

Australian/New Zealand Standard™

**Reconstituted wood-based panels—
Methods of testing**

Part 2: Decorative overlaid panels



AS/NZS 4266.2:2017

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Australian Forest Products Association
Australian Timber Importers Federation
Australian Wood Panels Association
Building Research Association of New Zealand
Engineered Wood Products Association of Australasia
Forest and Wood Products Australia
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Part 2: Decorative overlaid panels

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TM-011, Engineered Timber Products.

This Standard supersedes the following Methods from the AS/NZS 4266 series (2004) *Reconstituted wood-based panels—Methods of Test*:

Method 19: Assessing appearance of melamine overlaid panels

Method 20: Resistance to surface abrasion (Taber abrasion test)

Method 21: Over-cure or under-cure of resin

Method 22: Porosity of laminated surface

Method 23: Resistance to steam

Method 24: Resistance to cracking

Method 25: Resistance to staining

Method 26: Resistance to dry heat

Method 27: Resistance to impact

Method 28: Bond strength of PVC films

Method 29: Heat resistance of PVC films

Method 30: Moisture resistance of finished foils

Method 31: Adhesion of paper foils by the crosscut test

Method 32: Veneer bond strength

Method 33: Veneer bond durability

The objectives of the revision of this series of test methods are—

- (a) to update test methods for reconstituted wood-based panels after 10 years; and
- (b) to consolidate many separate test method Standards into one document.

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Australian/New Zealand Standard
Reconstituted wood-based panels—Methods of testing

Part 2: Decorative overlaid panels

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard covers methods of test for properties relating to decorative overlaid reconstituted wood panels. Decorative overlays are low pressure melamine, PVC film, decorative foils and wood veneer.

Panels that may be overlaid are specified by the following Standards:

- (a) AS/NZS 1859.1, *Reconstituted wood-based panels—Specifications, Part 1: Particleboard.*
- (b) AS/NZS 1859.2, *Reconstituted wood-based panels—Specifications, Part 2: Dry process fibreboard.*
- (c) AS/NZS 1859.4, *Reconstituted wood-based panels—Specifications, Part 4: Wet process fibreboard.*

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

1859 Reconstituted wood-based panels—Specifications

1859.3 Part 3: Decorative overlaid wood panels

2924 High pressure decorative laminates—Sheets made from thermosetting resins

2924.2 Part 2: Determination of properties

4266 Reconstituted wood-based panels—Methods of test

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

ISO

48 Rubber, vulcanized or thermoplastic—Determination of hardness (hardness between 10 IRHD and 100 IRHD)

1.3 TEST EQUIPMENT

Basic measuring equipment is specified in AS/NZS 4266.1. Any special equipment is specified in each section of this Standard where relevant.

1.4 SAMPLING

The specific tests covered in this Standard (Sections 3 to 14) are only required if there is a change in overlay materials. From each sample panel, one test piece for each overlaid surface is required for each test.

1.5 EXPRESSION OF RESULTS

Each test method provides the method of calculating or assessing the relevant property of each test piece and the appropriate precision to express the result if relevant. The property of the sample panel shall be obtained by calculating the arithmetic mean of the property of all the test pieces taken from the same panel and shall be expressed with the same precision as for the test pieces.

1.6 TEST REPORT

If required, the test report shall contain the following:

- (a) Name and address of testing laboratory.
- (b) Where required, a sampling report according to AS/NZS 4266.1.
- (c) Date of the test report.
- (d) Reference to this Standard, i.e. AS/NZS 4266.2 and the relevant section.
- (e) Panel type, length, width and thickness.
- (f) Relevant product specification and overlay classification.
- (g) Test results expressed as stated in the relevant section of this Standard.
- (h) All deviations from this Standard.

SECTION 2 A S S E S S I N G A P P E A R A N C E O F M E L A M I N E O V E R L A I D P A N E L S

2.1 PRINCIPLE

Panels are visually inspected to determine the nature and extent of any defects.

2.2 TEXT EQUIPMENT

The following equipment is required:

- (a) *Horizontal inspection table*—approximately 700 mm high, and large enough to accommodate the largest sheets to be inspected or a panel inspection apparatus of the kind commonly associated with short cycle laminating presses.
- (b) *Overhead white fluorescent lights*—approximately 5000 K colour temperature and giving an intensity of 800 lx to 1000 lx over the whole area of the boards or panels to be inspected.

2.3 TEST PIECES

The test piece shall be a complete sheet.

2.4 PROCEDURE

The test procedure shall be as follows:

- (a) Place the panel on the inspection table. With a soft cloth or compressed air used in a safe manner, make sure the surface is free of any loose contamination, if necessary.
- (b) Inspect the melamine surfaces of the board or panel from a viewing distance of 1.5 ± 0.1 m.
- (c) The inspector shall use normal vision, corrected if necessary; no magnifying glass shall be used.

2.5 RESULTS

Results of the inspection shall be expressed in terms of the requirements of AS/NZS 1859.3.

SECTION 3 RESISTANCE TO SURFACE ABRASION TABER ABRASION TEST

3.1 PRINCIPLE

Abrasion is achieved by rotating a test piece in contact with a pair of loaded cylindrical wheels covered with abrasive paper. As the wheels are turned by the rotating test piece, they abrade an annular track on the test piece's surface. The number of revolutions required by the test piece to cause a defined degree of abrasion is used as a measure of resistance to surface abrasion.

3.2 DEFINITIONS

For the purposes of this Section the definitions below apply.

3.2.1 Initial wear point (IP)

The number of cycles when the first clearly recognizable wear through the print, pattern, plain colour coating or solid colour paper appears and the sub-layer becomes exposed in each of the four quadrants. The sub-layer for printed patterns is the background on which the pattern is printed; for plain colours it is the first sub-layer of different colour.

3.2.2 Final wear point (FP)

The number of cycles when the wear occurs for a printed pattern when about 95% of the pattern is removed in the abraded area, and for a plain colour when a sub-layer of a different colour is exposed over about 95% of the abraded area.

3.3 TEST EQUIPMENT

The following equipment is required:

- (a) *Taber Abrader*—complete with the following:
 - (i) S-34 zinc calibration plate or the equivalent.
 - (ii) S-42 sandpaper strips—with self-adhesive back.
 - (iii) *Rubber wheels*—two cylindrical rubber-covered wheels, 12 mm wide and 50 mm in diameter, which rotate freely about a common horizontal axis. The curved surface of the wheels, to a depth of 6 mm, shall be of rubber of 50 IRHD to 55 IRHD hardness, when tested in accordance with ISO 48. The inside faces of the wheels shall be 50 mm to 55 mm apart, and their common axis shall be 20 mm from the vertical axis of the test piece holder. The wheels shall be positioned symmetrically in a plane containing the axis of the test piece holder.
- (b) *Electric drill*—with suitably sized drill bit.
- (c) *Balance*—with an accuracy of 0.001 g.

3.4 TEST PIECES

The test pieces shall be 100 mm $\pm$ 100 mm with a suitable sized hole drilled in the centre to fit onto the spindle of the Taber Abrader.