IEC 61084-2-3

Edition 1.0 2017-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Cable trunking systems and cable ducting systems for electrical installations – Part 2-3: Particular requirements – Slotted cable trunking systems intended for installation in cabinets

Systèmes de goulottes et systèmes de conduits-profilés pour installations électriques – Partie 2-3: Exigences particulières – Systèmes de goulottes de câblage pour installation dans les armoires

IEC 61084-2-3:2017-03(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CABLE TRUNKING SYSTEMS AND CABLE DUCTING SYSTEMS FOR ELECTRICAL INSTALLATIONS –

Part 2-3: Particular requirements – Slotted cable trunking systems intended for installation in cabinets

FOREWORD

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International Standard IEC 61084-2-3 has been prepared by subcommittee 23A: Cable management systems, of IEC technical committee 23: Electrical accessories.

This International standard is to be used in conjunction with IEC 61084-1:2017.

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

FDIS	Report on voting
23A/829/FDIS	23A/835/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.

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This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part of the IEC 61084 series supplements or modifies the corresponding clauses of IEC 61084-1:2017 as follows:

– where no particular clause or subclause of IEC 61084-1 is mentioned, the corresponding clause or subclause applies as far as it is reasonable;
– where "addition", "modification" or “replacement” is stated, the relevant text of IEC 61084-11 is to be adapted accordingly;
– subclauses, figures and tables which are additional to those in IEC 61084-1 are numbered starting from 101.

In this standard, the following print types are used:

– requirements and definitions: roman type;
– *compliance statements: italic type.*

A list of all parts in the IEC 61084 series, published under the general title *Cable trunking and cable ducting systems for electrical installations*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "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.

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CABLE TRUNKING SYSTEMS AND CABLE DUCTING SYSTEMS FOR ELECTRICAL INSTALLATIONS –

Part 2-3: Particular requirements – Slotted cable trunking systems intended for installation in cabinets

1 Scope

This part of the IEC 61084 series 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 AC and 1 500 V DC.

Slotted cable trunking systems are intended for mounting inside cabinets in electrical and/or communication system installations.

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

NOTE Wherever reference is made in this document to IEC 61084-1:2017, this does not apply to cable ducting systems.

2 Normative references

This clause of Part 1 is applicable, except as follows:

Addition:

IEC 60228:2004, *Conductors of insulated cables*

IEC 60695-11-5:2004, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*[1]

IEC 61084-1:2017, *Cable trunking systems and cable ducting systems for electrical installations – Part 1: General requirements*

3 Terms and definitions

This clause of Part 1 is applicable, except as follows:

Addition:

3.101
slotted cable trunking system
system comprising a slotted trunking length and possibly other slotted cable trunking system components for the accommodation and laying in of insulated conductors or cables intended for use in a cabinet or similar

[1] This publication was withdrawn.

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3.102
slotted cable trunking system component
part of the system which includes

a) slotted trunking length;

b) trunking fitting;

c) fixing device;

d) system accessory

Note 1 to entry: The above mentioned system components are not necessarily included all together in a system. Different combinations of system components can be used.

3.103
slotted trunking length
trunking length with slotted walls and with cover(s) which may be integral part of the base and/or may be slotted

3.104
slotted wall
wall with openings allowing cables to pass through

Note 1 to entry: The openings can be with open or closed boundary and may have different shapes, normally designed to maintain wiring in position.

3.105
wall finger
part of a slotted wall between two consecutive slots with open boundary

3.106
break-out line
line which may be available on the walls of a trunking length to facilitate the breaking of walls or parts thereof, such as a wall finger

4 General requirements

This clause of Part 1 is applicable, except as follows:

Replacement:

Slotted cable trunking systems shall be so designed and constructed that where required they ensure reliable support, accommodation and segregation of the insulated conductors and/or cables contained therein.

Equipment associated with or incorporated in a system component but which is not a system component, shall and need only comply with the relevant standard of this equipment, if any. However it may be necessary to include such equipment in a test arrangement for the purpose of testing its interface with the slotted cable trunking system.

Compliance is checked by carrying out all the tests specified.

5 General conditions for tests

This clause of Part 1 is applicable.

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6 Classification

This clause of Part 1 is applicable, except as follows.

6.2 According to resistance to impact for installation and application

Not applicable.

6.1 According to temperatures

Table 2 of Part 1 is not applicable.

6.5 According to electrical continuity characteristic

Not applicable.

6.6 According to electrical insulating characteristic

Not applicable.

6.7 According to degrees of protection provided by enclosure according to IEC 60529:1989

Not applicable.

6.9 According to the system access cover retention

Not applicable.

Additional subclauses:

6.101 According to the intended installation positions

6.101.1 Mounted on vertical or horizontal surface

6.101.2 Mounted on vertical or horizontal surface except in a cover down position

7 Marking and documentation

This clause of Part 1 is applicable.

8 Dimensions

This clause of Part 1 is applicable, except as follows.

Additional subclause:

8.101 The preferred solution for fixing holes, if any, in the base of the slotted trunking lengths according to the different trunking widths as shown in Figure 101 is as follows:

– trunking lengths with a nominal width less or equal to 12,5 mm should preferably have one row of small holes only, as shown in Figure 102 b);
– trunking lengths with a nominal width greater than 12,5 mm and less or equal to 62,5 mm, should preferably have one row of holes only, alternately as shown in Figure 102 a) and in Figure 102 b);
– trunking lengths with a nominal width greater than 62,5 mm should preferably have two or more rows of holes alternately as shown in Figure 102 a) and in Figure 102 b), positioned

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at a distance of 25 mm or 50 mm apart, symmetrically located from the trunking centre line.

9 Construction

This clause of Part 1 is applicable, except as follows.

9.2 Apparatus mounting

Not applicable.

9.5 Accessible conductive parts

Not applicable.

9.6 Equipotential bonding

Not applicable.

9.7 Access to live parts

Not applicable.

9.8 Inlet openings

Not applicable.

9.9 Membranes

Not applicable.

9.10 Cable restrainer

Not applicable.

9.11 Cable anchorage

Not applicable.

10 Mechanical properties

This clause of Part 1 is applicable, except as follows.

10.2 Cable support test

Replacement by the following additional subclauses:

10.2.101 General test conditions

Each test is made on one new sample of slotted trunking length having a length of (250 ± 5) mm.

Before the test non-metallic and composite slotted trunking lengths are aged at the temperature declared according to Table 3 of Part 1 with a tolerance of ± 2°C for (168 ± 4) h continuously.

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The sample is securely fixed, using 10 mm external diameter flat metallic washers and appropriate metallic screws to a rigid smooth support such as a plywood board 16 mm thick. When 10 mm external diameter is too large, suitable smaller washer and appropriate screw are used. Fixing(s) are positioned as shown in Figure 103 at (200 ± 5) mm centres along the length of the sample.

Within the width of the sample:

– for trunking with a width less than 50 mm, one fixing is used as shown in Figure 103 a);
– for trunking with a width equal or greater than 50 mm, two fixings are used as shown in Figure 103 b).

If the manufacturer's instructions require the use of cable retainers or dividers, these are fitted according to the manufacturer's instructions. Cable retainers, if any, are symmetrically fixed along the length.

The sample is subjected to an evenly distributed load of 0,8 g/mm^2 of the declared usable area for cables, per metre length. The load is distributed between the compartments proportionally to the declared usable area. The load consists of copper insulated conductors or cables complying with class 5, Table 3 of IEC 60228:2004, or flexible insulated conductors or cables of similar mass per meter.

To allow for settlement of the sample, a pre-load of 10 % of the load is applied and removed after (300 ± 30) s. The measurement apparatus is then calibrated to zero.

Insulated conductors or cables of 25 mm^2 nominal cross section are placed in the sample so that approximately 50 % of the load is achieved. Insulated conductors or cables of 2,5 mm^2 nominal cross section are placed on top of the larger cables to achieve the total load within a tolerance of ± 5 g. If the dimensions of the compartment do not permit the accommodation of 25 mm^2 insulated conductor or cable, 2,5 mm^2 nominal cross section insulated conductors or cables are used.

Non-metallic and composite slotted trunking lengths are tested at the maximum application temperature declared by the manufacturer according to Table 3 of Part 1 with a tolerance of ± 2 °C.

10.2.102 Mounting arrangements for slotted trunking lengths

Slotted trunking lengths are mounted according to Figure 104 a).

After (120 + 5/0) min with the load still applied the vertical deflection F is measured at approximately the middle of the length.

F shall not exceed 10 % of the height H with a maximum of 10 mm (see Figure 104 a)).

10.2.103 Mounting arrangements for slotted trunking lengths classified according to 6.101.1

Slotted trunking lengths classified according to 6.101.1 are mounted according to Figure 104 b).

After (120 + 5/0) min with the load still applied the vertical deflection F is measured at approximately the middle of the length.

F shall not exceed 10 % of the width W with a maximum of 10 mm (see Figure 104 b)).

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10.3 Impact test

This clause of Part 1 is applicable except as follows.

10.3.1.3 *Replacement of the last paragraph by:*

This test is not applied to wall fingers, knockouts, membranes and the like, and within 50 mm of each end.

Break-out line, if any, is considered as knockout.

10.3.1.4 *Addition of the following sentence at the end of the first paragraph:*

Any cracks in or breaking of wall finger are ignored.

10.3.2 Impact test for installation and application

Not applicable.

10.4 Linear deflection test

Not applicable.

10.5 External load test

Not applicable.

10.6 System access cover retention

Not applicable.

11 Electrical properties

This clause of Part 1 is not applicable.

12 Thermal properties

This clause of Part 1 is applicable.

13 Fire hazard

This clause of Part 1 is applicable, except as follows.

13.1.3 Spread of fire

Replacement:

Slotted cable trunking systems shall either not ignite or if ignited, shall not continue to burn when the source of ignition is removed.

Non-metallic system component or metallic system component coated in paint or any other substance which is likely to affect its resistance to flame propagation is to be considered as a composite system component and tested accordingly.

Compliance is checked as follows:

– *for slotted trunking lengths of non-metallic or composite material by the following flame test;*

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