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Hydrogen fuel - Product specification and quality assurance for hydrogen refuelling points dispensing gaseous hydrogen - Proton exchange membrane (PEM) fuel cell applications for vehicles

EESTI STANDARDI EESSÕNA

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English Version

Hydrogen fuel - Product specification and quality assurance for hydrogen refuelling points dispensing gaseous hydrogen - Proton exchange membrane (PEM) fuel cell applications for vehicles

Carburant hydrogène - Spécification de produit et assurance qualité pour les points de ravitaillement en hydrogène distribuant de l'hydrogène gazeux - Applications des piles à combustible à membrane à échange de protons (MEP) pour les véhicules

Wasserstoff als Kraftstoff - Produktfestlegung und Qualitätssicherung - Protonenaustauschmembran (PEM)-Brennstoffzellenanwendungen für Fahrzeuge

This European Standard was approved by CEN on 24 January 2022.

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European foreword

This document (EN 17124:2022) has been prepared by Technical Committee CEN/TC 268 “Cryogenic vessels and specific hydrogen technologies applications”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2022, and conflicting national standards shall be withdrawn at the latest by September 2022.

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1 Scope

This document specifies the quality characteristics of hydrogen fuel dispensed at hydrogen refuelling stations for use in proton exchange membrane (PEM) fuel cell vehicle systems, and the corresponding quality assurance considerations for ensuring uniformity of the hydrogen fuel.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

constituent

component (or compound) found within a hydrogen fuel mixture

3.2

contaminant

impurity that adversely affects the components within the fuel cell system or the hydrogen storage system

Note 1 to entry: An adverse effect can be reversible or irreversible.

3.3

detection limit

lowest quantity of a substance that can be distinguished from the absence of that substance with a stated confidence limit

3.4

fuel cell system

power system used for the generation of electricity on a fuel cell vehicle, typically containing the following subsystems: fuel cell stack, air processing, fuel processing, thermal management and water management

3.5

hydrogen fuel index

fraction or percentage of a fuel mixture that is hydrogen

3.6

irreversible effect

effect which results in a permanent degradation of the fuel cell power system performance that cannot be restored by practical changes of operational conditions and/or gas composition