

**BRITISH STANDARD 6862 : Part 1 : 1971**

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**METRIC UNITS**

CONFIRMED JUNE 1981

SPECIFICATION FOR

**CABLES**

**FOR VEHICLES**

**Part 1. Cables with copper  
conductors**



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**BS 6862 : Part 1 : 1971**

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**BRITISH STANDARDS INSTITUTION**

Incorporated by Royal Charter

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The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

A complete list of British Standards, numbering over 5000, fully indexed and with a note of the contents of each, will be found in the British Standards Yearbook. The BS Yearbook may be consulted in many public libraries and similar institutions.

This standard makes reference to the following British Standards and Special Issue:

BS 805. Toluenes.

BS 2011. Methods for the environmental testing of electronic components and electronic equipment. Part 2J. Mould growth.

BS 2869. Petroleum fuels for oil engines and burners.

BS 4109. Copper for electrical purposes (wire for general electrical purposes and for insulated cables and flexible cords).

BS 6360. Copper conductors in insulated cables and cords.

BS 6746. PVC-insulation and sheath of electric cables.

PD 2379. Register of colours of manufacturers' identification threads for electric cables and cords.

*British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.*

The following BSI references relate to the work on this standard:  
Committee reference ELE/3 and ELE/3/9 Draft for comment 69/6904

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## 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:

- \*Association of Consulting Engineers
- Association of Manufacturers of Domestic Electrical Appliances
- Association of Mining Electrical and Mechanical Engineers
- Associated Offices' Technical Committee
- \*Association of Supervisory and Executive Engineers
- \*British Electrical and Allied Manufacturers' Association
- British Radio Equipment Manufacturers' Association
- British Railways Board
- \*Crown Agents for Oversea Governments and Administrations
- Department of Employment and Productivity
- \*Department of the Environment
- \*Department of Trade and Industry
- \*Electric Cable Makers' Confederation
- \*Electrical Contractors' Association (Incorporated)
- Electrical Contractors' Association of Scotland
- \*Electrical Research Association
- \*Electricity Council, the Central Electricity Generating Board  
and the Area Boards in England and Wales
- Electronic Engineering Association
- \*Engineering Equipment Users' Association
- \*Institution of Electrical Engineers
- Lighting Industry Federation Limited
- Ministry of Aviation Supply
- Ministry of Defence
- Ministry of Defence, Army Department
- \*Ministry of Defence, Navy Department
- \*Municipal Passenger Transport Association (Incorporated)
- National Inspection Council for Electrical Installation Contracting
- National Physical Laboratory (Department of Trade and Industry)
- Oil Companies Materials Association
- \*Post Office
- Public Road Transport Association
- 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  
 British Plastics Federation  
 British Railways Board  
 Institute of Iron and Steel Wire Manufacturers  
 London Transport Executive  
 National Coal Board  
 Society of Motor Manufacturers and Traders

# BRITISH STANDARD SPECIFICATION FOR CABLES FOR VEHICLES

## Part 1. Cables with copper conductors

### FOREWORD

This revision in metric units of BS 1862: 1959 reflects the present trend in demand and covers PVC- and rubber-insulated ignition cables, PVC-insulated general wiring cables and copper earthing braids, for use in road vehicles. Resistive ignition cables will be included in Part 2 which will be published later.

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

### SPECIFICATION

#### 1. GENERAL

##### 1.1 SCOPE

Section 2 of this British Standard applies to ignition cables for general use in road vehicles and specifies dimensions and requirements for the following ozone-resisting types of cable:

Rubber-insulated, without further covering.

PVC-insulated, without further covering.

Section 3 of this British Standard applies to general wiring cables for use in road vehicles at voltages not exceeding 100 V. Dimensions and requirements are specified for the following types of cable:

Single-core PVC-insulated, without further covering.

Single-core PVC-insulated, braided and lacquered.

Flat twin PVC-insulated and PVC-sheathed.

Circular twin and three-core PVC-insulated and PVC-sheathed.

Seven-core PVC-insulated and PVC-sheathed trailer cables.

Section 4 of this British Standard applies to copper earthing braids and specifies dimensions and requirements for the following types:

Round and flat tinned copper braids without further covering.

##### 1.2 DEFINITIONS

*As amended  
Dec., 1979*

For the purposes of this British Standard the definitions relating to electric cables given in BS 4727 \* apply.

\* BS 4727, 'Glossary of electrotechnical, power, telecommunication, electronics, lighting and colour terms'.

## 2. IGNITION CABLES

### 2.1 GENERAL REQUIREMENTS

The dimensions of ignition cables shall be in accordance with Table 1.

The cable shall be subjected to the routine tests specified in 2.5 and shall be capable of passing the type tests specified in 2.6 or 2.7.

### 2.2 CONDUCTOR

The conductor shall comply with BS 6360\*. The conductor shall be circular and may be bunched or stranded.

**2.2.1 Rubber-insulated cables.** The conductor of rubber-insulated ignition cables shall be formed of 19 tinned copper wires each of 0.3 mm nominal diameter.

**2.2.2 PVC-insulated cables.** The conductor of PVC-insulated ignition cables shall be formed of 19 plain annealed copper wires, or, when specified by the purchaser, of 19 tinned annealed copper wires, each of 0.3 mm nominal diameter.

### 2.3 INSULATION

**2.3.1 Rubber-insulated cables.** For rubber-insulated cables, the insulation shall consist of vulcanized rubber or rubber-like composition compounded and processed in one or more layers to meet the requirements of this standard. The conductor shall be centred accurately in the insulation and it shall be possible to remove the insulation cleanly and without difficulty.

**2.3.2 PVC-insulated cables.** For PVC-insulated cables, the insulation shall consist of:

- (1) polyvinyl chloride, or
- (2) suitable co-polymers, of which the major constituent shall be vinyl chloride, or
- (3) mixtures of (1) and (2),

suitably compounded and processed in one or more layers to meet the requirements of this standard. The conductor shall be centred accurately in the insulation and it shall be possible to remove the insulation cleanly and without difficulty.

### 2.4 MANUFACTURER'S IDENTIFICATION

When specified by the purchaser, coloured identification threads shall be laid with the conductor to identify the manufacturer. The colours shall be in conformity with the Register† maintained by the British Standards Institution, where applicable.

\* BS 6360, 'Copper conductors in insulated cables and cords'.

† PD 2379, 'Register of colours of manufacturers' identification threads for electric cables and cords'. Copies may be obtained from BSI Sales Office, 101 Pentonville Road, London N1 9ND.