

AS/NZS 3191:1996
(Incorporating Amendment Nos 1, 2, 3 and 4)

Australian/New Zealand Standard™

**Approval and test specification—
Electric flexible cords**

AS/NZS 3191:1996

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-003, Electric Wires and Cables. It was approved on behalf of the Council of Standards Australia on 5 May 1996 and on behalf of the Council of Standards New Zealand on 20 May 1996. It was published on 5 August 1996.

The following are represented on Committee EL-003:

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
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-003 on Electric Wires and Cables to supersede AS 3191—1994, *Approval and test specification—Electric flexible cords*.

This Standard incorporates Amendment No. 1 (April 1997), No. 2 (June 1998), No. 3 (April 1999) and No. 4 (July 2002). The changes required by the Amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard is one of series of Approval and Test Specifications issued by Standards Australia and Standards New Zealand. In Australia, these Standards are to be read in conjunction with AS 3100, *Approval and test specification—General requirements for electrical equipment*. In New Zealand, they are to be read in conjunction with NZS 6200, *Specification for general requirements for electrical apparatus and materials*. The purpose of these Standards is to outline the conditions which must be met to secure approval for the sale and use of electrical equipment. Only safety matters and related conditions are covered.

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

Where the equivalent cords exist in IEC Standards, the dimensions for insulation and sheath thicknesses have been adopted in this Standard. This is the case for thermoplastic PVC and crosslinked elastomer insulated flexible cords, where these dimensions are identical with the values for the corresponding cords in IEC 227, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V* and IEC 245, *Rubber insulated cables—Rated voltages up to and including 450/750 V* respectively. The temperature ratings and hence properties of insulation and sheath materials for these dimensionally equivalent cords, however, are quite different.

There are no current equivalent IEC Standards for flexible cords insulated with crosslinked PVC, thermoplastic elastomer, glass fibre or thermoplastic fluoropolymer.

The objective of the Standard is to specify construction, dimensions and tests for flexible cords insulated with thermoplastic or crosslinked PVC, thermoplastic or 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 differs from the 1994 edition as follows:

- (a) R-EP-90, R-CSP-90 and R-CPE-90 insulated conductors may be plain or tinned. Fluoropolymer insulated conductors need not be tinned for 150°C temperature and shall be tinned, silver-plated or nickel-coated for 200°C temperature.
- (b) GP-85-PCP and HD-85-PCP sheaths have been added.
- (c) V-90 insulation and 5V-90 sheaths have been added to Clauses 2.10.11 and 2.10.12.
- (d) Crosslinked PVC and thermoplastic elastomer insulated cords have been added.
- (e) Kink resistant thermoplastic elastomer cords have been added.
- (f) A test for resistance to heat of textile braid has been added.
- (g) The Standard has been issued as a Joint Australian/New Zealand Standard.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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