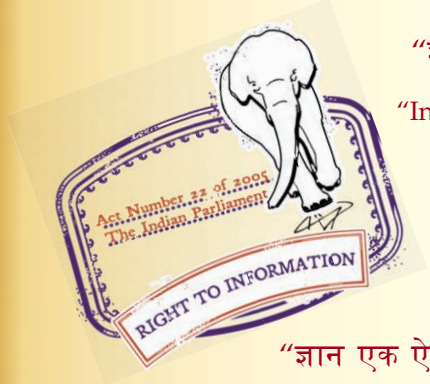

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Indian Standard

METHOD OF TEST FOR WOOD PARTICLE BOARDS AND BOARDS FROM OTHER LIGNOCELLULOSIC MATERIALS

PART XXII DETERMINATION OF SURFACE GLUEABILITY TEST

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Indian Standard

METHOD OF TEST FOR WOOD PARTICLE BOARDS AND BOARDS FROM OTHER LIGNOCELLULOSIC MATERIALS

PART XXII DETERMINATION OF SURFACE GLUEABILITY TEST

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(*Continued on page* 7)

AMENDMENT NO. 1 DECEMBER 1992
TO
IS 2380 (Part 22) : 1981 METHOD OF TEST FOR WOOD PARTICLE BOARDS AND BOARDS FROM OTHER LIGNOCELLULOSIC MATERIALS

PART 22 DETERMINATION OF SURFACE GLUEABILITY TEST

(*Page* 4, *clause* **2.1**, *line* 2) — Delete '**or 2.2.1**'.

(CED 20)

Reprography Unit, BIS, New Delhi, India

Indian Standard

METHOD OF TEST FOR WOOD PARTICLE BOARDS AND BOARDS FROM OTHER LIGNOCELLULOSIC MATERIALS

PART XXII DETERMINATION OF SURFACE GLUEABILITY TEST

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 June 1981, after the draft finalized by the Wood Products Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 IS : 2380 (Parts I to XXI)-1977* have been formulated to specify various methods of tests for evaluating important characteristics of boards composed of wood particles or other lignocellulosic materials. This standard (Part XXII) covers the method of test for determination of surface glueability of particle boards and boards from other lignocellulosic materials.

0.3 In the formulation of this standard, due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country.

0.4 In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960†.

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1. SCOPE

1.1 This standard (Part XXII) covers the method of determination of surface glueability of particle boards and boards from other lignocellulosic materials.

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*Methods of test for wood particle boards and boards from other lignocellulosic materials (Parts I to XXI) (*first revision*).

†Rules for rounding off numerical values (*revised*).

2. GENERAL

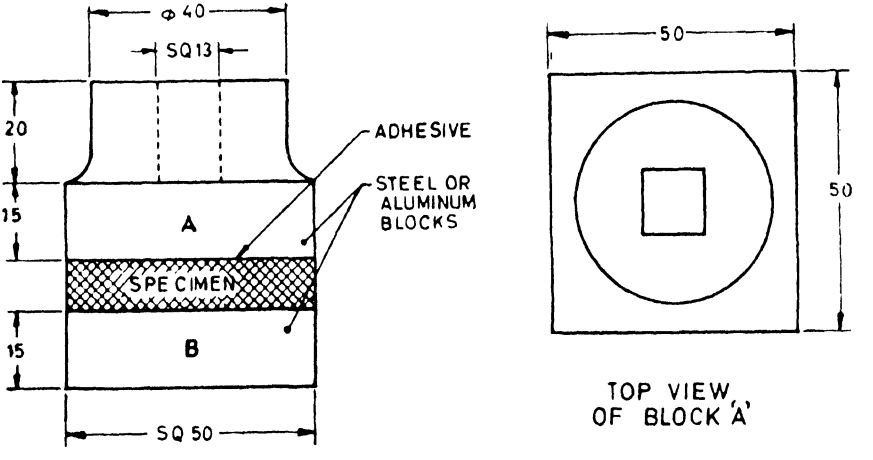
2.1 The test of surface glueability shall be made on specimens conditioned according to **2.2** or **2.2.1** of IS : 2380 (Part I)-1977*

3. TEST SPECIMEN

3.1 Each test specimen shall be 50 mm square and of the thickness of the finished board. Loading blocks of steel or aluminium alloy 50 mm square shall be bonded with a suitable adhesive (*see* Note) to the 50 mm square faces of the specimen as shown in Fig. 1. Cross-sectional dimensions of the specimen shall be measured to an accuracy of not less than ± 0·3 percent.

NOTE — The adhesives shall be such that failure does not occur at the glue line between the block and the specimen.

A suitable technique for bonding the specimen to the blocks with a polyvinyl acetate dispersion-based adhesive (*see* IS : 4835-1979†) is as follows:



All dimensions in millimetres.

FIG. 1 DETAIL OF SPECIMEN

*Methods of test for wood particle boards and boards from other lignocellulosic materials : Part I Preparation and conditioning of test specimens (*first revision*).

†Specification for polyvinyl acetate dispersion-based adhesives for wood (*first revision*).

a) The blocks and specimen are assembled in a jig and a pressure is applied to ensure good contact. The pressure required will depend on the density of the board and the adhesive used and shall not be so great as to measurably damage the board or alter its thickness.

b) The test specimens are then allowed to remain in the jigs under ambient conditions for not less than 8 hours.

4. PROCEDURE

4.1 The bottom metal block shall be securely fixed in a vice such that it does not move during the wrenching operation. The experimental arrangement is shown in Fig. 2. Normally, a little pressure shall be required to hold down the top block because of its tendency to rise during

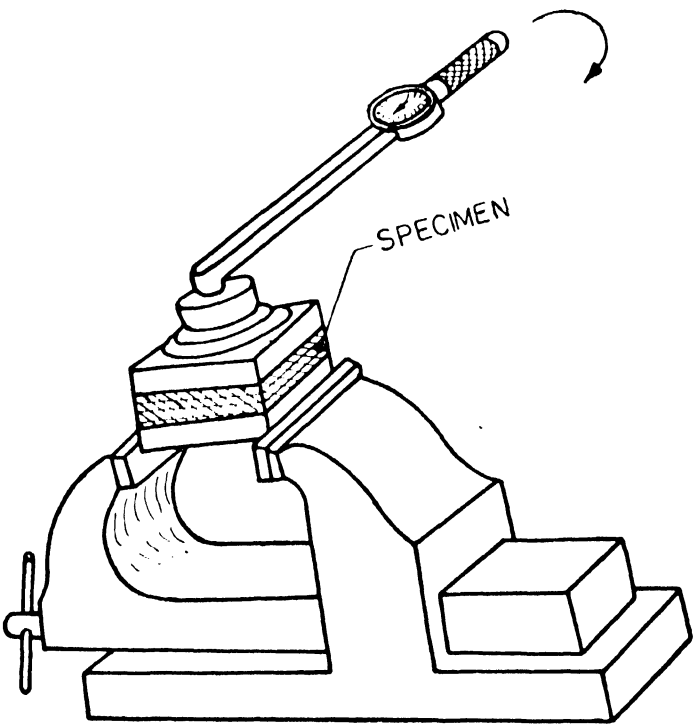


FIG. 2 EXPERIMENTAL ARRANGEMENT FOR SURFACE GLUEABILITY TEST

wrenching. This vertical pressure may be easily applied by the person carrying out the test by holding one hand on the pivot point of the top block, while turning the torque wrench slowly and steadily with the other hand. The maximum troque in cm kg shall be read on the torque wrench dial indicator at the instant when shear failure occurs.

4.1.1 *Moisture Content* — The moisture content of each test specimen shall be determined as specified in IS : 2380 (Part III)-1977* and on a separate sample prepared from the same material.

5. TEST DATA AND REPORT

5.1 The maximum torque in cm kg is recorded and surface strength is calculated by using the following formula:

$$S_{ss} = \frac{4{\cdot}8}{b^3} \cdot T$$

where

S_{ss} = Surface strength in kg/cm^2

T = Torque in cm kg, and

b = Side dimension of the square specimen in cm.

The individual and the average strength values shall be reported.

*Methods of test for wood particle boards and boards from other lignocellulosic materials : Part III Determination of moisture content and density (*first revision*).

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