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ASSOCIATION STANDARD

T/CSAE 67-2018

Vehicle Weathering Testing and Evaluating Terms and Definitions

汽车气候老化 术语和定义

(English Translation)

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Foreword

This standard was proposed by the Automotive Anticorrosion and Aging Branch of the China Automotive Engineering Society.

This standard is approved by the China Automotive Engineering Society.

This standard is under the jurisdiction of the China Automotive Engineering Society.

This standard was drafted. China Electric Apparatus Research Institute Co., Ltd., Chongqing Changan Automobile Co., Ltd., Zhejiang Geely Automobile Research Institute Co., Ltd., Shanghai Automotive Group Co., Ltd. Passenger Vehicle Branch, Guangzhou Automobile Group Co., Ltd., Shenlong Steam Vehicle Co., Ltd., Great Wall Huaguan Automobile Co., Ltd., China First Automobile Co., Ltd., Jianghuai Automobile Group Co., Ltd.

Division, Brilliance Auto Group Holdings Co., Ltd., FAW-Volkswagen Automotive Co., Ltd., BYD Co., Ltd., Atlas Climate Service group.

1 Scope

This standard gives the environment, tests, evaluations and equipment involved in the climatic aging test of complete vehicles, parts and materials.

Common terms and their definitions.

2 Topic sorting

Chapter topic

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6 Equipment terminology

3 Environmental terms 3.1 environment the sum of all external spaces, conditions, and conditions that exist relative to items (such as products, samples, etc.). The environment here is mainly Refers to the sum of the material condition factors of the atmosphere, water, soil, biology, etc., also known as the external environment.

3.2 Environmental factors the physical, chemical, and biological factors that make up the environment. This factor can be single or comprehensive.

Note: Factors refer to the nature of things, but also the reasons or conditions that determine the success or failure of things, also known as factors.

3.3 natural environment the part of the environment that is made up of non-human factors.

3.4 induced environment the environment resulting from human activities or equipment operations.

3.5 artificial simulation environment artificial environment According to the needs of people, the environment can be changed and controlled with the aid of equipment. Artificial simulation environments can be changed by changing individual environmental factors or a variety of environmental factors and artificially change its state of existence, both to simulate the natural environment, but also to simulate the induced environment, but also to simulate 2T/CSAE xx-2017 However, the special harsh environment does not exist in the environment.

3.6 Dynamic environment dynamics environment Specifically refers to the environment in which the vehicle is in service life, when one or more functions are activated, especially the driving process of the car.

The environment in which it is located.

3.7 static environment statics environment Specifically refers to the relatively static environment in which the car is in use during the service life, especially when the car is parked.

The environment in which the process takes place.

3.8 Micro-environment mini-environment Also known as the small environment, it mainly refers to the local small environment where various specific components are located in the car, and the external large ring where the whole car is located.

Correspondence. When investigating microenvironment or small environmental factors, it usually involves the solar radiation directly facing the specific components and the temperature of the surrounding air.

And relative humidity, even including the surface temperature of the part itself, surface wetting time, etc.

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3.9 climate

The average atmospheric condition and its changing characteristics of a place or region for many years. The main factor in the formation and change of climate is solar radiation, Atmospheric circulation and ocean currents, sea and land distribution and topographical ground characteristics, cosmic geophysical factors and human activities.

3.10 Climate Types climatological types Common climate patterns in major or important areas. There are significant differences in characteristics between different climate types. Climate aging test During the test, different climate types were used to test the weatherability of the materials.

3.11 reference climate benchmark climate the reference climate refers to the one with the highest (or higher) aging severity in the same type of climate, also known as the typical climate. In the climate in the aging test, the reference climate is used as the reference climate for the comparison of environmental conditions or test results and the simulation of the artificial weathering environment.

In general, when tested in a reference climate, the aging failure rate of the sample is the most (faster) than the other types of climate.

The most common form of failure is (more).

3.12 dry-heat climate the climate characterized by abundant sunshine, high temperature, dryness and low rainfall is most typical in parts of the tropical desert.

3.13 hot-moist climate the climate characterized by high temperature, high humidity and rain all year round is most typical in tropical or subtropical hot and humid areas.

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3.14 Solar radiation solar radiation the total electromagnetic radiation energy released by the sun to the surrounding space. For natural aging of materials, solar radiation reaching the Earth's surface the wavelength range is approximately between 295 nm and 4050 nm.

3.15 direct radiation direct radiation Solar radiation that reaches the surface without being scattered by any atmospheric components, referred to as "direct".

3.16 scattered radiation diffuse radiation Due to the scattering effect of certain components in the atmosphere, a part of the solar radiation reaching the surface after changing direction is referred to as "scattering".

Note: Scattering is a phenomenon in which a part of light travels away from the original direction when light passes through an inhomogeneous medium. The scattering of sunlight is mainly caused by Particles in the gas, such as smoke, dust, water droplets and aerosols.

3.17 total solar radiation the sum of direct solar radiation and solar scattered radiation received from a 2 l spherical solid angle on a horizontal surface.

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3.18 ultraviolet radiation A portion of the solar radiation whose corresponding wavelength is shorter than the wavelength composed of visible radiation.

Note: Different users may use different spectral standards. E-2.1.2 publication of the CIE Committee will range the wavelength of ultraviolet radiation Set between 100 nm and 400 nm. UVA is 315-400 nm, UVB is 280-315 nm, and UVC is 100 nm-280 nm.

3.19 spectral energy distribution the absolute or relative radiant energy emitted by a source or received by an object is a function of wavelength.

3.20 actinic radiation the photodegradation (aging) response spectrum of a material, also known as excitation radiation.

3.21 saturated air saturated air at a certain temperature and pressure, the moisture is in a relatively balanced wet air with ice or water. When the water vapor pressure is saturated vapor pressure, wet the relative humidity of the air is 100%.

3.22 condensation when the surface temperature of the object is lower than the dew point temperature of the surrounding air, the water vapor in the air condenses into small water droplets on the surface.

That is, water changes from a vapor state to a concentrated liquid state.

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3.23 dew point temperature dew point temperature the air is cooled to a temperature at saturation without changing the water vapor content and pressure. When the air is cooled below the dew point, the water vapor begins to condense.

3.24 Precipitation all forms of water droplets in the atmosphere (whether liquid or solid, including rain, snow, frost, hail, rain, haze, etc.) land on the ground the process of the face. Generally refers to rainfall and snowfall.

3.25 relative humidity the ratio of the actual vapor pressure in the air to the saturated vapor pressure at a certain temperature, expressed as a percentage (%).

3.26 absorption

a) absorbtion

The accumulation of water molecules in the material mainly refers to the absorption of water.

b) absorption

The process by which light (or other electromagnetic radiation) projected onto or through an object is converted into heat or other radiation, mainly referred to as light.

The absorption of the shot.

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