

AUSTRALIAN STANDARD C61—1963

(UDC 621.314.2)

POWER TRANSFORMERS



Incorporated by
Royal Charter **STANDARDS ASSOCIATION OF AUSTRALIA**



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

Associated Chambers of Manufactures
Australian Association of British Manufacturers
Australian and New Zealand Railways Conferences
Electricity Supply Association of Australia
The Electricity Supply Engineers' Association of N.S.W.
The Institution of Engineers Australia

This standard, prepared by Committee EL/8, Static Electrical Machinery, was approved on behalf of the Council of the Standards Association of Australia on 6 March 1963.

In order to keep abreast of progress in the industries concerned, Australian standards are subject to periodical review. Suggestions for improvements, addressed to the Headquarters of the Association, will be welcomed.

This standard was issued in draft form for public review as Doc. 635.

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

Australian Standard Specification
for
POWER TRANSFORMERS

AS C61—1963

First Edition	1946
Revised	1963

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P R E F A C E

This standard was prepared by Committee EL/8, Static Electrical Machinery, as a revision of AS C61—1946, which was an endorsement with amendments of the 1936 edition of British Standard 171. A revised edition of B.S. 171 was published in 1959 and, with its later amendments, was examined by the committee with a view to endorsement. Extensive amendments and some additions were found to be necessary to bring B.S. 171:1959 into line with Australian requirements and it was therefore decided to publish this revised edition of AS C61 as a self-contained Australian standard.

In this revised edition, provision has been made for transformers for single wire earth return (S.W.E.R.) systems, and also for the specification and testing of sound levels in accordance with NEMA Standard TR1—1960.

In accordance with modern techniques, additional classes of insulation are recognised for dry-type transformers, and temperature-rise limits appropriate to those classes have been included. Impulse voltage test levels and test procedures are also specified. Formulae for regulation calculations on three-winding transformers, and a clause covering the measurement of zero-sequence impedance have been added.

Information relating to permissible transformer overloads has been omitted from this edition, as a more comprehensive treatment of this subject is given in AS GC10*, Guide to the Loading of Oil-immersed Transformers. Transformers rated in accordance with this standard are capable of carrying without injury the loads under the prescribed conditions given in that code. Similarly the former appendix on maintenance of transformer oil has been omitted from this

* In course of preparation.

edition as this information will be included in AS CC—,* Maintenance of Insulating Oils.

In the preparation of this standard, recommendations of the International Electrotechnical Commission have been considered, including Publication 76, Recommendations for Power Transformers.

In addition, insulation test levels, both impulse and power frequency, have been reviewed and are in accordance with AS C337, Insulation Co-ordination, which was based on IEC Publication 71.

This standard makes reference to the following Australian and overseas standards:

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|------------------------|----------------------------------------------------------------------------------------------------------------------------|
| AS C1 | Standard Voltages and Frequency for A.C. Transmission and Distribution Systems |
| AS C328 | Recommendations for High Voltage Testing Techniques |
| AS C337 | Insulation Co-ordination |
| AS C—* | Insulating Oil for Transformers and Switchgear |
| AS CC10* | Guide to the Loading of Oil-immersed Transformers |
| AS CC—* | Maintenance of Insulating Oils |
| B.S. 2757 | Classification of Insulating Materials for Electrical Machinery and Apparatus on the Basis of Thermal Stability in Service |
| NEMA Standard TR1—1960 | Transformers, Regulators and Reactors |
| ASA Z24.3—1944 | Sound Level Meters for Measurement of Noise and Other Sounds |

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