IEC 62282-5-100

Edition 1.0 2018-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fuel cell technologies –
Part 5-100: Portable fuel cell power systems – Safety

Technologies des piles à combustible –
Partie 5-100: Systèmes à piles à combustible portables – Sécurité

IEC 62282-5-100:2018-04(en-fr)

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FUEL CELL TECHNOLOGIES –

Part 5-100: Portable fuel cell power systems – Safety

FOREWORD

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International Standard IEC 62282-5-100 has been prepared by IEC technical committee 105: Fuel cell technologies.

This edition cancels and replaces the second edition of IEC 62282-5-1, published in 2012. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 62282-5-1:

- the requirements and verification method regarding 4.13 and 7.21 for oxygen depletion have been modified;
- the requirements and verification method regarding 4.14 and 7.22 for emission of effluents have been modified;
- Subclauses 4.21 and 7.20.3, for fuel cell power systems with flammable gas generators relying on water reactive technology, new safety requirements and test procedures have been added;
- Subclause 7.11.1 e) has been updated; for an overcurrent test in abnormal operations, a new test procedure in consideration of safety has been added.

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

CDV	Report on voting
105/649/CDV	105/670/RVC

Full information on the voting for the approval of this International Standard 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 62282 series, published under the general title *Fuel cell technologies*, 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- withdrawn,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.

FUEL CELL TECHNOLOGIES –

Part 5-100: Portable fuel cell power systems – Safety

1 Scope

This part of IEC 62282 covers construction, marking and test requirements for portable fuel cell power systems. These fuel cell systems are movable and not fastened or otherwise secured to a specific location. The purpose of the portable fuel cell power system is to produce electrical power.

This document applies to AC and DC type portable fuel cell power systems, with a rated output voltage not exceeding 600 V AC, or 850 V DC for indoor and outdoor use. These portable fuel cell power systems cannot be used in hazardous locations as defined in IEC 60050-426:2008, 426-03-01 unless there are additional protective measures in accordance with IEC 60079-0[5][1)].

This document does not apply to portable fuel cell power systems that are

1) permanently connected (hard wired) to the electrical distribution system,
2) permanently connected to a utility fuel distribution system,
3) exporting power to the grid,
4) for propulsion of road vehicles,
5) intended to be used on board passenger aircraft.

Fuel cells that provide battery charging for hybrid vehicles where the battery provides power and energy for propulsion of the vehicle are not included in the scope of this document

The following fuels and fuel feedstocks are considered within the scope of this document:

- natural gas,
- liquefied petroleum gas, such as propane and butane,
- liquid alcohols, for example methanol, ethanol,
- gasoline,
- diesel,
- kerosene,
- hydrogen,
- chemical hydrides.

This document does not preclude the use of similar fuels or oxidants from sources other than air provided the unique hazards are addressed through additional requirements.

1) Numbers in square brackets refer to the Bibliography.