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Safety in testing laboratories - Part 7: Ergonomic aspects

检测实验室安全 第7部分：工效学因素

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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 30 December 2022.

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

It is classified under ICS 13.100, Chinese classification A25.

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document is Part 7 of GB/T 27476 "Safety of Testing Laboratories". GB/T 27476 has issued the following parts.

- Part 1. General;
- Part 2. Electrical factors;
- Part 3. Mechanical factors
- Part 4. Non-ionizing radiation factors;
- Part 5. Chemical Factors;
- Part 6. Factors of ionizing radiation;

--- Part 7.Ergonomic factors.

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

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This document is drafted by. China National Institute of Standardization, Guangdong Midea Refrigeration Equipment Co., Ltd., Changhong Meiling Co., Ltd., Zhejiang Zhong

Hao Applied Engineering Technology Research Institute Co., Ltd., Xiamen Optimization Technology Co., Ltd., Zhuhai Gree Electric Appliances Co., Ltd., Qingdao Haier Intelligent Technology Research and Development Co., Ltd., Hisense (Shandong) Refrigerator Co., Ltd., Fangyuan Logo Certification Group Co., Ltd., Winning Energy Efficiency Technology (Beijing) Co., Ltd.

Company, Bidding Hexin (Beijing) Certification Co., Ltd., Inner Mongolia University of Technology, Handan Midea Refrigeration Equipment Co., Ltd., Beijing Guanghui Derun Aviation

Technology Co., Ltd., Chinese People's Liberation Army Army Chemical Defense Academy.

The main drafters of this document. Zhao Chaoyi, Wang Rui, Zheng Chongkai, Li Tao, Feng Chaoqing, Hu Huimin, Sun Guangyu, Tong Wenhua, Hong Liang, Fan Jianbo,

Gao Chao, Zhao Xing, Wang Xiaoxia, Li Wei, Tian Jun, Zheng Shen, Yang Hao, Sun Zhichen, Dong Xianjuan, Jing Jianqiang, Chen Zhiwei, Zhang Hao, Yang Dong, Wang Jikui, Zhang Jiazheng,

Qi Yun, Ge Meng, Mei Zhiguang, Li Jian.

Introduction

The safe operation of testing laboratories may involve hazards such as electrical, mechanical, non-ionizing radiation, ionizing radiation, chemistry, microbiology and ergonomics.

GB/T 27476 is a testing laboratory safety standard formulated for these risk factors, aiming to improve the safety management of testing laboratories

capabilities and safety technology capabilities to reduce the safety risks of testing laboratory operations.

GB/T 27476 is proposed to consist of 7 parts.

--- Part 1.General. The purpose is to give the general requirements for the safety of the testing laboratory, and provide a basis for the safety management of various risk factors in

the laboratory.

provide guidance.

--- Part 2.Electrical factors. The purpose is to give the safety requirements related to electrical factors in the testing laboratory and improve the electrical safety of the laboratory.

Air safety, minimize personal injury and prevent property damage.

--- Part 3.Mechanical factors. The purpose is to give the safety requirements of the testing laboratory related to mechanical factors, reduce or eliminate the

room mechanical risks.

--- Part 4.Non-ionizing radiation factors. The purpose is to give the safety requirements of testing laboratories related to non-ionizing radiation factors, to prevent

prevent injury from these radiations or other harms from the use of these radiations.

--- Part 5.Chemical factors. The purpose is to give the safety requirements of the testing laboratory related to chemistry, and to prevent the chemical safety of the laboratory.

accidents and reduce laboratory chemical safety risks.

--- Part 6.Ionizing radiation factors. The purpose is to give the safety requirements related to ionizing radiation factors in the testing laboratory to prevent industrial

Accidents in which workers are unnecessarily exposed to radiation and other personnel may be harmed by ionizing radiation.

--- Part 7.Ergonomic factors. The purpose is to give the safety requirements of testing laboratories related to ergonomic factors, eliminate or reduce

Physical discomfort and injury of laboratory workers due to ergonomic factors.

Testing Laboratory Safety

Part 7.Ergonomic factors

1 Scope

GB/T 27476.7-2022 covers the ergonomic side of safety in a testing laboratory - the management requirements, which follow the general part of the series, and the technical requirements: identifying the hazards and assessing the risk, then working through personnel, facilities and environment, equipment, and materials. Ergonomic harm in a laboratory is slow, and that is why it goes unaddressed. Nobody is injured at a moment anyone can point to; instead a bench at the wrong height, a workstation that forces an awkward reach, poor lighting at a task that demands close vision, long periods standing at an instrument, and the repeated manual handling of sample containers accumulate into strain and into the fatigue-driven mistakes that cause the other kinds of laboratory accident.

The clauses treat the laboratory as a workplace to be designed rather than merely equipped: the people who work in it and how they are prepared, the room and its environment, the instruments and benches they work at, and the materials that have to be lifted, carried and stored. Part 7 of the GB/T 27476 series, written for those designing or refitting a laboratory at a fixed location and for the safety officers who assess one; laboratories elsewhere may use it for reference.

This document specifies the safety requirements for testing laboratories (hereinafter referred to as "laboratories") related to ergonomic factors.

This document is applicable to the ergonomic design and evaluation of the safety of laboratories with fixed locations. Laboratories in other locations can refer to it.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

GB/T 2893.5 Graphical Symbols Safety Colors and Safety Signs Part 5.Principles and Requirements for Using Safety Signs

GB/T 13379-2008 Principles of Visual Ergonomics Indoor Workplace Lighting

GB/T 18049-2017 Ergonomics of thermal environment by calculating PMV and PPD index and local thermal comfort criteria

Comfortable analysis measurement and interpretation

GB/T 27476.1-2014 Testing Laboratory Safety Part 1.General

GB/T 39223.3-2020 Ergonomic requirements for healthy homes Part 3.Office desks and chairs

GB/T 40288 Ergonomic terms and symbols for thermal environment

GB 50033 Architectural Daylighting Design Standards

3 Terms and Definitions

The following terms and definitions defined in GB/T 27476.1-2014, GB/T 40288 and GB 50033 apply to this document.

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