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

GB/T 46642-2025

**Self-propelled machinery for forestry - Falling-object protective
structures (FOPS) - Laboratory tests and performance
requirements**

自行式林业机械 落物保护结构(FOPS) 实验室试验和性能要求
(English Translation)

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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 is modified to adopt ISO 8083:2006 "Falling object protection structures (FOPS) for forestry machinery - Laboratory testing and performance requirements".

This document has undergone the following structural adjustments compared to ISO 8083:2006.

---4.3.6 a)~c) corresponds to ISO 8083:2006 4.3.6.1~4.3.6.3.

The technical differences between this document and ISO 8083:2006, and the reasons therefor, are as follows.

---ISO 6814 (see Chapter 1) has been replaced with the normatively referenced GB/T 19365 to adapt to my country's technical conditions and increase operability.

Actual nature;

---ISO 3411 (see 3.2) has been replaced with the normatively referenced GB/T 8420 to adapt to my country's technical conditions and increase operability.

Actual nature;

---ISO 3164 has been replaced with the normatively referenced GB/T 17772 (see 4.2.1) to adapt to my country's technical conditions and increase operability.

Actual nature;

---ISO 8082 (see 5.2) has been replaced with the normatively referenced GB/T 20448 (all parts) to adapt to my country's technical conditions.

Increase operability;

---ISO 898-1:1999 (see 5.3.2) has been replaced with ISO 898-1:2013 (see normative reference) to align with the latest standard requirements.

Consistent;

---ISO 898-2:1992 has been replaced with the normatively referenced ISO 898-2:2022, and the applicable strength grade for nuts has been changed to "Grade 8".

The phrase "Level 9 or 10" has been changed to "Level 8 or 10" (see 5.3.2) to align with the latest standard requirements;

---ISO 148-1 (see 5.3.3) has been replaced with the normatively referenced GB/T 229 to adapt to my country's technical conditions and increase operability.

Acting.

The following editorial changes have been made to this document.

---To harmonize with existing standards, the standard title has been changed to "Laboratory Testing of Fall Object Protection Structures (FOPS) for Self-Propelled Forestry Machinery".

Performance Requirements;

---To aid understanding, additional information has been added to provide supplementary explanations of the actual operation of DLV (see 3.2).

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 by the National Forestry and Grassland Administration.

This document is under the jurisdiction of the National Forestry Machinery Standardization Technical Committee (SAC/TC61).

1 Scope

This document describes a consistent and repeatable method for evaluating the performance of Falling Object Protection Structures (FOPS) under load, and specifies the procedures for...

The performance requirements of a typical specimen under this load.

This document applies to all types of mobile or self-propelled special-purpose forestry machinery as defined in GB/T 19365.

Note: This document does not apply to Falling Object Protection Structures (FOPS) made of polycarbonate materials under investigation.

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 229 Metallic materials Charpy impact test method (GB/T 229-2020, ISO 148-1:2016, MOD) GB/T 8420 Body Dimensions and Minimum Operating Space for Earthmoving Machinery Operators (GB/T 8420-2011, ISO 3411.

2007, IDT)

GB/T 17772 Laboratory qualification requirements for the flexural limit of protective structures for earthmoving machinery (GB/T 17772-2018) ISO 3164:2013, IDT GB/T 19365 Forestry Machinery - Mobile and Self-propelled Forestry Machinery - Terminology, Definitions and Classification (GB/T 19365-2012) ISO 6814:2009, IDT GB/T 20448.1 (all parts) Laboratory testing and performance requirements for rollover protection structures of self-propelled forestry machinery [ISO 8082] (All parts) Note. GB/T 20448.1-2025 Laboratory testing and performance requirements for rollover protection structures (ROPS) of self-propelled forestry machinery - Part 1: General machinery (ISO 8082-1:2009, IDT);

Note: GB/T 20448.2-2016 Laboratory testing and performance requirements for rollover protection structures of self-propelled forestry machinery - Part 2: Installation on a rotating platform Machinery with cab and boom (ISO 8082-2:2011, IDT).

ISO 898-1:2013) Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws, and threaded fasteners with specified performance grades Note. GB/T 3098.1-2010 Mechanical properties of fasteners - Bolts, screws and studs (ISO 898-1:2009, MOD) ISO 898-2:2022-3) Fasteners - Mechanical properties of fasteners made of carbon steel and alloy steel - Part 2: Specifying performance grades Note. GB/T 3098.2-2015 Mechanical properties of fasteners - Nuts (ISO 898-2:2012, MOD)

1) ISO 8082, which is referenced in ISO 8083:2006, has been updated to ISO 8082-1:2009 and ISO 8082-2:2011.

2) ISO 898-1:1999 has been superseded, and ISO 898-1:2013 is the latest version. There are technical differences in the specific references.

3) ISO 898-2:1992 has been superseded, and ISO 898-2:2022 is the latest version. There are technical differences in the specific references.