AS 3147—1992

Australian Standard®

Approval and test specification—Electric cables—Thermoplastic insulated—For working voltages up to and including 0.6/1 kV

This Australian Standard was prepared by Committee EL/3, Electric Wires and Cables. It was approved on behalf of the Council of Standards Australia on 15 October 1992 and published on 21 December 1992.

The following interests are represented on Committee EL/3:

Australian Electrical and Electronic Manufacturers Association
Department of Defence
Electrical Contractors Associations of Australia
Electrical regulatory authorities
Electrical Supply Association of Australia
Office of Energy, New South Wales
Railways of Australia Committee
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This Standard was issued in draft form for comment as DR 91252.

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First published as part of AS C147—1950.
Second edition 1955.
Third edition 1967.
Fourth edition 1969.
AS C189 first published 1971.
Fifth edition AS C147—1972.
AS C189—1971 and part of AS C147—1972 revised, amalgamated and redesignated AS 3147—1974.
AS C189—1971 withdrawn 1976.
AS C147—1972 withdrawn 1976.
Second edition AS 3147—1976.
Third edition 1981.
Fourth edition 1988.
Fifth edition 1992.

Incorporating:
Amdt 1—1993
Amdt 2—1995
Amdt 3—1996

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 7909 9

PREFACE

This Standard was prepared by the Standards Australia Committee on Electric Wires and Cables to supersede AS 3147—1988, *Approval and test specification—Electric cables—Thermoplastic insulated for working voltages up to and including 0.6/1 kV*.

The Standard applies to cables and flexible cables insulated with thermoplastic materials (including PVC) intended for use in electrical installations at working voltages up to and including 0.6/1 kV.

This Standard differs from the 1988 edition as follows:

(a) The V-105 insulation in Table 1, while having retained the criteria, has now been redesignated as V-90 HT (i.e. a higher temperature endurance version of V-90) insulation and permits conductor operating temperature up to a maximum of 105°C for limited periods (see Clause 5).

Accordingly, the V-105 insulated cables in Tables 8 and 16 have been similarly redesignated as V-90 HT insulated and are now shown in Tables 7 and 15.

(b) Average thickness of lead-alloy sheath in Table 5 has been deleted and replaced by a equation in Clause 14. The subsequent tables have been renumbered.

(c) A note has been added to the Scope, giving a reference to other Standards for flexible cables above 25 mm^2.

(d) A requirement for insulation to have not less than 1% carbon black content has been added for insulated unprotected aerial cables.

(e) The V-90 insulated and non-metallic sheathed single-core, and multicore flat cables incorporate a new 3V-90 sheath.

The Standard is one of a series of Approval and Test Specifications issued by Standards Australia. These Specifications are accompanied by a general Specification, AS 3100, containing definitions and general requirements for electric materials and equipment. The purpose of these Specifications is to outline the conditions which must be met to secure approval for the sale and use of electrical equipment in Australia. Only safety matters and conditions closely allied thereto are covered. For guidance on details for enquiry and order, see Appendix A.

In the preparation of this Standard, consideration was given to IEC 502:1983 *Extruded solid dielectric insulated power cables for rated voltages from 1 kV to 30 kV* and acknowledgment is made of the assistance received from that source. The dimensions and sheath thickness for fixed circular cables are identical with the values in IEC 502.

The nominal cross-sectional areas of the conductors specified in this Standard are identical with the values recommended in IEC 228:1978 *Conductors of insulated cables*.

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TABLES