

ICS 13.340.20
CCS C 73



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

GB/T 31421-2015

Replacing GB/T 31421-2015

**Head protection - Occupational antistatic headwear
(English Translation)**

Issued on: August 29, 2025

Implemented on: September 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface
1 Scope
2 Normative References
3 Terms and Definitions
4 Specifications, dimensions, and structural style
4.1 Specifications and Dimensions
4.2 Structural Style
5 Technical Requirements
5.1 General Requirements
5.2 Fabric
5.3 Finished Product
6 Test Methods
6.1 General Requirements Test Methods
6.2 Test methods for the physical and chemical properties of fabrics
6.3 Finished Product Testing Methods
7 Mark
7.1 Permanent Identification
7.2 Certificate of Conformity
7.3 Product Manual
8 Packaging, storage and cleaning
Appendix A (Normative) Surface Resistivity Test Method
A.1 Principle
A.2 Equipment
A.3 Washing and Humidification
A.4 Samples or garments
A.5 Test Conditions
A.6 Test Procedure
A.7 Calculation of Results
References

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.

This document replaces GB/T 31421-2015 "Antistatic Work Caps". Compared with GB/T 31421-2015, the only changes are structural adjustments and editing.

Aside from the sexual alterations, the main technical changes are as follows.

- a) The scope has been changed (see Chapter 1, Chapter 1 of the 2015 edition);
- b) Added terms and definitions for surface resistivity and half-life (see 3.3, 3.4);
- c) The technical requirements have been categorized and described separately according to fabric technical requirements and finished product technical requirements (see 5.2 and 5.3);
- d) The following properties of the fabric were modified. air permeability, color fastness to perspiration (color change), abrasion resistance, tear strength, and pH of the uncoated fabric.

Technical requirements for the value (see 5.2, 4.4, 4.5, and 4.6 of the 2015 edition);

- e) The test item for dry rubbing color fastness/grade (staining) in the physicochemical properties of noodles has been changed (see Table 1, Table 1 in the 2015 edition);
- f) Increased the technical requirements for light fastness, combined light and perspiration fastness, tensile strength, and odor in the physicochemical properties of noodles (see...).

Table 1);

- g) The names and technical requirements for finished product dimensions have been changed (see 4.1, 2015 version 4.1);
- h) Technical requirements for the structure and style of the finished product have been added (see 4.2);
- i) The technical requirements for the appearance quality of finished products have been revised (see 5.1.1, 4.2 of the 2015 version);
- j) Technical requirements for the physical and chemical properties and joint strength of finished products have been added (see 5.3);
- k) Added test methods for the fabric's light fastness, light and perspiration combined fastness, tensile strength, and odor physicochemical properties (see...).

(6.2.5, 6.2.6, 6.2.9, 6.2.13)

- l) The test method for the antistatic performance of finished products has been changed (see 6.3.1, 5.4 of the 2015 version);
- m) A test method for the strength of finished seams has been added (see 6.3.2);
- n) The inspection rules have been removed (see Chapter 6 of the 2015 edition);
- o) The requirement for permanent marking of anti-static graphic symbols in the labeling has been added (see 7.1.1);
- p) The permanent marking requirements for robust and durable markings in the labeling have been changed (see 7.1.2, 7.1.1 of the 2015 edition);
- q) The requirements for proof of conformity in the labeling have been changed (see 7.2, 7.1.2 of the 2015 version);
- r) The requirements for the product instructions in the label have been changed (see 7.3, 7.2 in the 2015 version);
- s) Added cleaning requirements (see Chapter 8);
- t) The content regarding the test electrode in the surface resistivity test method has been modified (see A.2.1, A.3.1 in the 2015 version);
- u) The washing treatment details in the surface resistivity testing method have been changed (see A.3.1, A.4.1 in the 2015 edition);
- v) The humidity conditioning content in the surface resistivity test method has been changed (see A.3.2, A.4.2 in the 2015 version).

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 and is under the jurisdiction of the Ministry of Emergency Management of the People's Republic of China.

The release history of this document and the document it replaces is as follows.

---First published in 2015 as GB/T 31421-2015;

---This is the first revision.

Head protection antistatic work cap

1 Scope

This document specifies the technical requirements, marking, packaging, storage, and cleaning of antistatic work caps, and describes the corresponding test methods.

This document applies to work caps made primarily of antistatic fabrics, which are worn in locations where there may be a risk of electrostatic discharge.

This document does not apply to antistatic work caps made primarily of non-woven fabric.

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 2912.1 Textiles-Determination of formaldehyde-Part 1: Free and hydrolyzed formaldehyde (water extraction method) GB/T 3917.3 Textiles - Tear Properties of Fabrics - Part 3: Determination of Tear Strength of Trapezoidal Specimens GB/T 3920 Textiles - Tests for color fastness - Color fastness to rubbing GB/T 3921 Textiles - Tests for color fastness - Color fastness to washing GB/T 3922 Textiles - Tests for color fastness - Color fastness to perspiration GB/T 3923.1 Textiles - Tensile properties of fabrics - Part 1: Determination of breaking strength and elongation at break (strip method) GB/T 5453 Textiles - Determination of air permeability of fabrics GB/T 7573 Determination of pH value of aqueous extracts of textiles GB/T 8427 Textiles - Tests for color fastness - Color fastness to artificial light. Xenon arc GB 12014-2019 Protective Clothing - Antistatic Clothing GB/T 12703.1 Test methods for electrostatic properties of textiles - Part 1: Corona charging method GB/T 14576 Textiles - Tests for color fastness - Combined color fastness to light and perspiration GB/T 17592 Determination of prohibited azo dyes in textiles GB 18401-2010 National Basic Safety Technical Specifications for Textile Products GB.20097 General Technical Specification for Protective Clothing GB/T 21196.2 Textiles - Martindale Method - Determination of Abrasion Resistance of Fabrics - Part 2: Determination of Specimen Breakage GB/T 23344 Determination of 4-aminoazobenzene in Textiles FZ/T 01030 Determination of seam strength and expansion of knitted and elastic woven fabrics - bursting method

3 Terms and Definitions

The following terms and definitions apply to this document.

A work cap made primarily of antistatic fabric to prevent the accumulation of static charge on the cap body.

head circumference

The maximum circumference of the head is measured horizontally above both ears.

Note: See Figure 1 in GB/T 16160-2017.

Surface resistivity