

ICS 77.160
CCS H 72



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

GB/T 46324-2025

Cemented carbide products for ultra precision optical dies

超精密光学模具用硬质合金制品

Issued on: October 5, 2025

Implemented on: May 1, 2026

**Issued by: State Administration for Market Regulation;
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 is under the jurisdiction of the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC243). This document was drafted by: Xiamen Tungsten Co., Ltd., Jiangsu Haona Optoelectronic Co., Ltd., and Jiujiang Jinlu Hard Alloy Co., Ltd. Company, Hunan University, Anhui Shangxin Jinggong New Material Technology Co., Ltd., Chengdu Meisherui New Material Co., Ltd., Jiangsu Youpuna Technology Co., Ltd. Company, Chongyi Zhangyuan Tungsten Industry Co., Ltd., GRINM Engineering Technology Research Institute Co., Ltd., and Penglai Superhard Composite Materials Co., Ltd. The main drafters of this document are. Liu Chao, Fan Chaoying, Zheng Wenqing, Zhang Taiquan, Zhao Xin'an, Du Wei, Yin Shaohui, Han Cuiliu, Liu Jian, and Lu Pan. Xu Guozuan, Zhong Zhiqiang, Zhang Hua, Zhao Mei. cemented carbide products for ultra-precision optical molds

1 Scope

GB/T 46324-2025 is the Chinese national standard covering the carbide blank a moulded glass lens is pressed on - the grain size and binder content that decide how fine a surface can be ground on it, the hardness and transverse rupture strength, the porosity, and the dimensional and surface requirements. First edition, under the China Nonferrous Metals Industry Association. In force from 1 May 2026. Issued on 5 October 2025, it has been in force since 1 May 2026.

This document specifies the product grades, classifications, model designations, technical requirements, and testing procedures for cemented carbide products used in ultra-precision optical molds. Methods, inspection rules, marking, packaging, transportation, storage, and

accompanying documents and purchase order contents. This document applies to ultra-precision optical fibers prepared by powder metallurgy with a binder phase (Co, Ni, or Fe) content not exceeding 1.00% (mass fraction). Learn about cemented carbide products used in mold making.

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 3488.2 Metallographic determination of microstructure of cemented carbide - Part

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 Porosity, non-carbon defects and decarburized phases Phase determination

GB/T 3850 Method for Determination of Density of Dense Sintered Metallic Materials and Hard Alloys

GB/T 3851 Method for Determination of Transverse Fracture Strength of Cemented Carbide

GB/T 4339 Determination of characteristic parameters of thermal expansion of metallic materials

GB/T 5243 Marking, Packaging, Transportation and Storage of Hard Alloy Products

GB/T 7997 Vickers Hardness Test Method for Cemented Carbide

GB/T 26050 Determination of Metallic Element Content in Hard Alloys by X-ray Fluorescence Spectrometry

4.3 Model Designation Rules

4.3.1 Sheet metal products The designation of sheet metal products consists of five parts. sheet metal code (MP), length (L), width (W), thickness (H), and additional information code. See example.