

Thermal-links — Requirements and application guide

The European Standard EN 60691:1995, with the incorporation of amendment A2:2000, has the status of a British Standard

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Committees responsible for this British Standard

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- British Electrotechnical Approvals Board
- Department of Trade and Industry (Consumer Safety Unit, CA Division)
- Electrical Installation Equipment Manufacturers' Association (BEAMA Ltd.)
- Federation of the Electronics Industry
- Ministry of Defence

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National foreword

This British Standard has been prepared by Subcommittee PEL/32/3 and is the English language version of EN 60691:1995, *Thermal-links, Requirements and application guide*, published by the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC 60691:1993 and its amendments 1:1995 and 2:2000, published by the International Electrotechnical Commission (IEC).

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A₁] <A₁>. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 2 is indicated by [A₂] <A₂>.

The foreword of the EN makes reference to the date of withdrawal (dow) of the relevant national standard. In this case the relevant national standard is BS 7283:1990 which was withdrawn on 15 March 1997.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 16 an inside back cover and a back cover.

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Descriptors: Thermally controlled protective devices, requirements, classification, testing, definitions

English version

Thermal-links — Requirements and application guide

(includes amendment A2:2000)
(IEC 60691:1993 + A1:1995 + A2:2000)

Protecteurs thermiques —
Prescriptions et guide d'application
(inclut l'amendement A2:2000)
(CEI 60691:1993 + A1:1995 + A2:2000)

Temperatursicherungen —
Anforderungen und Anwendungshinweise
(enthält Änderung A2:2000)
(IEC 60691:1993 + A1:1995 + A2:2000)

This European Standard was approved by CENELEC on 1995-09-20. Amendment A2 was approved by CENELEC on 2000-11-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 Central Secretariat or to any CENELEC member.

This European Standard 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

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Foreword

The text of the International Standard IEC 60691:1993 and its amendment 1:1995, prepared by SC 32C, Miniature fuses, of IEC TC 32, Fuses, was submitted to the formal vote and was approved by CENELEC as EN 60691 on 1995-09-20 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-10-01

Annexes designated “normative” are part of the body of the standard. In this standard, Annex A, Annex B and Annex ZA are normative. Annex ZA has been added by CENELEC.

Foreword to amendment A2

The text of document 32C/247/FDIS, future amendment 2 to IEC 60691:1993, prepared by SC 32C, Miniature fuses, of IEC TC 32, Fuses, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60691:1995 on 2000-11-01.

NOTE EN 60691:1995 includes A1:1995 to IEC 60691.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2001-08-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2003-11-01

Annexes designated “normative” are part of the body of the standard.

Annexes designated “informative” are given for information only.

In this standard, Annex ZA is normative and Annex C is informative.

Annex ZA has been added by CENELEC.

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Introduction

Thermal-links, defined as non-resettable devices functioning once only without refunctioning, are widely applied for the thermal protection of equipment in which, under fault conditions, one or more parts may reach hazardous temperatures.

As these devices have several aspects in common with miniature fuse-links and are used for obtaining a comparable degree of protection, this standard has endeavoured to lay down a number of basic requirements for such devices.

1 Scope and object

1.1 This International Standard is applicable to thermal-links, intended for incorporation in electrical appliances, electronic equipment and component parts thereof, normally intended for use indoors, in order to protect them against excessive temperatures under abnormal conditions.

NOTE 1 The equipment need not be designed to generate heat.

NOTE 2 The effectiveness of the protection against excessive temperatures logically depends upon the position and method of mounting of the thermal-link, as well as upon the current which it is carrying.

NOTE 3 Attention is drawn to the fact that the external creepage distances and clearances specified in Table 3 may in some cases be smaller than those required by certain appliance or equipment standards. In such cases, additional means should be provided when a thermal-link is mounted in the equipment in order to adjust the creepage distances and clearances to the values required by the relevant equipment standard.

1.2 This standard may be applicable to thermal-links for use under other than indoor conditions, provided that the climatic and other circumstances in the immediate surroundings of such thermal-links are comparable with those in this standard.

1.3 This standard may be applicable to thermal-links in their simplest forms (e.g. melting strips or wires), provided that molten materials, expelled during function, cannot adversely interfere with the safe use of the equipment, especially in the case of hand-held or portable equipment irrespective of its attitude.

1.4 This standard is applicable to thermal-links with a rated voltage not exceeding 690 V a.c. or d.c. and a rated current not exceeding 63 A.

1.5 This standard is not applicable to thermal-links used under extreme conditions such as corrosive or explosive atmospheres.

1.6 This standard is not applicable to thermal-links to be used in circuits on a.c. with a frequency lower than 45 Hz or higher than 62 Hz.

1.7 The object of this standard is:

- a) to establish uniform requirements for thermal-links;
- b) to define methods of test;
- c) to provide useful information for the application of thermal-links in equipment.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60065:1985, *Safety requirements for mains operated electronic and related apparatus for household and similar general use.*

IEC 60068-2-3:1969, *Environmental testing — Part 2: Tests — Test Ca: Damp heat, steady state.*

IEC 60068-2-20:1979, *Environmental testing — Part 2: Tests — Test T: Soldering.*

IEC 60068-2-21:1983, *Environmental testing — Part 2: Tests — Test U: Robustness of terminations and integral mounting devices.*

IEC 60112:1979, *Method for determining the comparative and the proof-tracking indices of solid insulating materials under moist conditions.*