

ICS 91.040.10

CCS P 33



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

GB/T 32146.2-2015

**Technical requirements for the design and construction of
inspection and testing laboratories - Part 2: Electrical
laboratories**

检验检测实验室设计与建设技术要求 第2部分：电气实验室

Issued on: December 10, 2015

Implemented on: July 1, 2016

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

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Foreword

GB/T 32146 "inspection laboratory design and construction technical requirements", it includes the following components.

--- Part 1. General requirements;

--- Part 2. electrical laboratory;

--- Part 3. food laboratories. This part of GB/T 32146 Part 2. This section drafted in accordance with GB/T 1.1-2009 given rules. Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents. This part is proposed by China Machinery Industry Federation. This part of the National Laboratory Instruments and Equipment Standardization Technical Committee (SAC/TC526). This part mainly drafted by: Guangdong Institute of Product Quality Supervision, Inspection of Instrumentation Technology and Economy Institute, river North Inspection & Quarantine Technology Center, China Institute of Metrology, Beijing Hui Nordisk (Beijing) Technology Co., Ltd. Tak friend technology Detection (Tianjin) Co., Ltd., Fujian Province, product quality inspection Institute, China National Accreditation Center, Article Numbering Center of China. The main drafters of this section. Huanghai Kun, Zhang Guiling, Gao Xiaodong, Huang Yu, Liu Yi, Mayu Song, Yuan Jing, Huang Jianyu, Lu Feilong, Chen Di, Mei Ke, Wang Town, Miao Kenta, Loyalty concerning the Fixation Yilian Feng, Li Siyuan, Bi extraordinary, Wang Jianchang, Zhang Xiaoyun, Zhang Jinghui, Wang Na, skin Xiao Dong, Li Xiuying, Tang Lihua, Shi Guangming, Yurong Bin, LI Zi-li, Wen Yong Choi, THE SECOND Huang Zhonghua, Jiang Jianhui. Inspection and testing laboratory design and construction of the technical requirements Part 2. Electrical Laboratory

1 Scope

China's national technical requirements for the design and construction of electrical inspection and testing laboratories. It is Part 2 of GB/T 32146 and specifies the classification of electrical laboratories, the site selection, the general layout, the architectural design, the supply of gas and electricity, the environment and facilities, and the safety requirements, with five normative annexes covering the anechoic chamber, the photometric and light distribution laboratory, the wire and cable bundle burning laboratory, the 35 kV power cable and high voltage test hall, and the room air conditioner enthalpy difference laboratory. It exists because a testing laboratory is a building designed around its measurements, and getting that wrong cannot be corrected afterwards. An electrical laboratory in particular imposes requirements that no ordinary building has to meet. Some of its measurements need an environment free of external electromagnetic fields and free of internal reflections. Some need a power supply clean and stable enough that the supply itself does not appear in the result. Some involve deliberately destroying the item under test, by fire or by high voltage, inside a building full of people and instruments. And several need conditions - temperature, humidity, air movement - held far more tightly than a comfort air conditioning system will hold them. The five annexes are where that becomes concrete, and each addresses a facility whose construction is unusual: an anechoic chamber is a building inside a building, a cable burning laboratory is a controlled fire, and a high voltage hall is sized by the clearances the test voltage requires rather than by the equipment in it. Issued on 10 December 2015 and in force since 1 July 2016.

GB/T 32146 provisions of this part of the electrical laboratory classification, site selection, the total graphic design, architectural design, supply of gas, electricity Gas, environment and facilities, safety and other technical requirements. This section applies to new construction, renovation and expansion of electrical laboratory design and construction.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 3836.14 explosive atmospheres - Part 14. Classification of explosive atmospheres

GB/T 7002-2008 cast light lighting photometric test

GB/T 12190 electromagnetic shielding room shielding effectiveness measurement method

GB 50029 air station design specifications

GB 50057-2010 Lightning in design

GB 50058 explosion hazardous environment design of electric installations

GB/T 32146.1-2015 inspection laboratory design and construction of technical requirements - Part 1. General requirements IEEE Std 299 measure electromagnetic

performance standard method (Standard method for measuring the effectiveness of electromagnetic shielding enclosures)

3 Terms and Definitions

GB/T 32146.1-2015 and as defined in the following terms and definitions apply to this document.

3.1 Electrical laboratory testing laboratory for electrical product Electrical product testing laboratory.

3.2 GE laboratory universal testing laboratory for electrical product There are a variety of electrical products test items or install and use a variety of electrical testing equipment laboratory.

3.3 Special electrical laboratory special testing laboratory for electrical product For the use of a particular large-scale installation of electrical testing equipment or detection systems specially built laboratory. 3.4 [Power] system grounding [power] system earthing Functional ground power system at one or more points.

3.5 Protective grounding protective earthing Of electrical safety, the point or points system, apparatus, or equipment grounding.