
Road vehicles — Fuse-links —

**Part 2:
User guidelines**

*Véhicules routiers — Liaisons fusibles —
Partie 2: Guide de l'utilisateur*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

This third edition cancels and replaces the second edition (ISO 8820-2:2005), which has been technically revised.

ISO 8820 consists of the following parts, under the general title *Road vehicles — Fuse-links*:

- *Part 1: Definitions and general test requirements*
- *Part 2: User guidelines*
- *Part 3: Fuse-links with tabs (blade type) Type C (medium), Type E (high currents) and Type F (miniature)*
- *Part 4: Fuse-links with female contacts (Type A) and bolt-in contacts (Type B) and their test fixtures*
- *Part 5: Fuse-links with axial terminals (Strip fuse-links) Types SF30 and SF51 and test fixtures*
- *Part 6: Single-bolt fuse-links*
- *Part 7: Fuse-links with tabs (Type G) with rated voltage of 450 V*
- *Part 8: Fuse-links with bolt-in contacts (Types H and J) with a rated voltage of 450 V*
- *Part 9: Fuse-links miniature low profile (Type K)*
- *Part 10: Road vehicles — Fuse — Part 10: Fuse-links with tabs Type L (high current miniature)¹⁾*

1) To be published.

Road vehicles — Fuse-links —

Part 2: User guidelines

1 Scope

This part of ISO 8820 gives guidance for the choice and application of automotive fuse-links which are defined in the other parts of this International Standard. It describes the various parameters which have to be taken into account when selecting fuse-links.

Fuse-links according to ISO 8820 are intended for electrical cable protection. If these types of fuse-links are to be used for electrical component protection, it should be agreed between customer and supplier.

It is intended to be used in conjunction with the other parts of ISO 8820.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8820-1, *Road vehicles — Fuse-links — Part 1: Definitions and general test requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions in ISO 8820-1 apply.

4 Rated voltage and system voltage

The fuse rated voltage shall always be higher than the nominal voltage of the electrical system of the vehicle to allow for possible overvoltage conditions.

5 Rated current and continuous current

The rated current (I_R) is the current used for identifying the fuse-link.

The continuous current (I_C) in [Figure 1](#) is the maximum current flowing continuously through the circuit (fuse-link, terminals, holder, and cables) at a maximum ambient temperature. The continuous current is lower than the rated current.

6 Cold resistance

The cold resistance is the resistance of a fuse-link without self-heating at room temperature (RT). It can be calculated by the drop voltage measured, between the measuring points of the fuse-link (specified in the appropriate part of ISO 8820 according to the type of the fuse), at a certain current, typically measured at 10 % of fuse rated current.

The spread of fuse-link cold resistance due to volume production results in a spread in power dissipation and a spread in time-current characteristic (see [Figure 2](#)).