### PD IEC/TS 62282-1:2013



## **BSI Standards Publication**

# Fuel cell technologies

Part 1: Terminology



#### **National foreword**

This Published Document is the UK implementation of IEC/TS 62282-1:2013. It supersedes DD IEC/TS 62282-1:2010 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/105, Fuel cell technologies.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2013. Published by BSI Standards Limited 2013

ISBN 978 0 580 83340 3 ICS 27.070

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 November 2013.

Amendments/corrigenda issued since publication

Date Text affected



## IEC/TS 62282-1

Edition 3.0 2013-11

# TECHNICAL SPECIFICATION SPÉCIFICATION TECHNIQUE

Fuel cell technologies – Part 1: Terminology

Technologies des piles à combustible – Partie 1: Terminologie

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX



ICS 27.070 ISBN 978-2-83221-190-8

Warning! Make sure that you obtained this publication from an authorized distributor.

Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

## CONTENTS

FOI	PREWORD	3
1	Scope	5
2	Diagrams of generalized fuel cell systems	5
	2.1 Diagrams	5
	2.2 Definition of diagram functions	
3	Terms, definitions and abbreviations	8
Bib	pliography	32
Ind	dex	33
Fig	gure 1 – Stationary fuel cell power systems (3.49.3)	5
Fig	gure 2 – Portable fuel cell power systems (3.49.2)	6
Fig	gure 3 – Micro fuel cell power systems (3.49.1)	6
Fig	gure 4 – Fuel cell vehicles (3.51)	7

#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### **FUEL CELL TECHNOLOGIES -**

Part 1: Terminology

#### **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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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.

IEC 62282-1, which is a technical specification, has been prepared by IEC technical committee 105: Fuel cell technologies.

This third edition cancels and replaces the second edition, published in 2010. This third edition constitutes a technical revision.

The first edition of IEC/TS 62282-1:2005 was intended as a resource for the working groups of TC 105 and users of the TC 105 standards series; therefore, it only included terms and definitions used in the other IEC 62282 standards to provide consistency among those documents.

This third edition, as was the second edition, is a general fuel cell glossary, including all terms unique to fuel cell technologies; it has:

- a) added four new terms; 3.20, 3.43.1, 3.58 and 3.86.2;
- b) made editorial changes to thirty terms; 3.1, 3.4.2.3, 3.4.4, 3.14, 3.28, 3.33.1, 3.42.1, 3.42.2, 3.42.3, 3.45, 3.48, 3.49, 3.52, 3.57, 3.66, 3.67, 3.69.2, 3.77.6, 3.82.2, 3.83, 3.84, 3.86.3, 3.86.4, 3.90, 3.94, 3.100, 3.108.4, 3.110.1, 3.110.4 and 3.115.5; and
- c) removed the term "heat rate".

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

Enquiry draft	Report on voting
105/450/DTS	105/471/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 of IEC 62282 series, published under the general title *Full cell technologies*, 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 web site 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.

#### **FUEL CELL TECHNOLOGIES -**

#### Part 1: Terminology

#### 1 Scope

This part of IEC 62282 provides uniform terminology in the forms of diagrams, definitions and equations related to fuel cell technologies in all applications including but not limited to stationary power, transportation, portable power and micro power applications.

Not found here are words and phrases, which can be found in standard dictionaries, engineering references or the IEC 60050 series.

NOTE The first edition of IEC 62282 was intended as a resource for the working groups and users of the IEC 62282 series of fuel cell standards. This third edition, as well as the second edition, has been expanded into a general fuel cell glossary.

#### 2 Diagrams of generalized fuel cell systems

#### 2.1 Diagrams

#### Fuel cell power system

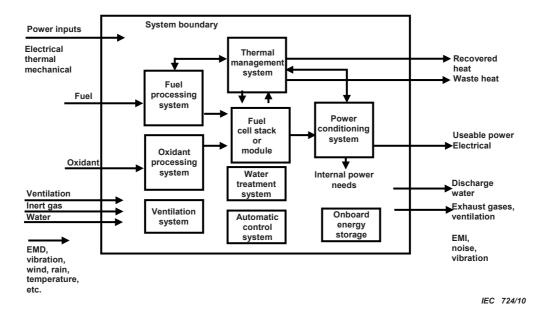


Figure 1 - Stationary fuel cell power systems (3.49.3)