AS 1033.2—1988
Reconfirmed 2018

Australian Standard®

HIGH VOLTAGE FUSES (FOR RATED VOLTAGES EXCEEDING 1000 V)

Part 2—CURRENT-LIMITING (POWDER-FILLED) TYPE

This Australian Standard was prepared by Committee EL/7, Power Switchgear. It was approved on behalf of the Council of the Standards Association of Australia on 25 November 1987 and published on 5 February 1988.

The following interests are represented on Committee EL/7:

Australian British Chamber of Commerce

Australian Electrical and Electronic Manufacturers Association

Confederation of Australian Industry

Electricity Supply Association of Australia

Institution of Engineers Australia

Railways of Australia Committee

Testing authorities

Representative of the following interests also participated in the preparation of this Standard:

Electricity Supply Engineers Association of New South Wales

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This Standard was issued in draft form for comment as DR 86019.

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 1033.2–1988

High voltage fuses (for rated voltages exceeding 1000 V)

Part 2–Current-limiting (powder-filled) type

RECONFIRMATION NOTICE

Technical Committee EL-007 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 1 August 2018.

The following are represented on Technical Committee EL-007:

Australian Industry Group
Energy Networks Australia
Engineers Australia
The University of New South Wales

NOTES

Australian Standard®

HIGH VOLTAGE FUSES (FOR RATED VOLTAGES EXCEEDING 1000 V)

Part 2—CURRENT-LIMITING (POWDER-FILLED) TYPE

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PREFACE

This Standard was prepared by the Association's Committee on Power Switchgear, to supersede AS 1034—1978, *High voltage current-limiting fuses*.

Its publication marks the beginning of the rationalization of the Standards for high voltage fuses into a new series of Standards with the generic designation AS 1033, *High voltage fuses (for rated voltages exceeding 1000 V)*.

The other two Standards in this new series are in course of preparation and when published will be as follows:

AS
1033.1 *Expulsion and similar type*

1033.3 *Application guide*

When published, AS 1033.1 will supersede AS 1033—1971, *High-voltage expulsion and similar fuses*.

This Standard is based on the third edition of IEC 282-1* and also the performance and test requirements of fuse-links for motor circuit and transformer circuit applications in IEC 644† and IEC 787‡ respectively. Acknowledgement is made of the assistance received from these IEC Standards.

Its editorial format is different from that of IEC 282-1.

Appendix D of this Standard is based on Appendix D of IEC 282-1, but shows only the dimensions of current-limiting fuse-links that are commonly used in Australia.

Where this Standard deviates from the technical requirements of the above IEC Standards, by way of amended or additional requirements, this is indicated by a rule in the margin against the clause or part thereof affected. These deviations are summarized in Appendix F.

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* IEC 282-1 High-voltage fuses
Part 1: Current-limiting fuses.

† IEC 644 Specification for high-voltage fuse-links for motor circuit applications.

‡ IEC 787 Application guide for the selection of fuse-links of high-voltage fuses for transformer circuit applications.

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HIGH VOLTAGE FUSES (FOR RATED VOLTAGES EXCEEDING 1000 V)

PART 2: CURRENT-LIMITING (POWDER-FILLED)TYPE

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Standard specifies requirements for all types of high voltage current-limiting (powder-filled) fuses designed for use outdoors or indoors on alternating current systems of 50 Hz and 60 Hz and of rated voltages exceeding 1000 V.

Fuses provided with fuse-links equipped with an indicating device or a striker come within the scope of this Standard, but the correct operation of the striker in combination with the tripping device of a switch is outside the scope of this Standard (see AS 2024).

This Standard does not cover expulsion and similar type fuses or the application of high voltage fuses (see Preface).

1.2 REFERENCED DOCUMENTS. The Standards referred to in this Standard are as follows:

AS
1544 Methods for impact tests on metals
Part 1: Izod (AS 1544.1)

1852 International electrotechnical vocabulary
1852(441)—Switchgear, controlgear and fuses

1931 High voltage testing techniques
Part 1: General definitions, test requirements, test procedures, and measuring devices (AS 1931.1)

2006 High voltage a.c. switchgear and controlgear—Circuit-breakers for rated voltages above 1000 V

2024 High voltage fuse/switch combinations and fuse/circuit-breaker combinations

2650 High voltage a.c. switchgear and controlgear—Common requirements

AS
2752 Preferred numbers and their use

ISO
179 Plastics—Determination of Charpy impact strength of rigid materials

1.3 SERVICE CONDITIONS. Clause 2 of AS 2650 applies with the following addition:

(a) *Altitude correction factors for rated current and temperature-rise limits.* Where fuses are required for use at altitudes above 1000 m, the rated current or temperature-rise limit in this Standard shall be corrected by using the appropriate correction factors in Table 1.1, Columns 2 and 3 respectively. One correction factor shall be used from either Column 2 or Column 3, but not both for any one application.

TABLE 1.1

ALTITUDE CORRECTION FACTORS FOR RATED CURRENT AND TEMPERATURE-RISE LIMITS

1	2	3
Maximum altitude m	**Correction factor rated current**	**Correction factor for temperature rise limit referred to sea level**
1000	1.0	1.0
1500	0.99	0.98
3000	0.96	0.92

NOTE: For altitudes between 1000 m and 1500 m, and between 1500 m and 3000 m, the correction factors may be obtained by linear interpolation.