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

GB/T 32694-2021

Plug-in hybrid electric passenger cars - Specifications

插电式混合动力电动乘用车 技术条件

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1 Scope

China's national technical specification for plug-in hybrid electric passenger cars, and the current edition of GB/T 32694, replacing the 2016 edition. It specifies the technical requirements for plug-in hybrid electric passenger cars including range-extended vehicles, and it applies to category M1 hybrid electric vehicles that can be charged externally and have a pure electric drive capability. A plug-in hybrid is defined here by two properties together: it has an external charging function, and it has a certain range of pure electric driving. Both halves of that definition matter, because they are what separate the vehicle from an ordinary hybrid, which recovers energy but is never plugged in, and from a battery electric vehicle, which has no engine. A range extender is defined as a device fitted to increase the driving range of an electric vehicle, and pure electric driving as operation in which the engine or range extender is not running and only the rechargeable energy storage system supplies energy and power. The requirements that follow concentrate on the things that are specific to a vehicle with two power sources and a plug. Safety follows the electric vehicle safety requirements of GB 18384 and the post-crash requirements of GB/T 31498. The charging interface must conform to the connection standards of the GB/T 20234 series and must be interoperable, so that a vehicle from one manufacturer works at another's charge point. And a low-speed acoustic warning is required: when the vehicle is running on electric power at up to 20 km/h it must emit a sound that people outside can hear, because a car that makes no noise is a car that pedestrians do not notice. Issued on 9 March 2021 and in force since 1 October 2021.

This Document specifies the technical requirements for plug-in (including range- extended) hybrid electric passenger cars. This Document is applicable to Type-M1 hybrid electric vehicles that can be externally recharged and have pure electric drive functions.

2 Normative References

The following documents are essential to the application of this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

GB 18352.6-2016 Limits and Measurement Methods for Emissions from Light- Duty Vehicles (CHINA 6)

GB 18384 Electric Vehicles Safety Requirements

GB 19578 Fuel Consumption Limits for Passenger Cars

GB/T 19596 Terminology of Electric Vehicles

GB/T 19753 Test Methods for Energy Consumption of Light-Duty Hybrid Electric Vehicles

GB/T 20234 (all parts) Connection Set for Charging - Conductive Charging of Electric Vehicles

3 Terms and Definitions

For the purposes of this Document, the terms and definitions given in GB/T 19596, GB 18352.6-2016 and the following apply.

3.1 Plug-in hybrid electric passenger car A hybrid electric passenger car with an external charging function and a certain driving mileage of pure electric driving.

3.2 Range extender A special device that is installed on the vehicle to increase the driving mileage of an electric vehicle.

3.3 Pure electric driving The vehicle is driven, under the conditions of the engine or range extender not working, only the rechargeable energy storage system (REESS) provides energy, and the power supply.

4.1 General requirements

4.1.1 The vehicle shall be manufactured in accordance with the drawings and design documents approved by the prescribed procedures.

4.2 Safety

4.2.1 The vehicle shall meet the safety requirements specified in GB 18384 and GB/T 31498.

4.3 Low-speed beep When the vehicle is driven by pure electric power and the speed does not exceed 20km/h, it shall be able to give out appropriate reminder sounds to people

outside the vehicle.

4.4 Charging interface and interoperability The vehicle shall have an external charging function, and according to different charging methods, its charging interface shall meet the corresponding requirements of GB/T 20234 (all parts). Vehicle charging interoperability shall meet the requirements of GB/T 34657.2.

4.6 Driving mileage

4.6.1 The conditional equivalent full-electric mileage under the WLTC test cycle measured in accordance with GB/T 19753 shall be no less than 43km, and the conditional equivalent full-electric mileage is calculated according to Formula (1).