IEC 60127-5

Edition 2.0 2016-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Miniature fuses –
Part 5: Guidelines for quality assessment of miniature fuse-links

Coupe-circuit miniatures –
Partie 5: Lignes directrices pour l'évaluation de la qualité des éléments de remplacement miniatures

IEC 60127-5:2016-11(en-fr)

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MINIATURE FUSES –

Part 5: Guidelines for quality assessment of miniature fuse-links

FOREWORD

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International Standard IEC 60127-5 has been prepared by subcommittee 32C: Miniature fuses, of IEC technical committee 32: Fuses.

This second edition cancels and replaces the first edition published in 1988. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) addition of new tables in 4.3;
b) addition of new tables in Clause 5.

The text of this standard is based on the following documents:

FDIS	Report on voting
32C/526/FDIS	32C/530/RVD

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Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60127 series, published under the general title *Miniature fuses*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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INTRODUCTION

According to the wish expressed by the users of miniature fuses, all standards, recommendations and other documents relating to miniature fuses should have the same publication number in order to facilitate reference to fuses in other specifications, for example, equipment specifications.

Furthermore, a single publication number and subdivision into parts would facilitate the establishment of new standards, because clauses containing general requirements need not be repeated.

The IEC 60127 series, under the general heading *Miniature fuses*, is thus subdivided as follows:

IEC 60127-1, *Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links*

IEC 60127-2, *Miniature fuses – Part 2: Cartridge fuse-links*

IEC 60127-3, *Miniature fuses – Part 3: Sub-miniature fuse-links*

IEC 60127-4, *Miniature fuses – Part 4: Universal modular fuse-links (UMF) – Through-hole and surface mount types*

IEC 60127-5, *Miniature fuses – Part 5: Guidelines for quality assessment of miniature fuse-links*

IEC 60127-6, *Miniature fuses – Part 6: Fuse-holders for miniature fuse-links*

IEC 60127-7, *Miniature fuses – Part 7: Miniature fuse-links for special applications*

IEC PAS 60127-8, *Miniature fuses – Part 8: Fuse resistors with particular overcurrent protection*

IEC 60127-9, (Free for further documents)

IEC 60127-10, *Miniature fuses – Part 10: User guide for miniature fuses*

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MINIATURE FUSES –

Part 5: Guidelines for quality assessment of miniature fuse-links

1 Scope

This part of IEC 60127 gives a guide for tests for assessing the quality of miniature fuse-links other than type tests, for the case where there is no complete agreement between the user and the manufacturer on what such tests apply.

This document provides guidelines and limits generally acceptable for quality control purposes by large scale users and manufacturers of miniature fuse-links. This document has validity for large scale series with lot sizes of 10 000 and more. It is also applicable for smaller lot sizes, if necessary.

Periodic inspections by reduced type tests (Clause 5) are intended to be carried out periodically in order to ensure that the level of technical performance previously verified by complete type tests as given in subsequent parts of the IEC 60127 series is maintained.

The frequency of periodic in relation to lot-by-lot inspections is not established in 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.

IEC 60127-1:2006, *Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links*
IEC 60127-1:2006/AMD1:2011
IEC 60127-1:2006/AMD2:2015

IEC 60127-2:2014, *Miniature fuses – Part 2: Cartridge fuse-links*

IEC 60127-3:2015, *Miniature fuses – Part 3: Sub-miniature fuse-links*

IEC 60127-4:2005, *Miniature fuses – Part 4: Universal modular fuse-links (UMF) – Through-hole and surface mount types*
IEC 60127-4:2005/AMD1:2008
IEC 60127-4:2005/AMD2:2012

IEC 60127-7:2015, *Miniature fuses – Part 7: Miniature fuse-links for special applications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60127-1:2006, IEC 60127-4:2005 and IEC 60127-7:2015 apply.

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

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- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 Lot-by-lot inspection

4.1 Test conditions

The sample appropriate to the acceptable quality level (AQL) and the inspection level should be as designated in IEC 60410.

4.2 Non-destructive tests

Table 1 shows primary characteristics of samples.

Table 1 – Primary characteristics (inspection level II)
(Samples may be returned to the lot after inspection)

Category	Test	Sub-clause according to IEC 60127-1:2006	Classification of defects		AQL	
			Major defect	Minor defect	Each defect	Total/ category
Marking	Fuse-links	6.1	x	–	0,25	–
	Colour codes	6.4				
Mechanical	Terminations [a]	8.3	x	–	0,25	0,65
	Alignment	8.4	x	–		
	Dimensions	8.1	x	–		
	cracked insulation (visible)	–	x	–		
Electrical continuity	Cold resistance [b]		x	–	0,25	0,65

[a] Without being immersed in water.

[b] Limiting values given by the manufacturer and based upon voltage drop measured in accordance with 9.1, IEC 60127-1:2006 but with a current not greater than 10% of rated current of the fuse.

If there are faults in one category that lead to faults in another category, these samples are replaced by new ones. This replacement should only be made if the AQL value in this fault category is not exceeded.

4.3 Destructive tests

4.3.1 Destructive tests for IEC 60127-2 and IEC 60127-3

4.3.1.1 Any failed fuses found in testing to Table 1 should be replaced by good samples, before continuing with sampling and testing to Table 2.

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