

Glossary of

Electrotechnical, power, telecommunication, electronics, lighting and colour terms —

Part 2: Terms particular to power
engineering —

Group 08: Electric cables

UDC 001.4:[621.3 + 628.9 + 535]:621.315.2

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW



Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the General Electrotechnical Standards Policy Committee (GEL/-) to Technical Committee GEL/1 upon which the following bodies were represented:

- Association of Consulting Engineers
- British Broadcasting Corporation
- British Cable Makers Confederation
- EEA (Association of the Electronics, Telecommunications and Business Equipment Industries)
- Electricity Association
- Institute of Physics
- Institute of Electrical Engineers
- Institution of Incorporated Executive Engineers
- Sound and Communication Industries Federation

This British Standard, having been prepared under the direction of the General Electrotechnical Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 April 1994

© BSI 03-1999
First published October 1973
Second edition April 1986
Third edition April 1994

The following BSI references relate to the work on this standard:
Committee reference GEL/1
Draft for comment 88/23147 DC

ISBN 0 580 22949 1

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
Guide to the glossary	1
Component parts of cables	
461-01 Conductors	2
461-02 Insulations	3
461-03 Electrical screens and shields	4
461-04 Cabling	4
461-05 Coverings and various components	5
Cables	
461-06 Cables in general	6
461-07 Pressure cables	7
461-08 Aerial insulated cables	7
461-09 Special cables	8
Cable accessories	
461-10 Terminations	8
461-11 Joints	9
461-12 Miscellaneous accessories	10
Cable installation	
461-13 Practices of laying	10
461-14 Shield bonding	11
461-15 Shield bonding accessories	12
Other	
461-16 Miscellaneous terms	12
461-17 Components of accessories	12
461-18 Aerial insulated cable accessories	13
461-19 Connecting methods	13
461-20 Handling of cables	13
461-21 Cable laying	14
461-22 Tests	14
461-23 Operation	14
Index	15

Foreword

This Group of BS 4727-2 has been prepared under the direction of the General Electrotechnical Standards Policy Committee. It contains terms and definitions relating to power engineering. The terms and definitions are technically identical with the corresponding terms appearing in IEC 50 (461):1984 *International Electrotechnical Vocabulary Chapter 461: Electric Cables* and Amendment 1:1993, published by the International Electrotechnical Commission (IEC). This standard supersedes BS 4727-2:Group 08:1986, which is withdrawn.

The glossary is divided into five Parts, each of which is subdivided into Groups. Each Group will comprise the terms and definitions used in a particular branch of electrical engineering and will be issued individually as soon as it is completed. This arrangement makes it possible to add new Groups or review existing Groups at any time without affecting the remainder of the glossary.

The five Parts of the glossary are as follows.

- *Part 1: Terms common to power, telecommunications and electronics;*
- *Part 2: Terms particular to power engineering;*
- *Part 3: Terms particular to telecommunications and electronics;*
- *Part 4: Terms particular to lighting and colour (withdrawn);*
- *Part 5: Terms particular to electromedical equipment.*

Fundamental and general terms common to power, telecommunications and electronics form Groups 01 and 02 of Part 1. Group 01 of Part 2 contains general terms relating to power engineering (withdrawn). The specialist Groups (e.g. Groups 02 to 18 of Part 2) contain only the terms and definitions relating to their subject.

As far as has been practicable all terms and definitions established in current usage and falling within the scope of this glossary have been included. Experience has shown that it is rarely possible to replace, or even to modify, a well established term no matter what the logical or aesthetic shortcomings of that term may be. Current usage has therefore been accepted as the authority for terms and their meaning except where there has been a very good reason for doing otherwise, e.g. where terms have been considered to be fundamentally wrong, ambiguous, superfluous or in need of standardization.

Where two or more synonymous terms are in use, those which are deprecated are omitted from the body of the text but are entered in the alphabetical index with a cross-reference to the standard term. In cases where it was felt that the time was not yet right to deprecate a synonym, preferred terms are given first and other terms are printed in less prominent type to indicate the intention to deprecate them in the course of time. Where synonyms are considered of equal value they are shown in the same type.

Where terms are used with different meanings in different branches of electrical engineering, appropriate definitions are given in the Groups of the glossary corresponding to these branches. Such a definition, when taken out of the context of its Group, should if possible be quoted with a preamble indicating its proper context.

It is to be noted that the given definition of a term represents the generally accepted meaning of that term. Under no circumstances should it be regarded as taking the place of a specification.

As far as possible the terms are arranged in a logical order proceeding from the general to the specific and from the whole to the part and allied terms are placed close together.

In earlier editions of BS 4727, a special numbering system was used. However, to facilitate publication of future editions of BS 4727, only the International Electrotechnical Vocabulary numbering system is now used. Where terms are used in other Parts of the glossary, their additional reference number is given in brackets in medium type.

A general view of the position of the Group in the glossary can be obtained from the guide to the glossary. An alphabetical index of the terms of each Group is provided at the end of each group to facilitate reference to particular terms. It is recommended that the user of any Group of the glossary should consider the Group in association with the Groups covering general or fundamental terms within the Part and with Groups 01 and 02 of Part 1.

In this glossary parentheses () enclose words or phrases that are not part of the term or definition and can be omitted without affecting the meaning.

Square brackets [] enclose words which may replace a preceding part of an expression.

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 to iv, pages 1 to 16 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.

Guide to the glossary

Part 1 *Terms common to power, telecommunications and electronics*

- Group 01 *Fundamental terminology*
- Group 02 *Electrical and magnetic devices terminology*
- Group 03 *Relay terminology*
- Group 04 *Measurement terminology*
- Group 05 *Semiconductor terminology*
- Group 06 *Electronic tube terminology*
- Group 07 *Magnetic materials and components*
- Group 08 *Piezoelectric devices for frequency control and selection*
- Group 09 *Electromagnetic compatibility*
- Group 10 *Insulating solids, liquids and gases*
- Group 11 *Printed circuits*
- Group 12 *Insulators*
- Group 13 *Electromechanical components for electronic equipment*

Titles to any further Groups will be added in due course.

Part 2 *Terms particular to power engineering*

- Group 01 *General power terminology (withdrawn)*
- Group 02 *Power electronics terminology*
- Group 03 *Rotating machinery terminology*
- Group 04 *Power transformers and reactors*
- Group 05 *Voltage fluctuation terminology*
- Group 06 *Switchgear and controlgear terminology (including fuse terminology)*
- Group 07 *Tariffs terminology*
- Group 08 *Electric cables*
- Group 09 *Transducer terminology*
- Group 10 *Industrial electroheating terminology*
- Group 11 *Generation, transmission and distribution of electricity terminology*
- Group 12 *Telecontrol terminology*
- Group 13 *Electrical apparatus for explosive atmospheres*
- Group 14 *Power capacitors*
- Group 15 *Overhead lines*
- Group 16 *Instrument transformers*
- Group 17 *Secondary cells and batteries*
- Group 18 *Electric traction*

Titles to any further Groups will be added in due course.

Part 3: *Terms particular to telecommunications and electronics*

Group 01 *General telecommunication and electronics terminology*

Group 02 *Telephony*

Group 03 *Telegraphy, facsimile and data communication*

Group 04 *Broadcasting and television terminology*

Group 05 *Propagation and media terminology*

Group 06 *Radio location and navigation terminology*

Group 07 *Radiocommunication terminology*

Group 08 *Acoustics and electroacoustics terminology*

Group 09 *Transmission lines and waveguides*

Group 10 *Recording and reproduction of sound and video terminology*

Group 11 *Space radiocommunications terminology*

Group 12 *Telecommunications, channels and networks*

Group 13 *Optical fibre communication*

Group 14 *Oscillations, signals and related devices*

Group 15 *Antennas*

Group 16 *Switching and signalling in telecommunications*

Group 17 *Transmission*

Titles to any further Groups will be added in due course.

Part 4 *Terms particular to lighting and colour (withdrawn)*

Part 5 *Terms particular to electromedical equipment*

Group 01 *Radiology and radiological physics terminology*

Titles to any further Groups will be added in due course.

Glossary

No.	Term	Definition
Component parts of cables 461-01 Conductors		
461-01-01	conductor	<i>Of a cable.</i> A part of a cable which has the specific function of carrying current.
461-01-02	plain conductor	A metal conductor in which the wire or wires are not coated with an additional metal.
461-01-03	metal-coated conductor	A conductor in which each individual wire is covered with a thin layer of another different metal or metal alloy.
461-01-04	tinned conductor	A metal-coated conductor in which the metal coating is of tin.
461-01-05	metal-clad conductor	A conductor in which each wire consists of an inner part of one metal and a metallurgically bonded outer shell of another metal.
461-01-06	solid conductor	A conductor consisting of a single wire. NOTE The solid conductor may be circular or shaped.
461-01-07	stranded conductor	A conductor consisting of a number of individual wires or strands all or some of which generally have a helical form. NOTE 1 The stranded conductor may be circular or shaped. NOTE 2 The term "strand" is also used to designate a single wire.
461-01-08	concentrically stranded circular conductor	A stranded conductor in which the individual wires are assembled together in helical formation, in one or more separate concentric layers and generally with an alternating direction of lay.
461-01-09	bunched conductor	A stranded conductor in which the wires are assembled together in helical formation in a random manner, all in the same direction and with the same length of lay.
461-01-10	multiple stranded conductor	A stranded conductor consisting of a number of groups of wires assembled together in one or more helical layers, the wires in each group being either bunched or stranded.
461-01-11	flexible conductor	A stranded conductor having wires of diameters small enough and so assembled that the conductor is suitable for use in a flexible cable.
461-01-12	shaped conductor	A conductor, the cross section of which is other than circular.
461-01-13	sector-shaped conductor	A shaped conductor, the cross section of which approximates to a sector of a circle.
461-01-14	compacted conductor	A stranded conductor in which the interstices between the component wires have been reduced by mechanical compression or by drawing or by suitable choice of the shape and disposition of wires.
461-01-15	Milliken conductor	A stranded conductor comprising an assembly of shaped stranded conductors, lightly insulated from each other.
461-01-16	hollow conductor	A conductor so constructed as to provide a central channel.
461-01-17	concentric conductor	A conductor so constructed as to surround one or more insulated conductors.