

OBSOLESCENT
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Intrinsically safe electrical apparatus and circuits —

For use in explosive atmospheres

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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:

Admiralty	Electrical Contractors' Association of Scotland
Air Ministry	Engineering Equipment Users' Association*
Associated Offices' Technical Committee	Independent Cable Makers' Association
Association of Consulting Engineers	Institution of Electrical Engineers*
(Incorporated)*	Ministry of Labour and National Service
Association of Supervising Electrical Engineers	(Factory Inspectorate)*
British Electrical and Allied Industries	Ministry of Power*
Research Association*	Ministry of Supply
British Electrical and Allied Manufacturers'	Ministry of Works
Association*	National Inspection Council for Electrical
British Electrical Development Association	Installation Contracting
British Railways, The British Transport	National Physical Laboratory (D.S.I.R.)
Commission	Oil Companies Materials Committee*
Cable Makers' Association	Post Office*
Central Electricity Authority and Area Boards	Public Transport Association (Incorporated)
Crown Agents for Oversea Governments and	Radio Industry Council
Administrations	South of Scotland Electricity Board
Electric Lamp Industry Council	War Office
Electric Light Fittings Association*	
Electrical Contractors' Association	
(Incorporated)	

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 the standard.

Association of Mining Electrical and	Institute of Petroleum
Mechanical Engineers	Institution of Mining Engineers
Council of Underground Machinery	Lloyd's Register of Shipping
Manufacturers.	National Coal Board
Fire Offices Committee	Telecommunication Engineering and
Home Office	Manufacturing Association

This British Standard, having been approved by the Electrical Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 24 February 1958

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Foreword

This British Standard, prepared under the authority of the Electrical Industry Standards Committee, was first issued in 1945. This first revision brings the 1945 edition into line with present practice and takes into account experience gained since the standard was first issued.

Although a number of small amendments have been made throughout, the principal change is in the introduction of a list of flammable¹⁾ gases and vapours in respect of which certificates of intrinsic safety are now issued by the appropriate authorities. These gases are also classified for the purposes of the tests of intrinsic safety on which certification of circuits and apparatus is based. The appendices have been completely revised, and detailed information concerning the tests of intrinsic safety is now given in Appendix B.

Further information relating to intrinsically safe electrical equipment may be obtained from British Standard Code of Practice CP 1003,²⁾ *“Installation and maintenance of flameproof and intrinsically safe electrical equipment for industries other than coal mining”*.

NOTE This British Standard is being reprinted without technical amendment because of its continued use, particularly for apparatus employed in existing installations. It is however, intended that at some future date BS 1259 will be superseded by BS 5501-7 and will then be withdrawn.

As this British Standard is being reprinted without technical amendment, it contains some references that are no longer up to date. BSI is aware of these deficiencies, but has decided against making other than very minor editorial changes at this stage in the life of the standard.

For new designs of apparatus and installations it is recommended that the following more recent publications relating to this area of activity be used. There are, in addition, British Standards, of which the reference numbers, titles and publication dates are given in the British Standards Yearbook, dealing with specific types of electrical apparatus, e.g. luminaires, motors and transformers.

BS 5345, Code of practice for the selection, installation and maintenance of electrical apparatus for use in potentially explosive atmospheres (other than mining applications or explosive processing and manufacture).

- Part 1:1976: *Basic requirements for all parts of the code;*
- Part 3:1979: *Installation and maintenance requirements for electrical apparatus with type of protection “d”. Flameproof enclosure;*
- Part 4:1977: *Installation and maintenance requirements for electrical apparatus with type of protection “i”. Intrinsically safe electrical apparatus and systems;*
- Part 6:1978: *Installation and maintenance requirements for electrical apparatus with type of protection “e”. Increased safety;*
- Part 7:1979: *Installation and maintenance requirements for electrical apparatus with type of protection N;*
- Part 8:1980: *Installation and maintenance requirements for electrical apparatus with type of protection “s”. Special protection;*

BS 5501, *Electrical apparatus for potentially explosive atmospheres.*

- Part 1:1977: *General requirements* (EN 50014);
- Part 2:1977: *Oil immersion “o”* (EN 50015);
- Part 3:1977: *Pressurized apparatus “p”* (EN 50016);
- Part 4:1977: *Powder filling “q”* (EN 50017);
- Part 5:1977: *Flameproof enclosure “d”* (EN 50018);
- Part 6:1977: *Increased safety “e”* (EN 50019);
- Part 7:1977: *Intrinsic safety “i”* (EN 50020);
- Part 9:1981: *Intrinsically safe electrical systems “i”* (EN 50039)³⁾.

CERTIFICATION. Attention is drawn to the Health and Safety at Work etc Act 1974, the Factories Act 1961, the Mines & 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. Further information relating to the requirements for certification of apparatus used in applications other than Group I (mining) or explosive processing and manufacture, is provided in BS 5345-1 and CP 1003.

¹⁾ The term “flammable” is synonymous with the term “inflammable” which was used in the previous edition of this standard.

²⁾ Under revision.

³⁾ In course of preparation.

The recognized authorities in the United Kingdom for the certification and approval of electrical equipment for use in hazardous areas are as follows:

for Group I (coal mining) apparatus:	for Group II (non-mining) apparatus:
Health & Safety Executive	Health & Safety Executive
Group SP C3	BASEEFA
Regina House	Harpur Hill
259-269 Marylebone Road	Buxton, Derbyshire
London NW1 5RR	SK 17 9JN

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 6 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.