

Specification for

Functional and performance characteristics of miners' caplamps

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- British Battery Makers' Society
- British Coal Corporation
- Health and Safety Executive
- Lighting Industry Federation Ltd.
- Miners' Lamp Manufacturers' Association

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Foreword

This British Standard has been prepared under the direction of the Mining and Quarrying Requisites Policy Committee.

In conjunction with BS 6881, it revises and updates the requirements of the 1973 edition of BS 4945, which has been withdrawn.

BS 6881, which implements the European Standard EN 50033¹⁾ prepared by CENELEC Technical Subcommittee 31-4, revises the requirements that were originally specified in BS 4945 for minimizing the risk of explosion in mines susceptible to firedamp. It was therefore necessary that the remaining requirements for the function and performance of miners' caplamps for use in all mines, not only those susceptible to firedamp, should be retained and updated.

A special sample test for flame-retardance on cable used in the caplamp assembly is described, which the purchaser may invoke when ordering.

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. Attention is drawn to the Health and Safety at Work etc. Act 1974, the Mines and Quarries Act 1954, the Regulations made under these Acts, and also any other appropriate statutory requirements or byelaws. These place responsibility for complying with certain specific safety requirements on the manufacturer and the user. The address of the recognized authority in the United Kingdom for Group I mining apparatus is as follows:

Health and Safety Executive,
CIM Section,
HM Mines and Quarries Inspectorate,
St Annes House,
University Road,
Bootle, Merseyside,
L20 3MF

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, 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⁾ EN 50033, *Electrical apparatus for potentially explosive atmospheres. Caplamps for mines susceptible to firedamp.*

Section 1. General

1.1 Scope

This British Standard specifies functional and performance characteristics, including light output requirements, for miners' caplamps.

NOTE 1 The requirements for construction and testing of miners' caplamps in relation to the risk of explosion for mines susceptible to firedamp are specified in BS 6881.

NOTE 2 The publications referred to in this British Standard are listed on the inside back cover.

1.2 Definitions

For the purposes of this British Standard the following definitions apply.

NOTE For other electrical terms and definitions see BS 535 and BS 3618-7.

1.2.1

caplamp

a headpiece, containing a light source or sources and designed to be attached to a miner's helmet, a connecting cable and rechargeable cells in a battery container normally carried on the miner's belt (see Figure 1)

NOTE This definition is technically equivalent to the description given in BS 6881.

1.2.2

rated capacity

the quantity of electricity in ampere-hours that can be drawn from a battery under specified conditions

1.2.3

protective cover

a component designed to enclose entirely the terminals, fuse and cable connections and incorporating anchorage for the caplamp cable

1.2.4

terminal post

an extension of a cell electrode that provides electrical connection from the electrode to the terminal of the battery

1.3 Lighting performance of the caplamp assembly

When verified in accordance with A.1, the mean spherical luminous intensity of the complete caplamp shall be not less than 1.65 cd, and the luminous intensity shall be not less than 1 cd over a solid angle of 120°.

1.4 Charging contacts

Charging contacts shall be provided. They shall be designed to connect to contacts on a charging frame and so enable the charging current to be supplied to the battery.

NOTE Charging contacts may be located either on the headpiece or on the battery.