

BS EN 62275:2009



BSI Standards Publication

Cable management systems — Cable ties for electrical installations

bsi.

...making excellence a habit.
AVA Documents™
Document Sharing Hub

National foreword

This British Standard is the UK implementation of EN 62275:2009. It is derived from IEC 62275:2006. It supersedes BS EN 50146:2000 and BS IEC 62275:2006, which are withdrawn.

The CEN common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **[C]** **[C]**.

The UK participation in its preparation was entrusted to Technical Committee PEL/213, Cable management.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© BSI 2010

ISBN 978 0 580 63927 2

ICS 29.120.10; 29.120.99

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 28 February 2010

Amendments/corrigenda issued since publication

Amd. No.	Date	Text affected
----------	------	---------------

English version

**Cable management systems -
Cable ties for electrical installations**
(IEC 62275:2006, modified)

Systèmes de câblage -
Colliers pour installations électriques
(CEI 62275:2006, modifiée)

Kabelführungssysteme -
Kabelbinder für elektrische Installationen
(IEC 62275:2006, modifiziert)

This European Standard was approved by CENELEC on 2009-07-01. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of the International Standard IEC 62275:2006, prepared by SC 23A, Cable management systems, of IEC TC 23, Electrical accessories, together with the common modifications prepared by the Technical Committee CENELEC TC 213, Cable management systems, was submitted to the formal vote and was approved by CENELEC as EN 62275 on 2009-07-01.

This European Standard supersedes EN 50146:2000.

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) | 2010-07-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2012-07-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62275:2006 was approved by CENELEC as a European Standard with agreed common modifications.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-6	1995	Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)	EN 60068-2-6 ¹⁾	1995
IEC 60068-2-52	1996	Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)	EN 60068-2-52	1996
IEC 60216-4-1	- ²⁾	Electrical insulating materials – Thermal endurance properties – Part 4-1: Ageing ovens – Single-chamber ovens	EN 60216-4-1	2006 ³⁾
IEC 60695-11-5	2004	Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2005
ISO 4892-2	2006	Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps	EN ISO 4892-2	2006
ISO 4892-4	1994 ⁴⁾	Plastics – Methods of exposure to laboratory light sources – Part 4: Open-flame carbon-arc lamps	-	-
ISO 6988	1985	Metallic and other non organic coatings – Sulfur dioxide test with general condensation of moisture	EN ISO 6988	1994

¹⁾ EN 60068-2-6:1995 is superseded by EN 60068-2-6:2008, which is based on IEC 60068-2-6:2007.

²⁾ Undated reference.

³⁾ Valid edition at date of issue.

⁴⁾ ISO 4892-4:1994 is superseded by ISO 4892-4:2004.

CONTENTS

1	Scope.....	7
2	Normative references	7
3	Terms and definitions	8
4	General requirements	8
5	General notes on tests	9
6	Classification.....	13
6.1	According to material.....	13
6.2	According to loop tensile strength for cable ties.....	13
6.3	According to temperature	13
6.4	According to contribution to fire for non-metallic and composite cable ties only	14
6.5	According to environmental influences	14
7	Marking and documentation.....	14
8	Construction	15
9	Mechanical properties	15
9.1	Requirements	15
9.2	Installation test.....	16
9.3	Minimum installation temperature test for cable ties	16
9.4	Minimum operating temperature test for cable ties.....	16
9.5	Loop tensile strength test for cable ties classified according to 6.2.1	18
9.6	Loop tensile strength test for cable ties classified according to 6.2.2	19
9.7	Mechanical strength test for fixing devices	22
10	Contribution to fire.....	24
11	Environmental influences.....	26
11.1	Resistance to ultraviolet light.....	26
11.2	Resistance to corrosion	27
12	Electromagnetic compatibility	28
	Figure 1 – Reference thickness for cable ties.....	10
	Figure 2 – Test mandrel for cable tie test.....	12
	Figure 3 – Test apparatus for cable tie impact test.....	17
	Figure 4 – Typical arrangement for the vibration test	21
	Figure 5 – Typical arrangement of test assembly for fixing device test	23
	Figure 6 – Arrangement for the needle flame test.....	25
	Table 1 – Stabilisation time for samples.....	9
	Table 2 – Loop tensile strength.....	13
	Table 3 – Maximum operating temperature for application	13
	Table 4 – Minimum operating temperature for application	14
	Table 5 – Energy values of hammer.....	18

This page deliberately set blank

CABLE MANAGEMENT SYSTEMS – CABLE TIES FOR ELECTRICAL INSTALLATIONS

1 Scope

This International Standard specifies requirements for metallic, non-metallic and composite cable ties and their associated fixing devices used for the management and support of wiring systems in electrical installations.

Cable ties and associated fixing devices may also be suitable for other applications and where so used, regard should be taken of any additional requirements.

This standard does not contain requirements that evaluate any electrical insulation properties of the cable tie or mechanical protection of the cables provided by the cable tie.

2 Normative references

The following referenced documents are indispensable for the application 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 60068-2-6:1995, *Environmental Testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-52:1996, *Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium, chloride solution)*

IEC 60695-11-5:2004, *Fire hazard testing – Part 11-5: Test flames – Needle flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 60216-4-1, *Electrical insulating materials – Thermal endurance properties – Part 4-1: Ageing ovens – Single-chamber ovens*

☐ ISO 4892-2:2006, *Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc sources* ☐

ISO 4892-4:1994, *Plastics – Methods of exposure to laboratory light sources – Part 4: Open-flame carbon-arc lamps*¹⁾

ISO 6988:1985, *Metallic and other non organic coatings – Sulphur dioxide test with general condensation of moisture*

¹⁾ This publication has been withdrawn and replaced by a 2004 edition.

3 Terms and definitions

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

3.1

cable tie

band or length of material, employing a locking device, used for bundling or tying groups of cables together, securing and/or supporting the cables

NOTE Type 1 and Type 2 cable ties are classified in 6.2.1 and 6.2.2.

3.2

fixing device

component (such as a block or bracket) specifically designed to secure the cable tie to a mounting surface

NOTE A cable tie and the fixing device may be manufactured as an integrated component.

3.3

metallic component

component which consists of metal only

3.4

non-metallic component

component which consists of non-metallic material only

3.5

composite component

component comprising both metallic and non-metallic materials

3.6

environmental influence

effect of corrosive or polluting substances or solar radiation etc.

3.7

loop tensile strength

reference mechanical characteristic of a cable tie with its locking mechanism engaged

3.8

locking device

feature of a cable tie for fixing it in a closed position

4 General requirements

A cable tie and a fixing device shall withstand the stresses likely to occur during recommended installation practice and perform under the conditions of classifications in Clause 6 as declared by the manufacturer.

Compliance is checked by carrying out all the appropriate tests specified.