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Information technology - Building information model (BIM) software - Part 1: General requirements

信息技术 建筑信息模型（BIM）软件 第1部分：通用要求

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Foreword

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 1 of GB/T 45393 "Information Technology Building Information Modeling (BIM) Software". GB/T 45393 has been published The following parts.

- Part 1: General requirements;

- Part 2: Parameterized model;

- Part 3: Model view definition;

- Part 4: Mesh model;

- Part 5: Data interface.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

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Introduction

BIM software is characterized by the establishment and application of three-dimensional, structured, and semantic models. It provides the modeling, planning, and It has the functions of calculation, performance, management, delivery, inspection and coordination, and plays a supporting role in different stages, professions and applications of the whole life cycle of buildings. effect.

GB/T 45393 "Information Technology Building Information Modeling (BIM) Software" aims to guide practitioners to form a consistent understanding of BIM software.

In the development of BIM software, this series of standards is adopted to achieve the interconnection and interoperability of BIM software, the exchange and sharing of BIM models, and improve BIM The availability, applicability and maturity of the software promote the formation of a BIM software ecosystem and help capitalize BIM models.

GB/T 45393 is intended to consist of 5 parts.

- Part 1: General requirements. Clarify the basic concepts, functions and data requirements of BIM software, with the aim of assisting BIM software Requirements definition, development and implementation.

- Part 2: Parameterized model. Gives a model format that uses standardized parameter sets to represent geometric objects. The receiver can parse and Modify geometric object parameters to display and modify objects in the BIM model, with the goal of achieving editable models between BIM software exchange.

- Part 3: Model view definition. Provides a language for formally defining the content in the model, with the purpose of defining the model according to specific requirements.

Perform completeness check or model view extraction on the submitted model.

- Part 4: Mesh model. A model format based on triangular meshes that cannot be parametrically edited is given.

Used for visualization, communication and management of BIM models.

- Part 5: Data interface. Gives the data calling methods, sending and returning information between different BIM software and platforms. The purpose is to Enable different BIM software to share BIM data in the form of interfaces.

Information Technology Building Information Modeling (BIM) Software Part 1: General requirements

1 Scope

This document describes the basic concepts and functions of BIM software and specifies

the data requirements.

This document is applicable to the requirement definition, development implementation and application guidance of BIM software.

2 Normative references

GB/T 36456.1

GB/T 36456.2

GB/T 36456.3

GB/T 45393.2

GB/T 45393.3

GB/T 45393.4

GB/T 45393.5

GB/T 51447

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 [Source. GB/T 51212-2016, 2.1.1]

Throughout the life cycle of construction projects and facilities, the physical and functional characteristics are digitally expressed, and the design, construction, and operation processes are based on this digital expression.

A general term for process and results.

3.2

Software that supports parsing and processing of building information models.

3.3 parametricmodel

A model representation that drives geometric changes by modifying standardized parameters.

3.4 Solid Model

Solid geometry effectively defines how models are expressed inside and outside of closed objects.

Note. Solid models usually include representation methods such as constructed solid