SLOVENSKI STANDARD
oSIST prEN ISO/IEC 80079-41:2025

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Eksplozivne atmosfere - 41. del: Batni motorji z notranjim zgorevanjem (ISO/IEC DIS 80079:41:2025)

Explosive atmospheres - Part 41: Reciprocating internal combustion engines (ISO/IEC DIS 80079-41:2025)

Explosionsfähige Atmosphären - Teil 41: Hubkolben-Verbrennungsmotoren (ISO/IEC DIS 80079:41:2025)

Atmosphères explosives - Partie 41: Moteurs alternatifs à combustion interne (ISO/IEC DIS 80079-41:2025)

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ICS:

27.020	Motorji z notranjim zgorevanjem	Internal combustion engines
29.260.20	Električni aparati za eksplozivna ozračja	Electrical apparatus for explosive atmospheres

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ISO/IEC DIS 80079-41

Explosive atmospheres —

Part 41: Reciprocating internal combustion engines

Atmosphères explosives —

Partie 41: Moteurs alternatifs à combustion interne

ICS: 29.260.20; 27.020

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Secretariat: **ISO**

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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EXPLOSIVE ATMOSPHERES –

Part 41: Reciprocating internal combustion engines

FOREWORD

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ISO/IEC 80079-41 has been prepared by ISO/IEC subcommittee 31M: Non-electrical equipment and protective systems for explosive atmospheres, of IEC technical committee XX: Equipment for explosive atmospheres. It is an International Standard.

It is published as a double logo International Standard.

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

FDIS	Report on voting
31M/XX/FDIS	31M/XX/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table. In ISO, the document was approved by XXX P members out of YYY having cast a vote.

The language used for the development of this International Standard is English.

A list of all parts in the ISO/IEC 80079 series, published under the general title *Explosive atmospheres*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under 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.

EXPLOSIVE ATMOSPHERES –

Part 41: Reciprocating internal combustion engines

1 Scope

This part of ISO/IEC 80079 specifies the technical requirements for design, construction, conversion, testing, marking, and the information required for use to avoid or minimise the possibility of ignition which could result from a from reciprocating internal combustion engine intended for use in explosive atmospheres including:

– Group I EPL Mb for use in underground workings susceptible to firedamp or combustible dust,

– Group II EPL Gb and EPL Gc for use in explosive atmospheres of flammable gas and vapour, and

– Group III EPL Db and EPL Dc for use in explosive atmospheres of combustible dust.

– For EPL Gc and Dc engines, only normal operating conditions need to be considered. Malfunctions need not be considered (see B.2.1).

This document includes those tests of the engine and its ancillary devices that are required to verify compliance with this document.

This document applies to reciprocating internal combustion engines with compression ignition for EPL Mb, Gb, Gc, Db, Dc and gaseous fuelled_spark ignition engines for EPL Gc. See Annex G.

This document does not define requirements relating to the driven machinery and equipment.

This document does not apply to

- explosive mixtures of vapours and gases, which tend to self-decompose (for example carbon disulphide (CS_2), ethylene oxide (C_2H_4O), acetylene (C_2H_2)) or which are chemically unstable;
- hydrogen fuelled engines, including blends;
- engines used in areas for the processing, manufacture or storage of explosives;
- gasoline and other spark ignited engines where the fuel is injected into the combustion chamber as a liquid; or
- electrical ignition spark systems.

Note 1 Spark ignition systems used with equipment covered by ISO/IEC 80079-41 is covered by IEC 60079-45

This document solely deals with explosion protection requirements. Requirements on gaseous or particulate exhaust emissions are not covered by this standard.

General safety requirements are not included in this International Standard.

NOTE 1 General safety requirements are covered for the EU in EN 1679-1:1998+A1:2011.

This document does not specify requirements for safety, other than those directly related to the possibility of ignition of flammable mixtures in the surrounding atmosphere_which can lead to an explosion.