

ICS 25.030
CCS J 07



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

GB/T 44909-2024

**Additive manufacturing-Technical requirements for product
data protection of cloud service platform**

增材制造 云服务平台产品数据保护技术要求

Issued on: November 28, 2024

Implemented on: November 28, 2024

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

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Types of product data information	1
5 Protection levels of product data information	2
6 Protection requirements for product data information	3
6.1 General	3
6.2 Collection stage	3
6.3 Storage stage	3
6.4 Presentation stage	3
6.5 Transfer stage	4
6.6 Deletion stage	4
7 Verification methods	4
8 Responsibilities and obligations of the different parties	4
8.1 Responsibilities and obligations of the provider of product data information	4
8.2 Responsibilities and obligations of the receiver of product data information	4
8.3 Responsibilities and obligations of the cloud service platform	5
Bibliography	6

1 Scope

This document specifies the types of product data information, the protection levels, the protection requirements and the responsibilities and obligations of the different parties for an additive manufacturing cloud service platform, and describes the corresponding verification methods.

This document applies to the protection of product data by an additive manufacturing cloud service platform in the course of providing services.

2 Normative references

The contents of the following documents constitute indispensable provisions of this document through normative reference in the text. For dated references, only the version corresponding to that date applies; for undated references, the latest version, including all amendments, applies.

GB/T 35351 Additive manufacturing - Terminology; GB/T 37461 Additive manufacturing - Specification for cloud service platform mode; GB/T 39403 Security protection management requirements for cloud manufacturing service platforms.

3 Terms and definitions

The terms and definitions given in GB/T 35351 and GB/T 37461 and the following apply to this document.

3.1 additive manufacturing cloud service platform, AMCSP: a platform based on additive manufacturing and cloud service technology that provides additive manufacturing goods and related services such as design, payment, transaction and delivery. Source: GB/T 37461-2019, 3.5.

3.2 product data information: the information relating to a product that is involved when the AMCSP provides additive manufacturing goods and services.

3.3 provider of 3D design model: the party that owns a three-dimensional model or has been lawfully authorized by its owner and that provides the three-dimensional model to the AMCSP. Note: this mainly includes consumers and designers.

3.4 receiver of 3D design model: the party that receives three-dimensional model data from the AMCSP for additive manufacturing purposes. Note: this normally means the additive manufacturing production service provider.

4 Types of product data information

The additive manufacturing cloud service platform, called the cloud service platform below, has four basic service modes: manufacturing, online design and manufacturing, commissioned design and manufacturing, and online purchase. The product data information of the cloud service platform falls into six types: basic product information, product ownership information, product three-dimensional model information, product manufacturing information, product transaction information and product design requirement information.

Basic product information includes but is not limited to: a) the product name; b) the trade mark and/or brand; c) the product category, which may be classified by use, by material and so on; d) the product description, for example information of every kind such as text, images, audio and video.

Product ownership information includes but is not limited to: a) the provider of the three-dimensional model, who can produce proof of copyright or of lawful authorization; b) the name of the shop, if any.

Product three-dimensional model information includes but is not limited to: a) the shape of the product; b) the dimensions of the product; c) the model file, for example a geometry file

or a slice file.

Product manufacturing information includes but is not limited to: a) the raw material; b) the manufacturing process and/or equipment, including the type, the parameters and so on; c) the requirements on the appearance of the product, including colour, surface treatment method and surface roughness; d) the requirements on the performance of the product, including mechanical properties and machining accuracy.

Product transaction information includes but is not limited to: a) the price quoted for the product; b) the quantity purchased; c) the transaction amount; d) the delivery time; e) the delivery address and method.

Product design requirement information includes but is not limited to: a) the description of the functions of the product; b) the requirements on the dimensions of the product; c) the requirements on the appearance of the product, that is colour, surface treatment method and so on; d) the performance of the product, that is mechanical properties, accuracy and so on; e) the time by which the design is to be completed; f) the mode of delivery; g) the price quoted for the design.

5 Protection levels of product data information

According to how important the product data information is, it is divided into three protection levels: level I is the strictest protection level, used for the protection of core data information, and information at this level cannot be disclosed; level II is a strict protection level, used for the protection of important data information, and the party entitled to the information at this level chooses for itself whether to make it public; level III is the ordinary protection level, used for the protection of general data information, and information at this level is normally made public.

The recommended protection levels of the product data information are given in Table 1. Basic product information, that is the product name, the trade mark and/or brand, the product category and the product description, is level III. Within product ownership information, the name of the shop and similar items are level III while the provider of the three-dimensional model is level II. Within product three-dimensional model information, the shape and the dimensions of the product are level III while the model file is level I. Within product manufacturing information, the raw material, the manufacturing process and/or equipment as regards the type, the requirements on the appearance of the product and the requirements on its performance are level III, while the manufacturing process and/or equipment as regards the parameters is level II. Within product transaction information, the price quoted for the product is level III while the quantity purchased, the transaction amount and similar items are level II. Product design requirement information, that is the description of the functions of the product, the requirements on its dimensions, the requirements on its appearance, its performance, the time by which the design is to be completed, the mode of delivery and the price quoted for the design, is level II.

6.1 General

The processing of product data information can be divided into five stages, collection, storage, presentation, transfer and deletion: a) the collection stage means the extraction, recording and labelling by the cloud service platform of the three-dimensional models and other product data information uploaded by the provider of the three-dimensional model; b) the storage stage means the storage operations carried out by the cloud service platform on the product data information it has collected; c) the presentation stage means the display on the platform of the product data information it has collected; d) the transfer stage means the sending by the cloud service platform of the product data information it has collected to the additive manufacturing production service provider or another receiver of the three-dimensional model; e) the deletion stage means the deletion by the cloud service platform of the product data information it has collected.

Different product data information protection strategies shall be used according to the protection level of the type of product data information concerned and according to the stage.

6.2 Collection stage

The infrastructure of the cloud service platform shall comply with the security requirements of GB/T 39403, and the cloud service provider should have passed classified protection certification.

At the product data information collection stage the cloud service platform shall follow the principles of lawfulness, legitimacy and necessity, and shall not collect information that has no direct or reasonable connection with the services it provides, or that goes beyond the period to which the subject of the sensitive data and information has expressly consented.

6.3 Storage stage

The cloud service platform shall take security measures for the storage of product data information, so as to prevent the unlawful spreading and the theft of the information.

For sensitive product data information at level I and level II, security measures such as encryption, secure storage, access control and security auditing shall be used, and the storage period agreed with the subject of the sensitive data information shall not be exceeded.

6.4 Presentation stage

When a consumer selects on the cloud service platform the goods that suit its needs, the platform should provide an online function for browsing the appearance of the three-dimensional model of the product, helping the consumer to examine the details of the