BRITISH STANDARD

BS 5372:1997
+A1:2012

Specification for

Dimensions of cable terminations for multi-core extruded solid dielectric insulated distribution cables of rated voltages 600/1000 V and 1900/3300 V having copper or aluminium conductors

ICS 29.060.20

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee GEL/20, Electric cables, to Subcommittee GEL/20/7, Cable joints and terminations, upon which the following bodies were represented:

Association of Consulting Engineers
BEAMA Electrical Cable and Conductor Accessory Manufacturers' Association
British Approvals Service for Cables
British Cable Makers Confederation
British Iron and Steel Producers' Association
British Plastics Federation
Department of Trade and Industry (Consumer Safety Unit, CA Division)
Electricity Association
London Transport

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

ERA Technology Ltd.
Electrical Contractors' Association
Electrical Installation Equipment Manufacturers' Association (BEAMA Ltd.)
Institution of Lighting Engineers
London Underground Ltd.

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Amendments issued since publication

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A1	October 2012	See foreword

Contents

Foreword

This British Standard is published by BSI Standards Limited, under licence from the British Standards Institution.

This British Standard has been prepared by Subcommittee GEL/20/7. BS 5372:1997+A1:2012 supersedes BS 5372:1997, which is withdrawn.

Prior to the publication of BS EN 61238-1, the United Kingdom published BS 5372:1997 having been granted a "derogation of standstill" by the CENELEC Technical Board. BS 5372:1997+A1:2012 is being published to remove content conflicting with BS EN 61238-1.

This British Standard is intended to obviate a difficulty which has sometimes been experienced in terminating cables on various types of electrical equipment.

It has been prepared for cables with stranded copper conductors or solid and stranded aluminium conductors.

The start and finish of text introduced or altered by Amendment No. 1 is indicated in the text by tags ⟨A1⟩ and ⟨A1⟩. Minor editorial changes are not tagged.

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.

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.

Specification

1 Scope

This British Standard specifies the dimensions to be observed in the design of cable terminations, having uninsulated conductor fittings, to enable the satisfactory connection of external cables to electrical equipment. It covers 2-core, 3-core and 4-core 600/1000 V and 3-core 1900/3300 V cables having extruded solid dielectric insulation and stranded copper conductors and solid or stranded aluminium conductors, as appropriate, of size 10 mm^2 to 300 mm^2.

The standard is based on the use of compression type conductor terminations and allows for the cores to be crossed within the terminal enclosure because this combination requires more space.

NOTE 1. The choice of conductor size depends on installation conditions which are outside the scope of this standard. Annex B lists some of the factors which should be considered.

NOTE 2. This standard does not permit any reduction of the specified minimum electrical clearances in the relevant equipment product standard.

NOTE 3. Guidance as to the requirements for cable terminations for single core cables are given in annex A.

2 Definitions

For the purposes of this standard the following definitions apply.

2.1 terminal lug

A connector comprising a palm and a barrel, for connecting a conductor to an equipment terminal.

2.2 palm

The part of a terminal lug used to make the connection to an equipment terminal.

2.3 cable termination

The configuration of the cores of a cable with the terminal lugs fitted, within a terminal enclosure (see figure 1).

2.4 terminal enclosure

That part of electrical equipment containing terminal equipment and designed to accommodate cable terminations.

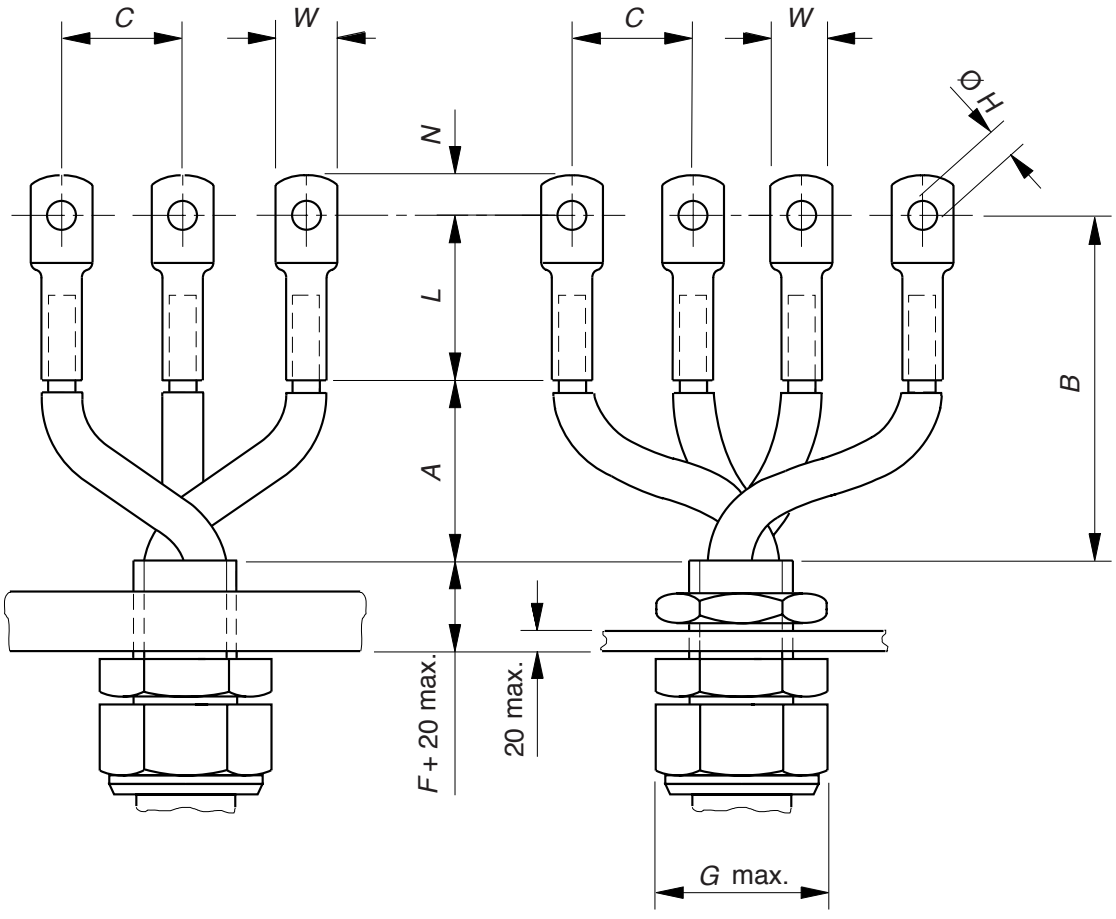

Figure 1. Typical cable terminations

3 Dimensions

[A1] *Text deleted.* [A1]

The dimension *A* of the cable termination, as shown in figure 1, shall be not less than the appropriate values given in tables 1 to 4.

NOTE 1. The gland dimensions stated in tables 1 to 4 are only provided for guidance as to the enclosure design. For cable system design, the gland size should be selected using manufacturers' data.

[A1] NOTE 2 Dimensions *L*, *N* and *W* should be taken from manufacturers' information for products that meet the BS EN 61238-1 performance specification. [A1]

[A1] Table 1 – Dimensions of cable terminations for 600/1000 V cables with solid and stranded aluminium conductors (see figure 1)

Cross-sectional area of cable conductor mm^2	Dimensions (in mm)								
	minimum	minimum	minimum	maximum					nominal
	A	*B*	*C*	*F*	*G*	*L*	*W*	*N*	*H*
10	50	120	W+20	6	55				6.4
16	55	125	W+20	6	55				8.4
25	60	130	W+20	10	70				8.4
35	70	145	W+20	10	70				8.4
50	90	165	W+20	10	70				8.4
70	105	191	W+20	10	97				10.5
95	120	220	W+20	10	97				10.5
120	125	225	W+20	10	108				13
150	140	240	W+20	10	108				13
185	160	265	W+20	10	108				13
240	185	290	W+20	10	137				13
300	220	360	W+20	10	137				13 [A1]

[A1] Table 2 – Dimensions of cable terminations for 600/1000 V cables with stranded copper conductors (see figure 1)

Cross-sectional area of cable conductor mm^2	Dimensions (in mm)								
	minimum	minimum	minimum	maximum					nominal
	A	*B*	*C*	*F*	*G*	*L*	*W*	*N*	*H*
10	55	91	W+20	6	55				6.4
16	65	103	W+20	6	55				8.4
25	85	127	W+20	10	70				8.4
35	95	142	W+20	10	70				8.4
50	115	167	W+20	10	70				8.4
70	135	197	W+20	10	97				10.5
95	155	224	W+20	10	97				10.5
120	170	245	W+20	10	108				13
150	190	272	W+20	10	108				13
185	210	297	W+20	10	108				13
240	235	333	W+20	10	137				13
300	270	375	W+20	10	137				13 [A1]

A1 Table 3 – Dimensions of cable terminations for 1900/3300 V cables with solid and stranded aluminium conductors (see figure 1)

Cross-sectional area of cable conductor mm^2	Dimensions (in mm)								
	minimum	minimum	minimum	maximum					nominal
	A	*B*	*C*	*F*	*G*	*L*	*W*	*N*	*H*
16	55	125	W+51	6	55				8.4
25	60	130	W+51	10	70				8.4
35	70	145	W+51	10	70				8.4
50	90	165	W+51	10	70				8.4
70	105	191	W+51	10	97				10.5
95	120	220	W+51	10	97				10.5
120	125	225	W+51	10	108				13
150	140	240	W+51	10	108				13
185	160	265	W+51	10	108				13
240	185	290	W+51	10	137				13
300	220	360	W+51	10	137				13 A1

A1 Table 4 – Dimensions of cable terminations for 1900/3300 V cables with stranded copper conductors (see figure 1)

Cross-sectional area of cable conductor mm^2	Dimensions (in mm)								
	minimum	minimum	minimum	maximum					nominal
	A	*B*	*C*	*F*	*G*	*L*	*W*	*N*	*H*
16	65	103	W+51	6	55				8.4
25	85	127	W+51	10	70				8.4
35	95	142	W+51	10	70				8.4
50	115	167	W+51	10	70				8.4
70	135	197	W+51	10	97				8.4
95	155	224	W+51	10	97				10.5
120	170	245	W+51	10	108				10.5
150	190	272	W+51	10	108				13
185	210	297	W+51	10	108				13
240	235	333	W+51	10	137				13
300	270	375	W+51	10	137				13 A1

Annexes

Annex A (informative)
Factors which affect cable accommodation

A.1 General

The limitations imposed by a number of factors as detailed in **A.2** to **A.3** have been taken into account in determining the length required in the terminal enclosure to accommodate the cable cores (dimension *B* in figure 1).

A.2 Terminal spacing

The terminal spacing *C* (see figure 1) is the practical minimum consistent with the dimensions. Increased clearances whilst increasing the *C* dimension do not necessitate increasing the *A* dimension.

A.3 Layout of cable cores

The dimensions specified in clause **3** allow for the cores to be crossed within the enclosure. However, if the terminal enclosure allows for the entry of two or more cables, it will be necessary to increase dimension *A* to allow for crossing a greater number of cable cores.

A.4 Single core cable terminations

The dimensions of single core terminations can be established from published data on the minimum allowable creepage distance over the cable core. If there is a substantial offset between the axis of the cable entry to the terminal enclosure and the equipment terminal, tables 1 to 4 can be used as a reference to the length of the cable termination.

Annex B (informative)
The relationship between equipment rating and cable terminations

Many considerations affect the choice of cable size for a particular application. The cable termination for any specific piece of equipment needs to be suitable for the cables that may be used in any likely application of the equipment. This may require a cable larger than the minimum required to carry the rated current of the circuit. The following factors should be considered in determining the suitable cable termination size:

a) installation environment;

b) the ambient temperature;

c) the voltage drop;

d) the cable grouping;

e) the fault level.

List of references

Informative references

Standards Publications

[A1] BS EN 61238-1 *Compression and mechanical connectors for power cables for rated voltages up to 36 kV (U_m = 42 kV) – Part 1: Test methods and requirements* [A1]

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