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Australian Standard 1300—1983

ELECTRICAL EQUIPMENT FOR COAL MINES

BOLTED FLAMEPROOF CABLE COUPLING DEVICES

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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Association of Mining Electrical and Mechanical Engineers, Australia

Australian Coal Association

Australian Electrical and Electronic Manufacturers Association

Confederation of Australian Industry

Department of Industrial Relations, N.S.W.

Department of Mines, Qld

Elcom Collieries, N.S.W.

Joint Coal Board

Queensland Confederation of Industry

State Energy Commission of Western Australia

AUSTRALIAN STANDARD

ELECTRICAL EQUIPMENT FOR COAL MINES

BOLTED FLAMEPROOF CABLE COUPLING DEVICES

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PREFACE

This edition of this standard was prepared by the Association's Committee on Electrical Equipment in Coal Mines to supersede AS 1300—1973. It is intended for the guidance of manufacturers, users, statutory authorities and associated interests and for use with SAA standards and relevant mining regulations.

The major changes in this edition are as follows:

(a) The deletion of the requirement for polarizing.

(b) The amendment of the requirements for earthing; it is now no longer required for an earthing facility to be provided on the face of the plug body—instead, a requirement has been included for an external earthing bond.

(c) Rationalization of plug ratings and body sizes.

(d) Amendments to test criteria.

(e) Changes to terminology used.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
ELECTRICAL EQUIPMENT FOR COAL MINES—BOLTED FLAMEPROOF CABLE COUPLING DEVICES

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies the dimensional and test requirements for bolted flameproof cable coupling devices of the multiple pin and contact-socket type with separate pins (hereinafter referred to as 'cable coupling devices') for use in coal mines, and including the adaptors for the devices. The devices are designed to enable two feeder cables to be coupled together, or to enable a cable to be coupled to equipment.

Cable coupling devices and adaptors to this standard are not intended to be coupled or uncoupled while the circuit is energized.

The standard prescribes the dimensions necessary to provide for the interconnection of cable coupling devices of different makes; it also deals with some electrical and mechanical requirements including the provision of earthed phase barriers for protection against interphase faults. It does not, however, purport to otherwise specify a fully detailed design.

Dimensions and requirements for an earthed pole-protective barrier are specified for an additional body size to provide for a d.c. cable coupling device and adaptor.

1.2 APPLICATION. Cable coupling devices and adaptors shall comply with the general requirements of this Section and with the relevant requirements of Section 2.

1.3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1147	Plastics Insulating Materials of Mouldings for Cable Connecting Devices for Use in Coal Mines
AS 1567	Wrought Copper and Copper Alloy Rods, Bar and Sections for General Engineering Purposes
AS 1593	Electrical Protection for Explosive Atmospheres—Increased Safety Apparatus—Type of Protection e
AS 1802	Trailing Cables for Mining Purposes (Including Underground Coal Mines, Metalliferous Mines, Open-cut Mines, Quarries and Dredges)
AS 1828	Cable Glands for Explosive Gas Atmospheres
AS 1856	Electroplated Coatings of Silver for Engineering Applications
AS 1972	Cables for Use Below Ground in Coal Mines (Other Than Trailing Cables
AS 2480	Electrical Equipment for Explosive Atmospheres—Flameproof Enclosure—Type of Protection d
AS K185	Colours for Specific Purposes

1.4 DEFINITIONS. For the purpose of this standard the following definitions apply:

1.4.1 Adaptor—a device designed to connect a cable coupling device to apparatus in such a manner as will form a flameproof enclosure. It may be either attached to or integral with the apparatus.

1.4.2 Authority—the relevant Statutory Authority responsible for the implementation of Government regulations applying to coal mines in each of the States of Australia.

1.4.3 Cable coupling device (sometimes referred to as a 'unit plug')—a device consisting of a body and cable gland, together with means for connecting the cable conductors to insulated contact sockets within the body.

NOTE: The body is designed to receive the cable; to provide room to spread and connect the cores; to protect the cores; to allow for the attachment of the cable gland; and to provide for sealing the conductors and the insulating material of the cable.

1.4.4 Cable gland—a device to secure the end of a cable, by means appropriate to the type of cable, including provision for making electrical connections to the metallic armour of the cable, and to the metallic screen if present.

1.4.5 End cover—a metal cover, which when bolted to the coupling face of a cable coupling device or adaptor completes the flameproof enclosure of the cable coupling device or adaptor and enables full working voltages to be applied.

1.4.6 Main contact pin—a rigid conducting member for electrical power circuits intended to be inserted in a main contact socket of suitable form so as to make electrical contact.

1.4.7 Main contact socket—a resilient conducting member for electrical power circuits intended to receive a suitable main contact pin so as to make electrical contact.

1.4.8 Phase barrier—a metallic barrier which is electrically connected to earth, and is situated in the contact insulation in both the cable coupling device and adaptor for the purpose of preventing an interphase fault.

1.4.9 Pilot contact pin—a rigid conducting member for other than electrical power circuits