

Australian/New Zealand Standard™

Structural laminated veneer lumber

**Part 4: Determination of formaldehyde
emissions**



AS/NZS 4357.4:2005

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee TM-008, Plywood Timber Products. It was approved on behalf of the Council of Standards Australia on 26 April 2005 and on behalf of the Council of Standards New Zealand on 6 May 2005. This Standard was published on 8 August 2005.

The following are represented on Committee TM-008:

Australian Building Codes Board
CSIRO Forestry and Forest Products
Engineers Australia
Forests NSW
Housing Industry Association
New Zealand Forest Research Institute
New Zealand Plywood Manufacturers Association
Plywood Association of Australasia
Timber Development Association (NSW)

Additional Interests:

Mr Kevin Lyngcoln

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This Standard was issued in draft form for comment as DR 04563.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION
OF
AS/NZS 4357.4:2005
Structural laminated veneer lumber
Part 4: Determination of formaldehyde emissions

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NOTES

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TM-008, Plywood Timber Products.

The objective of this Standard is to provide a test method for determination of formaldehyde emissions for structural laminated veneer lumber (LVL).

This Standard is based upon the Japanese Agricultural Standard (JAS) method specified in MAFF Notification No. 237 but has been adapted to suit LVL products commonly manufactured and sold in Australia and New Zealand. Specifically, it allows product to be tested in the same condition that it is supplied to the market, for example with edge and/or surface finish. This Standard requires test pieces to be conditioned for 7 days prior to testing to reflect the typical minimum time period that would elapse from manufacture to the sale and use of the product.

This Standard is part 4 of the [AS/NZS 4357](#) series, *Structural Laminated Veneer Lumber*, which comprises the following parts:

[AS/NZS](#)

[4357](#) Structural Laminated Veneer Lumber

[4357.0](#) Part 0: Specifications (revision of [AS/NZS 4357:1995](#), *Structural Laminated Lumber*)

[4357.1](#) Part 1: Method of test for measurement of dimensions and shape

[4357.4](#) Part 4: Determination of formaldehyde emissions (this Standard)

Other companion Standards in preparation are as follows:

Part 2: Determination of structural properties—Test methods

Part 3: Determination of Structural Properties—Evaluation methods

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Structural laminated veneer lumber

Part 4: Determination of formaldehyde emissions

1 SCOPE

This Standard sets out a method for the determination of formaldehyde emissions from laminated veneer lumber (LVL).

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

2098 Methods of test for veneer and plywood

2098.1 Method 1: Moisture content of veneer and plywood

4491 Timber—Glossary of terms in timber related Standards

3 DEFINITIONS

For the purpose of this Standard, the definitions given in [AS/NZS 4491](#) apply.

4 PRINCIPLE

Emission of formaldehyde is determined by placing a test piece or pieces of specified surface area in a desiccator, at a controlled temperature, and measuring the quantity of emitted formaldehyde absorbed in 20 mL of distilled water during a 24 h period.

5 APPARATUS**5.1 Desiccator**

An acrylic desiccator with an enclosed volume of 40 ± 5 L.

5.2 Collection dish

A polyethylene collection dish of nominal size 57 mm diameter by 50 to 60 mm in depth (based on internal dimensions).

5.3 Spectrophotometer

A spectrophotometer, capable of measuring absorbance at 412 nm.

5.4 Water bath

A water bath, capable of maintaining a temperature of $65 \pm 2^\circ\text{C}$.

5.5 Balance

A balance capable of measuring to an accuracy of 0.01 g.

5.6 Flasks

Flasks, 100 mL with stoppers.

5.7 Volumetric flasks

Volumetric flasks, 6×100 mL, and 2×1000 mL calibrated at 20°C .