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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 29124-2025

Replacing GB/T 29124-2012

Specifications for fuel cell electric vehicles facilities

燃料电池电动汽车配套设施规范

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1 Scope

This document specifies the terms and definitions, as well as the relevant requirements for facilities supporting the operation of fuel cell electric vehicles (hereinafter referred to as the "facilities").

This document applies to hydrogen fueling stations, repair workshops and parking lots supporting the operation of fuel cell electric vehicles that use compressed gaseous hydrogen as fuel and have an onboard hydrogen system with a nominal operating pressure not exceeding 70 MPa (hereinafter referred to as the "vehicles").

2 Normative References

GB 2894

GB 12158

GB/T 24548

GB/T 24549

GB/T 26779

GB/T 34425

GB/T 34584

GB/T 43674

GB 50016

GB 50057

GB 50058

GB 50067

GB 50156

GB 50516

GB 50736

GB 55037

3 Terms and Definitions

The terms and definitions defined in GB/T 24548, GB/T 24549, GB/T 43674 and GB 50067, and the following are applicable to this document.

3.1 Facilities

Hydrogen fueling stations, repair workshops and parking lots required to ensure vehicle operation.

3.2 Repair workshop

Buildings (structures) used for the maintenance and repair of powered, non-track-based buses, trucks and special-purpose vehicles, etc.

[source. GB 50067-2014, 2.0.2, modified]

3.3 Parking Lot

Open areas or buildings (structures) used for parking powered, non-track-based buses, trucks and special-purpose vehicles, etc.

NOTE. it includes open-air parking lots and garages.

[source. GB 50067-2014, 2.0.3, modified]

3.3.1 Open area

A place with no obstructions on all sides and the roof, or a structure that does not hinder the diffusion of hydrogen into the external environment.

3.3.2 Garage

Buildings (structures) used for parking powered, non-track-based buses, trucks and special-purpose vehicles, etc.

[source. GB 50067-2014, 2.0.1, modified]

4 General Requirements

4.1 The structure and performance of the facilities shall be approved by the authorized authority and comply with requirements of the relevant standards. In addition, administrative licenses or registration shall be obtained from the local administrative department pursuant to law. The operation management system of the facilities shall include a comprehensive organizational management system, safety management system, safety operating procedures, safety production responsibility system, risk management system, and emergency repair personnel and equipment.

4.2 The facilities shall ensure good ventilation, a flat floor without water accumulation, and unobstructed access for vehicles. Electrical equipment shall comply with the requirements of GB 50058, anti-static devices of the facilities shall comply with the requirements of GB 12158, and lightning protection devices shall comply with the requirements of GB 50057.

4.3 Fire protection and grounding signs of the facilities shall comply with the requirements of GB 2894, and anti-static signs shall comply with the requirements of GB 12158.

4.4 The ventilation system of the facilities shall comply with the requirements of GB 50016, GB 50736 and GB 55037.

4.5 The facilities with areas where hydrogen gas may accumulate and ignite shall be equipped with a forced air-exhaust system. Outdoor exhaust vents shall be located vertically upward and at least 2 meters above the roof ridge or operating platform, and at least 5 meters above the ground.

4.6 The facilities shall be equipped with a hydrogen gas detector and alarm that will issue an alarm signal when the set threshold is reached, except in open areas.

4.7 The facilities shall be equipped with a fire detection system, fire extinguishing system, fire water supply facilities, and access for fire trucks. Portable fire extinguishers shall also be provided. The fire protection design shall comply with the requirements of GB 50016 and GB 55037, except in open areas.

5.1.1 Hydrogen fueling station operators, maintenance personnel, and other relevant personnel

entering the workplaces shall first eliminate their own static electricity, and shall not wear synthetic work clothes, work hats or spiked shoes. Fire sources are strictly prohibited.

5.1.2 The ventilation system within the hydrogen fueling stations shall comply with the

requirements of GB 50516.The configuration of hydrogen gas detectors, alarms, electrical facilities and fire-fighting facilities shall comply with the requirements of GB/T 34584.

5.1.3 The spacing between vehicles within the hydrogen fueling stations shall meet the

conditions of emergency evacuation, and the longitudinal spacing between queuing vehicles should be greater than 1.5 meters. .....