

AS/NZS 2269:1994

Australian/New Zealand Standard

Plywood—Structural

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Institution of Engineers Australia
Plywood Association of Australia
Plywood Manufacturers Association, New Zealand
State Forests of New South Wales
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PREFACE

This Standard was prepared by the Joint Australia/New Zealand Standards Committee TM/8 on Plywood Timber Products, as a joint Standard to supersede in Australia AS 2269—1979, *Structural plywood* and in New Zealand NZS 3614:1971, *Specification for the manufacture of construction plywood*.

This revision was undertaken to provide minimum performance requirements and specifications in the manufacture and application of structural plywood, acceptable to users, specifiers, manufacturers and building authorities in Australia and New Zealand. Plywood manufactured to this Standard is suitable for use in permanent structures.

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

Five veneer qualities, A, S, B, C and D, are described:

- A — a high quality appearance grade, suitable for clear finishing.
- S — an appearance grade which permits natural characteristics as a decorative feature.
- B — an appearance grade suitable for high quality paint finishing.
- C — a non-appearance grade with a solid surface.
- D — a non-appearance grade with permitted open imperfections.

The grade of the plywood is determined by the quality of the face and back veneers.

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

- (a) Veneers of identified species.
- (b) Veneers of determined density.
- (c) Veneers of determined stiffness.
- (d) Mechanical stress grading of plywood panels.
- (e) In-grade testing of plywood panels.

For the design of structures or elements incorporating the use of plywood specified in this Standard, the structural grades will have basic working stresses and elastic moduli as detailed in Table 4.2. These basic mechanical properties are to be applied in accordance with the requirements of AS 1720.1, *SAA Timber Structures Code*, Part 1—*Design methods* and NZS 3603, *Code of practice for timber design*.

This Standard describes the basic structural plywood product. Particular end uses may require additional processing, preservative treatment or surface finishing. When used externally the surface of structural plywood shall be adequately protected.

It should be noted that the Committee is developing a Standard for immunization and preservative treatment of veneer and plywood which is expected to be completed within 12 months.

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, whereas an 'informative' appendix is only for information and guidance.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	4
1.2 APPLICATION	4
1.3 REFERENCED DOCUMENTS	4
1.4 DEFINITIONS	5
1.5 GRADES OF STRUCTURAL PLYWOOD	5
1.6 DIMENSIONS AND SHAPE	5
1.7 MOISTURE CONTENT	6
1.8 FINISH	6
1.9 JOINTS IN SHEETS	6
1.10 IMMUNIZATION AND PRESERVATIVE TREATMENT	6
1.11 BRANDING	7
SECTION 2 VENEER QUALITY	
2.1 GENERAL REQUIREMENTS FOR ALL VENEERS	8
2.2 QUALITY A VENEER	8
2.3 QUALITY S VENEER	10
2.4 QUALITY B VENEER	10
2.5 QUALITY C VENEER	11
2.6 QUALITY D VENEER	11
SECTION 3 MANUFACTURING REQUIREMENTS	
3.1 JOINTS IN VENEER	13
3.2 STRUCTURAL JOINTS IN PLYWOOD SHEETS	13
3.3 BONDING BETWEEN PLYS	13
3.4 ASSEMBLY OF PLYWOOD	14
SECTION 4 APPLICATION OF STRESS GRADES AND MECHANICAL PROPERTIES TO STRUCTURAL PLYWOOD PANELS	
4.1 GENERAL	16
4.2 VENEERS OF IDENTIFIED SPECIES	16
4.3 VENEERS OF DETERMINED DENSITY	16
4.4 VENEERS OF DETERMINED STIFFNESS	16
4.5 MECHANICALLY STRESS-GRADED STRUCTURAL PLYWOOD SHEETS	17
4.6 IN-GRADE TESTING	18
4.7 CAPACITY OR DEPENDABLE STRENGTH OF PLYWOOD	19
APPENDICES	
A SECTION PROPERTIES, SECOND MOMENT OF AREA (MOMENT OF INERTIA) AND SECTION MODULUS FOR STRUCTURAL PLYWOOD ...	20
B STRESS GRADES FOR VENEER OF IDENTIFIED SPECIES	23
C METHOD FOR MECHANICALLY STRESS GRADING PLYWOOD PANELS	24
D INFORMATION TO BE SUPPLIED WITH INQUIRIES AND ORDERS ...	26
E STORAGE AND HANDLING OF STRUCTURAL PLYWOOD	27
F MEANS FOR DEMONSTRATING COMPLIANCE WITH THIS STANDARD	28

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies requirements for the manufacture and grading of structural plywood. Specifications for both stress and surface grades are also provided. The Standard also specifies veneer qualities, bond quality, standard lay-up construction, dimensional tolerances, joints, moisture content and basic working stresses for the nominated stress grades.

The following alternative methods for the determination of stress grades for structural plywood, are also provided—

- (a) species identification;
- (b) density determination;
- (c) veneer stiffness determination;
- (d) mechanical stress grading of the finished sheet of plywood; or
- (e) in-grade testing of finished plywood panels.

Five surface grades, based on the veneer quality of the face and back veneers, A, S, B, C and D and one bond quality, Type A bond, are prescribed.

1.2 APPLICATION The specification for any grade of structural plywood shall consist of the general requirements for veneers given in Section 2 and the manufacturing requirements given in Section 3.

1.3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS	
O1	Glossary of terms used in timber Standards
1199	Sampling procedures and tables for inspection by attributes
1399	Guide to AS 1199—Sampling procedures and tables for inspection by attributes
1604	Timber—Preservative-treated—Sawn and round
1720	Timber Structures (known as the SAA Timber Structures Code)
1720.1	Part 1: Design methods
2098	Methods of test for veneer and plywood
2098.1	Part 1: Moisture content of veneer and plywood
2098.2	Part 2: Bond quality of plywood (chisel test)
2098.3	Part 3: Bond quality and strength of scarf joints in plywood
2098.4	Part 4: Dimensions of sheets of veneer and plywood
2098.6	Part 6: Depth of peeler checks in veneer and plywood
2098.7	Part 7: Density of veneer and plywood



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