AS 6669—2007

Australian Standard®

Plywood—Formwork

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

Additional Interests:

- Mr Kevin Lyngcoln

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through public comment period.

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PREFACE

This Standards was prepared by the members of the Joint Standards Australia/Standards New Zealand Committee TM-008, Plywood Timber Products. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide minimum performance requirements and specifications for the manufacture and application of plywood for use in the specific application of concrete formwork in Australia. This Standard describes formwork plywood products either overlaid or non-overlaid, which are suitable, subject to correct installation and design of the formwork, for providing a concrete surface finish meeting Class 2, 3, 4 and 5 off-form finishes as specified in AS 3610, *Formwork for concrete*. Attention is drawn to the mandatory requirements of AS 3610 for the need to undertake test pours where colour control or surface finishes of Class 2 or better are specified.

The plywood may be of either hardwood or softwood veneers, or a combination of both. The quality of veneers and surface quality is judged in the finished panel.

The quality of impregnated overlay papers is described using the paper/total weight ratio method.

Three veneer qualities, F, C, D, are prescribed as follows:

F —A non-appearance grade, which is a suitable substrate for the bonding of overlay papers.

C —A non-appearance grade with a solid surface.

D —A non-appearance grade with permitted open imperfections.

Additionally two veneer qualities U2 and U3 are recommended for use as underlay veneer, as follows:

U2 — A non-appearance grade suitable for use as an underlay veneer immediately beneath the face veneer in formwork plywood intended for a Class 2 surface finish. This grade permits solid defects but restricts the size of open imperfections, which may impair the surface quality meeting Class 2 surface requirements.

U3 — A non-appearance grade suitable for use as an underlay veneer immediately beneath the face veneer in formwork plywood intended for a Class 3 surface finish. This grade permits solid defects but restricts the size of open imperfections, which may impair the surface quality meeting Class 3 surface requirements.

Three methods for determining the stress grade for the formwork plywood are described using the following bases:

(a) Veneers of determined stiffness.

(b) Mechanical F-grading of formwork plywood panels.

(c) In-grade testing of formwork plywood panels.

Three bond types A, B and C are incorporated in the Standard to cover a range of bond durability requirements for formwork plywood across a range of applications and re-use conditions.

For the design of structures or elements incorporating the use of formwork plywood specified in this Standard, the structural grades will have characteristic strength and stiffness values as detailed in Table 5.1. These characteristic properties are to be assigned in accordance with the requirements of AS 1720.1, *Timber structures*, Part 1: *Design methods*.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, where as an ‘informative’ appendix is only for information and guidance

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1.1 SCOPE

This Standard specifies requirements for the manufacture, grading, finishing and branding of plywood used specifically in formwork, with a maximum length of 3100 mm and width of 1500 mm, intended to meet off-form surface finish requirements Classes 2, 3, 4 and 5 as specified in AS 3610. This Standard does not include specifications for formwork plywood intended to meet off-form surface finish Class 1.

Specifications for stress and surface grades, overlays, veneer qualities, bond quality, standard lay-up construction, dimensional tolerances, joints, moisture content and characteristic strength and stiffness values for the nominated F-grades are provided.

The following alternative methods for the determination of stress grades for formwork plywood are specified:

(a) Veneer stiffness determination.

(b) Mechanical F-grading of the finished sheet of formwork plywood.

(c) In-grade testing of finished formwork plywood panels.

Three outer veneer grades, based on the veneer quality of the face and back veneers, F, C and D are prescribed and four surface quality grades Class 2, Class 3, Class 4 and Class 5 are described.

Three bond types A, B and C are specified.

Formwork plywood is usually a multiple-use product. The physical and structural characteristics of formwork plywood products, as branded and specified in this Standard, are appropriate for the products as supplied. Inspection of the product is required between uses to ensure ongoing required performance across all characteristics. Structural adjustment factors for multiple uses are specified in AS 3610.

1.2 APPLICATION

The specification for any grade of formwork plywood shall consist of the requirements given in the following Sections:

(a) General requirements ..... Section 1.

(b) Requirements for veneers ..... Section 2.

(c) Requirements for surface quality ..... Section 3.

(d) Manufacturing requirements ..... Section 4.

(e) Application of stress grades and mechanical properties ..... Section 5.

Relevant requirements are also specified in the following normative Appendices:

(i) Section properties ..... Appendix B.

(ii) Method for mechanically F-grading formwork plywood panels ..... Appendix C.

