

Cable trunking systems and cable ducting systems for electrical installations —

Part 2-1: Cable trunking systems and cable ducting systems intended for mounting on walls and ceilings

ICS 29.120.10

National foreword

This British Standard is the UK implementation of EN 50085-2-1:2006+A1:2011. It supersedes BS EN 50085-2-1:2006, which is withdrawn.

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

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.

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 2006

© BSI 2011

ISBN 978 0 580 70916 6

Amendments/corrigenda issued since publication

Date	Comments
31 August 2007	Addition of supersession details
30 November 2011	Implementation of CENELEC amendment A1:2011

**Cable trunking systems and cable ducting systems
for electrical installations
Part 2-1: Cable trunking systems and cable ducting systems
intended for mounting on walls and ceilings**

Systèmes de goulottes et systèmes
de conduits-profilés pour installations
électriques
Partie 2-1: Systèmes de goulottes et
systèmes de conduits-profilés prévus pour
être montés sur les murs et les plafonds

Elektroinstallationskanalsysteme
für elektrische Installationen
Teil 2-1: Besondere Anforderungen
für Elektroinstallationskanalsysteme
für Wand und Decke

This European Standard was approved by CENELEC on 2006-10-01. 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, 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: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 213, Cable management.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50085-2-1 on 2006-10-01.

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) 2007-10-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-10-01

This standard is a system standard for cable management products used for electro-technical purposes. It relates to the Council Directives on the approximation of laws, regulations and administrative provisions of the Member States relating to Low Voltage Directive (73/23/EEC) through consideration of the essential requirements of this directive.

This standard is supported by separate standards to which references are made.

This Part 2 is to be used in conjunction with EN 50085-1:2005, Cable trunking and cable ducting systems for electrical installations – Part 1: General requirements.

This Part 2 supplements or modifies the corresponding clauses of Part 1. Where a particular clause or subclause of Part 1 is not mentioned in this Part 2, that clause or subclause of Part 1 applies as far as is reasonable. Where this Part 2 states “addition” or “replacement”, the relevant text of Part 1 is to be adapted accordingly.

Subclauses and figures which are additional to those in Part 1 are numbered starting from 101.

Foreword to amendment A1

This document (EN 50085-2-1:2006/A1:2011) has been prepared by the Technical Committee CENELEC TC 213, "Cable management systems".

The following dates are fixed:

- latest date by which this document has to (dop) 2012-10-10
be implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national standards (dow) 2014-10-10
conflicting with this
document have to be withdrawn

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

Contents

	Page
1 Scope	4
2 Normative references.....	4
3 Definitions	4
4 General requirements	5
5 General conditions for tests	5
6 Classification	5
7 Marking and documentation	7
8 Dimensions.....	7
9 Construction	7
10 Mechanical properties	9
11 Electrical properties	14
12 Thermal properties	14
13 Fire effects	14
14 External influences	14
15 Electromagnetic compatibility	14
Annex A (informative) Types of cable trunking systems (CTS) and cable ducting systems (CDS)	24
Annex B (informative).....	24
Annex C (normative)	24
Figure 101 - Types and application of CTS/CDS for wall or ceiling installation	15
Figure 102 - Arrangement for cable support test according to 10.2.2.....	16
Figure 103 - Arrangement for cable support test according to 10.2.3.....	16
Figure 104 - Arrangement for cable support test according to 10.2.4.....	17
Figure 105 - Arrangement for cable support test according to 10.2.5.....	17
Figure 106 - Impact test for installation and application – Principles for arrangement	18
Figure 107 - Impact test for installation and application – Examples for arrangement	21
Figure 108 - Arrangement for linear deflection test	22
Figure 109 - Example of arrangement for CDS compression test	23

1 Scope

Replacement:

This European Standard specifies requirements and tests for cable trunking systems (CTS) and cable ducting systems (CDS) intended for the accommodation, and where necessary for the electrically protective separation, of insulated conductors, cables and possibly other electrical equipment in electrical and/or communication systems installations. The maximum voltage of these installations is 1 000 V a.c. and 1 500 V d.c.

These systems are intended for mounting on walls and/or ceilings. They may be embedded, installed in a flush or semi-flush state, surface mounted or mounted away from the surface using fixing devices.

This standard does not apply to conduit systems, cable tray systems, cable ladder systems, power track systems or equipment covered by other standards.

This standard shall be used in conjunction with EN 50085-1:2005: Cable trunking systems and cable ducting systems for electrical installations - Part 1 General requirements which is referred to in this document as Part 1.

2 Normative references

This clause of Part 1 is applicable except as follows:

Addition:

EN 60068-2-75	1997	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests (IEC 60068-2-75:1997)
EN 20535	1994	Paper and board - Determination of water absorptiveness - Cobb method (ISO 535:1991)
EN ISO 536	1996	Paper and board – Determination of grammage (ISO 536:1995)

3 Definitions

This clause of Part 1 is applicable except as follows:

3.1 *Replace the note by:*

NOTE Different types of CTS are shown in Figure 101 and explained in Annex A.1.

3.2 *Replace the note by:*

NOTE Different types of CDS are shown in Figure 101 and explained in Annex A.1.

Addition:

3.101

type 2 CTS/CDS (Distribution CTS/CDS)

CTS/CDS which provides at least the following functions:

- in line junction between two trunking lengths or ducting lengths,
- internal and external changes of direction between two trunking lengths or ducting lengths,

- flat change of direction between two trunking lengths or ducting lengths with the exception of certain systems where such a function is not required e.g. skirting CTS/CDS,
- "T" function between three trunking lengths or ducting lengths with the exception of certain systems where such a function is not required e.g. Bench CTS,
- termination of a trunking length or a ducting length

3.102

type 3 CTS/CDS (Installation CTS/CDS)

distribution CTS/CDS which provides in addition apparatus mounting function

3.103

type 1 CTS/CDS

CTS/CDS that cannot be defined as a type 2 CTS/CDS (Distribution CTS/CDS) or as a type 3 CTS/CDS (Installation CTS/CDS)

3.104

surface mounting CTS/CDS

CTS/CDS which is intended for mounting on a surface

3.105

flush-mounting CTS/CDS

CTS/CDS which is intended for mounting flush with the surface so that at least 90 % of the product depth is recessed below the finished surface when installed according to manufacturer's instructions

3.106

semi-flush mounting CTS/CDS

CTS/CDS which is intended to fit within a mounting surface so that more than 10 % of the product depth projects from the finished surface

4 General requirements

This clause of Part 1 is applicable.

5 General conditions for tests

This clause of Part 1 is applicable.

6 Classification

This clause of Part 1 is applicable except as follows:

Addition:

6.101 According to the intended installation positions

NOTE More than one classification can be declared.

6.101.1 CDS embedded in the wall or ceiling.

6.101.2 CTS/CDS flush in the wall or ceiling.

6.101.2.1 CTS/CDS flush in the wall.

6.101.2.2 CTS/CDS flush in the ceiling.

6.101.3 CTS/CDS semi flush or surface mounted on the wall or ceiling.

6.101.3.1 CTS/CDS semi flush or surface mounted on the wall.

6.101.3.2 CTS/CDS semi flush or surface mounted on the ceiling.

6.101.3.3 CTS/CDS wall fixed and supported by the floor.

6.101.3.4 CTS/CDS wall fixed and supported by a horizontal surface other than the floor.

6.101.4 CTS/CDS mounted away from the wall or ceiling using fixing devices.

6.102 According to the prevention of contact between liquids and insulated conductors and live parts in case of CTS/CDS mounted in a skirting position and wet-treatment of floor

6.102.1 Not declared.

6.102.2 Relying completely on manufacturer's instructions restricting the installation position of the CTS/CDS.

6.102.3 Relying on manufacturer's instructions allowing all installation positions of the CTS/CDS but restricting the position of insulated conductors and live parts in CTS/CDS.

6.102.4 Relying on manufacturer's instructions allowing all installation positions of the CTS/CDS and all positions of insulated conductors and live parts in CTS/CDS.

NOTE Installation position refers to the distance between CTS/CDS and the floor.

6.103 According to the Type

6.103.1 Type 1 CTS/CDS.

6.103.2 Type 2 CTS/CDS (Distribution CTS/CDS).

6.103.3 Type 3 CTS/CDS (Installation CTS/CDS).

6.104 According to resistance to compression for CDS

6.104.1 CDS for compression 125 N.

6.104.2 CDS for compression 320 N.

6.104.3 CDS for compression 750 N.

6.104.4 CDS for compression 1 250 N.

6.104.5 CDS for compression 4 000 N.

7 Marking and documentation

This clause of Part 1 is applicable except as follows:

7.3 Replacement:

7.3 The manufacturer shall provide in his documentation all information necessary for the proper and safe installation and use. It shall include

- components of the system,
- function of the system components and their assemblies,
- classification of the system in accordance with Clause 6,
- for type 1 CTS/CDS the list of functions,
- linear impedance, in Ω/m , of trunking length or ducting length of system declared according to 6.5.1,
- rated voltage of CTS/CDS declared according to 6.6.2,
- usable cross sectional area, in mm^2 , for cables of the CTS/CDS,

NOTE Certain system components when mounted can reduce the usable cross sectional area for cables.

- instructions to reach the declared classification and functions of the system. These instructions shall include the recommended installation positioning for the CTS/CDS to ensure that the declared IP classification is maintained after installation.

Compliance is checked by inspection.

8 Dimensions

This clause of Part 1 is applicable except as follows:

Addition:

There are no dimensions requirements.

9 Construction

This clause of Part 1 is applicable except as follows:

Addition:

9.101 Assembling

System components shall fit correctly.

Compliance is checked by inspection.

9.102 Contact between liquids and insulated conductors and live parts

CTS/CDS declared according to 6.102.2, 6.102.3 or 6.102.4 shall prevent liquids coming into contact with insulated conductors and live parts during wet-treatment of floor.