

Australian/New Zealand Standard™

**Structural laminated veneer lumber
(LVL)**

**Part 3: Determination of structural
properties—Evaluation methods**



AS/NZS 4357.3:2006

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 10 February 2006 and on behalf of the Council of Standards New Zealand on 17 February 2006.

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The following are represented on Committee TM-008:

Australian Building Codes Board
Engineers Australia
Forests NSW
New Zealand Plywood Manufacturers Association
Plywood Association of Australasia
Scion
Timber Development Association (NSW)

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TM-008, Plywood Timber Products, in conjunction with TM-001, Timber Structures.

This Standard incorporates Amendment No. 1 (May 2007). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure, or part thereof affected.

The Standard is based on EN 1058, *Wood-based panels—Determination of characteristic values of mechanical properties and density*, and prEN 14358, *Timber structures—Fasteners and wood-based products—Calculation of characteristics 5 percentile value and acceptance criteria for a sample*, and assumes test results that are logarithmically normally distributed.

The objective of this Standard is to provide evaluation methods for the determination of structural properties of structural laminated veneer lumber (LVL), which will replace the methods used in the past specified for sawn timber in AS/NZS 4063, *Timber—Stress-graded—In-grade strength and stiffness evaluation*.

This Standard is Part 3 of the AS/NZS 4357 series, *Structural laminated veneer lumber*, which is comprised of the following parts:

AS/NZS

- 4357 Structural Laminated Veneer Lumber
- 4357.0 Part 0: Specifications (Revision of AS/NZS 4357:1995)
- 4357.1 Part 1: Method of test for measurement of dimensions and shape
- 4357.2 Part 2: Determination of structural properties—Test methods
- 4357.3 Part 3: Determination of structural properties—Evaluation methods (this Standard)
- 4357.4 Part 4: Determination of formaldehyde emission

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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Australian/New Zealand Standard
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Part 3: Determination of structural properties—Evaluation methods

1 SCOPE

A1 This Standard specifies a parametric method of calculation based on lognormal distribution for determining the mean and 5th percentile values for structural laminated veneer lumber (LVL) from test results generated in accordance with AS/NZS 4357.2. Non-parametric methods may also be used.

NOTE: This Standard does not provide design values. In the case of Australia and New Zealand, the values obtained in this Standard should be processed in accordance with AS/NZS 4063 for characteristic properties and AS 1720.1 or NZS 3603 for design values.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

1720 Timber structures

1720.1 Part 1: Design methods

4063 Timber—Stress-graded—In grade strength and stiffness evaluation

4357 Structural laminated veneer lumber (LVL)

4357.2 Part 2: Determination of structural properties—Test methods

NZS

3603 Timber Structures Standard

3 DEFINITIONS

For the purpose of this Standard the definitions in AS/NZS 4063 apply.

4 NOTATION

The symbols used in this Standard are as follows:

k_s	= confidence coefficient for estimating 5th percentile values with 75% confidence (see Table 1)
$m_{05[75]}$	= 5th percentile value estimated with 75% confidence
m_1, m_2, \dots, m_n	= test values
m_i	= test value in the range from 1 to n
\bar{m}	= mean value for the test values m_1, m_2, \dots, m_n
n	= number of test values
S_y	= logarithmic standard deviation of test data
V	= coefficient of variation of test data
\bar{y}	= logarithmic mean of test data