

Translated English of Chinese Standard: GBT44237-2024

[www.ChineseStandard.net](http://www.ChineseStandard.net) → Buy True-PDF → Auto-delivery.

[Sales@ChineseStandard.net](mailto:Sales@ChineseStandard.net)

**GB**

NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA

ICS 77.160;25.030

CCS H 70

**GB/T 44237-2024**

---

**Packaging, marking, transport and storage for additive  
manufacturing metal powder**

增材制造用金属粉末的包装、标志、运输和贮存

**Issued on: August 23, 2024**

**Implemented on: March 1, 2025**

---

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

## Table of Contents

|                               |   |
|-------------------------------|---|
| Foreword .....                | 3 |
| 1 Scope .....                 | 4 |
| 2 Normative references .....  | 4 |
| 3 Terms and definitions ..... | 4 |
| 4 Packaging .....             | 4 |
| 5 Marking .....               | 7 |
| 6 Transportation .....        | 8 |
| 7 Storage .....               | 8 |

## Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 *Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents*.

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.

This document was proposed by China Nonferrous Metals Industry Association.

This document is jointly managed by the National Technical Committee on Nonferrous Metals of Standardization Administration of China (SAC/TC243) and the National Technical Committee on Additive Manufacturing of Standardization Administration of China (SAC/TC562).

Drafting organizations of this document: Xi'an Sino-Euro Materials Technologies Co., Ltd., Wuhu State-owned Factory of Machining, Xi'an Sailong AM Technologies Co., Ltd., China Nonferrous Metals Techno-Economic Research Institute Co., Ltd., Jiangsu Voliry Advanced Materials Technology Co., Ltd., Ningbo Zhongyuan Advanced Materials Technologies Co., Ltd., Northwest Institute for Nonferrous Metal Research, Asia New Materials (Beijing) Co., Ltd., Stardust Technology (Guangdong) Co., Ltd., Peshing New Metal (Changzhou) Co., Ltd., Ningxia TaiShang New Material Technology Co., Ltd., Institute of New Materials of Guangdong Academy of Sciences, Shandong Lianyang Aerospace Technology Co., Ltd., CRRC Industrial Research Institute Co., Ltd., Youyan Additive Technology Co., Ltd., Guangdong Yinna Technology Co., Ltd., BAOTI Group Co., Ltd., Avimetal AM Tech Co., Ltd., Zhengzhou University, Guangdong HANBANG3D Technology Co., Ltd., China Machinery Research Institute (Beijing) Co., Ltd., China Machinery Institute of Advanced Materials (Zhengzhou) Co., Ltd., Ningxia Orient Tantalum Industry Co., Ltd.

Main drafters of this document: Li An, Lai Yunjin, Li Xin, Mo Mingkun, Hu Jiaqi, Zhi Hao, Wu Yanhua, Tang Yueyue, Zhao Wenjun, Zhao Shaoyang, Yan Fei, Jiang Jiefen, Xu Feipeng, Li Shaohui, Wang Juan, Zheng Kaihong, Duan Zhigang, She Jie, Liang Bo, Li Guangbing, Qing Daga, Chen Xin, Hao Zhenhua, Huang Zhenghua, Wang Yuxuan, Fan Bin, Li Xiaoping.

# **Packaging, marking, transport and storage for additive manufacturing metal powder**

## **1 Scope**

This document specifies the packaging, marking, transportation and storage requirements for metal powder products used in additive manufacturing.

This document applies to the packaging, marking, transportation and storage of metal powder products for additive manufacturing.

## **2 Normative references**

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for referenced documents with dates, only the versions corresponding to the dates are applicable to this document; for referenced documents without dates, the latest versions (including all amendments) are applicable to this document.

GB/T 191 Packaging - Pictorial marking for handling of goods

GB/T 4456 Polyethylene blown film for packaging applications

GB/T 6388 Transport package shipping mark

GB/T 10004 Plastic laminated films & pouches for packaging dry lamination & extrusion lamination

## **3 Terms and definitions**

There are no terms or definitions that require definition in this document.

## **4 Packaging**

### **4.1 General rule**

**4.1.1** The packaging of the product shall prevent it from getting damp and contaminated during transportation and storage.

**4.1.2** Products in the same box, bag, can or bottle shall be from the same batch. In

special cases, when products from different batches are packed in the same box, they shall be packed in separate bags/cans/bottles and marked with product brand, batch number, particle size, weight and other information.

**4.1.3** The weight and size of the unit package shall comply with the freight regulations of the relevant carrier department.

**4.1.4** When product standards or order forms have special packaging requirements, the packaging method shall be implemented in accordance with the product standards or order forms.

## **4.2 Inner packaging**

### **4.2.1 General rule**

**4.2.1.1** For products with a particle size less than 53  $\mu\text{m}$ , packaging should be carried out in an inert gas atmosphere, such as an argon-filled glove box.

**4.2.1.2** Products with a particle size of not less than 53  $\mu\text{m}$  may be packaged in an atmospheric environment. In special cases, such as products with high sensitivity to O, N, H<sub>2</sub>O, etc., packaging should be carried out in an inert gas atmosphere.

### **4.2.2 Packaging bags**

**4.2.2.1** When packaging bags are used for packaging, double-layer vacuum packaging shall be used and there shall be no air leakage after packaging. See Figure 1 for a schematic diagram and design sketch of the product packaging.

**4.2.2.2** When products are packaged in plastic bags, the bags shall comply with the requirements of GB/T 10004, and the packaging quantity shall match the load-bearing capacity of the bags.

- e) Net weight.

## **5.2 Outer packaging mark**

Each product packaging box shall have an independent box tag or label, which shall indicate:

- a) Product brand;
- b) Specifications;
- c) Batch number;
- d) Net weight;
- e) Box number.

## **5.3 Transport mark**

The transportation mark of the product shall comply with the provisions of GB/T 6388.

## **5.4 Special signs**

Each packaging box shall have signs such as "Placement direction", "No rolling" and "Stacking layer limit", and shall be marked with signs such as "Moisture-proof" and "Rain-proof", and the graphics shall comply with the provisions of GB/T 191.

# **6 Transportation**

**6.1** When transporting the product, attention shall be paid to preventing moisture and corrosion.

**6.2** When products are in transit at stations, docks, etc., they shall be stacked in the warehouse.

**6.3** When unloading the product, avoid bumping or damaging the packaging box.

# **7 Storage**

**7.1** The product shall be stored in a ventilated, dry and clean warehouse and shall not be stored together with acids, alkalis, corrosives, flammable, explosive and active chemicals.

**7.2** When storing products, fire-fighting equipment corresponding to the quantity of stored products shall be provided.

**This is an excerpt of the PDF (Some pages are marked off intentionally)**

**Full-copy PDF can be purchased from 1 of 2 websites:**

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, [Sales@ChineseStandard.net](mailto:Sales@ChineseStandard.net)

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

**----- The End -----**