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

GB/T 28908-2026

Replacing GB/T 28908-2012

High-purity chromium metal

高纯金属铬

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Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and definitions
- 4 Technical requirements
 - 4.1 Grades and chemical composition

Foreword

This document was issued on 30 July 2026 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 February 2027.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies.

It is classified under ICS 77.100 and Chinese classification H 42.

The document runs to 15 pages. The identification, the dates, the classification and the table of contents on this page are taken from the cover and the printed contents of the standard itself.

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

This document replaces GB/T 28908-2012 "High-purity chromium metal". Compared with the 2012 edition, apart from structural adjustments and editorial changes, the main technical changes are as follows:

- a) the grade GCCr-0 has been added for carbon-reduced high-purity chromium metal (see 4.1.1);
- b) the chromium content requirements for some grades of carbon-reduced high-purity chromium metal have been changed (see Table 2; Table 2 of the 2012 edition);
- c) some of the chemical composition requirements for carbon-reduced high-purity chromium metal have been changed (see Table 2; Table 2 of the 2012 edition);
- d) the methods of chemical analysis have been changed (see 5.2; 4.2 of the 2012 edition);
- e) the methods for determining iron, aluminium, silicon and copper content have been

changed (see 5.2; Annex A of the 2012 edition);

f) the methods for determining oxygen and nitrogen content have been changed (see 5.2; Annex B of the 2012 edition).

Attention is drawn to the possibility that some elements of this document may be the subject of patent rights. The issuing body assumes no responsibility for identifying them.

This document was proposed by the China Iron and Steel Association.

It is under the jurisdiction of the National Technical Committee on Pig Iron and Ferroalloys of Standardization Administration of China (SAC/TC 318).

The drafting organisations include CITIC (Liaoning) New Materials Technology, Jinchuan Group, Qijing Hengte Iron & Steel, Hubei Jinshenglan Metallurgical Group, Xinji Aosen Special Steel Group, Xijin (Jinzhou) Metal Technology, Jinzhou Shitong New Materials, Shaanxi Sirui Advanced Materials, Jinzhou Keluo New Materials, Inner Mongolia Xintaiyuan New Materials, Ordos Xijin Mining & Metallurgy, Jitie Ferroalloy and the China Metallurgical Information and Standardization Institute.

This document was first issued in 2012; the present edition is the first revision.

1 Scope

GB/T 28908 is the Chinese material standard for high-purity chromium metal, the feedstock for superalloys, sputtering targets and specialty stainless steels where ordinary ferrochrome will not do. It specifies the technical requirements, the test methods, the inspection rules and the packaging, storage and transport, marking and quality certificate, and it applies to high-purity chromium metal produced by carbon reduction and by hydrogen reduction. The grade system distinguishes the two routes and, within each, the level of chromium and of the impurities that matter to the downstream user: iron, aluminium, silicon, sulfur, phosphorus, carbon, nitrogen, oxygen, lead and copper. Every one of those elements has a designated analytical method in the GB/T 4702 series, so the specification and the certificate of analysis fit together. The 2026 edition replaces GB/T 28908-2012, adding a new carbon-reduced grade GCCr-0 and revising both the composition limits and the analytical methods.

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 edition corresponding to that date applies to this document. For undated references, the latest edition, including all amendments, applies.

GB/T 3650 General requirements for acceptance, packaging, storage, transport, marking and quality certificate of ferroalloys.

GB/T 4010 Ferroalloys - Sampling and preparation of samples for chemical analysis.

GB/T 4702.2 to GB/T 4702.18 Chromium metal - Methods of chemical analysis: silicon by perchloric acid dehydration gravimetry and molybdenum blue spectrophotometry; phosphorus by bismuth phosphomolybdenum blue spectrophotometry; iron by EDTA titration and flame AAS; aluminium by EDTA titration and flame AAS; iron, aluminium, silicon and copper by ICP-AES; nitrogen by distillation separation and Nessler reagent spectrophotometry; arsenic by distillation and molybdenum blue spectrophotometry; antimony by crystal violet spectrophotometry; copper by cuprizone spectrophotometry; tin by alizarin violet spectrophotometry; carbon by infrared absorption; lead, tin, bismuth, antimony and arsenic by ICP-MS; sulfur by infrared absorption and combustion neutralisation titration; oxygen, nitrogen and hydrogen by inert gas fusion; vanadium by tantalum reagent chloroform extraction spectrophotometry.

GB/T 13247 Ferroalloys - Sampling and testing methods for particle size.

3 Terms and definitions

This document contains no terms and definitions requiring definition.

4 Technical requirements

4.1 Grades and chemical composition

4.1.1 High-purity chromium metal is divided, according to the production process, into hydrogen-reduced high-purity chromium metal (the GHCr series) and carbon-reduced high-purity chromium metal (the GCCr series).

Hydrogen-reduced high-purity chromium metal is divided, according to the chromium and impurity content, into the two grades GHCr-1 and GHCr-2; carbon-reduced high-purity chromium metal is divided, according to the chromium and impurity content, into the five grades GCCr-0, GCCr-1, GCCr-2, GCCr-3 and GCCr-4.

In the designation: G denotes high purity; C denotes carbon reduction; H denotes hydrogen reduction; Cr denotes chromium metal.

The chemical composition of hydrogen-reduced and of carbon-reduced high-purity chromium metal shall comply with Table 1 and Table 2 respectively. The composition is expressed as a mass fraction and covers Cr, Fe, Al, Si, S, P, C, N, O, Pb and Cu.

Where the purchaser has special requirements for the chemical composition, these may be agreed separately between supplier and purchaser.