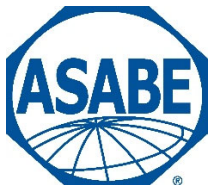


ASABE/ISO 12003-2:2021 JUL2022

Tractors for agriculture and forestry — Roll-over protective structures on narrow tractors — Part 2:  
Rear-mounted ROPS



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## **Tractors for agriculture and forestry — Roll-over protective structures on narrow tractors — Part 2: Rear-mounted ROPS**

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*This standard was reviewed and approved for adoption (ISO 12003-2:2008) by the ASABE Machinery System Agricultural Machinery Common Tests subcommittee. Approved as an ASABE standard and approved by ANSI September 2017; revised to replace with ISO 12003-2:2021 July 2022.*

**Keywords:** Roll-over, ROPS, Safety, Test procedure, Tractor

### **0 Foreword**

**0.1** ASABE/ISO 12003-2:2021 JUL2022, Tractors for agriculture and forestry — Roll-over protective structures on narrow tractors — Part 2: Rear-mounted ROPS, is an adoption without modification of the identically titled ISO standard ISO 12003-2:2021, Tractors for agriculture and forestry — Roll-over protective structures on narrow tractors — Part 2: Rear-mounted ROPS

**0.2** ASABE/ISO 12003-2:2021 JUL2022 specifies procedures for both the static and dynamic strength testing of roll-over protective structures (ROPS) rear-mounted on narrow tractors. It defines the clearance zone and acceptance conditions for rigid or tiltable, rear, two-post roll-bar, frame and cab ROPS, and is applicable to tractors so equipped having the following characteristics:

- a ground clearance of not more than 600 mm beneath the lowest points of the front and rear-axle housings (not considering lower points on the axle differential);
- a fixed or adjustable minimum track width of one of the two axles of less than 1 150 mm and with the overall width of the other axle being less than that of the first axle, including where the two axles are fitted with rims and tyres of the same size;
- a fixed driving position and a mass greater than 400 kg, unballasted, including the ROPS and tyres of the largest size recommended by the manufacturer;
- a reversible driving position (reversible seat and steering wheel), with a mass greater than 400 kg, unballasted, including the ROPS and tyres of the largest size recommended by the manufacturer and maximum unballasted mass less than 3 500 kg and maximum permissible mass less than 5 250 kg;
- a mass ratio less than 1,75;
- a ROPS of the roll-bar, frame or cab type, mounted partly or entirely behind the seat index point and having a zone of clearance whose upper limit is  $(810 + a_v)$  mm above the seat index point in order to provide a sufficiently large area or unobstructed space for the protection of the driver.

This document also specifies optional testing procedures for both seat anchorage points and folding efforts of rear-mounted ROPS designed to fold.

**0.3** Eleven Normative References are listed in ISO 12003-2:2021. These references have been reviewed and accepted as part of the adoption of the ISO document in ASABE/ISO 12003-2:2021 monyear.

**0.3.1** Please note that Normative Reference ISO 12003-1:2021, Tractors for agriculture and forestry — Roll-over protective structures on narrow tractors — Part 1: Front-mounted ROPS, has been identically adopted by ASABE. ASABE adoption number is ASABE/ISO 12003-1:2021.

**0.3.2** Please note that Normative Reference ISO 12934, Tractors and machinery for agriculture and forestry — Basic types — Vocabulary, has been identically adopted by ASABE. ASABE adoption number is ANSI/ASAE S390.7 (ISO 12934:2021).

**0.4** This standard has been approved as an American National standard by ANSI (American National Standards Institute). The original content of ISO 12003-2 was not based on ASABE content or developed material. Royalty payments to ANSI are due upon all sales.

Text of ISO 12003-2:2021, Tractors for agriculture and forestry — Roll-over protective structures on narrow tractors — Part 2: Rear-mounted ROPS, follows.

## 1 Scope

This document specifies procedures for both the static and dynamic strength testing of roll-over protective structures (ROPS) rear-mounted on narrow tractors. It defines the clearance zone and acceptance conditions for rigid or tiltable, rear, two-post roll-bar, frame and cab ROPS, and is applicable to tractors so equipped having the following characteristics:

- a ground clearance of not more than 600 mm beneath the lowest points of the front and rear-axle housings (not considering lower points on the axle differential);
- a fixed or adjustable minimum track width of one of the two axles of less than 1 150 mm and with the overall width of the other axle being less than that of the first axle, including where the two axles are fitted with rims and tyres of the same size;;
- a fixed driving position and a mass greater than 400 kg, unballasted, including the ROPS and tyres of the largest size recommended by the manufacturer;
- a reversible driving position (reversible seat and steering wheel), with a mass greater than 400 kg, unballasted, including the ROPS and tyres of the largest size recommended by the manufacturer and maximum unballasted mass less than 3 500 kg and maximum permissible mass less than 5 250 kg;
- a mass ratio less than 1,15;
- a ROPS of the roll-bar, frame or cab type, mounted partly or entirely behind the seat index point and having a zone of clearance whose upper limit is  $(810 + a_v)$  mm above the seat index point in order to provide a sufficiently large area or unobstructed space for the protection of the driver.

This document also specifies optional testing procedures for both seat anchorage points and folding efforts of rear-mounted ROPS designed to fold.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 630-1, Structural steels — Part 1: General technical delivery conditions for hot-rolled products