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

GB/T 28554-2012

**Electrical equipment of industrial machines -- Electromagnetic
compatibility for the construction machinery with internal
electrical power supply
(English Translation)**

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Table of Contents

Preface
1 Scope
2 Normative references
3 Terms and definitions
4 Requirements
5 Exception
6 Test report
Appendix A (Normative Appendix) Baseline Limit
Appendix B (Normative Appendix) Broadband electromagnetic emission measurement method for construction machinery radiation
Appendix C (Normative Appendix) Narrowband electromagnetic emission measurement method for construction machinery radiation
Appendix D (Normative Appendix) ESA radiated broadband electromagnetic emission measurement method
Appendix E (Normative Appendix) ESA radiated narrow-band electromagnetic emission measurement method
Appendix F (Informative Appendix) Guidelines for Selection of Test Sample Configuration
Appendix G (Normative Appendix) Classification of the severity of functional failure modes and severity level of test voltage

Foreword

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

This standard uses the redrafting law to amend and adopt EN13309:2000 "Electromagnetic Compatibility Requirements for Equipment with Power Supply Units in Construction Machinery" begging".

The technical differences between this standard and EN133091).2000 and the reasons are as follows.

---Regarding normative reference documents, this standard has made adjustments with technical differences, and the adjustments are mainly reflected in Chapter 2 "Regulations Normative references" and the chapters cited in the relevant clauses of normative references are adjusted as follows.

- Delete the reference to ISO 7637-0:1990;

- Replace ISO 7637-1:1990 (4.9.2, 4.9.3) with GB/T 21437.1.2008 which is equivalent to adopting international standards;
- Replace ISO 7637-2:1990 (4.9.2, 4.9.3) with GB/T 21437.2.2008 equivalent to the international standard;
- Replace ISO/T R1065.1994 with ISO 10605:2008;
- For the test level specified in 4.8.2, use the Class I functional state specified in ISO 10605:2008, and the test severity is L4i (8kV contact discharge or 15kV air discharge) replaces the test level I (± 4 kV) specified in EN13309:2000;
- Delete Appendix ZA, which explains the relationship between EN13309:2000 and the EU EMC Directive, and the national standard does not need to be retained;
- Delete Table 1;
- Add Appendix G, which specifies the classification of the severity of functional failure modes of electrostatic discharge and transient conduction and the severity of the test voltage grade.

This standard was proposed by China Machinery Industry Federation.

This standard is under the jurisdiction of the National Industrial Machinery Electrical System Standardization Technical Committee (SAC/TC231).

Drafting organizations of this standard. Changsha Zoomlion Heavy Industry Technology Development Co., Ltd., Shenzhen Huace Inspection Co., Ltd., Beijing Machine Tool Research Institute Research institute.

1 Scope

This standard specifies the test methods and acceptance criteria for evaluating the electromagnetic compatibility of construction machinery.

This standard applies to electrical and/or electronic components and independent technical units installed on construction machinery. This standard does not include these do not involve the immunity of components that directly control and/or change the specified mechanical functions.

The following electromagnetic disturbance phenomena will be evaluated.

- Broadband and narrowband electromagnetic interference;
- Electromagnetic field immunity test;
- Broadband and narrowband electromagnetic interference of electrical/electronic components;
- Electromagnetic field immunity test of electrical/electronic components;

---Electrostatic discharge;

---Transient conduction.

Construction machinery may have built-in DC and/or AC power systems.

Except for machinery designed to be powered by a "public grid".

Note: Construction machinery includes concrete machinery, construction cranes, earth-moving machinery, road construction machinery, piling machinery, etc.

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

GB/T 6113.101-2008 Radio disturbance and immunity measurement equipment and measurement method specification Part 1-1. Radio disturbance Measurement equipment for interference and immunity measurement equipment (IEC/CISPR16-1-1.2006, IDT) GB/T 6113.104-2008 Radio disturbance and immunity measurement equipment and measurement method specification Part 1-4. Radio disturbance Interference and immunity measuring equipment radiated disturbance from auxiliary equipment (IEC/CISPR16-1-4.2005, IDT) GB 14023-2011 Limits and measurement methods of radio disturbance characteristics of vehicles, ships and internal combustion engines used to protect receivers outside vehicles (IEC/CISPR12.2009, IDT) GB/T 21437.1-2008 Road Vehicles Electrical Disturbance Caused by Conduction and Coupling Part 1: Definition and General Description (ISO 7637-1:2002, IDT) GB/T 21437.2-2008 Road vehicle electrical disturbance caused by conduction and coupling Part 2: Electrical transient transmission along power lines Guide (ISO 7637-2:2004, IDT) ISO 7637-3:2007 Road Vehicles Electrical Disturbance Caused by Conduction and Coupling Part 3: Passing of Conductors Except Power Lines Capacitive and inductively coupled electrical transient emission (Road vehicles-Electrical disturbances from conduction and coupling-Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines) ISO 10605:2008 Road vehicles-Test methods for electrical disturbances caused by electrostatic discharge of road vehicles (Road vehicles-Test methods for electrical disturbances from electrostatic discharge) ISO 11451-1 Road Vehicles Electric Disturbance Test Method of Narrowband Electromagnetic Field Energy Radiation Part 1: General Rules and Regulations