AS/NZS 1995:2003
Reconfirmed 2017

Australian/New Zealand Standard™

Welding cables

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

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 25 August 2003 and on behalf of the Council of Standards New Zealand on 19 August 2003. It was published on 9 October 2003.

The following are represented on Committee EL-003:

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Australian Industry Group
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Department of Defence (Australia)
Department of Mineral Resources N.S.W.
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 02295.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION
OF
AS/NZS 1995:2003
Welding cables

RECONFIRMATION NOTICE

Technical Committee EL-003 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 10 October 2016.

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The following are represented on Technical Committee EL-003:

Australian Cable Makers' Association
Australian Industry Group
Electrical Compliance Testing Association
Electrical Regulatory Authorities Council
National Electrical and Communications Association
Queensland University of Technology

NOTES

Australian/New Zealand Standard™

Welding cables

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-003, Electric Wires and Cables to supersede AS/NZS 1995:1995.

The objective of this Standard is to specify the construction, tests, current rating and duty cycle of welding cables.

The nominal cross-sectional areas of the conductors specified herein are identical with those specified in AS/NZS 1125, *Conductors in insulated electric cables and flexible cords.*

The range of copper conductors and maximum wire diameters is similar to that given in BS 638, *Arc welding power sources, equipment and accessories,* Part 4*: Specification for welding cables*, except that a 240 mm^2 size has been added.

Current ratings have been allocated with respect to a standard duty cycle in accordance with AS 1966, *Electric arc welding power sources*. Thus a cable may have four ratings which relate to duty cycles of 100, 60, 30 and 25 percent.

Acknowledgment is made of the assistance received from BS 638 and IEC 60245-6*, Rubber insulated cables—Rated voltages up to and including 450/750 V*—Part 6: *Arc welding electrode cables*.

This Standard differs from the 1995 edition as follows:

(a) Current ratings have been provided for 30-second, 5-minute and 10-minute period duty cycles.

(b) A definition for 100 percent duty cycle has been included.

(c) Reference to voltage ratings has been deleted.

(d) Compliance of conductors has been changed.

(e) Covering materials have been referenced to AS/NZS 3808.

(f) Compliance of any inner layer of covering has been changed to an insulation material selected from AS/NZS 3808 with a maximum continuous operating temperature of 90°C or higher.

(g) A compatibility test has been introduced where two covering layers are applied.

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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1 SCOPE

This Standard applies to flexible cables for use with electric arc welding equipment rated in accordance with AS 1966 and AS/NZS 3195.

Current ratings are assigned for a range of operating duty cycles for each cable size. Selection of the cable should be made in accordance with the anticipated duty cycle.

NOTES:

1 Purchasing guidelines are given in Appendix A.

2 Current ratings are given in Tables B1, B2 and B3.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1966	Electric arc welding power sources (all Parts)
AS/NZS	
1125	Conductors in insulated electric cables and flexible cords
1660	Test methods for electric cables, cords and conductors
1660.1	Method 1: Conductors and metallic components
1660.2.1	Method 2.1: Insulation, extruded semi-conductive screens and non-metallic sheaths—Methods for general application
1660.2.2	Method 2.2: Insulation, extruded semi-conductive screens and non-metallic sheaths—Methods specific to elastomeric, XLPE and XLPVC materials
1660.3	Method 3: Electrical tests
1660.5.6	Method 5.6: Fire tests—Test for combustion propagation
3195	Approval and test specifications—Portable machines for electric arc welding and allied processes
3808	Insulating and sheathing materials for electric cables
BS	
638	Arc welding power sources, equipment and accessories
638-4	Part 4: Specification for welding cable

3 DEFINITIONS

For the purpose of this Standard, the definitions given in the referenced Standards and those below apply.

3.1 Duty cycle

For less than 100 percent duty cycle, the ratio of the total arc time to the duty cycle period, expressed as a percentage.

For 100 percent duty cycle, the equipment is operated continuously for one hour then switched off.