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Australian Standard 2209—1979

TIMBER POLES FOR OVERHEAD LINES

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

CSIRO, Division of Building Research

Electricity Supply Association of Australia

Forestry and Timber Bureau

N.S.W. Timber Advisory Council

Radiata Pine Association of Australia

Railways of Australia Committee

State Forest Services

Timber Preservers Association of Australia

Timber Research and Development Advisory Council, South and Central Queensland

Timber Pole Suppliers and Treaters

Telecom Australia

This standard, prepared by Committee TM/15, Timber Poles, was approved on behalf of the Council of the Standards Association of Australia on 22 September 1978, and was published on 1 June 1979.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

AUSTRALIAN STANDARD SPECIFICATION

TIMBER POLES FOR OVERHEAD LINES

AS 2209—1979

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PREFACE

This standard was prepared by the Association's Committee on Timber Poles as a revision and metrication of AS O117—1970, Wood Poles for Overhead Lines, which it accordingly supersedes.

The requirements for pole quality are dealt with in three Sections according to whether they are suitable for service in the following circumstances:

(a) Species not requiring full-length preservative treatment—Section 2

(b) Hardwood species requiring full-length preservative treatment—Section 3

(c) Softwood species requiring full-length preservative treatment—Section 4.

Requirements for the full-length preservative treatment of timber poles are given in Section 5.

In certain instances purchasers may request alternative requirements for poles. In such circumstances, the purchaser shall notify the supplier accordingly at the time of calling tenders or quotations for poles.

Minor changes from AS O117 have been made to several clauses including those relating to definitions, form of pole, permissible defects, sampling of preservatives and treated wood, methods of stating preservative retention in softwood poles and the identification requirements. A significant increase in the minimum acceptable retentions of waterborne preservatives in hardwood poles has been made.

A shift in emphasis towards a performance type standard resulted in the removal of an appendix providing guidance to treaters. This appendix has been replaced by the description of a test to determine sapwood thickness in softwood poles.

Attention is drawn to the fifth paragraph of Clause 1.2 in which reference is made to the requirements of the Timber Marketing Act and the Timber Users Protection Act in New South Wales and Queensland respectively.

Proposals for consideration for the inclusion of other preservatives may be submitted to the Standards Association of Australia.

This standard requires reference to the following Australian standards:

AS 1080	Methods of Test for Timber Part 1 Moisture Content
AS 1143	High Temperature Creosote for the Preservation of Timber
AS 1148	Nomenclature of Commercial Timbers Imported into Australia
AS 1720	Preservative-treated Sawn Timber, Veneer and Plywood
AS 1605	Methods for the Sampling and Analysis of Wood Preservatives and Preservative-treated Wood
AS O1	Glossary of Terms Used in Timber Standards
AS O2	Nomenclature of Australian Timbers
AS K55	Creosote Oil for the Preservation of Timber
BS 3175	Pentachlorophenol

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Specification for TIMBER POLES FOR OVERHEAD LINES

SECTION 1. SCOPE AND GENERAL REQUIREMENTS

1.1 SCOPE. This specification sets out requirements for timber poles intended primarily for use in overhead lines for electrical distribution and telecommunications purposes with or without full-length preservative treatment.

1.2 APPLICATION. Poles intended for use without full-length preservative treatment shall comply with the requirements of Sections 1 and 2.

Hardwood poles intended for use after full-length preservative treatment shall comply with the requirements of Sections 1 and 3.

Softwood poles intended for use after full-length preservative treatment shall comply with the requirements of Sections 1 and 4.

Any poles to be supplied after full-length preservative treatment shall also comply with all the relevant requirements of Section 5.

This specification is intended to have general application throughout Australia but in New South Wales the Timber Marketing Act 1977, and in Queensland the Timber Users Protection Act 1949—72, require prior approval of a preservative treatment and registration of a brand before timber offered for sale in either of these States can be described as preservative-treated. Detailed information about the requirements of such legislation may be obtained from the State Forestry Department concerned. Branding acceptable under either of these Acts shall be deemed to satisfy the branding requirements of this specification.

1.3 DEFINITIONS. For the purpose of this specification, the terms listed in AS O1 and the following definitions apply.

Charge—the quantity of poles actually processed in a wood preservation plant by one complete cycle of the treating process.

Critical zone—the 1.6 m length of pole measured from a point 1 m above the nominal ground line to 600 mm below the nominal ground line. If the pole is nominated as a stayed pole an additional zone measured from the top of the pole equivalent to the length between the nominal ground line and the butt of the pole shall be included.

Dry side—a strip of exposed deadwood, bordered by callus and formed by injury to the living tree.

Fabrication—as applied to untreated poles, any boring, machining, shaping or other operation specified by the purchaser, resulting in the removal of wood from a pole.

Knot sound—a tight knot solid across its face, at least as hard as the surrounding wood, and free from decay.

Nominal ground line—a plane normal to the axis of the pole located a distance of 600 mm plus 10 percent of the nominal length from the butt end.

Sapwood—the outer layers of the wood of a tree which at the time of felling contained living cells and reserve materials, e.g. starch.

Standard trade common names and botanical names shall be interpreted in accordance with AS O2 and AS 1148.

1.4 SIZE AND FORM OF POLE.

1.4.1 General. Dimensions including length and girth shall be specified for unseasoned poles, i.e. poles measured within 14 days of cutting, and due allowance shall be made for shrinkage with seasoned or partially seasoned poles re-measured.

1.4.2 Size of Pole. The length and girth or diameter of the pole at the ground line shall be within the tolerances stated by the purchaser when specifying these dimensions.

NOTE: The diameter of a pole which is not preservative-treated is normally designated as the diameter of the heartwood, since the sapwood is not durable and is therefore neglected in the calculation of the strength of untreated poles.

1.4.3 Circularity. The maximum diameter of a pole shall not exceed 125 percent of the minimum diameter of the same plane over 80 percent of the length of the pole.

1.4.4 Straightness. When measured in accordance with Fig. 1.1, the maximum deviation of sweeps, crooks or kinks, shall not exceed the values for X as given in Table 1.1.

TABLE 1.1
STRAIGHTNESS
(See Fig. 1.1)

Type of Deviation	Measured length m	Max. deviation, X, mm		See Fig.
		Select grade	Standard grade	
Single sweep and multiple sweep where pole outline is not crossed by P_q	L	$7L$	$10L$	1.1(a)
Multiple sweep where pole outline is crossed by P_1q_1	L	$5L$	$7L$	1.1(b)
Crooks and kinks	$L/4$	$3L$	$5L$	1.1(c)
Butt sweep	2	1.5 D at 2 m line*		1.1(d)

*Where D = average pole diameter 2 m from butt.