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INTERNATIONAL STANDARD

IEC 60079-1

Fifth edition
2003-11

withdrawn

Electrical apparatus for explosive gas atmospheres –

Part 1: Flameproof enclosures "d"

*This **English-language** version is derived from the original **bilingual** publication by leaving out all French-language pages. Missing page numbers correspond to the French-language pages.*

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TC 31/Publication 60079-1 (2003), Fifth edition/I-SH 01

ELECTRICAL APPARATUS FOR EXPLOSIVE GAS AMOSPHERES –
Part 1: Flameproof enclosures "d"

INTERPRETATION SHEET

This interpretation sheet has been prepared by IEC technical committee 31: Electrical apparatus for explosive atmospheres.

The text of this interpretation sheet is based on the following documents:

ISH	Report on voting
31/656/ISH	31/666/RVD

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

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Subclause 8.2.2 – Rolling element bearings

It is understood that, with assemblies, all parts will not exist at the worst case dimensions simultaneously. Also a statistical treatment of the tolerances, such as “RMS”, may be required for *m* and *k* verification.

Furthermore, it is understood that it is not a requirement of this standard that the manufacturer’s *m* and *k* calculations be verified. Also, it is not a requirement of this standard that *m* and *k* be verified by measurement.

Subclauses 15.2.1.1, 15.2.2.1 and 15.2.2.2:

When preparing a test sample employing a cylindrical joint of a shaft gland for a rotating machine with roller element bearings, it is understood that the test gap i_E is based on the diametrical clearance from Table 1 or Table 2, and not the radial clearance of 8.2.2.

NOTE This clarification is being introduced in IEC 60079-1 Edition 6 and therefore an Interpretation Sheet will not be required for this or future editions.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES –

Part 1: Flameproof enclosures "d"

FOREWORD

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International Standard IEC 60079-1 has been prepared by subcommittee 31A: Flameproof enclosures, of IEC technical committee 31: Electrical apparatus for explosive atmospheres.

This fifth edition cancels and replaces the fourth edition published in 2001 and constitutes a technical revision.

This edition contains the following significant technical changes with regard to the previous edition:

a) revisions to Clause 5 regarding the use of corrosion inhibiting grease, and regarding electroplating of joint surfaces;

b) revisions to Clause 5 regarding gaps whose dimensions are less than required in the tables, and regarding taper threaded joints;

c) revisions to Clause 13 regarding entries for flameproof enclosures;

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d) revisions to Clause 13 regarding cable glands and conduit entries;

e) revisions to Clause 14 regarding test voltage for motors;

f) revisions to Clause 15 regarding type tests for apparatus used at an ambient temperature below –20 °C, or at an ambient temperature above 60 °C;

g) revisions to Clause 16 regarding routine tests for apparatus used at an ambient temperature below –20 °C;

h) revisions to Clause 19 regarding non-metallic enclosures;

i) revisions to Annex C regarding Ex blanking elements and thread adapters;

j) addition of a new normative Annex D regarding empty flameproof enclosures as Ex components; and

k) addition of a new normative Annex E regarding cells and batteries.

The text of this standard is based on the following documents:

FDIS	Report on voting
31A/114/FDIS	31A/115/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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

This standard is to be read in conjunction with IEC 60079-0, the requirements of which apply to electrical apparatus with flameproof enclosures.

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

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

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ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES –

Part 1: Flameproof enclosures "d"

1 Scope

This part of IEC 60079 contains specific requirements for the construction and testing of electrical apparatus with the type of protection flameproof enclosure "d", intended for use in explosive gas atmospheres.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60034-1:1996, *Rotating electrical machines – Part 1: Rating and performance*

IEC 60061 (all parts), *Lamp caps and holders together with gauges for the control of interchangeability and safety*

IEC 60079-0:1998, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*

IEC 60079-1-1:2002, *Electrical apparatus for explosive gas atmospheres – Part 1-1: Flameproof enclosures "d" – Method of test for ascertainment of maximum experimental safe gap*

IEC 60079-7:2001, *Electrical apparatus for explosive gas atmospheres – Part 7: Increased safety "e"*

IEC 60079-11:1999, *Electrical apparatus for explosive gas atmospheres – Part 11: Intrinsic safety "i"*

IEC 60086-1:2000, *Primary batteries – Part 1: General*

IEC 60112:1979, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60127 (all parts), *Miniature fuses*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60707:1981, *Flammability of solid non-metallic materials when exposed to flame sources – List of test methods*

ISO 185:1988, *Grey cast iron – Classification*

ISO 965-1:1998, *ISO general-purpose metric screw threads – Tolerances – Part 1: Principles and basic data*

ISO 965-3:1998, *ISO general-purpose metric screw threads – Tolerances – Part 3: Deviations for constructional threads*

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ISO 1210:1982, *Plastics – Determination of the burning behaviour of horizontal and vertical specimens in contact with a small-flame ignition source*

ISO 2738:1999, *Sintered metal materials, excluding hard metals – Permeable sintered metal materials – Determination of density, oil content and open porosity*

ISO 4003:1977, *Permeable sintered metal materials – Determination of bubble test pore size*

ISO 4022:1987, *Permeable sintered metal materials – Determination of fluid permeability*

ISO 6892:1998, *Metallic materials – Tensile testing at ambient temperature*

ANSI/ASME B1.20.1-1983 (R2001), *Pipe threads, general purpose (inch)*

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