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

GB/T 31593.1-2015

**Fire safety engineering -- Part 1: Assessment, verification and
validation of calculation methods**

消防安全工程 第1部分：计算方法的评估、验证和确认

(English Translation)

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Foreword

GB/T 31593 "Fire Safety Engineering" is divided into nine sections.

--- Part 1. Calculation of the assessment, verification and validation;

--- Part 2. Type the required data and information;

--- Part 3. Fire Risk Assessment Guidelines;

--- Part 4. Setting fire scene and setting selection fire;

--- Part 5. Calculation of fire plume requirements;

--- Part 6. Calculation of the smoke layer requirements;

--- Part 7. Calculation ceiling jet requirements;

--- Part 8. Calculation of the opening airflow requirements;

--- Part 9. Evacuation Evaluation Guide.

This section GB/T Part of 131,593.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section uses redrafted Law Amendment uses ISO 16730:2008 "Assessment of fire safety engineering calculation methods, verification and validation." this part of ISO 16730:2008, compared with more adjustment in the structure, listed in Appendix A of this part of the ISO 16730:2008 the reg number control list.

This part of ISO 16730:2008 technical differences and for the following reasons.

--- On normative references, this part has been adjusted technical differences, in order to adapt our technical conditions, the adjusted situation Focus is reflected in the status of Chapter 2, "Normative references", the specific adjustments are as follows.

- with the GB/T 5907 (all parts) in place of the ISO 13943 (see Chapter 3);
- increase cited GB/T 31593.3 (see B.3.3);
- increase cited GB/T 31593.5 ~ GB/T 31593.8 (see 4.2.8);

--- Remove the International Standard Chapter 3 3.9,3.10,3.14,3.16,3.17,3.20,3.21,3.22 other common terms and definitions.

This section also made the following editorial changes.

- Deleted international standards foreword, preface redrafted;
- Modify the introduction of international standards, as a part of this introduction;
- International standard "this standard" be replaced by "GB/T 31593 this part" or "this part";
- The long chapter of content with international standards in Chapter 4, Chapter 5, Chapter 6, etc. slitting process;
- Increase the informative appendix A, are given in this section with the International Standard reg number control the situation;
- The part of the international standard was adjusted to 5.1 Appendix B;
- International standard oriented adjustment of Appendix B to Appendix D section and split into D.1 and D.2;
- Certain punctuation modified to comply with international standards of the Chinese habit of punctuation.

This section presents the People's Republic of China Ministry of Public Security.

This part of the National Standardization Technical Committee on Fire Building Fire Safety Engineering at the Technical Committee (SAC/TC113/SC13) Centralized.

This section is responsible for drafting unit. Ministry of Public Security in Tianjin Fire Research Institute, University of Science and Technology of China, Sichuan Fire Research Institute of Ministry of Public Security, China Construction Academy of Sciences building.

Introduction

Fire safety objectives of the project is calculated using the correlation method for predicting fires, trends and consequences, to assess fire safety measures Whether applied to effectively reduce the fire to people, buildings and the environment, provide the technical basis for achieving an acceptable level of fire safety. meter Reliability calculation method needs assessed, verified and validated.

To calculate the test method chosen has sufficient accuracy, the need to develop technical criteria for the calculation of the developer, Users and related technical personnel.

Users and need to accept the result of the calculation of any interested parties, to ensure that the calculation method can accurately enough to predict fire Development process and consequences. Therefore, the mathematical accuracy and the ability to simulate a fire phenomenon needs to be calculated reliably verified.

The accuracy of calculation of no fixed requirements, but depending on the actual needs of their application objects, does not require that all calculations are with high accuracy, but to clear the error, uncertainties and scope.

When the accuracy of this section focuses on the calculation method, but ease of use, relevance, integrity and other indicators also select the calculation method requires test Consider factors. Evaluate the adequacy calculation methods require the use of quality assurance methods, this section provides an overview of the establishment of relevant indicators of quality characteristics in principle.

Use this section for the following parties.

- a) in the calculation method of development activities (including requirements analysis, design and testing, etc.) of the individual or organization;
- b) is responsible for maintaining, providing computing model and evaluate model quality individuals or organizations;
- Individual or organization c) application of the calculation method of analytical work;
- d) Fire-makers performance design standards and specifications;
- e) certification organization/official bodies responsible for assessing the application of methods and tools of assessment or certification;
- f) the calculation method applied in the training of individuals or organizations.

Fire Safety Engineering Part 1. assessment of the calculation method, verification and validation

1 Scope

GB/T 31593 Part of the assessment is divided into fire safety engineering calculation methods, verification and validation process provides a framework for the implementation of which the package Include the following.

- a) authentication methods that verify the correctness of equations and calculation methods given;
- b) confirmation method, namely, to confirm whether the calculation method used to solve the existing problems;
- c) the calculation method of the preparation of claim documents;
- d) data requirements (data discrepancies predictions to be tested).

This section applies to analytical calculation methods and calculation methods complex numerical model model evaluation, verification and validation.

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/T 5907 (all parts) Fire Vocabulary GB/T 31592 Fire Safety Engineering General (GB/T 31592-2015, ISO 23932:2009, MOD) GB/T 31593.3 Fire safety engineering - Part 3. Fire Risk Assessment Guidelines (GB/T 31593.3-2015, ISO/T S16732.

2005, MOD)

GB/T 31593.5 Fire safety engineering - Part 5. fire plume computational requirements (GB/T 31593.5-2015, ISO 16734.

2006, MOD)

GB/T 31593.6 Fire safety engineering - Part 6. smoke layer computational requirements (GB/T 31593.6-2015, ISO 16735.

2006, MOD)

GB/T 31593.7 Fire safety engineering - Part 7. ceiling jet computational requirements (GB/T 31593.7-2015, ISO 16736.

2006, MOD)

GB/T 31593.8 Fire safety engineering - Part 8. opening airflow computing requirements (GB/T 31593.8-2015, ISO 16737.

2006, MOD)