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

GB 21148-2020

Replacing GB 12011-2009, GB 21146-2007, GB 21147-2007, GB 21148-2007

Foot protection--Safety footwear

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB 12011-2009 "Foot Protective Electrical Insulating Shoes", GB 21146-2007 "Personal Protective Equipment Occupational Shoes",

GB 21147-2007 "Personal protective equipment and safety shoes" and GB 21148-2007 "Personal protective equipment and safety shoes". This standard is based on

Mainly GB 21148-2007, which integrates the contents of GB 21146-2007, GB 21147-2007 and GB 12011-2009.

Compared with GB 21148-2007, the main changes of this standard are as follows.

---Modified the scope of application (see Chapter 1, Chapter 1 of the.2007 edition);

---Modified the four terms of "safety shoes", "leather", "polymeric material" and "protection toe cap" (see 3.1, 3.2, 3.4, 3.12,.2007 edition

3.1, 3.2, 3.4, 3.12); The four terms "conductive shoes", "anti-static shoes", "electrically insulating shoes" and "fuel oil" have been deleted (see.2007

Version 3.14~3.17); Added the term "mixed shoes" (see 3.14);

---Modified the description of some shoe components (see Figure 1, Figure 2, Figure 3, Figure 1, Figure 2, Figure 3 of the.2007 edition);

---Increase and modify the protective performance marking symbol (see 4.3, Table 15 of the.2007 edition);

---The basic requirements and additional requirements of safety shoes are adjusted to basic requirements, protective performance and additional requirements (see Chapter 5, Chapter 6 and Chapter

Chapter 7, Chapter 5 and Chapter 6 of the.2007 edition);

- Added shoe seat area requirements (see 5.2.1.2);
 - Modified the structural requirements for sole performance (see 5.2.2.1, 5.3.1.1 of the.2007 edition);
 - Modified the ergonomics requirements (see 5.2.4, 5.3.4 of the.2007 edition);
 - The slip resistance requirements have been added (see 5.2.5);
 - Added the wear resistance requirements of the lining in the shoe seat area (see 5.4.2, 5.5.2 of the.2007 edition);
 - Added the general requirements for toe protection (see 6.2.1, 5.3.2.1 of the.2007 edition);
 - Increase and modify the puncture force and structural requirements of the anti-puncture pad (see 6.3.1.2 and 6.3.2, 6.2.1.2 of the.2007 edition), and correspondingly increase
- Added Appendix B;
- Modified the electrical insulation performance requirements (see 6.4.3, 6.2.2.3 of the.2007 edition), and added Appendix C accordingly;
 - Modified the thermal insulation requirements (see 6.5.1, 6.2.3.1 of the.2007 edition), and added Appendix D accordingly;
 - Deleted Appendix A (see Appendix A of the.2007 edition);
 - Added "mixed shoes" related content (see 4.2 and Appendix A);
 - Add harmless declaration and safety information requirements to the information that the manufacturer should provide [see 9.1e];
 - Adjustment adds Appendix E (see Appendix E, Table 17 of the.2007 edition).

This standard uses the redrafting method with reference to ISO 20345.2011 "Personal protective equipment and safety shoes", which is consistent with ISO 20345.2011.

The degree of consistency is non-equivalent.

This standard was proposed and managed by the Ministry of Emergency Management of the People's Republic of China.

The previous versions of the standard replaced by this standard are as follows.

- GB 12011-1989, GB 12011-2000, GB 12011-2009;
- GB 21146-2007;
- GB 21147-2007;
- GB 21148-2007.

Foot protection safety shoes

1 Scope

This standard specifies the terms and definitions, classification, style and marking, basic requirements, protective performance, additional requirements, marking and manufacturing of safety shoes

Information that should be provided by the supplier.

This standard applies to shoes that protect the wearer's feet from hazards in the work area or safety in the work area.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 308.1 Rolling Bearing Ball Part 1.Steel Ball

GB/T 20991-2007 Test method for personal protective equipment shoes

GB/T 22807 Leather and fur chemical test Determination of hexavalent chromium content. spectrophotometric method

GB 24541-2009 Hand protection mechanical hazards protective gloves

GB/T 28287 Test method for slip resistance of foot protective shoes

GB/T 28288-2012 Foot protection, toe protection toe cap and anti-puncture pad

GB/T 31009 Foot protective footwear (boots) limited substance requirements and test methods

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Safety footwear

Protect the wearer from injuries caused by accidents, have protective features and protect the safety of the work area.

Note 1.Excluding firefighter's work boots, anti-chain saw cutting shoes, anti-chemical shoes, anti-melting metal and molten metal splashing shoes and motorcycle rider shoes.

Note 2.The safety shoe components are illustrated in Figure 1, Figure 2 and Figure 3.