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AS 3191—1994

Australian Standard®

Approval and test specification—Electric flexible cords

STANDARDS AUSTRALIA

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 6 May 1994 and published on 22 August 1994.

The following interests are represented on Committee EL/3:

Australian Electrical and Electronic Manufacturers Association

Department of Defence, Australia

Electrical regulatory authorities

Electricity Supply Association of Australia

Ministry of Commerce, New Zealand

New Zealand Electrical Contractors Association

New Zealand Electrical and Electronic Manufacturers Federation

Office of Energy, N.S.W.

Railways of Australia Committee

Testing interests

This Standard was issued in draft form for comment as DR 93273.

AS 3191—1994

Australian Standard®

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AS 3191—1991 first published as part of
AS C147—1950.
Second edition 1955.
Third edition 1967.
Fourth edition 1969.
Fifth edition 1972.
Revised and redesignated in part as AS 3191—1974.
AS C147—1972 withdrawn 1976.
Second edition AS 3191—1981.
Third edition 1991.
Fourth edition 1994.

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

ISBN 0 7262 8974 4

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/3 on Electric Wires and Cables to supersede AS 3191—1991, *Approval and test specification—Electric flexible cords.*

It specifies construction and test criteria for flexible cords insulated with PVC, crosslinked elastomers, glass fibre or thermoplastic fluoropolymers which, dependent on cord type, are designed for working voltages up to and including 250/250 V, 250/440 V or 0.6/1 kV.

This Standard is one of a series of approval and test specifications issued by Standards Australia. The 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 guidelines on purchasing flexible cords, see Appendix A.

This Standard differs from the 1991 edition as follows:

(a) The V-105 insulation in Table 1.1, 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 Note 1 to Table 1.1).

Accordingly, the V-105 insulated cables in Table 2.2 and Clause 2.10.8 have been similarly redesignated as V-90 HT insulated.

(b) Marking Clauses 2.8.1(c) and 2.8.3(e) have been extended for R-S-150 insulated and GP-90-CSP or GP-90-CPE sheathed cords. Marking for V-90 HT has been added.

(c) V-105 insulation has been deleted from Clause 2.10.10.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies construction, dimensions and tests for flexible cords insulated with PVC, crosslinked elastomers, glass fibre or thermoplastic fluoropolymers which, dependent on cord type, are designed for working voltages up to and including 250/250 V, 250/440 V or 0.6/1 kV.

NOTE: This Standard is intended to apply only to flexible cords of the types and sizes which are included. It is not intended, however, that other types or sizes of flexible cord should be precluded from use, and regulatory authorities will consider the issue of a Certificate of Suitability for connection to the supply mains under the non-declared scheme for other types and sizes as they are developed. Any application for such certification should be accompanied by a description of the flexible cord.

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

AS

1125 Conductors in insulated electric cables and flexible cords

1660 Methods of test for electric cables, cords and conductors

3000 SAA Wiring Rules

SAA

MP49 Register of colours of manufacturers' identification threads for electric cables and flexible cords

1.3 DEFINITIONS For the purposes of this Standard, the definitions in the referenced Standards and those below apply.

1.3.1 Approximate value—a value which is neither guaranteed nor checked.

1.3.2 Core—the conductor with its insulation but not including any protective covering.

1.3.3 Flexible cord—a flexible cable, of which no wire exceeds 0.31 mm diameter and no conductor exceeds a 4 mm^2 cross-sectional area, and having not more than five cores.

1.3.4 Maximum continuous conductor temperature—the maximum temperature at which the conductor of the cord may be operated continuously, and is the temperature resulting from the combined effect of the ambient temperature and the current loading on the conductor.

1.3.5 Multicore cord—a cord comprising two or more cores.

1.3.6 Pitch circle diameter—the diameter of a circle which passes through the midpoints of the laid-up cores.

1.3.7 Routine tests—tests made by the manufacturer on all completed cord to demonstrate its integrity.

1.3.8 Sample tests—tests made on samples of completed cord, or components taken from completed cord, to verify that the finished product meets the design specification.

1.3.9 Special tests—tests made by the manufacturer on samples of completed cord, or components taken from a completed cord, at a specified frequency, to verify that the finished product meets the design specifications.