

CONFIRMED
DECEMBER 2007

Specification for

Cable trunking —

Part 2: Steel underfloor (duct) trunking

UDC 621.315.671:669.14-461:621.316.17:696.6

Co-operating organizations

The Electrical Industry Standards Committee under whose supervision this British Standard was prepared consists of representatives from the following Government departments and scientific and industrial organizations:

Associated Offices Technical Committee	Department of Trade and Industry
Association of Consulting Engineers*	Electric Cable Makers' Confederation
Association of Manufacturers of Domestic Electrical Appliances	Electrical Contractors' Association*
Association of Mining Electrical and Mechanical Engineers	Electrical Contractors' Association of Scotland
Association of Mining Electrical and Mechanical Engineers	Electrical Research Association
Association of Supervisory and Executive Engineer's*	Electricity Council, the Central Electricity Generating Board and the Area Boards in England and Wales*
British Electrical and Allied Manufacturers' Association	Electronic Engineering Association
British Electrotechnical Approvals Board for Household Equipment	Engineering Equipment Users' Association
British Radio Equipment Manufacturers' Association	Engineering Equipment Users' Association
British Railways Board	Institution of Electrical Engineers*
British Steel Corporation	Institution of Electrical and Electronics Technician Engineers
Crown Agents for Oversea Governments and Administrations	Lighting Industry Federation Limited
Department of Employment (HM Factory Inspectorate)*	Ministry of Defence
Department of the Environment*	National Inspection Council for Electrical Installation Contracting*
	Oil Companies Materials Association
	Post Office*
	South of Scotland Electricity Board

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

Aluminium Federation	Electrical Installation Equipment Manufacturers' Association
Association of Industrialized Building Component Manufacturers	Light Metal Founders' Association
British Electrical Systems Association	Ministry of Defence (Army)
British Plastics Federation	Zinc Development Association
Confederation of British Industry	

This British Standard, having been approved by the Electrical Industry Standards Committee, was published under the authority of the Executive Board on 15 October 1973

© BSI 04-1999

The following BSI references relate to the work on this standard:
Committee reference ELE/80/3
Draft for comment 71/29986DC

Amendments issued since publication

Amd. No.	Date of issue	Comments

ISBN 0 580 07566 4

Contents

	Page
Co-operating organizations	Inside front cover
Foreword	ii
<hr/>	
1 Scope	1
2 Definitions	1
3 General requirements	1
4 General conditions for the tests detailed in Appendix A of BS 4678-1	1
5 Classification	1
6 Marking	1
7 Details of construction	1
8 Dimensions	2
9 Resistance to corrosion	2
10 Electrical continuity test	2
<hr/>	
Table 1 — Sizes and preferred lengths	3
<hr/>	
Publications referred to	Inside back cover
<hr/>	

Foreword

BS 4678-2 has been prepared at the request of the British Electrical Systems Association.

The specification includes overall dimensions and the general construction.

The requirements and tests specified in BS 4678-1, modified as necessary for underfloor trunking, are applicable to this Part.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 4, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies requirements for steel underfloor (duct) trunking, and connectors, intended for the protection of cables in electrical installations which are laid on a structural floor and subsequently covered with a floor screed.

The specification includes underfloor (duct) trunking having nominal sizes of 75.0 × 25.0 millimetres to 225.0 × 37.5 millimetres. It does not relate to surface (see BS 4678-1), bench, flush floor, overhead lighting or skirting trunking.

NOTE The titles of the British Standards referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard the following definitions shall apply:

2.1

steel underfloor (duct) trunking

a fabricated system of metal enclosures assembled by means of connectors, for the protection of cables

2.2

connectors

a device for joining together lengths of underfloor (duct) trunking

2.3

base of underfloor (duct) trunking

that part of the trunking which is in contact with the floor slab and is not considered to be load-bearing

2.4

external dimensions

the external dimensions of the cable trunking body only, that is the width and depth not including any projections such as couplings, fixings, flanges, strengthening angles or stirrups, or continuity strips

3 General requirements

3.1 Underfloor (duct) trunking shall be so designed and constructed as to permit the laying of the trunking on a structural floor without the ingress of cement whilst the floor is being screeded. The trunking shall permit the drawing in of cables and give reliable mechanical protection to the cables.

3.2 The underfloor (duct) trunking shall provide adequate electrical continuity when tested as described in Clause 10.

3.3 Connectors shall provide adequate mechanical joints to the trunking. One connector shall be provided per length of trunking.

4 General conditions for the tests detailed in Appendix A of BS 4678-1

The conditions given in BS 4678-1 shall apply to this specification.

5 Classification

The requirements for Classes 2 and 3 given in BS 4678-1 shall apply to this specification.

6 Marking

6.1 The body of each length of trunking shall be clearly and durably marked with the following particulars:

- 1) The name or identification mark of the manufacturer, or responsible vendor.
- 2) The number of this British Standard, i.e. BS 4678-2.
- 3) The class of finish.

The marking shall be easily legible and durable.

6.2 Compliance with these requirements shall be checked by inspection. Durability of marking shall be tested by the method described in Appendix A of BS 4678-1. After the test the marking shall remain legible.

NOTE 1 Marking may be achieved by, for example, stampings, printed adhesive labels or waterslide transfers.

NOTE 2 Attention is drawn to certification facilities offered by BSI; see the back cover of this standard.

7 Details of construction

7.1 Underfloor (duct) trunking and connectors shall be made from steel to the dimensions given in Table 1 and shall be protected against corrosion in accordance with the requirements given in Clause 9.

7.2 If screws are used to assemble the underfloor (duct) trunking, they shall not project internally in such a way as to cause damage to cable insulation.

Screws shall have ISO metric threads and shall comply with the requirements of BS 4183. Screws shall be of brass or steel, and, if of steel, shall be protected against corrosion by a finish at least equivalent to zinc coating complying with either BS 729-2 or BS 3382-2. If self-tapping screws are used these shall be of recognized standard thread cutting type complying with BS 4174.

Electro-brass plated screws shall not be used.

7.3 Where provision is made for partitions or dividers for the segregation of circuits these shall be adequately secured to the main body of the trunking and shall be the full depth to provide support and strength to the top surface of the assembly.

7.4 Knockouts intended for the acceptance of conduits, where provided, shall have a diameter equal to the nominal conduit diameter plus 0.25 millimetres with a tolerance of $\pm \begin{smallmatrix} 0.5 \\ 0.00 \end{smallmatrix}$ millimetres.

Where knockouts are provided, these shall be tested as described in Appendix A of BS 4678-1.

After the test, the knockout shall not have moved relative to the fitting.

7.5 If necessary to meet the requirements for electrical continuity in Clause **10**, bonding links shall be provided and may be of any material which will minimize the possibility of electrolytic corrosion.

8 Dimensions

Steel underfloor (duct) trunking sizes, thicknesses and preferred lengths shall be those given in Table 1.

Preferred lengths 3 metres, minimum 2 metres, maximum 3 metres

NOTE 1 The thickness of the base may be reduced to a minimum of 1.0 millimetres if desired.

NOTE 2 Where a body has more than one compartment and is not made up from smaller sizes, the nominal thickness of the body is that specified for the largest compartment.

Underfloor (duct) trunking to special order having dimensions differing from the above may be deemed to comply with this specification provided it meets all its other requirements.

9 Resistance to corrosion

Trunking and connectors shall be adequately protected against corrosion both inside and outside and shall comply with the requirements for resistance to corrosion for Classes 2 and 3 in BS 4678-1.

10 Electrical continuity test

Ten manufactured lengths of underfloor (duct) trunking shall be coupled together with connectors, with their continuity devices fitted where appropriate, in the manner of use stated by the manufacturer.

These shall be tested for continuity between the ends of the assembly.

The resistance so measured shall not exceed 0.05 Ω .

Table 1 — Sizes and preferred lengths

All dimensions are in millimetres

External dimensions (excluding flange projections)	Number of compartments	Nominal thickness of body (see Note 2)		Nominal thickness of partitions and connector material
		compartments width		
<i>Width</i> <i>Depth</i>		up to and including 100 mm	over 100 mm up to and including 150 mm	
75 ± 4 $\times 25 \pm 1.2$	One	1.2	—	1.0
75 ± 4 $\times 37.5 \pm 2$	One	1.2	—	1.0
100 ± 5 $\times 25 \pm 1.2$	One or two	1.2	—	1.0
100 ± 5 $\times 37.5 \pm 2$	One or two	1.2	—	1.0
150 ± 7.5 $\times 25 \pm 1.2$	Two or three	1.2	1.6	1.0
150 ± 7.5 $\times 37.5 \pm 2$	Two or three	1.2	1.6	1.0
150 ± 7.5 $\times 25 \pm 1.2$	One	—	1.6	1.0
150 ± 7.5 $\times 37.5 \pm 2$	One	—	1.6	1.0
225 ± 11.2 $\times 25 \pm 1.2$	Three	1.2	1.6	1.0
225 ± 11.2 $\times 37.5 \pm 2$	Three	1.2	1.6	1.0
225 ± 11.2 $\times 25 \pm 1.2$	Two	1.2	1.6	1.0
225 ± 11.2 $\times 37.5 \pm 2$	Two	1.2	1.6	1.0

Publications referred to

This British Standard makes reference to the following British Standards:

BS 729, *Zinc coatings on iron and steel articles.*

BS 729-2, *Sherardized coatings.*

BS 3382, *Electroplated coatings on threaded components.*

BS 3382-2, *Zinc on steel components.*

BS 4174, *Self-tapping screws and metallic drive screws.*

BS 4183, *Machine screws and machine screw nuts-metric series.*

BS 4678, *Cable trunking.*

BS 4678-1, *Steel surface trunking.*

BSI Certification Trade Mark

The Kitemark

The British Standard Institution is the owner of a registered certification trade mark. It is usually associated with the words 'approved to British Standard' as shown below, the number of the relevant British Standard being added. This mark may be used only by those licensed under the certification mark scheme operated by BSI. The presence of this mark on or in relation to a product is an assurance that the goods have been produced under a system of supervision, control and testing, operated during manufacture and including periodical inspection of the manufacturer's works in accordance with the certification mark scheme of BSI designed to ensure compliance with a British Standard.



BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

Copyright

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

If permission is granted, the terms may include royalty payments or a licensing agreement. Details and advice can be obtained from the Copyright Manager. Tel: 020 8996 7070.