

### SLOVENSKI STANDARD SIST EN 62282-6-200:2008

01-junij-2008

HY\ bc`c[]'U[cf]j b]\ 'WY`]W!'\*!&\$\$"XY`.'HY\ bc`c[]'Ua]\_fc'[cf]j b]\ 'WY`]W!'A YhcXY Xc`c Ub'Y``Ughbcgh]'fl97'\*&&, &!\*!&\$\$.&\$\$+L

Fuel cell technologies - Part 6-200: Micro fuel cell power systems - Performance test methods

Brennstoffzellentechnologien - Teil 6-200: Mikrobrennstoffzellen-Energiesysteme - Leistungskennwerteprüfverfahren ANDARD PREVIEW

(standards.iteh.ai)
Technologies des piles a combustible - Partie 6-200: Systemes a micro-piles a combustible - Méthodes d'essai des performances

https://standards.iteh.ai/catalog/standards/sist/cdef2180-0615-4603-9104-

Ta slovenski standard je istoveten z: EN 62282-6-200:2008

ICS:

27.070 Gorilne celice Fuel cells

SIST EN 62282-6-200:2008 en,fr,de

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 62282-6-200:2008

https://standards.iteh.ai/catalog/standards/sist/cdef 2180-0615-4603-9104-8b3954c0553c/sist-en-62282-6-200-2008

### EUROPEAN STANDARD NORME EUROPÉENNE

### EN 62282-6-200

### **EUROPÄISCHE NORM**

February 2008

ICS 27.070

English version

# Fuel cell technologies Part 6-200: Micro fuel cell power systems Performance test methods

(IEC 62282-6-200:2007)

Technologies des piles à combustible -Partie 6-200: Systèmes à micro-piles à combustible -Méthodes d'essai des performances (CEI 62282-6-200:2007) Brennstoffzellentechnologien -Teil 6-200: Mikrobrennstoffzellen-Energiesysteme -Leistungskennwerteprüfverfahren (IEC 62282-6-200:2007)

# iTeh STANDARD PREVIEW (standards.iteh.ai)

This European Standard was approved by CENELEC on 2008-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration sixt/cdef2180-0615-4603-9104-

8b3954c0553c/sist-en-62282-6-200-2008
Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

### **CENELEC**

European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

#### **Foreword**

The text of document 105/151/FDIS, future edition 1 of IEC 62282-6-200, prepared by IEC TC 105, Fuel cell technologies, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62282-6-200 on 2008-02-01.

The following dates were fixed:

 latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement

(dop) 2008-11-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2011-02-01

Annex ZA has been added by CENELEC.

#### **Endorsement notice**

The text of the International Standard IEC 62282-6-200:2007 was approved by CENELEC as a European Standard without any modification.

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 62282-6-200:2008</u> https://standards.iteh.ai/catalog/standards/sist/cdef2180-0615-4603-9104-8b3954c0553c/sist-en-62282-6-200-2008

## Annex ZA (normative)

## Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60051-1	_ 1)	Direct acting indicating analogue electrical measuring instruments and their accessories - Part 1: Definitions and general requirements common to all parts	EN 60051-1	1998 <sup>2)</sup>
IEC 60051-2	_1) iT(	Direct acting indicating analogue electrical measuring instruments and their accessories - Part 2: Special requirements for ammeters and voltmeters DARD PREVIE	EN 60051-2	1989 <sup>2)</sup>
IEC 60068-2-6	<b>–</b> <sup>1)</sup>	Environmental testing - Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008 <sup>2)</sup>
IEC 60721-3-7	_ 1) https://stan	Classification of environmental conditions - Part 3: Classification of groups of 80-0615-4600 environmental parameters and their 008 severities - Section 7: Portable and non-stationary use	EN 60721-3-7 3-9104-	1995 <sup>2)</sup>
ISO 4677-1	_ 1)	Atmospheres for conditioning and testing - Determination of relative humidity - Part 1: Aspirated psychrometer method	-	-
ISO 4677-2	_ 1)	Atmospheres for conditioning and testing - Determination of relative humidity - Part 2: Whirling psychrometer method	-	-

<sup>2)</sup> Valid edition at date of issue.

<sup>1)</sup> Undated reference.

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 62282-6-200:2008

https://standards.iteh.ai/catalog/standards/sist/cdef 2180-0615-4603-9104-8b3954c0553c/sist-en-62282-6-200-2008



Edition 1.0 2007-11

## INTERNATIONAL STANDARD

## NORME INTERNATIONALE

Fuel cell technologies h STANDARD PREVIEW
Part 6-200: Micro fuel cell power systems - Performance test methods

Technologies des piles à combustible Partie 6-200: Systèmes à micro-piles à combustible Méthodes d'essai des performances

8b3954c0553c/sist-en-62282-6-200-2008

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX

N

ICS 27.070 ISBN 2-8318-9353-4

#### CONTENTS

FΟ	REW	ORD		3	
INT	ROD	UCTION	l	5	
1	Scop	oe		6	
2	Normative references				
3	Terms and definitions				
4	General principles				
7					
	4.1		~		
	4.2 Minimum required measurement accuracy				
	4.3	4.3.1	General		
		4.3.1	Voltage		
		4.3.2	Current		
		4.3.4	Time		
		4.3.5	Weight		
		4.3.6	Temperature		
		4.3.7	Humidity		
		4.3.8			
		4.3.9	Pressure CT. A. N.D. A.R.D. D.R. W. W. Vibration frequency	9	
5	Tests (standards.iteh.ai)				
	5.1 Test procedure				
	5.2	Power	generation characteristics 62282-6-200:2008	9	
		5.2.1	generation characteristics 62282-6-200:2008 https://standards.iteh.ai/catalog/standards/sist/cdef2180-0615-4603-9104- Starting duration 8b3954c0553c/sist-en-62282-6-200-2008	9	
		5.2.2	Rated power test and rated voltage test	9	
		5.2.3	Intermittent power generation test		
		5.2.4	Power generation test after disuse	10	
		5.2.5	Power generation test at low and high temperatures	10	
		5.2.6	Power generation test under low and high humidity conditions	10	
		5.2.7	Altitude test	11	
	5.3 Fuel consumption test				
	5.4	Mecha	nical durability tests	11	
		5.4.1	Drop test	11	
		5.4.2	Vibration test	12	
6	Labe	elling an	d marking	12	
7	Test	report		12	
Fig	ure 1	- Funct	ional arrangement addressed in the scope of this standard	6	
			·		
Tab	ole 1 -	- Test re	eport of micro fuel cell power system – Performance test	13	

#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

### Part 6-200: Micro fuel cell power systems – Performance test methods

#### **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.
- 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 national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter
- https://standards.itch.ai/catalog/standards/sist/cdef2180-0615-4603-91045) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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.

International Standard IEC 62282-6-200 has been prepared by IEC technical committee 105: Fuel cell technologies.

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

FDIS	Report on voting	
105/151/FDIS	105/165A/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.

A list of all parts of the IEC 62282 series, under the general title *Fuel cell technologies*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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

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

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 62282-6-200:2008</u> https://standards.iteh.ai/catalog/standards/sist/cdef2180-0615-4603-9104-8b3954c0553c/sist-en-62282-6-200-2008

#### INTRODUCTION

With advancements in technology, the expectation or demand for the commercial introduction of fuel cells has increased dramatically in recent years. It is especially strong for micro fuel cell power systems intended for applications in laptop computers, mobile phones, PDAs, cordless home appliances, TV broadcast cameras, autonomous robots, etc. The essential component of a micro fuel cell power system is its power unit. Some micro fuel cell power systems have built-in power units, and others have external power units. The purpose of this international standard is to describe the performance test methods for micro fuel cell power systems with outputs up to 60 V d.c. and 240 VA.

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 62282-6-200:2008</u> https://standards.iteh.ai/catalog/standards/sist/cdef2180-0615-4603-9104-8b3954c0553c/sist-en-62282-6-200-2008