

ICS 13.340.20

CCS C 73



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

**GB/T 2812-2024**

Replacing GB/T 2812-2006

**Head protection - General test methods**

头部防护 通用测试方法

**Issued on: December 31, 2024**

**Implemented on: July 1, 2025**

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

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## Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB/T 2812-2006 "Safety Helmet Test Methods". Compared with GB/T 2812-2006, in addition to structural adjustments and In addition to editorial changes, the main technical changes are as follows:

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the.2006 edition);
- b) Added a chapter on "Terms and Definitions" (see Chapter 3);
- c) Added wearing test head model (see 4.2);
- d) Added acceleration test head model (see 4.3);
- e) Added extremely high temperature pretreatment (see 5.1.6);
- f) The temperature and humidity of the test environment have been changed (see Chapter 6, 3.3 of the.2006 edition);
- g) Added structure and size tests (see 7.1);
- h) Added quality test (see 7.2);
- i) Visual field test was added (see 7.3);
- j) Added wearing stability test (see 7.4);
- k) Added dynamic strength test of wearing system (see 7.5);

## 1 Scope

GB/T 2812-2024 is the Chinese standard for the general test methods for head protection: the procedures behind every helmet standard in the country, industrial safety helmets, riding helmets, motorcycle helmets, firefighters' helmets and the rest. What it fixes is the part that decides whether two laboratories get the same answer: the conditioning of the specimen before test, at high and low temperature, after water immersion and after ultraviolet exposure, the headforms and their sizes and mass, the mounting of the helmet on the headform, and then the procedures themselves, the shock absorption test and the measurement of the transmitted force or acceleration, the penetration test, the retention system strength and its dynamic test, the lateral deformation, the chin strap and the field of vision measurements. The 2024 edition replaces GB/T 2812-2006, updating the

instrumentation and the headforms. For a helmet maker or a test laboratory working to Chinese requirements, this is the method every product standard refers back to.

This document describes the preparation, headform, test environment and test methods for head protective equipment. This document applies to industry, rescue (production safety accidents in industrial, mining and commercial enterprises, road traffic accidents, natural disasters) and related Testing of head protection equipment used in industry. This document is not applicable to the testing of head protection equipment used in traffic commuting, sports, fire fighting and rescue.

## 2 Normative references

This document has no normative references.

## 3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Basic plane basicplane A plane passing through the center of the left and right external ear holes and the lower edge of the orbit of the test head shape. [Source: GB 811-2022, 3.10]

3.2 reference plane A plane parallel to the base plane and at a certain distance above the base plane. [Source: GB 811-2022, 3.11]

3.3 Symmetry plane vertical median plane A longitudinal plane passing through the apex of the headform, perpendicular to the base plane and dividing the test headform into two symmetrical parts. [Source: GB 811-2022, 3.12]

3.4 Headforms A head model that simulates the geometric shape and mechanical properties of the human head when testing head protective equipment.

### 4.1 Impact test head model

4.1.1 The mass of the headform and connecting parts is  $5.0\text{kg} \pm 0.1\text{kg}$ .

4.1.2 The head mold is divided into 1