



**SLOVENSKI STANDARD**  
**SIST EN 60691:2017/A1:2019**

**01-julij-2019**

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**Termični taljivi vložki - Zahteve in navodilo za uporabo (IEC 60691:2015/A1:2019)**

Thermal-links - Requirements and application guide (IEC 60691:2015/A1:2019)

Temperatursicherungen - Anforderungen und Anwendungshinweise (IEC 60691:2015/A1:2019)

Protecteurs thermiques - Exigences et guide d'application (IEC 60691:2015/A1:2019)

**STANDARD PREVIEW**  
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**Ta slovenski standard je istoveten z: EN 60691:2016/A1:2019**

[SIST EN 60691:2017/A1:2019](https://standards.iteh.ai/catalog/standards/sist/861ed96f-4388-49b3-836f-d304790fbb4c/sist-en-60691-2017-a1-2019)

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**ICS:**

|           |                                       |  |
|-----------|---------------------------------------|--|
| 29.120.50 | Varovalke in druga medtokovna zaščita | Fuses and other overcurrent protection devices |
|-----------|---------------------------------------|--|

**SIST EN 60691:2017/A1:2019**

**en,fr,de**

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EUROPEAN STANDARD

**EN 60691:2016/A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2019

ICS 29.120.50

English Version

**Thermal-links - Requirements and application guide  
(IEC 60691:2015/A1:2019)**Protecteurs thermiques - Exigences et guide d'application  
(IEC 60691:2015/A1:2019)Temperatursicherungen - Anforderungen und  
Anwendungshinweise  
(IEC 60691:2015/A1:2019)

This amendment A1 modifies the European Standard EN 60691:2016; it was approved by CENELEC on 2019-02-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN 60691:2016/A1:2019 (E)****European foreword**

The text of document 32C/548/FDIS, future IEC 60691/A1, prepared by SC 32C "Miniature fuses" of IEC/TC 32 "Fuses" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60691:2016/A1:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-11-15
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-02-15

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s), see informative Annex ZZ, included in this document.

**iTeh STANDARD PREVIEW**  
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SIST EN 60691:2017/A1:2019  
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The text of the International Standard IEC 60691:2015/A1:2019 was approved by CENELEC as a European Standard without any modification.

Replace Annex ZA of EN 60691:2016 by the following one:

**Annex ZA**  
(normative)

**Normative references to international publications  
with their corresponding European publications**

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

| <u>Publication</u> | <u>Year</u> | <u>Title</u>   | <u>EN/HD</u>  | <u>Year</u> |
|--------------------|-------------|--|---------------|-------------|
| IEC 60065 (mod)    | 2014        | Audio, video and similar electronic apparatus - Safety requirements  | EN 60065      | 2014        |
| -                  | -           | -  | + A1          | 2017        |
| IEC 60112          | 2003        | Method for the determination of the proof and the comparative tracking indices of solid insulating materials   | EN 60112      | 2003        |
| + A1               | 2009        |  | + A1          | 2009        |
| IEC 60127-2        | 2014        | Miniature fuses - Part 2: Cartridge fuse-links   | EN 60127-2    | 2014        |
| IEC 60216-5        | 2008        | Electrical insulating materials - Thermal endurance properties - Part 5: Determination of relative thermal endurance index (RTE) of an insulating material | EN 60216-5    | 2008        |
| IEC 60664-1        | 2007        | Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests  | EN 60664-1    | 2007        |
| IEC 60695-2-12     | 2010        | Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials                       | EN 60695-2-12 | 2010        |
| + A1               | 2014        |  | + A1          | 2014        |
| IEC 60695-2-13     | 2010        | Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials                     | EN 60695-2-13 | 2010        |
| + A1               | 2014        |  | + A1          | 2014        |
| IEC 60695-10-2     | 2014        | Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test method   | EN 60695-10-2 | 2014        |

**EN 60691:2016/A1:2019 (E)**

|                   |      |   |                |      |
|-------------------|------|---|----------------|------|
| IEC 60695-11-10   | 2013 | Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods             | EN 60695-11-10 | 2013 |
| IEC 60730-1 (mod) | 2013 | Automatic electrical controls - Part 1: General requirements  | EN 60730-1     | 2016 |
| IEC 61210 (mod)   | 2010 | Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements | EN 61210       | 2010 |

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## Annex ZZ (informative)

### Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

**Table ZZ.1 – Correspondence between this European standard and Annex I of Directive  
2014/35/EU [2014 OJ L96]**

| Safety objectives of Directive<br>2014/35/EU   | Clause(s) / sub-clause(s)<br>of this EN  | Remarks / Notes |
|--|--|-----------------|
| 1.General conditions   |  |                 |
| 1(a) the essential characteristics, the recognition and observance of which will ensure that electrical equipment will be used safely and in applications for which it was made, shall be marked on the electrical equipment, or, if this is not possible, on an accompanying document | 7 Marking; 8 Documentation; Annex A Application guide  |                 |
| 1(b) the electrical equipment, together with its component parts, shall be made in such a way as to ensure that it can be safely and properly assembled and connected  | 4 General requirements; 5 General notes on tests; 7 Marking; 8 Documentation; 10.3 Interrupting current; 10.5 Limited short-circuit test; 10.5.4 Compliance; 13 Manufacturer's validation program; Annex A Application guide |                 |
| 1(c) the electrical equipment shall be so designed and manufactured as to ensure that protection against the hazards set out in points 2 and 3 is assured, providing that the equipment is used in applications for which it was made and is adequately maintained                     | Annex A Application guide  |                 |

## EN 60691:2016/A1:2019 (E)

|   |  |  |
|---|--|--|
| 2. Protection against hazards arising from the electrical equipment   |  |  |
| 2(a) persons and domestic animals are adequately protected against the danger of physical injury or other harm which might be caused by direct or indirect contact      | 4 General requirements; 5 General notes on test; 6.1 Electrical conditions; 6.3 & 9.6 Resistance to tracking; 9.7 Creepage distances and clearances; 10.1 Dielectric strength; 10.2 Insulation resistance; 10.3 Interrupting current; 10.4 Transient overload current; 10.5 Limited short-circuit test; 11 Temperature tests; 13 Manufacturer's validation programme |  |
| 2(b) temperatures, arcs or radiation which would cause a danger, are not produced   | 4 General requirements; 5 General notes on test; 6.3 & 9.6 Resistance to tracking; 9.7 Creepage distances and clearances; 10.1 Dielectric strength; 10.2 Insulation resistance; 10.3 Interrupting current; 10.4 Transient overload current; 10.5 Limited short-circuit test; 11 Temperature tests; 13 Manufacturer's validation programme                            |  |
| 2(c) persons, domestic animals and property are adequately protected against non-electrical dangers caused by the electrical equipment which are revealed by experience | 4 General requirements; 4.3 ;<br>5 General notes on test; 10.3 Interrupting current; 11 Temperature tests; 13 Manufacturer's validation programme  |  |
| 2(d) the insulation is suitable for foreseeable conditions  | 4 General requirements; 5 General notes on test; 6.3 & 9.6 Resistance to tracking; 9.7 Creepage distances and clearances; 10.1 Dielectric strength; 10.2 Insulation resistance; 13 Manufacturer's validation programme   |  |
| 3. Protection against hazards which may be caused by external influences on the electrical equipment  |  |  |
| 3(a) meets the expected mechanical requirements in such a way that persons, domestic animals and property are not endangered  | 4 General requirements; 5 General notes on test; 9 Constructional requirements; 10.3 Interrupting current; 10.5 Limited short-circuit test; 11.5 Ageing; 13 Manufacturers validation programme   |  |
| 3(b) is resistant to non-mechanical influences in expected environmental conditions, in such a way that persons, domestic animals and property are not endangered       | 9.8 Temperature and humidity cycle conditioning; 10.1 Dielectric strength; 10.2 Insulation resistance; 12 Resistance to rusting;   |  |
| 3(c) does not endanger persons, domestic animals and property in foreseeable conditions of overload   | 4 General requirements; 5 General notes on test; 10.4 Transient overload current   |  |

**WARNING 1** — Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

**WARNING 2** — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.





# INTERNATIONAL STANDARD

AMENDMENT 1

Thermal-links – Requirements and application guide

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