ICS 01.100.01
CCS J 04

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 46849.9-2025

Technical product documentation - Requirements for model based definition - Part 9: Data publishing

技术产品文件 基于模型定义要求 第9部分：数据发布

Issued on: December 31, 2025 **Implemented on: April 1, 2026**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

Table of Contents

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 9 of GB/T 46849 "Technical Product Documentation Requirements Based on Model Definition". GB/T 46849 has been published. The following parts were included.

1.General Provisions;

---Part 2.3D Annotation;

5.Detection Data;

7.Data Organization;

8.Data Inspection;

9.Data Release. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Technical Product Documentation (SAC/TC146). This document was drafted by: Nanjing Qijun Software Co., Ltd., Beijing Kexin Era Information Technology Co., Ltd., and China Electronics Technology Group Corporation. The 38th Research Institute of the Company, Shanghai Pairui Information Technology Co., Ltd., Beijing Aerospace Systems Engineering Research Institute, SAIC-GM-Wuling Automobile Co., Ltd. Limited Liability Company, XCMG Construction Machinery Co., Ltd., China Machinery Productivity

Promotion Center Co., Ltd., China Machinery Research Institute of Standards and Technology (Beijing) Beijing) Co., Ltd. The main drafters of this document are. Shao Xiaodong, Li Daisong, Liu Jing, Zhang Hongqi, Zeng Xiangyu, Zhao Bo, Li Junping, Wu Rui, Zhao Zhenglong, and Pan Kanghua. Gao Hongwei.

With the gradual application and promotion of 3D computer-aided design (CAD) technology, and the application of model-defined design (MBD) technology in manufacturing... The implementation within enterprises has brought about significant changes in the development model and process of mechanical products, with three-dimensional digital models replacing two-dimensional drawings. Paper gradually became the sole basis for product development, which was a huge change in terms of technology, management, and mindset. To adapt to this change, systematically address the bottlenecks in product 3D design and manufacturing, and promote the popularization of model-based definition technology... Engineering applications support the digital transformation and upgrading of my country's manufacturing industry, and have led to the formulation of GB/T 46849 "Technical Product Documentation Based on Model Definition". The requirements are as follows: GB/T 46849 is based on the definition and application process of the three-dimensional model of the entire product life cycle, and is proposed to consist of 9 parts.

1.General Provisions. The purpose is to define the general, detailed, and management requirements based on the model definition, serving as a framework for the entire system. The foundation and framework of the standards.

---Part 2.3D Annotation. The purpose is to define the classification and composition of 3D annotation, and its application in 3D digital models of products. General and detailed requirements for 3D annotation are provided to ensure that the annotation information is clear, complete, and understandable.

3.Design Data. The purpose is to define the classification and composition of design data based on the model definition, and to define the design data... General and detailed requirements for design and management are required to ensure the accuracy and sufficiency of design data as the sole data source.

4.Process Data. The purpose is to define the classification and composition of model-based process data, as well as the definition of process data. General and detailed requirements for management and control are established to ensure effective coordination between process design and manufacturing processes.

5.Detection Data. The purpose is to define the classification and composition of detection data based on the model definition, and its relationship with the geometric model. The requirements, as well as the general and detailed requirements for the definition and management of test data, ensure the accurate implementation of quality control.

1 Scope

GB/T 46849.9-2025 is the Chinese national standard covering publishing the model to those who need it - the lightweight and neutral formats, what is included and what is stripped, the protection of the intellectual property inside a model sent to a supplier, and the traceability back to the released original. It is one of the nine parts of GB/T 46849 issued together on the same day, a first edition, and it belongs with the design data management series GB/T 46848. It was issued on 31 December 2025 and has been in force since 1 April 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the publishing principles, content, target audience, process, and architecture for data publishing based on model definitions. Fabric form, fabric structure, and its general and detailed requirements. This document applies to the printing, distribution, and digitization of various types of product data, including product design, process design, manufacturing, and after-sales service. release.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 24734.1 Technical Product Documentation - Digital Product Definition Data - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 24734.1 and GB/T 46849.1, as well as the following terms and definitions, apply to this document.

3.1 Data release Integrate 3D models (design models and process models) with information systems (PDM, ERP, and MES) for design, inspection, process, and manufacturing. Service data, through certain transformations and processing, is presented intuitively in the form of text, graphics, video, sound, model views, and model animations. Provide data users with guidance on the proper processing, installation, use, maintenance, and repair of equipment.

3.2 Release Technical documents that explain and guide product processing/assembly/testing/use/maintenance/repair/recycling, based on data releases.

Note. Common publications include drawings, machining process instructions, assembly operation manuals, product user manuals, product maintenance manuals, and parts catalogs.

3.3 Release template Abstracting instances of the same series of publications, focusing on the varying parts (including parameters, product structure, technical illustrations, model views, and operations) The process of creating the publication is marked, thus forming a fixed format that applies to all situations in the series.

4 Process Data

GB/T 46849.5-2025 Technical Product Documentation - Model Definition Requirements - Part

5 Test Data

GB/T 46849.6-2025 Technical Product Documentation - Model Definition Requirements - Part