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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 47094-2026

Zinc and zinc alloy powder for additive manufacturing

增材制造用锌及锌合金粉

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Standardization Administration of the PRC

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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. 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 by the China Nonferrous Metals Industry Association. This document was prepared by the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC243) and the National Technical Committee on Standardization of Additive Manufacturing. (SAC/TC562) is under its jurisdiction. This document was drafted by: Guangdong Academy of Sciences Institute of New Materials, Shenzhen Zhongjin Lingnan Technology Co., Ltd., and Chengdu Advanced Metal Materials. Industrial Technology Research Institute Co., Ltd., Nonferrous Metals Technology and Economics Research Institute Co., Ltd., Ningbo Zhongyuan New Materials Technology Co., Ltd. Company, Tangshan Weihou Magnesium Powder Co., Ltd., Xi'an Ouzhong Materials Technology Co., Ltd., Xi'an Sailong Additive Manufacturing Technology Co., Ltd., Guangzhou Sai Longzeng Manufacturing Co., Ltd., Iron & Steel Research Institute Co., Ltd., Peking University Shenzhen Research Institute, Nantong Jinyuan Intelligent Technology Co., Ltd. Jiangsu Kangrui New Material Technology Co., Ltd., Guangdong Academy of Sciences Industrial Analysis and Testing Center, and China Machinery Research Institute of Standards and Technology (Beijing) Limited Liability Company, Beijing Chunli Zhengda Medical Instrument Co., Ltd., Xi'an National Research Institute of Additive Manufacturing Co., Ltd., Guangdong Hanbang Laser Technology Co., Ltd. Technology Co., Ltd. The main drafters of this document are. Yan Xingchen, Yang Yang, Chang Cheng, Zhu Jiangqi, Liu Yang, Xie Bo, Wu Yanhua, Zhao Wenjun, Liu Dazhi, Zhu Zhen, and Che Qianying. Zhang Ying, Chu Weihan, Mei Shuwen, Sheng Liyuan, Zhu Wei, Wang Yuxuan, Pan Chao, Zhao Sanchao, Wang Hongqun, Zhu Liwen, Qiu Hao, Hou Ying, Lu Fengchi, Huang Zhenghua. Zinc and zinc alloy powder for additive manufacturing

1 Scope

GB/T 47094-2026 is the Chinese national standard covering zinc powder for printing - a metal chosen for biodegradable implants, since a zinc scaffold dissolves in the body at a useful rate, and one whose low boiling point makes it awkward under a laser. It fixes the composition, the particle size distribution and morphology, the flowability and the packing density. First edition. It was issued on 28 January 2026 and has been in force since 1 August 2026, as a first edition. The document is under the responsibility of the China Nonferrous Metals Industry Association. This page is published from the official record of the 2026 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.

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 1479.1 Determination of the apparent density of metallic powders - Part

GB/T 1480 Determination of particle size of metal powders by dry sieving

GB/T 1482 Determination of flowability of metal powders - Standard funnel method (Hall flowmeter)

GB/T 5162 Determination of tap density of metal powders

GB/T 5314 Sampling Methods for Powder Metallurgy

GB/T 8738-2014 Zinc alloy ingots for casting

GB/T 12689 (all parts) Chemical analysis methods for zinc and zinc alloys

GB/T 14265 General Rules for the Analysis of Hydrogen, Oxygen, Nitrogen, Carbon and Sulfur in Metallic Materials

GB/T 19077 Particle size analysis by laser diffraction

GB/T 30902 Determination of impurity elements in inorganic chemical products by inductively coupled plasma optical emission spectrometry (ICP-OES)

GB/T 35351 Additive Manufacturing Terminology

GB/T 41978 Method for Determination of Hollow Powder Content in Additive Manufacturing Metal Powders

GB/T 44237-2024 Packaging, marking, transportation and storage of metal powders for additive manufacturing YS/T 1297 Method for Determination of Sphericity of Titanium and Titanium Alloy Powders

3 Terms and Definitions

The terms and definitions defined in GB/T 35351 apply to this document.

4 Product Categories

The products are classified into three categories according to their chemical composition. F-Zn, F-Zn-Cu, and F-Zn-Cu-Bi.

5 Technical Requirements

5.1 Chemical composition The chemical composition of the product shall comply with the provisions of Table

1.If the buyer has special requirements for the chemical composition, the supplier and the buyer shall negotiate and determine them.