

Australian/New Zealand Standard™

Reconstituted wood-based panels— Methods of test

Method 3: Moisture content

AS/NZS 4266.3

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TM-005, Reconstituted Timber Panel Products, to supersede AS/NZS 4266.3(Int):2001.

This Standard is equivalent to the industrial Standard harmonized between the wood panel industries in Australia, Japan and New Zealand, known as JANS 11.

METHOD

1 SCOPE

This Standard specifies a method for determining the moisture content of reconstituted wood-based panels.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

4266 Reconstituted wood-based panels—Methods of test

4266.1 Method 1: Sampling, cutting, and conditioning of test pieces

4491 Timber—Glossary of terms in timber related Standards

3 DEFINITIONS

For the purpose of this Standard, the definitions in AS/NZS 4491 and AS/NZS 4266.1 apply.

4 PRINCIPLE

Moisture loss is determined by—

- (a) measuring the loss of mass of each test piece between its state at the time of sampling and its state after drying to constant mass at $103 \pm 2^\circ\text{C}$; and
- (b) calculating this loss of mass as a percentage of the mass of the test piece after drying.

The results are used to estimate the moisture content of whole panels.

5 APPARATUS

5.1 Balance

Balance with a scale interval of 0.01 g.

5.2 Drying oven

Ventilated drying oven, capable of being controlled at $103 \pm 2^\circ\text{C}$.

5.3 Desiccator

A desiccator containing silica gel, to maintain the air as close as possible to the absolutely dry condition.

6 TEST PIECES

6.1 Sampling and cutting

Four test pieces shall be taken from each panel to be tested.

Sampling and cutting of the test pieces shall be carried out in accordance with AS/NZS 4266.1. Test pieces shall cover the full thickness of the panel.

6.2 Dimensions

The test piece shall have a minimum mass of 20 g; shape and size are unimportant. The test pieces shall be free from loose splinters and sawdust.

7 PROCEDURE

7.1 Weighing before drying

Weigh each test piece in the as sampled state to an accuracy of 0.05% of the mass of the test piece.

This initial weighing shall be carried out immediately after sampling. Where this is impossible, precautions shall be taken to avoid changes in the moisture content of the test piece after sampling.

7.2 Drying

Place the test pieces in the drying oven (Clause 5.2) at a temperature of $103 \pm 2^\circ\text{C}$ until constant mass has been reached.

Constant mass is considered to be reached when the results of two successive weighing operations, carried out at an interval of 6 h, do not differ by more than 0.1% of the mass of the test pieces.

7.3 Weighing after drying

After the test pieces have been cooled to approximately room temperature in the desiccator (Clause 5.3), weigh each test piece to an accuracy of 0.05% of the mass of the test piece, rapidly enough to avoid an increase in moisture content.

8 EXPRESSION OF RESULTS

8.1 Calculation

Calculate the moisture content (H) of each test piece, as a percentage by mass to the nearest 0.1%, in accordance with the following equation:

$$H = \frac{m_H - m_0}{m_0} \times 100$$

where

m_H = initial mass of the test piece, in grams

m_0 = mass of the test piece after drying, in grams