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Replacing GB/T 28816-2012

Fuel Cell – Terminology

燃料电池 术语

(IEC/TS 62282-1:2013, Fuel Cell Technologies - Part 1: Terminology, IDT)

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard replaced GB/T 28816-2012 *Fuel Cell – Terminology*; Compared with GB/T 28816-2012, this Standard has the major technical changes as follows:

--- Modify partial terms and definitions (see 3.1, 3.24, 3.33.1, 3.69.2, 3.85.1, 3.90, 3.104, 3.108.1, 3.108.4, 3.112.4, 3.115.5 of this Edition);

--- Add partial terms and definitions (see 3.20, 3.43.1, 3.58, 3.86.2, 3.110.4 of this Edition);

--- Delete the terms and definitions of “heat production rate” and “standby mode” (see 3.6.1 and 3.110.4 of 2012 Edition).

This Standard uses translation method to equivalently adopt IEC/TS 62282-1:2013 *Fuel Cell Technologies – Part 1: Terminology*.

This Standard made the following editorial modifications:

--- Modify the standard name into “Fuel Cell – Terminologies”;

--- Move the abbreviations behind the corresponding English terms;

--- Modify partial terms and definitions (see 3.85, 3.106 of this Edition).

This Standard was proposed by China Electrical Equipment Industrial Association.

This Standard shall be under the jurisdiction of National Technical Committee for Standardization of Fuel Cell and Flow Battery (SAC/TC 342).

Drafting organizations of this Standard: Beijing Machinery Industry’s Research Institute of Electrical Techno-Economics; Innoreagen Power Technology Co., Ltd.; Shenzhen Institute of Standards and Technology; Beijing Shangdian Keseari Technology Co., Ltd.; Shanghai Shenli Technology Co., Ltd.; Tsinghua University; Wuhan University of Technology; Dalian Institute of Chemical Physics, Chinese Academy of Sciences; Sunrise Power Co., Ltd.; Pearl Hydrogen Technology Co., Ltd.; Aerospace New Long March Electric Vehicle Technology Co., Ltd.; Guangdong Hydrogen Energy Science and Technology Co., Ltd.; Shanghai Hydrogen Propulsion Technology Co., Ltd.; Wuxi Products Quality Supervision and Inspection Institute; Shanghai Institute of Quality Inspection and Technical Research; Beijing Sinohytech Co., Ltd.; Shanghai Hengjin Power Technology Co., Ltd.; Shanghai Boxuan Energy Technology Co., Ltd.; and Nekson Power Technology Co., Ltd.

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Fuel Cell – Terminology

1 Scope

This Standard provides uniform terminology in the forms of diagrams, definitions and equations related to fuel cell technologies.

This Standard is applicable to stationary power, transportation, portable power and micro power, and all the related fuel cell technology 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

- Discharge water – Water discharged from the fuel cell power system (3.49) including wastewater and condensate.

- EMD (electromagnetic disturbance) – Any electromagnetic phenomenon that may degrade the performance of a device, equipment or system, or adversely affect living or inert matter [IEC 60050-161:1990, 161-01-05].

- EMI (electromagnetic interference) – Degradation of the performance of an equipment, transmission channel or system caused by an electromagnetic disturbance. [IEC 60050-161:1990, 161-01-06].

- Recovered heat – Thermal energy that has been recovered for useful purposes.

- Waste heat – Thermal energy released and not recovered.

3 Terms, Definitions and Abbreviations

3.1 Air bleed

Introduction of small levels of air (around 5 %) into the fuel stream, upstream of the fuel inlet to the fuel cell (3.43) or within the anode (3.2) compartment.

NOTE: The purpose of air bleed is to mitigate poisoning by species such as carbon monoxide by catalytic oxidation of the poison within the anode (3.2) compartment of the fuel cell.

3.2 Anode

Electrode (3.33) at which the oxidation of the fuel takes place.

[IEC 60050-482:2004, 482-02-27, modified]

3.3 Active layer

See catalyst layer (3.14).

3.4 Area

3.4.1 Cell area

Geometric area of the bipolar plate (3.9) perpendicular to the direction of current flow.

NOTE: The cell area is expressed in m^2.

3.4.2 Electrode area

3.4.2.1 Active area

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