

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Thermal-links – Requirements and application guide

Protecteurs thermiques – Exigences et guide d'application





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INTERNATIONAL
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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 General requirements	10
5 General notes on tests	11
6 Classification.....	12
6.1 Electrical conditions.....	13
6.2 Thermal conditions.....	14
6.3 Resistance to tracking.....	14
7 Marking	14
8 Documentation	15
9 Constructional requirements	15
9.1 General.....	15
9.2 Lead secureness tests	16
9.2.1 General	16
9.2.2 Tensile test.....	16
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	18
9.5 Insulating materials.....	18
9.6 Resistance to tracking.....	18
9.7 Creepage distances and clearances.....	18
9.8 Temperature and humidity cycle conditioning.....	19
9.9 Terminals and terminations.....	19
10 Electrical requirement	19
10.1 Dielectric strength.....	19
10.2 Insulation resistance	20
10.3 Interrupting current	21
10.3.1 General	21
10.3.2 Specific conditions.....	21
10.4 Transient overload current	22
10.5 Limited short-circuit test.....	23
10.5.1 General	23
10.5.2 Test method	23
10.5.3 Fuse size (rating).....	23
10.5.4 Compliance	24
11 Temperature tests	24
11.1 General.....	24
11.2 Holding temperature, T_h	24
11.3 Rated functioning temperature, T_f	25
11.4 Maximum temperature limit, T_m	25

11.5	Ageing	25
12	Resistance to rusting	26
13	Manufacturer's validation programme	26
	Annex A (normative) Application guide.....	28
	Annex B (normative) Alternative ageing test for thermal-links with T_h greater than 250 °C for use in electric irons	29
	Annex C (normative) Conductive heat ageing test.....	30
	C.1 Conductive heat ageing test.....	30
	C.2 Method	30
	C.3 Ageing	31
	C.4 Results	31
	C.5 Dielectric strength test	32
	C.6 Test oven.....	32
	Annex D (informative) Extended holding temperature evaluation.....	34
	D.1 Extended holding temperature conditioning test	34
	D.2 Load current interrupt test.....	34
	Annex E (normative) Seal ageing test	36
	Annex F (normative) Identification requirements	38
	Annex G (normative) Indelibility of markings	39
	Annex H (normative) Requirements for thermal-link packaged assemblies	40
	Bibliography.....	43
	Figure 1 – Bending/twist test.....	17
	Figure C.1 – Typical test fixture assembly.....	32
	Figure C.2 – Typical thermal-link test oven	33
	Figure D.1 – Typical terminal block support test fixture	35
	Figure E.1 – Conditioning time versus oven temperature for proposed temperature index.....	37
	Figure G.1 – Apparatus for testing durability of markings	39
	Table 1 – Test schedule.....	13
	Table 2 – Strength of leads and terminal parts – Minimum required tensile and thrust test forces.....	17
	Table 3 – Creepage distances and clearances (absolute minimum values)	19
	Table 4 – Test voltages for dielectric strength.....	20
	Table 5 – Test current for interrupting test	21
	Table 6 – Limited short-circuit test capacity	23
	Table H.1 – Push and pull force	41
	Table H.2 – Minimum nominal cross-sectional area of conductor	42

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**THERMAL-LINKS –
REQUIREMENTS AND APPLICATION GUIDE**

FOREWORD

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

This fourth edition cancels and replaces the third edition published in 2002, Amendment 1: 2006 and Amendment 2: 2010. This fourth edition constitutes a technical revision.

This fourth 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;
- c) change starting temperature for interrupt current test;
- d) clarify requirements for marking (packing label);
- e) minimum Proof Tracking Index 175 instead 120.

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

FDIS	Report on voting
32C/512/FDIS	32C/515/RVD

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.

The basis for this standard is 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.

The following differing practices of a less permanent nature exist in the countries 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 publication will remain unchanged until the stability date indicated on the IEC website (<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
- amended.

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.

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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 standard 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 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 position.

Annex H of this standard 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 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.

The objectives of this standard are:

- 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.

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

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.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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*