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Explosive atmospheres

Part 40: Requirements for process sealing between flammable process fluids and electrical systems

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee EXL/31, Equipment for explosive atmospheres.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2014

ISBN 978 0 580 81642 0

ICS 29.260.20

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 28 February 2015.

Amendments issued since publication

Amd. No.	Date	Text affected

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Full document details: PD IEC/TS 60079-40:2015

IEC TS 60079-40

Edition 1.0 2015-02

TECHNICAL SPECIFICATION

Explosive atmospheres –
Part 40: Requirements for process sealing between flammable process fluids and electrical systems

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.260.20

ISBN 978-2-8322-2248-5

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CONTENTS

FOREWORD ... 3
1 Scope ... 5
2 Normative references ... 5
3 Terms and definitions ... 5
4 General requirements ... 8
4.1 Basis for requirements ... 8
4.2 Single process seal equipment ... 9
4.3 Dual process seal equipment ... 9
4.4 Equipment with limited pressure at the electrical connections ... 9
4.5 Purged or pressurized equipment ... 9
4.6 Add-on secondary process seals ... 9
4.7 Annunciators ... 10
5 Type verifications and tests ... 10
5.1 Test sample ... 10
5.2 Single process seal equipment ... 10
5.2.1 Order of conditioning ... 10
5.2.2 Temperature cycling ... 10
5.2.3 Pressure cycling ... 11
5.2.4 Leakage test ... 12
5.2.5 Burst pressure test ... 12
5.3 Dual process seal equipment ... 12
5.3.1 Primary process seal leakage test ... 12
5.3.2 Primary process seal burst pressure test ... 12
5.3.3 Venting pressure determination ... 12
5.3.4 Verification of annunciation effectiveness ... 13
5.3.5 Secondary process seal leakage test ... 13
5.4 Verification of limited pressure effectiveness ... 13
6 Marking ... 13
7 Instructions ... 13
Annex A (informative) Conditioning and test flowchart ... 15
Bibliography ... 17

Figure 1 – Equipment process sealing components ... 6
Figure 2 – Examples of add-on secondary process seals ... 8
Figure 3 – Temperature cycle conditioning profile ... 11
Figure A.1 – Conditioning and test flowchart ... 16

Table 1 – Leakage test pressures ... 12
Table 2 – Burst test pressures ... 12

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EXPLOSIVE ATMOSPHERES –

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

IEC 60079-40, which is a technical specification, has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

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

Enquiry draft	Report on voting
31/1134/DTS	31/1170/RVC

Full information on the voting for the approval of this technical specification 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.

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 publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

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EXPLOSIVE ATMOSPHERES –

Part 40: Requirements for process sealing between flammable process fluids and electrical systems

1 Scope

This document provides specific requirements for process sealing between a flammable process fluid and an electrical system where a failure could allow the migration of the process fluid directly into the premises wiring system.

NOTE Some definitions differentiate the terms “flammable” and “combustible” liquids on the basis of their flashpoints. Combustible liquids under conditions of elevated pressure and/or temperature can lead to the formation of flammable mists and aerosols which are within the scope of this technical specification.

This document contains requirements for evaluation, construction and testing of single process seal equipment, dual process seal equipment, and add-on secondary process seals.

The requirements of this document do not apply to conduit sealing devices, cable glands and other wiring sealing methods addressed in the IEC 60079 series or other standards.

Requirements for basic electrical safety and explosion protection are not addressed by this document, but may apply to the equipment under investigation. The effects of leakage to the environment are not addressed by this document.

2 Normative references

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

IEC 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 60079-2, *Explosive atmospheres – Part 2: Equipment protection by pressurized enclosure "p"*

3 Terms and definitions

For the purposes of this document the following terms and definitions apply.

NOTE See Figure 1 for a graphical representation of the various process seal components.

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