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PEOPLE'S REPUBLIC OF CHINA**

GB/T 17922-2014

**Earth-moving machinery -- Roll-over protective structures --
Laboratory tests and performance requirements
(English Translation)**

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009 Directives for Standardization - Part 1. Structure and Drafting of Standards.

This Standard replaced GB/T 17922-1999 Earth-Moving Machinery - Roll-over Protective Structures - Laboratory Tests and Performance Requirements. Compared with GB/T 17922-1999, the major technical changes of this Standard are as follows besides the editorial modifications.

--- Change the name of the standard into "Earth-Moving Machinery - Roll-over Protective Structures - Laboratory Tests and Performance Requirements";

--- Modify the definitions of some terms; and add and delete relevant terms (see Clause 3 of

this Edition; Clause 3 of the 1999 Edition);

--- Make clear definitions on the length L and width W of shaped component ROPS and

curved component ROPS (see Clause 4 of this Edition);

--- Add Figure 3 of "Examples of curved and formed ROPS components", and Figure 4 of "Examples of single-column ROPS";

--- Add specific "force and energy formulas" to "rigid frame dump truck - combination of ROPS and dump truck carriage" in Table 1 (see Table 1 of this Edition; Table 1 of the

1999 Edition);

--- Modify the position of the LAP for side loading of a single-column or double-column ROPS (see 6.2.3 of this Edition; 6.2.3 of the 1999 Edition);

--- Modified the position of the LAP for side loading of a ROPS with more than two columns (see 6.2.4, 6.2.4 of the 1999 edition);

--- Add the requirements for absorbed energy at -20°C in Table 2;

--- Change the angle of DLV upper structure rotating around the SIP point in Figure 17 from 15° to 16° (see Figure 17 of this Edition; Figure 15 of the 1999 Edition);

--- Add requirements for "force-deformation curve of loading test" and "photograph of test piece" in "ROPS Test Report" of Annex A.

This Standard uses translation method to equivalently adopt ISO 3471.2008 Earth-Moving Machinery - Roll-over Protective Structures - Laboratory Tests and Performance Requirements.

The Chinese documents that have consistent correspondence with the international documents

quoted in the normative references of this Standard are as follows.

--- GB/T 229-2007 Metallic Materials - Charpy Pendulum Impact Test Method (ISO 148-1.2006, MOD);

--- GB/T 3098.1-2010 Mechanical properties of fasteners - Bolts, screws and studs (ISO 898-1.2009, MOD);

--- GB/T 8591-2000 Earth-moving machinery - Seat index point (eqv ISO 5353.1995);

--- GB/T 21153-2007 Earth-moving machinery - Units for dimensions performance and capacities and their measurement accuracies (ISO 9248.1992, MOD).

Compared with ISO 3471-2008, this Standard made the following editorial modifications.

--- Change the international standard ISO 898-1.1999 in the normative reference to the current version of the international standard ISO 898-1.2009;

--- Change "see Figures 1, 4 and 5" in Clause 4 regarding the L column item into "see Figures

1 and 4";

--- Add a NOTE to Annex B in Clause 10.

This Standard was proposed by China Machinery Industry Federation.

This Standard shall be under the jurisdiction of National Technical Committee on Earthwork Machinery of Standardization Administration of China (SAC/TC 334).

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The historical edition replaced by this Standard is as follows.

--- GB/T 17922-1999.

1 Scope

This Standard specifies performance requirements for metallic roll-over protective structures

(ROPS) for earth-moving machinery, as well as a consistent and reproducible means of evaluating the compliance with these requirements by laboratory testing using static loading on

a representative specimen.

2 Normative References

The following documents are essential to the application of this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the

undated documents, only the latest version (including all the amendments) is applicable to this

Document.

GB/T 3098.2-2000 Mechanical properties of fasteners - Part 2.Nuts with specified proof load values - Coarse thread (idt ISO 898-2:1992)

3 Terms and Definitions

For the purposes of this Document, the following terms and definitions apply.

System of structural members arranged in such a way as to provide operators with reasonable

protection from falling objects (e.g., trees, rocks, small concrete blocks, tools).

4 Symbols

For the purposes of this document, the following symbols apply.

5 Test Method and Test Facilities

Fixtures shall be adequate to secure the representative specimen to a bedplate and to apply the

required lateral, vertical and longitudinal loads as determined by the formulae given in Table 1.