

ICS 43.040.10

CCS T36



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

GB/T 42284.4-2022

**Road vehicles - Environmental conditions and testing for
electrical and electronic equipment for drive system of electric
propulsion vehicles - Part 4: Climatic loads**

道路车辆 电动汽车驱动系统用电气及电子设备的环境条件和试验 第4部分：气候
负荷

Issued on: December 30, 2022

Implemented on: July 1, 2023

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Foreword	4
Introduction	7
1 Scope	9
2 Normative references	9
3 Terms and definitions	10
4 Operating temperature ranges	10
5 Tests and requirements	12
5.1 Tests at constant temperature	12
5.2 Temperature cycling tests	13
5.3 Cold water shock tests	17
5.4 Salt spray tests	20
5.5 Humid heat, cyclic test - Dewing test	26
5.6 Damp heat, steady state test	28
5.7 Condensation test	28
5.8 Corrosion test with flow of mixed gas	31
5.9 Solar radiation test	32
5.10 Dust test	32
5.11 Atmospheric pressure test	33
6 Code for climatic loads	35
7 Protection against dust and water	36
Annex A (Informative) Usual tests and requirements for equipment depending on the mounting location	37

Foreword

This document was issued on 30 December 2022 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 July 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

This document was drafted in accordance with the rules provided in GB/T 1.1-2020

Directives for Standardization - Part 1.Rules for the Structure and Drafting of

Standardizing Documents.

This document is Part 4 of GB/T 42284 Road vehicles - Environmental conditions and testing for electrical and electronic equipment for drive system of electric propulsion vehicles. The following parts have been issued for GB/T 42284.

- Part 1.General;
- Part 3.Mechanical loads;
- Part 4.Climatic loads;
- Part 5.Chemical loads.

This document adopts ISO 19453-4.2018 Road vehicles - Environmental conditions and testing for electrical and electronic equipment for drive system of electric propulsion vehicles - Part 4.Climatic loads by modification.

Compared with ISO 19453-4.2018, this document makes the following structural adjustments.

- Delete Clause 8 of ISO 19453-4.2018.

The technical differences between this document and ISO 19453-4.2018, and the reasons are as follows.

- Remove the ISO and IEC database addresses for standardized maintenance terms, since the terms involved in this document have nothing to do with the ISO and IEC databases for standardized maintenance terms;
- Replace IEC 60068-2-1 (see 5.1.1.1.2) with the normative reference GB/T 2423.1, between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;
- Replace IEC 60068-2-2 (see 5.1.2.1.2, 5.1.2.2.2) with the normative reference GB/T 2423.2, between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;
- Replace IEC 60068-2-78 (see 5.6.2) with the normative reference GB/T 2423.3, between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;
- Replace IEC 60068-2-30 (see 5.5.2) with the normative reference GB/T 2423.4,

between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;

-- Replace IEC 60068-2-11 (see 5.4.2.2) with the normative reference GB/T 2423.17, between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;

-- Replace IEC 60068-2-52 (see 5.4.3.2.1) with the normative reference GB/T 2423.18, between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;

-- Replace IEC 60068-2-14 (see 5.2.1.2) with the normative reference GB/T 2423.22, between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;

-- Replace IEC 60068-2-60 (see 5.8.2) with the normative reference GB/T 2423.51, between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;

-- Replace IEC 60664-1 (see 5.11.2) with the normative reference GB/T 16935.1, between which the degree of consistency is identical, to adapt to the technical conditions in China and improve operability;

-- Replace ISO 16750-1 (see Clause 3) with the normative reference GB/T 28046.1; the degree of consistency between the two documents is modified, to adapt to the technical conditions in China and improve operability;

-- Replace ISO 20653 (see 5.10.2) with the normative reference GB/T30038, between which the degree of consistency is modified, to adapt to the technical conditions in China and improve operability;

-- Replace ISO 19453-1 (see Clause 3) with the normative reference GB/T 42284.1, between which the degree of consistency is modified, to adapt to the technical conditions in China and improve operability;

-- Add the applicable conditions for cold water shock tests (see 5.3.1);

-- Adjust the substitution relationship between the salt spray combined test and the

other two salt spray tests in 5.4.3.1 and Table 9 in Clause 6. For unsealed systems/components that will cause electrical failure due to salt water entering the DUT, the salt spray combined test can only be used to substitute the test of 5.4.1.

The following editorial modifications are also made to this document.

-- Change "IP5K0" and "IP5K" in Table A.1 of Annex A to "IP5KX". The waterproof grade of this part can be determined through negotiation between the supplier and the customer.

Please note that some of the contents of this document may involve patents. The issuing organization of this document is not responsible for identifying patents.

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

This document shall be under the jurisdiction of National Technical Committee of Auto Standardization (SAC/TC 114).

Drafting organizations of this document. China Automotive Technology and Research Center Co., Ltd., Beijing National New Energy Vehicle Technology Innovation Center Co., Ltd., Henan Tianhai Electric Co., Ltd., Beijing Electric Vehicle Co., Ltd., Contemporary Amperex Technology Co. Limited, CVC Certification & Testing Co., Ltd., Waltek Testing Group Co., Ltd., China National Heavy Duty Truck Group Co., Ltd., China FAW Group Corporation, Dongfeng Liuzhou Motor Co., Ltd., Huawei Technologies Co., Ltd., Dongfeng Automobile Co., Ltd. Dongfeng Nissan Passenger Vehicle Company, Pan Asia Technical Automotive Center Co., Ltd., Xuzhou Xugong Automobile Manufacturing Co., Ltd., Bosch Automotive Products (Suzhou) Co., Ltd.

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1 Scope