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

GB/T 43517-2023

**Ergonomics of the physical environment - Assessment of environments
by means of an environmental survey(physical measurements of the
environment and subjective responses of people)**

物理环境的人类工效学 通过环境调查（物理量测量和人的主观评价）对环境进行
评估

(English Translation)

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Foreword

This document complies with the regulations of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Custom drafting:

This document is equivalent to ISO 28802:2012 "Ergonomics of the physical environment by including physical measurements and human subjective responses to the environment:" "Environmental Survey to Assess the Environment":

This document has made the following minimal editorial changes:

---The name of the standard was changed to "Ergonomics of the Physical Environment":

The environment is evaluated through environmental surveys (physical quantity measurement and human subjective evaluation):

Conduct Assessment":

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

Introduction

This document provides a method for environmental investigation and is one of a series of standards for physical environmental ergonomics: This document is for heat, sound, light and Supplement criteria for specific environmental factors such as air quality, and assess people's responses to the environment as a whole based on these criteria:

This document provides methods for evaluating comfort using physical measurements of the environment and subjective measurements of people: It provides heat, sound, display and Methods for assessing lighting, ambient air quality, and other related environmental factors: For each environmental factor, the physical environment and environmental method of measuring subjective responses: In addition, those conducting the survey are provided with an assessment form to be used as a tool for environmental assessment:

If the measurement of the physical environment requires the use of related instruments such as thermometers, sound level meters or illuminance meters, refer to the instrument specifications provided in relevant standards:

grid: Subjective methods use subjective scales to quantify people's reactions to their environment: For each environmental factor, examples of subjective scales are provided: Advancing After taking physical and subjective measurements, the third part of the environmental assessment is the observations: For each environmental factor, this document provides an observational assessment:

suggestions on what might be included in the estimate form:

Each method is developed based on its underlying principles: The most appropriate method or combination of methods for determining environmental comfort depends on depending on the environment and usage scenarios of concern: This document provides the application of principles and methods for environmental assessment through environmental investigations and is a reference to physical Supplementary to ergonomics-related standards for environments, this document is used together with environmental indicators that are valid in these environments:

Ergonomics of the physical environment through environmental surveys (physical quantity measurement and human subjective evaluation) Assess the environment

1 Scope

This document gives an environmental survey method for assessing indoor and outdoor environmental comfort and personnel health status, but it is not limited to specific environments:

It provides general principles for assessment and evaluation:

This document provides principles for environmental investigation and assessment of personnel health and comfort, and provides environmental measurements used to quantify the environment:

Guidelines for subjective assessment methods and survey design of people's reactions to the environment, but does not include guidelines for the design of subjective scales:

This document is suitable for use in the built environment and other environments, including in-vehicle and outdoor environments, and to enable effective responses to environmental investigations of people in such an environment: However, when applying the general principles given in this document, considerations may need to be made in certain types of environments:

specific characteristics:

This document is not limited to specific environmental factors, it includes thermal environment, acoustic environment, display and lighting environment, air quality and other factors that affect people:

Assessment of environmental factors for physical health and comfort:

This document is a basic ergonomics standard that helps to develop standards related to specific environments such as those within buildings: The use of this document is Personnel involved in the general assessment and evaluation of the physical environment, including general ergonomics practitioners as well as those involved in the specific application of standards and guidelines Formulators:

Note: Environmental investigation results generated by the application of this document may identify specific issues requiring expert interpretation:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations for undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

Note: GB/T 40233-2021 Ergonomic physical measuring instruments for thermal environments (ISO 7726:1998, IDT) ISO 7730 Ergonomics of thermal environments evaluates thermal comfort by calculating PMV and PPD indices and local thermal comfort criteria:

Analytical determination and interpretation (Ergonomics of the thermalenvironment-Analytical determination and comfortcriteria) Note: GB/T 18049-2017 Ergonomics of Thermal Environment analyzes thermal comfort by calculating PMV and PPD indices and local thermal comfort criteria:

Measurement and interpretation (ISO 7730:2005, IDT) Note: GB/T 23716-2009 Human body response to vibration measurement instrument (ISO 8041:2005, IDT) Note: GB/T 18048-2008 Determination of ergonomic metabolic rate in thermal environments (ISO 8996:2004, IDT):