BS EN IEC 60691:2023+A1:2024

BSI Standards Publication

Thermal-links — Requirements and application guide

bsi.

Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

National foreword

This British Standard is the UK implementation of EN IEC 60691:2023+A1:2024. It is identical to IEC 60691:2023, incorporating amendment 1:2024. It supersedes BS EN IEC 60691:2023, which will be withdrawn on 31 December 2027.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee PEL/32, Fuses.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2024
Published by BSI Standards Limited 2024

ISBN 978 0 539 27805 7

ICS 29.120.50

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2023.

Amendments/corrigenda issued since publication

Date	Text affected
31 December 2024	Implementation of IEC amendment 1:2024 with CENELEC endorsement A1:2024

AVA Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60691:2023+A1

December 2024

ICS 29.120.50

Supersedes EN 60691:2016; EN 60691:2016/A1:2019

English Version

Thermal-links - Requirements and application guide (IEC 60691:2023)

Protecteurs thermiques - Exigences et guide d'application (IEC 60691:2023)

Temperatursicherungen - Anforderungen und Anwendungshinweise (IEC 60691:2023)

This European Standard was approved by CENELEC on 2023-10-04. 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 CEN-CENELEC Management Centre 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 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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

© 2023 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

AVA Documents Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

European foreword

The text of document 32C/604/FDIS, future edition 5 of IEC 60691, 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 IEC 60691:2023.

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) 2024-07-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-10-04

This document supersedes EN 60691:2016 and all of its amendments and corrigenda (if any).

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60691:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60085:2007	NOTE	Approved as EN 60085:2008 (not modified)
IEC 60695-10-3:2016	NOTE	Approved as EN 60695-10-3:2016 (not modified)
IEC 60695-11-20:2015	NOTE	Approved as EN 60695-11-20:2015 (not modified)
IEC 60127-1:2006	NOTE	Approved as EN 60127-1:2006 (not modified)
IEC 60127-1:2006/A1:2011	NOTE	Approved as EN 60127-1:2006/A1:2011 (not modified)
IEC 60127-1:2006/A2:2015	NOTE	Approved as EN 60127-1:2006/A2:2015 (not modified)
IEC 60216-1:2013	NOTE	Approved as EN 60216-1:2013 (not modified)
IEC 60695-2-11:2021	NOTE	Approved as EN IEC 60695-2-11:2021 (not modified)

AVA Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

European foreword to Amendment 1

The text of document 32C/645/FDIS, future edition 5 of IEC 60691/AMD1, 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 IEC 60691:2023/A1:2024.

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) 2025-12-31
•	latest date by which the national standards conflicting with the document have to be withdrawn	(dow) 2027-12-31

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60691:2023/AMD1:2024 was approved by CENELEC as a European Standard without any modification.

Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

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 Where 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.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60065	2014	Audio, video and similar electronic apparatus - Safety requirements	-	-
IEC 60112	2020	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN IEC 60112	2020
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	2020	Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests	EN IEC 60664-1	2020
IEC 60695-2-12	2021	Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials	EN IEC 60695-2-12	2021
IEC 60695-2-13	2021	Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials	EN IEC 60695-2-13	2021
IEC 60695-10-2	2014	Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test method	EN 60695-10-2	2014
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
+ A1	2015		+ A1	2019
+ A2	2020		+ A2	2022

AVA Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

Publication	Year	Title	EN/HD	Year
IEC 61210 (mod)	2010	Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements	EN 61210	2010

Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

CONTENTS

FOREWORD 5
INTRODUCTION 7
1 Scope 8
2 Normative references 8
3 Terms and definitions 9
4 General requirements 11
5 General notes on tests 12
6 Classification 14
6.1 Electrical conditions 14
6.2 Thermal conditions 14
6.3 Resistance to tracking 14
7 Marking 14
8 Documentation 15
9 Constructional requirements 16
9.1 General 16
9.2 Lead secureness tests 17
9.2.1 General 17
9.2.2 Tensile test 17
9.2.3 Thrust test 17
9.2.4 Bending/twist test 17
9.3 Contacts used for the current path 18
9.4 Accessible mounting brackets or metal parts 19
9.5 Insulating materials 19
9.6 Resistance to tracking 19
9.7 Creepage distances and clearances 19
9.8 Temperature and humidity cycle conditioning 20
9.9 Terminals and terminations 20
10 Electrical requirements 21
10.1 Dielectric strength 21
10.2 Insulation resistance 21
10.3 Interrupting current 22
10.3.1 General 22
10.3.2 Specific conditions 22
10.4 Transient overload current 23
10.5 Limited short-circuit test 24
10.5.1 General 24
10.5.2 Test method 24
10.5.3 Fuse size (rating) 25
10.5.4 Compliance 25
11 Temperature tests 25
11.1 General 25
11.2 Holding temperature, T_h 26
11.3 Rated functioning temperature, T_f 26
11.4 Maximum temperature limit, T_m 26
11.5 Ageing 27

AVA Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

12 Resistance to rusting 27
13 Manufacturer's validation programme 28
Annex A (normative) Application guide 29
Annex B (normative) Alternative ageing test for thermal-links with T_h greater than 250 °C for use in electric irons 30
Annex C (normative) Conductive heat ageing test 31
C.1 Conductive heat ageing test 31
C.2 Method 31
C.2.1 General 31
C.2.2 Typical test fixture assembly 31
C.2.3 Temperature setting 31
C.2.4 Temperature behaviour 31
C.2.5 Temperature monitoring 32
C.3 Ageing 32
C.3.1 General 32
C.3.2 Cooling operation 32
C.3.3 Premature operation 32
C.4 Results 33
C.5 Dielectric strength test 33
C.6 Test oven 33
Annex D (informative) Extended holding temperature evaluation 35
D.1 Extended holding temperature conditioning test 35
D.2 Load current interrupt test 35
Annex E (normative) Seal ageing test 37
Annex F (normative) Identification requirements 39
Annex G (normative) Indelibility of markings 40
Annex H (normative) Requirements for thermal-link packaged assemblies 41
Annex I (informative) Holding temperature 45
Bibliography 46

Figure 1 – Bending/twist test 18
Figure C.1 – Typical test fixture assembly 33
Figure C.2 – Typical thermal-link test oven 34
Figure D.1 – Typical terminal block support test fixture 36
Figure E.1 – Conditioning time versus oven temperature for proposed temperature index 38
Figure G.1 – Apparatus for testing durability of markings 40

Table 1 – Test schedule 13
Table 2 – Strength of leads and terminal parts – Minimum required tensile and thrust test forces 18
Table 3 – Creepage distances and clearances (absolute minimum values) 20
Table 4 – Test voltages for dielectric strength 21
Table 5 – Test current for interrupting test 22
Table 6 – Limited short-circuit test capacity 24
Table H.1 – Push and pull force 43

AVA Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

Table H.2 – Minimum nominal cross-sectional area of conductor 43
Table H.3 – Allowed values for the materials used in the thermal-link package 44

Documents
Document Sharing Hub
Full document details: BS EN IEC 60691:2023+A1:2024

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

THERMAL-LINKS – REQUIREMENTS AND APPLICATION GUIDE

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60691 has been prepared by subcommittee 32C: Miniature fuses, of IEC technical committee 32: Fuses. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 2015 and Amendment 1:2019. This edition constitutes a technical revision.

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

a) requirements for thermal-link packaged assemblies;
b) renew the requirements and definitions for T_h-test;

The harmonization of the USA national standard, UL 1020, fifth edition (withdrawn 2003), and IEC 60691:1993, together with its Amendment 1:1995 and Amendment 2:2000 have served as a basis for the elaboration of this standard.

AVA Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

The text of this International Standard is based on the following documents:

Draft	Report on voting
32C/604/FDIS	32C/605/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The following differing practices of a less permanent nature exist in the country indicated below:

– Annex C is required to be declared in the USA;
– Annex E is required in the USA, if applicable;
– Annex F is required to be declared in the USA.

In this standard, the following type is used:

– *compliance statements: in italic type*.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

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 (abnormal) 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.

Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

THERMAL-LINKS – REQUIREMENTS AND APPLICATION GUIDE

1 Scope

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 is not 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.

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

This document 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 position.

Annex H of this document is applicable to thermal-link packaged assemblies where the thermal-link(s) has already been approved to this standard but packaged in a metallic or non-metallic housing and provided with terminals/wiring leads.

This document is applicable to thermal-links with a rated voltage not exceeding 690 V AC or DC and a rated current not exceeding 63 A.

The objectives of this document are:

a) to establish uniform requirements for thermal-links,

b) to define methods of test, and

c) to provide useful information for the application of thermal-links in equipment.

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

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

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 60065:2014, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60112:2020, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

AVA Documents Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

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

IEC 60216-5:2008, *Electrical insulating materials – Thermal endurance properties – Part 5: Determination of relative thermal endurance index (RTE) of an insulating material*

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage supply systems – Part 1: Principles, requirements and tests*

IEC 60695-2-12:2021, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods – Glow-wire flammability index (GWFI) test method for materials*

IEC 60695-2-13:2021, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignition temperature (GWIT) test method for materials*

IEC 60695-10-2:2014, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test method*

IEC 60695-11-10:2013, *Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods*

IEC 60730-1:2013, *Automatic electrical controls – Part 1: General requirements*
IEC 60730-1:2013/AMD1:2015
IEC 60730-1:2013/AMD2:2020

IEC 61210:2010, *Connecting devices – Flat quick-connect terminations for electrical copper conductors – Safety requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

3.1
clearance
shortest distance in air between two conductive parts

3.2
creepage distance
shortest distance along the surface of insulating material between two conductive parts

3.3
holding temperature
T_h
maximum ambient temperature of the thermal-link at which it will not change its state of conductivity during a specified time at a specified rated current

Documents
Document Sharing Hub
Full document details: BS EN IEC 60691:2023+A1:2024

3.4
homogeneous series
series of thermal-links having the same external dimensions and common overall construction, deviating from each other only in such characteristics (including ratings) that, for a given test, the testing of one or a reduced number of particular thermal-links of that series shall be taken as representative for all the thermal-links of the series

3.5
interrupting current
I_b
value of the current that the thermal-link is capable of interrupting at rated voltage and under specified circuit conditions

3.6
maximum temperature limit
T_m
temperature of the thermal-link stated by the manufacturer, up to which the mechanical and electrical properties of the thermal-link, having changed its state of conductivity, will not be impaired for a given time

3.7
pilot duty
rating assigned to a switching device that controls the coil of another electro-mechanical device such as a solenoid, relay or contactor

3.8
portable equipment
equipment which is moved while in operation or which can easily be moved from one place to another while connected to the supply

3.9
rated current
I_r
current used to classify a thermal-link

3.10
rated functioning temperature
T_f
temperature of the thermal-link which causes it to change its state of conductivity with a detection current up to 10 mA as the only load

3.11
rated voltage
U_r
voltage used to classify a thermal-link

3.12
thermal element
metallic or non-metallic fusible material that is part of a thermal-link and is responsive to temperature by a change of state such as from solid to liquid at the temperature for which it is calibrated

3.13
thermal-link
non-resettable device incorporating a thermal element, which will open a circuit once only when exposed for a sufficient length of time to a temperature in excess of that for which it has been designed

AVA Documents
Document Sharing Hub

Full document details: BS EN IEC 60691:2023+A1:2024

3.14
transient overload current
I_p
direct current pulse train which the thermal-link is able to withstand without impairing its characteristics

3.15
extended holding temperature
$T_{h\text{-}100}$
maximum temperature at which a thermal-link can be maintained while conducting the rated current at the rated voltage for a period of 100 weeks which will not cause the thermal-link to open circuit in accordance with extended holding temperature evaluation

Note 1 to entry: This is a rating for user consideration during the investigation of the end product.

Note 2 to entry: Annex D specifies the extended holding temperature evaluation.

3.16
conductive heat ageing test
CHAT
test to evaluate a thermal-link for use in an appliance

Note 1 to entry: If it performs satisfactorily, the thermal-link will be assigned a CHAT rating. This rating is for end-product user consideration during the investigation of the end-use product.

Note 2 to entry: Annex C specifies the conductive heat ageing test.

4 General requirements

4.1 Adequate protection of the equipment against excessive temperatures not only depends upon the properties of the thermal-link but also to a large extent upon the mounting of the thermal-link in the equipment. Therefore the requirements of the application guide in Annex A shall be considered.

4.2 Thermal-links shall have adequate electrical and mechanical strength and shall be constructed so as to withstand all conditions of handling likely to be encountered during mounting and normal use, when used within the requirements of this document.

4.3 When a thermal-link changes its state of conductivity, no arc or flame shall be maintained, nor material expelled, that might impair the surrounding area or otherwise create a risk of electric shock or fire. In addition, there shall be no emission of substances (e.g. gases, liquids, dust, mist, vapour) which could cause a hazard.

For thermal-links using melting strips or wires, care should be taken to prevent molten material from short-circuiting or bridging creepage distances and clearances in air, so as to reduce the risk of impairing the insulation system of the equipment.

After it has functioned, the thermal-link shall not be damaged when subjected to temperatures not exceeding T_m, in such a way that the safety of the equipment with regard to risk of electric shock hazard and electrical breakdown is impaired. The thermal-link shall not reclose after it has operated.

4.4 For requirements for thermal-link packaged assemblies, see Annex H.

Documents
Document Sharing Hub
Full document details: BS EN IEC 60691:2023+A1:2024