

ICS 13.340.20
CCS C73



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

GB 811-2022

Replacing GB 811-2010

Helmets for motorcycle and electric bicycle users

摩托车、电动自行车乘员头盔

Issued on: December 1, 2022

Implemented on: July 1, 2023

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

Table of Contents

1	Scope
2	Normative References
3	Terms and Definitions
4	Product Classification
4.1	Type
5	Requirements
5.1	Structure
5.1.2	Shell
5.2	Protect Section and Testing Section
5.4	Performance
5.4.2	Goggles
6	Test Methods
6.1	Environmental Conditions of the Laboratory
6.2	Specifications, Structure and Test of Protect Section
6.3	Mass Test
6.3.1	Test tools Weighing equipment with an accuracy of not greater than
6.4	Test of Field of View
6.5	Goggle Performance Test
6.5.1	Impact strength performance test
6.5.1.1	Test device
6.6	Shear Force Test of Surface Convex Structure
6.6.1	Test equipment
7	Inspection Rules
7.1	Type Inspection
7.2	Exit-factory Inspection
7.3	Determination Rules
8	Marking, Identification, Product Instruction Manual, Packaging, Transportation and Storage...
8.1	Marking and Identification
9	Requirements for Implementation Transition Period

1 Scope

GB 811-2022 is the Chinese national standard on helmets for motorcycle and electric bicycle users, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 1 December 2022 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 July 2023.

Classification: ICS 13.340.20, CCS C73. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the product classification, requirements, inspection rules and marking, identification, product instruction manual, packaging, transportation and storage of helmets for motorcycle and electric bicycle users, and describes the test methods. This document is applicable to the helmets worn by drivers and passengers of motorcycles and electric bicycles. This document does not apply to the helmets worn by bikers, skateboarders and roller skating athletes, nor does it apply to occupational safety helmets.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in this text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 2410-2008 Determination of the Luminous Transmittance and Haze of Transparent Plastics

GB/T 18833 Retroreflective Sheeting for Traffic Control

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 Helmet for Motorcycle and Electric Bicycle Users Helmet for motorcycle and electric bicycle users refers to a device of reducing head injuries of motorcycle and electric bicycle occupants in accidents.

3.2 Shell Shell refers to the outer structure of the helmet for motorcycle and electric bicycle users, which presents the basic shape of the helmet.

3.3 Protective Padding Protective padding refers to a form-fitting padding that absorbs

collision energy.

3.4 Comfort Padding Comfort padding refers to a padding that guarantees comfortable fit on the head.

3.5 Retention System Retention system refers to a component that ensures the helmet for motorcycle and electric bicycle users is securely worn on the head.

4.1 Type

4.1.1 In accordance with the applicable objects, the helmets for motorcycle and electric bicycle users (hereinafter referred to as "helmets") are divided into Type A and Type B. Type A is helmets for motorcycle riders, which is applicable to motorcycle riders and electric bicycle riders; Type B is helmets for electric bicycle riders, which is merely applicable to electric bicycle riders.

4.1.2 In accordance with the shape, the helmets are divided into Shape 1, Shape 2 and Shape 3. Shape 1 is full-helmet, Shape 2 is 3/4 half-helmet, and Shape 3 is 1/2 half-helmet, as it is shown in Figure

3. The type, shape and applicable objects of the helmets shall comply with the stipulations of Table 1.

4.2 Specifications In accordance with the size of the head circumference, the helmets are divided into five specifications. extra-small, small, medium, large and extra-large. The specifications, head circumference size and the model of testing headform shall comply with the stipulations of Table 2.

5.1 Structure

5.1.1 Structural composition The structural composition of the helmets includes the shell, protective padding, comfort padding, retention system and goggles, etc. The required structural composition of different types of helmets shall comply with the stipulations of Table 3. Table 3 -- Structural Composition of Helmet

5.1.2 Shell

5.1.2.1 The shell shall cover the protect section specified in 5.2.1. Helmet Specifications
NOTE. x represents the vertical distance from the basic plane to the reference plane, y represents the vertical distance from the reference plane to the top of the testing headform.

5.1.2.2 The outer surface shall be a streamlined curved surface design and comply with the following requirements.

5.1.2.3 The inner surface shall comply with the following requirements.

5.1.3 Protective padding The protective padding shall use materials with buffer

performance, collision energy absorption performance, and non-toxic and harmless to the human body, and comply with the following requirements.

5.1.4 Comfort padding The comfort padding shall use durable materials that feel comfortable, breathable, non-toxic and harmless to the skin, and comply with the following requirements.

5.1.5 Retention system The parts of the retention system shall be permanently attached to the retention system or the helmet, and comply with the following requirements.

- a) If the retention system includes a chin strap, the width of the strap shall be not less than 20 mm;
- b) If the retention system has fastening devices, such as double D rings and sliding rods, when adjusting the retention system, a sufficient adjustment margin shall be reserved;
- c) If quick-release devices, for example, wearing buckles, are used, the method of opening shall be simple and easy, and shall be able to prevent possible mis-operations. The push rod, button or other parts used for the opening mechanism shall be red or orange, and can only be opened when consciously operated;
- d) If the locking device of the fixing strap is designed to be opened through the mode of applying pressure to a certain part, then, when tested in accordance with the method of 6.2.2, the locking device cannot be opened;

5.1.6 Goggles The goggles shall be made of materials that comply with the light transmission performance and impact strength performance, and satisfy the following requirements.

5.2 Protect Section and Testing Section

5.2.1 Type A1, Type A2, Type B1 and Type B2 helmets. the protect section shall cover the part above the ACDEF envelope in Figure 5; the testing section shall cover the diagonal shaded area in Figure

5. The size of the protect section and testing section range of the helmets of different specifications shall comply with the stipulations of Table 4.

5.2.2 Type A3 and Type B3 helmets. the protect section shall cover the area above the A-A line in Figure 6; the testing section shall cover the diagonal shaded area in Figure 6.

5.3 Mass In accordance with the method specified in 6.3, conduct the test. The mass of the helmet (including accessories) shall comply with the stipulations of Table 5.

5.4 Performance

5.4.1 Field of view In accordance with the method specified in 6.4, conduct the test. The left and right horizontal fields of view shall be not less than 105; the upper field of view shall be