



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

GB/T 25684.1-2021

Earth-moving machinery - Safety - Part 1: General requirements

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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 of Standardization Documents"

drafted:

This document is part 1 of GB/T 25684 "Earth-moving Machinery Safety": GB/T 25684 has released the following parts:

- Part 1: General requirements;
- Part 2: Requirements for bulldozers;
- Part 3: Requirements for loaders;
- Part 4: Requirements for backhoe loaders;
- Part 5: Requirements for hydraulic excavators;
- Part 6: Requirements for dump trucks;
- Part 7: Requirements for scrapers;
- Part 8: Requirements for motor graders;
- Part 9: Requirements for pipelayers;
- Part 10: Requirements for trenchers;
- Part 11: Requirements for backfill compactors;
- Part 12: Requirements for mechanical excavators;
- Part 13: Requirements for road rollers;

This document replaces GB 25684:1-2010 "Earth-moving Machinery Safety Part 1: General Requirements", which is consistent with GB 25684:1-2010

In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Part of the scope has been changed (see Chapter 1, Chapter 1 of the:2010 edition);
- b) Some terms and definitions have been changed (see 3:1, 3:1:1, 3:1:2 and 3:4, 3:1:1, 3:1:2 and 3:3 of the:2010 edition);
- c) Added some terms and definitions (see 3:3, 3:7~3:10 and 3:15);
- d) The requirements for mechanical equipment in the general requirements for driver position have been changed (see 4:3:1:1, 4:3:1:1 of the:2010 edition);
- e) The requirements for hard pipes and hoses in the general requirements for the driver's position are deleted (see 4:3:1:7 of the:2010 edition);
- f) The requirements for hard pipes and hoses in the driver's position with the driver's cab have been changed (see 4:3:2:2, 4:3:2:2 of the:2010 edition);
- g) The requirements for heating systems and ventilation systems have been changed (see 4:3:2:5 and 4:3:2:6, 4:3:2:5 of the:2010 edition);
- h) Some requirements for doors and windows have been changed (see 4:3:2:9, 4:3:2:8 of the:2010 edition);
- i) Changed the general requirements for rollover protection structures (see 4:3:3:1, 4:3:3:1 of the:2010 edition);
- j) the requirements for regulation and vibration have been changed (see 4:4:1:3 and 4:4:1:4, 4:4:1:3 and 4:4:1:4 of the:2010 edition);
- k) Changed the general requirements for the driver's control device and indicating device (see 4:5:1, 4:5:1 of the:2010 edition);
- l) Change "starting system" to "starting and stopping device" (see 4:5:2, 4:5:2 of the:2010 edition);
- m) The handling requirements for non-riding machines have been added (see 4:5:10);
- n) Changed the requirements for the braking system (see 4:7, 4:7 of the:2010 edition);
- o) Changed the requirements for the driver's field of vision (see 4:8:1, 4:8:1 of the:2010 edition);
- p) The scope of application of the requirements for the sound alarm device has been increased (see 4:9);
- q) Changed the noise reduction requirements (see 4:13:1, 4:13:1 of the:2010 edition);
- r) The requirement for noise reduction through protective devices has been deleted (see 4:13:1:2 of the:2010 edition);
- s) Changed the requirements for the emission sound pressure level at the driver's position (see 4:13:2:2, 4:13:2:2 of the:2010 edition);

- t) Changed the requirements for contaminated areas (see 4:14:1, 4:14:1 of the:2010 edition);
- u) Changed the requirements for moving parts (see 4:14:3, 4:14:3 of the:2010 edition);
- v) Changed the requirements for protective devices (see 4:14:4, 4:14:4 of the:2010 edition);
- w) Changed the requirements for fenders (see 4:14:7, 4:14:7 of the:2010 edition);
- x) Changed the general requirements for electrical and electronic systems (see 4:16:1, 4:17:1 of the:2010 edition);
- y) Changed the requirements for overcurrent protection devices (see 4:16:4, 4:17:4 of the:2010 edition);
- z) The requirements for battery disconnection have been changed (see 4:16:6, 4:17:6 of the:2010 edition);
- aa) Changed the requirements for power sockets for lighting (see 4:16:8, 4:17:8 of the:2010 edition);
- bb) Changed the temperature requirements for hydraulic hose assemblies (see 4:17:3, 4:18:3 of the:2010 edition);
- cc) The requirements for hydraulic hose assemblies have been changed, and the requirements for hydraulic hose assemblies and steering system hydraulic hose assemblies have been added (see 4:17:3, 4:18:3 of the:2010 version);
- dd) Added requirements for air pressure vessels (see 4:17:4);
- ee) Added requirements for diesel engine exhaust gas treatment fluid tank (see 4:18);
- ff) Changed the requirements for metal fuel tanks (see 4:18:3, 4:19:3 of the:2010 edition);
- gg) Changed the requirements for quick-connect devices (see 4:20:4, E:2 of the:2010 edition);
- hh) Changed the requirements for the tiltable cab support device (see 4:21:5, 4:22:5 of the:2010 edition);
- i) The operating requirements for underground non-explosive environments are added (see 4:22);
- j) Added speed limit requirements for non-riding machines (see 4:24);
- kk) Changed the content of the security label (see 6:1, 6:1 of the:2010 edition);
- l) Changed the content of the driver's manual (see 6:2, 6:2 of the:2010 edition);
- mm) Changed the content of the machine identification (see 6:3, 6:3 of the:2010 edition);

nn) The requirements for the position of the lift driver have been changed, and the requirements for identification have been added (see B:8, Appendix C of the:2010 edition);

oo) Changed the requirements for safety pins and the requirements for mechanical performance verification (see C:4:1, C:4:4:4, D:5:1, D:5:4:4 of the:2010 edition);

pp) Added requirements for earth-moving machinery operating in underground non-explosive environments (see Appendix D):

This document is equivalent to ISO 20474-1:2017 "Safety of earth-moving machinery - Part 1: General requirements":

The following minimal editorial changes have been made to this document:

--- Change "Note 1" in 4:8:1 to "Note";

--- Change the serial number 25:1:3 in Table A:1 of ISO 20474-1:2017 to 25:1:2:

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

Introduction

This document is a Type C standard defined by ISO 12100:

The scope of this document describes the machinery involved and the scope of the hazards, hazardous states or hazardous events involved:

Since the design and manufacture of the machine follow the requirements of Class C standards, when the requirements of Class C standards are different from those of Class A or Class B standards

At the same time, the requirements of Class C standards take precedence over other standards:

GB/T 25684 "Earth-moving Machinery Safety" is a basic and universal guideline for guiding my country's earth-moving machinery products to meet relevant safety requirements:

standard: GB/T 25684 aims to establish general safety requirements applicable to earth-moving machinery products and special safety requirements for specific machine families

requirements, it is proposed to be composed of 14 parts:

--- Part 1: General requirements: The purpose is to establish general safety requirements applicable to all machine types in the earthmoving machinery industry:

The foundational standard for a full range of standards:

--- Part 2: Requirements for bulldozers: The purpose is to propose specific products that