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TUNGSTEN FILAMENT LAMPS FOR GENERAL SERVICE

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STANDARDS ASSOCIATION OF AUSTRALIA
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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:

Australian Electrical and Electronic Manufacturers Association

Building Owners and Managers Association of Australia Limited

Confederation of Australian Industry

Department of Housing and Construction

Department of Public Works, N.S.W.

Electricity Supply Association of Australia

Illuminating Engineering Societies of Australia

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AUSTRALIAN STANDARD

TUNGSTEN FILAMENT LAMPS FOR GENERAL SERVICE

AS 2325—1980

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PREFACE

This standard was prepared by the Association's Committee on Electric Lamps and Related Accessories following a request from Australian lamp manufacturers for the preparation of standards for general service electric lamps. A standard for tubular fluorescent lamps for general lighting service, AS 1201*, has been published as part of this program of work.

In its format and technical provisions this standard closely follows the fourth edition of International Electrotechnical Commission (IEC) Publication 64†. The main point of difference is that the standard does not cover all the lamp types provided for in the IEC publication, a selection having been made of those which are of particular interest to Australia. Also requirements have been included for some additional lamp types which are in use only in Australia.

As in the fourth edition of IEC 64, this standard includes two alternative systems for appraising the quality of the whole production of a manufacturer. System A, which applied in previous editions of IEC 64, is similar to the method of appraisal prescribed in AS 1201 for tubular fluorescent lamps. System B is a new approach adopted in the fourth edition of IEC 64 which gives emphasis to checking manufacturers' claims for compliance with the standard in preference to establishing precise levels of quality. Reliance is placed on the following:

(a) The confidence derived from past testing experiences between the test authority and the manufacturer.

(b) Reference to the manufacturer's test data.

(c) A much reduced market sample which is used as a comparability check of the consistency between the market test data and the manufacturer's test data, thereby verifying the validity of the latter.

The two systems provide in practice the same assurance of consumer safeguards, such as should enable reciprocal recognition of licences or certification by the testing authorities concerned.

In the application of this standard reference may be necessary to the following standards:

IEC 61	Lamps Caps and Holders Together with Gauges for the Control of Interchangeability and Safety
IEC 64A	Supplement to IEC 64: Lamps with a Life of 2500 Hours
IEC 360	Standard Method of Measurement of Lamp Cap Temperature Rise
BS 354	Recommendations for Photometric Integrators

*AS 1201 Tubular Fluorescent Lamps for General Lighting Service
Part 1—Test and Compliance Requirements
Part 2—Lamp Data Sheets
†IEC 64. Tungsten Filament Lamps for General Service

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
TUNGSTEN FILAMENT LAMPS FOR GENERAL SERVICE

SECTION 1. SCOPE AND DEFINITIONS

1.1 SCOPE. This standard specifies requirements for the safety, interchangeability and performance of tungsten filament (incandescent) lamps for general lighting purposes having—

(a) a nominal life of 1000 h;

(b) a rated wattage of between 15 W and 1500 W inclusive;

(c) a rated voltage of between 110 V and 260 V inclusive;

(d) normal or high luminous flux;

(e) clear or internally frosted bulbs; and

(f) bayonet or Edison screw caps.

A summary of the characteristics of the particular lamps for which detailed requirements are provided is given in Appendix A.

It prescribes the methods of testing to be used and the conditions of compliance to be applied to the test results in order to assess whether a batch of lamps or a manufacturer's whole production is of acceptable quality.

NOTE: Where there is an interest in lamps having a longer life but lower luminous efficiency, reference may be made to IEC Publication 64A.

1.2 DEFINITIONS. For the purpose of this standard, the following definitions apply:

1.2.1 Type—lamps which, independent of the type of cap, are identical in photometric and electrical rating.

1.2.2 Batch—all the lamps of one type put forward at one time for acceptance test.

1.2.3 Group—lamps of the same rated wattage from the same schedule (normal or high luminous flux, see Appendix D) whose rated voltage falls within the same voltage range (110 V to 130 V; 220 V to 260 V).

1.2.4 Whole production—all of the lamp types which a manufacturer agrees to submit to testing.

NOTE: A list of the types should be shown on the certificate supplied by the body responsible for carrying out the tests.

1.2.5 Cap temperature rise (Δt_s)—the surface temperature (above ambient) of a standard test-lampholder fitted to the lamp, when measured in accordance with the method prescribed in IEC Publication 360.

1.2.6 Inspection test quantity (ITQ)—the number of lamps selected for the purpose of determining the acceptability of a batch or of the whole production of a manufacturer on the basis of mechanical and physical requirements.

1.2.7 Rating test quantity (RTQ)—the number of lamps selected for the purpose of determining the acceptability of a batch or of the whole production of a manufacturer on the basis of initial readings.

1.2.8 Life test quantity (LTQ)—the number of lamps selected for the purpose of determining the acceptability of a batch or of the whole production of a manufacturer on the basis of life performance.

1.2.9 Light-centre length—the distance from the geometrical centre of the filament to the contact plate of the cap, including solder.

NOTE: This applies irrespective of the type of cap used.

1.2.10 Luminous flux—quantity derived from radiant flux by evaluating the radiation according to its action upon a selective receptor, the spectral sensitivity of which is defined by the standard spectral luminous efficiencies. The unit is the lumen (lm).

1.2.11 Initial readings—the photometric and electric measurements made at the end of the ageing period.

1.2.12 Life—the number of hours a lamp operates to 'burn-out' or to any other criterion of life performance prescribed in this standard.

1.2.13 Rated voltage—the voltage marked on the lamp.

NOTE: Where lamps are marked with two voltages, the mean of these voltages is deemed to be the rated voltage.

1.2.14 Rated wattage—the wattage marked on the lamp.

1.2.15 Rated luminous flux—the luminous flux which is marked on the lamp or declared.