International Standard

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Fifth edition
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Road vehicles — Fuse-links —

Part 3: Fuse-links with tabs (blade type) Type C (medium), Type E (high current) and Type F (miniature)

Véhicules routiers — Liaisons fusibles —

Partie 3: Liaisons fusibles cavalier (Type à lame), Type C (moyen), Type E (courant élevé) et Type F (miniature)

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Foreword

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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 document 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).

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This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 32, *Electrical and electronic components and general system aspects*.

This fifth edition cancels and replaces the fourth edition (ISO 8820-3:2015), which has been technically revised.

The main changes are as follows:

— updated test fixture definitions and drawings (see 5.1.1);

— updated temperature limit on Temperature Rise Test (see Clause A.2);

— changed dimension b_2 on type "C" fuse drawing from 3,0 min to 2,5 min (see 6.1).

A list of all parts in the ISO 8820 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Road vehicles — Fuse-links —

Part 3: Fuse-links with tabs (blade type) Type C (medium), Type E (high current) and Type F (miniature)

1 Scope

This document specifies fuse-links with tabs (blade-type) Type C (medium), Type E (high current) and Type F (miniature) for use in road vehicles. It establishes the rated current, test procedures, performance requirements and dimensions for these fuse-link types.

This document is applicable for fuse-links with a rated voltage of 32 V or 58 V, a current rating of ≤100 A and a breaking capacity of 1 000 A intended for use in road vehicles.

This document is intended to be used in conjunction with ISO 8820-1 and ISO 8820-2 [1]. The numbering of its clauses corresponds to that of ISO 8820-1, whose requirements are applicable, except where modified by requirements particular to this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 19642-3, *Road vehicles — Automotive cables — Part 3: Dimensions and requirements for 30 V a.c. or 60 V d.c. single core copper conductor cables*

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 given in ISO 8820-1 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Marking, labelling and colour coding

See ISO 8820-1 and Table 1.

Table 1 — Fuse-link colour coding

Current rating A	Colour Type C, Type F	Colour Type E
1	black	
2	grey	
3	violet	
4	pink	
5	tan/light brown	
7,5	brown	
10	red	
15	blue	
20	yellow	yellow
25	white[a]	grey or white[a]
30	green	green
35	dark green	dark green
40	orange	orange
50		red
60		blue
70		brown
80		white[a] or grey
100		violet

[a] For transparent fuse bodies, "white" means no colour is added to the plastic material. The same colour is not allowed for 25 A and 80 A Type E.

5 Tests and requirements

5.1 General

5.1.1 Test criteria

In addition to carrying out the test procedures in accordance with ISO 8820-1, the following criteria apply.

Tests shall be performed following the test sequences in Table 2.

Fuse-links according to this document shall provide for visible evidence of an open-fuse element.

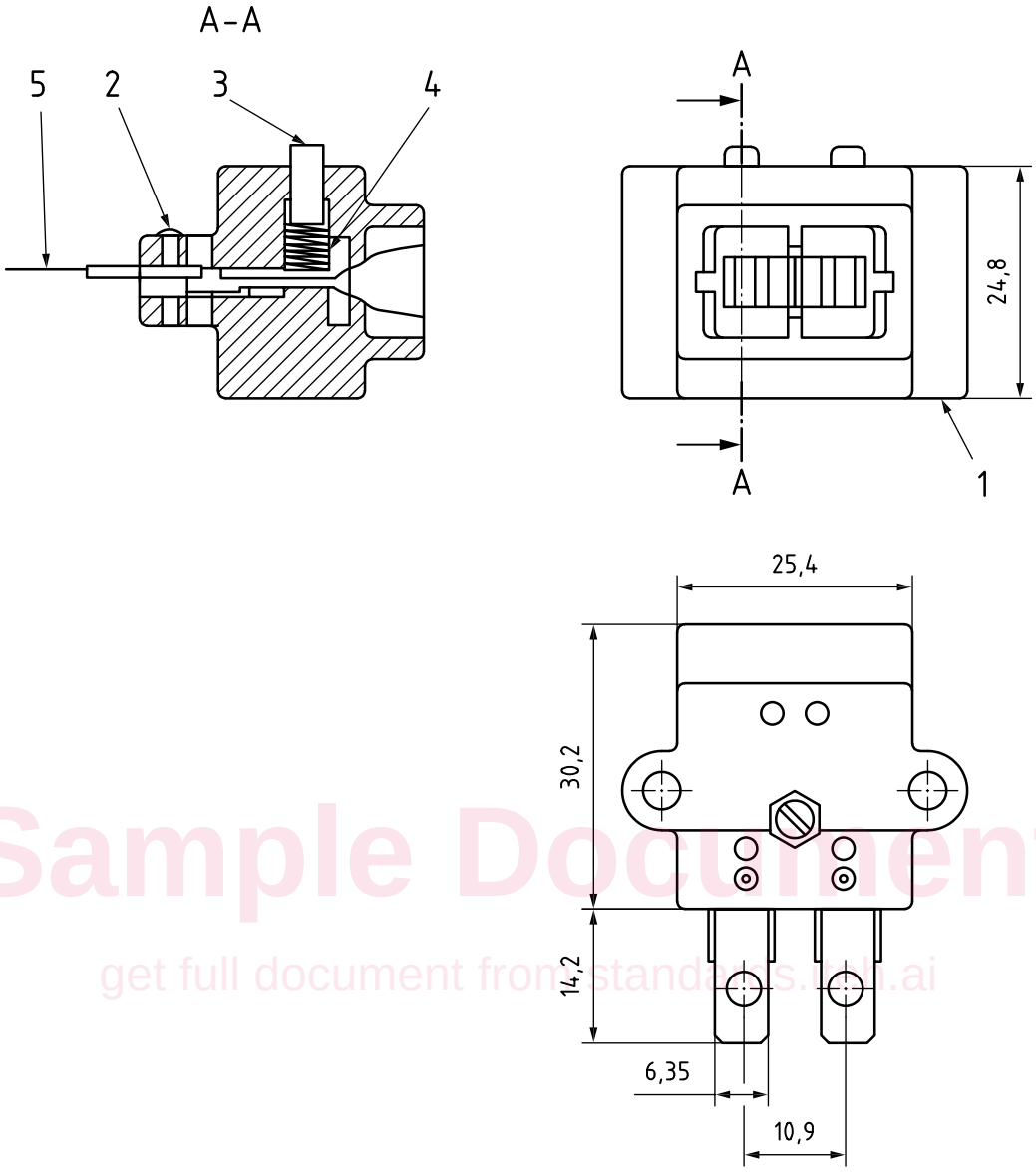
The test fixtures for electrical tests shall be designed in accordance with Figure 1 a), Figure 1 b) and Figure 1 c) depending on the corresponding fuse type. The connection resistance shall be ≤0,8 mΩ for Type C (medium) and Type F (miniature) fuse-links and ≤0,35 mΩ for Type E (high current) fuse-links to ensure the proper function of the test fixture.

The body of the test fixture shall be made of a filled / reinforced thermoset compound (e.g. mineral filled phenolic resin).

The terminal of the test fixture shall be made of: CuSn5 or CuSn6 alloy (phosphor bronze) with a thickness of 0,5 mm for Figure 1 a); CuFe2P alloy (high strength modified copper) with a thickness from 0,60 mm to 0,65 mm for Figure 1 b); CuZn30 alloy (cartridge brass) or of CuSn5 or CuSn6 alloy (phosphor bronze) with a thickness of 0,5 mm for Figure 1 c). Suitable coating may be chosen in order to provide for connection resistance within specification.

Seats for voltage-drop testing probes shall be integrated into the body of the test fixture according to the dimensions defined in Figure 2.

Dimensions in millimetres



a) Test fixture constructive drawing (Type C)