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

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**Human/human surrogate impact (single shock) testing and
evaluation -- Guidance on technical aspects**

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Table of Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

Foreword

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

This standard uses the translation method equivalent to the use of ISO 10227.1996 "human/person replacement impact (unidirectional impact) test and evaluation technology south".

The Chinese documents that are consistent with the international documents that are normatively referenced in this standard are as follows.

--- GB/T 15619-2005 Human vocabulary of mechanical vibration and shock (ISO 5805.1997, IDT);

--- GB/T 30575-2014 Mechanical vibration and impact human exposure biodynamic coordinate system (ISO 8727.1997, IDT).

This standard is proposed and managed by the National Standardization Technical Committee for Mechanical Vibration, Impact and Condition Monitoring (SAC/TC53).

This standard was drafted by the University of Shanghai for Science and Technology.

Introduction

The vehicle not only provides comfortable and effective operation and transportation modes for passengers and passengers, but also minimizes impact in collisions.

Damage to occupants. Designing, testing, and evaluating standards for the design of vehicle safety performance requires knowledge of human and human substitutes for vibration and

The mechanical response of speed force. The response is the driving force of the vehicle, the force transfer effect of the seat system and the restraint system, and the initial position

and direction of the study object.

Such as the composite function. Research on this response involves impact tests on human and human avatars.

In tests, the responses of human and human avatars/simulations are related to specific anatomical structures and easily identifiable landmarks and are generally not limited to Jane.

Single linear movement. This requires sophisticated test instruments and sophisticated data analysis techniques to achieve a sufficiently comprehensive analytical description. another

A complex technical problem is to ensure that the sensor performance used to monitor the response matches the mechanical properties of the biological structure being monitored. In addition,

The monitoring process may change the measured response value, resulting in a shift in the volume-effect relationship curve. Response mechanism, damage form, and transmission frequency

The conclusions or explanations obtained from conducting the study should cover the above technical factors.

This standard provides guidance for the development of test plans and test reports to facilitate comparisons between different studies. This standard does not limit the test party

The extent of the case and the level of vibration exposure of the human or human avatar also do not define and/or recommend an acceleration environment because it involves comfort, operation,

Proficiency, health and safety issues.

Human/person surrogate impact (unidirectional impact) test and evaluation

Technical guide

1 Scope

This standard specifies the procedures for surrogate shock response tests and related biomechanics data collection and reporting. Given in the standard

The recommended operating procedures for the preparation of measurement, test equipment, and test reports. These recommended operating procedures are between different organizations

According to the interpretation and comparison, the guidelines are provided.

This standard is limited to non-direct (inertial) impact tests and does not include direct impact on the vehicle surface (vehicle baffle impact, rear impact, test

Test impact, etc.) and the use of active restraint devices such as airbags.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

ISO 5805 Mechanical Vibration and Shock Human Exposed Vocabulary
(Mechanicalvibrationandshock-Humanexpo-
sure-Vocabulary)

ISO 8727 Mechanical Vibration and Impact Human Exposed Biodynamic Coordinate
System (Mechanicalvibrationandshock-
Humanexposure-Biodynamiccoordinatesystems)

3 Terms and definitions

The following terms and definitions as defined by ISO 5805 apply to this document.

3.1

Test subject

The person or person avatar (eg, dead body, animal, dummy) used to test the vehicle occupants.

3.2

Test object coordinate system testsubjectcoordinatesystem

Right-handed regular orthogonal coordinate system (x, y, z) defined by ISO 8727.

This coordinate system is used to locate the test structure of the test object.

3.3

Vehicle vehicle

The structure used to transmit driving force and impact force.

The structure includes all system components (including integrated support/seat and restraint systems) that can transmit forces to the test subjects.

3.4

Vehicle coordinate system vehiclecoordinatesystem

The right hand rule orthogonal coordinate system (x, y, z).

This coordinate system is used to locate the position of the test object and the constraint or impact surface. The coordinate origin should be set in the rigid structure of the vehicle (test period

No significant deformation will occur between them.

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