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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 29126-2012

**[Including 2020XG1] Fuel cell electric vehicles -- Onboard
hydrogen system -- Test methods**

燃料电池电动汽车 车载氢系统 试验方法

(English Translation)

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard was proposed by Ministry of Industry and Information Technology of the People's Republic of China.

This Standard shall be under the jurisdiction of China National Automotive Standardization Technical Committee (SAC/TC 114).

Drafting organizations of this Standard. China Automotive Technology and Research Center, Institute of Chemical Machinery, Zhejiang University, Tsinghua University, Tongji University, Shenzhen Institute of Standards and Technology, Shanghai Shen-li High Tech Co., Ltd., Dalian Institute of Chemical Physics, Shanghai Sunwise New Energy System Co., Ltd..

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Fuel cell electric vehicles -

Onboard hydrogen system - Test methods

1 Scope

This Standard specifies the test methods for onboard hydrogen system of fuel cell electric vehicles.

This Standard is applicable to fuel cell electric vehicles which use compressed hydrogen as fuel, of which the working pressure does not exceed 35 MPa when it works at 15°C of ambient temperature.

2 Normative references

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..

GB/T 24548 Fuel cell electric vehicles - Terminology

GB/T 24549 Fuel cell electric vehicles - Safety requirements

GB/T 26779-2011 Fuel cell electric vehicles - Refuelling receptacle

GB/T 26990-2011 Fuel cell electric vehicles - Onboard hydrogen system - Specifications

3 Terms and definitions

The terms and definitions defined in GB/T 24548 apply to this document.

4.2.1 During the test, the atmospheric pressure shall not be less than 91 kPa;

the temperature shall be at 5°C~35°C; the relative humidity shall be less than 95%; the test site shall be remained dry.

5 Test equipment and instruments

The test equipment and instruments shall be detected, maintained and calibrated according to manufacturer's requirements.

6.1.1.1 Check if the hydrogen system piping installation and alignment are away from heat, electrical appliances, storage batteries or any place which may generate electric arc. Check if high pressure piping and components are reliably grounded.

6.1.1.4 Check if the metal parts of supporting and securing pipeline are in contact with the piping, except the welding BETWEEN the piping AND supporter and fastener.

6.1.1.5 Check the neat arrangement of rigid pipeline. Check if the rigid pipeline is in contact with or rub with the adjacent parts. Check if the pipeline has seismic resistance and measures to eliminate the influence of thermal expansion and contraction. For bending pipes, measure its radius of the axis of curvature. Measure the interval distance between supporting points of piping.

6.1.2.1 Hydrogen leakage. fill the hydrogen storage vessel in the test vehicle to 100% of working pressure, and put it in a hermetic space for 8 h according to provisions. Measure the hydrogen permeation rate.

6.1.3.1 Check if refuelling receptacle shape and size comply with the requirements of GB/T 26779-2011. Measure the installation place and height of refuelling receptacle.

6.1.3.2 If there are exposed electrical terminals, electrical switches and ignition source around the refuelling receptacle, measure the distance between them. Check if it complies with the provisions of GB/T 26990-2011.

6.1.4 Hydrogen emission

When pressure relief valve releases hydrogen, check if the position, direction of exhaust gas flow are far away from people, power and fire source.

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