



DPC: 24 / 30500657 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

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Interested committees:

Title: BS EN IEC 60079-46 Explosive atmospheres

Part 46: Equipment assemblies

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

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- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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Responsible Committee Secretary: **Mr Christopher Brown (BSI)**Direct tel: **02089967441**E-mail: **christopher.brown@bsigroup.com**

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



31/1831/CD

COMMITTEE DRAFT (CD)

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2024-09-20

CLOSING DATE FOR COMMENTS:

2025-01-10

SUPERSEDES DOCUMENTS:

31/1684/CD, 31/1700A/CC

IEC TC 31 : EQUIPMENT FOR EXPLOSIVE ATMOSPHERES

SECRETARIAT:

United Kingdom

SECRETARY:

Mr Tom Stack

OF INTEREST TO THE FOLLOWING COMMITTEES:

HORIZONTAL FUNCTION(S):

ASPECTS CONCERNED:

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE [AC/22/2007](#) OR [NEW GUIDANCE DOC](#)).

TITLE:

Explosive atmospheres - Part 46: Equipment assemblies

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20	items of equipment forming the equipment assembly, that are not	
21	addressed in the equipment assembly, but able to be addressed in the	
22	end-user site installation, shall be included on the equipment assembly	
23	certificate. Any schedule of limitations that cannot be completely	
24	addressed shall be converted into specific conditions of use. In this	
25	case, the certificate number for the assembly shall include the "X" suffix	
26	in accordance with the marking requirements of IEC 60079-0 and the	
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

EXPLOSIVE ATMOSPHERES –

Part 46: Equipment Assemblies

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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~~The main task of IEC technical committees is to prepare International Standards. In exceptional circumstances, a technical committee may propose the publication of a technical specification when~~

- ~~• the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or~~
- ~~• the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.~~

~~Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.~~

International Standard IEC TS 60079-46, which is a technical specification, has been prepared by IEC technical committee TC 31: Equipment for explosive atmospheres.

This first edition cancels and replaces the first edition of IEC TS 60079-46 published in 2017 and constitutes a technical revision.

The significance of changes between IEC Standard, IEC 60079-X, Edition N, 20XX-XX and IEC 60079-X, Edition N-1, 20XX-XX are as listed below:

<u>Changes</u>	<u>Clause</u>	<u>Type</u>		
		<u>Minor and editorial changes</u>	<u>Extension</u>	<u>Major technical changes</u>

NOTE The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version.

Explanation of the types of changes:

A) Definitions

1. Minor and editorial changes:

- Clarification
- Decrease of technical requirements
- Minor technical change
- Editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

2. Extension: Addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous standard. Therefore, these will not have to be considered for products in conformity with the preceding edition.

3. Major technical changes:

- addition of technical requirements
- increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be considered for products in conformity with the preceding edition. For these changes additional information is provided in clause B below.

NOTE These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

B) Information about the background of 'Major technical changes'

Cx (Explanatory text to be inserted as applicable)

Cy (Explanatory text to be inserted as applicable)

Cz (Explanatory text to be inserted as applicable)

The text of this International Standard technical specification is based on the following documents:

<u>FDIS Enquiry draft</u>	Report on voting
31/XX/ <u>FDIS DTS</u>	31/XX/ <u>RVD RVC</u>

Full information on the voting for the approval of this International Standard technical specification can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60079 series, published under the general title *Explosive atmospheres*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

~~The National Committees are requested to note that for this document the stability date is 2021.~~

~~THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE PUBLICATION STAGE.~~

INTRODUCTION

The provision of products into end markets for installation by end users may take the form of either individual items of equipment or pre-manufactured assemblies comprising many items of equipment. Pre-manufactured equipment assemblies may be as either subsystems requiring integration as part of an installation at a site or complete functional machines which require little or no additional reassembly on site.

This document is applied when multiple pieces of equipment are combined assembly of equipment Ex-Equipment(s) results into form an assemblyequipment assembly that creates a need for additional assessment that is not already completely covered by the individual equipment certificates. Additional assessment might include (but is not limited to) evaluation of wiring methods used to connect the equipment(s) or temperature rise within the assemblyequipment assembly.

This document provides requirements for the design, construction, assembly, testing, inspection, marking, documenting and assessment of equipment assemblies such that the items of Ex Equipment and the interconnection of the items of equipment form an assemblyequipment assembly that also meets other parts of the IEC 60079 and ISO/IEC 80079 and IEC 60079 series.

This document includes the requirements for an ignition hazard assessment to identify the risks of ignition associated with of the equipment assembly, and a determination of how the hazards were mitigated in the equipment assembly. For ignition hazards directly related to the equipment assembly, but not mitigated in the equipment assembly, the documentation addresses how to mitigate the hazard in the end-user site installation.

This document is intended to be used for verification of assemblies to assist in ensuring products are in compliance with the requirements of the IEC 60079 and ISO/IEC 80079 and IEC 60079 series at the time of initial installation at the end user site.

After the initial installation, the assemblyequipment assembly is considered as part of the site installation in accordance with other parts of the IEC 60079 and ISO/IEC 80079 and IEC 60079 series.

EXPLOSIVE ATMOSPHERES –

Part 46: Equipment Assemblies

1 Scope

This part of IEC 60079, ~~which is a Technical Specification~~, specifies requirements for the design, construction, assembly, testing, inspection, marking, documenting and assessment of equipment assemblies for ~~use in~~ explosive atmospheres, ~~under the responsibility of the assembly manufacturer (see 3.4) of the equipment assembly~~. The equipment assembly could be entirely or partially within a hazardous area due to sources of release on the equipment assembly or external to the equipment assembly.

The requirements of this document apply to individual items according to the IEC 60079 series or ISO/IEC 80079 series ~~of standards~~ that comprise the assemblyequipment assembly and that have individual certificates. These individual items are then integrated as part of the equipment assembly. Also included are requirements to address aspects for the assemblyequipment assembly which may be beyond the certificates of the individual items forming the assemblyequipment assembly.

The scope of this document includes assessment of the additional requirements for assemblies for hazardous areas and does not include requirements for non-hazardous areas. ~~It is assumed that compliance with other electrical or mechanical requirements that are applicable for non-hazardous areas will be verified by either the same or different party in addition to the requirements of this document.~~

This document does not apply to:

~~— assemblies produced by equipment manufacturers (see 3.4.2);~~

a) ~~Ex e~~Equipment and Ex Components which ~~is are~~ covered entirely, in its entirety, by one or more IEC 60079 and ISO/IEC 80079 equipment ~~I~~types of ~~P~~protection;

b) pressurized or ventilated rooms, “p”, “v”, in accordance with IEC 60079-13, artificial ventilation for the protection of analyzer(s) houses in accordance with IEC TR 60079-16, and other standards addressing specific Ex assemblies;

c) installation of the equipment assembly by the end-user at the installation end-user site under the scope of IEC 60079-14;

NOTE 1- The use of the term “installation” in this instance does not include activities under the responsibility of the assembly manufacturer involving reassembly of the equipment assembly at the installation site.

d) classification of the hazardous area due to a potential source of release external to the equipment assembly (see 4.3.1);

~~e) e)~~ equipment assemblies for mines susceptible to firedamp (Group I applications);

~~d) f)~~ inherently explosive situations and dust from explosives or pyrophoric substances (for example explosives manufacturing and processing);

~~e) g)~~ rooms used for medical purposes;

~~f) h)~~ electrical installations in areas where the hazard is due to flammable mist.

~~This specification document is only intended to provide validation for the equipment initial supply of an assembly as provided. Any subsequent changes made after installation are not covered by this technical specification, document and are the responsibility of the end-user to meet the applicable local legal requirements local authority having jurisdiction over the installation.~~