

ISO 12003-2:2021 (E)

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

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Symbols
5	Test apparatus and equipment
5.1	Apparatus for both dynamic and static testing
5.1.1	Clearance zone framework
5.1.2	Apparatus for crushing tests
5.2	Apparatus for dynamic testing
5.2.1	Device to strike a blow against the protective structure
5.2.2	Pendulum supports
5.2.3	Means to lash the tractor to the ground
5.2.4	Wheel beam
5.2.5	Wheel prop
5.2.6	Props and lashings for articulated tractors
5.2.7	Tyre pressures and deflection
5.2.8	Device to measure elastic deflection
5.3	Apparatus for static testing
6	Preparation of tractor and ROPS for testing
7	ROPS deflection test procedures
7.1	General requirements
7.2	Test methods
7.3	Test sequence
7.4	Dynamic (impact) test procedures for rear-mounted ROPS
7.4.1	Rear impact test procedure
7.4.2	Front impact test procedure
7.4.3	Side impact test procedure
7.4.4	Additional impact tests
7.5	Static test procedures for rear-mounted ROPS
7.5.1	Test preparation
7.5.2	General requirements for horizontal loading test procedures
7.5.3	Rear loading
7.5.4	Front loading
7.5.5	Side loading
7.6	Vertical crushing test procedure
7.7	Additional vertical crushing tests
7.8	Observations during testing
7.8.1	Fractures and cracks
7.8.2	Clearance zone
7.8.3	Recording permanent deflection
8	Determination of seat index point (SIP), seat location and adjustment for test
8.1	General

8.2	Seat location and adjustment for tests
9	Clearance zone
9.1	General
9.2	Clearance zone for tractors with a non-reversible seat
9.3	Clearance zone for tractors with a reversible driving position
9.4	Optional seats
10	Tolerances
11	Acceptance conditions
11.1	General
11.2	Clearance zone
11.3	Seat anchorage performance
11.4	Folding ROPS performance
11.5	After impact loads
11.6	After static horizontal loads
11.7	Additional conditions
11.8	Cold weather embrittlement
12	Seatbelt anchorage test procedures
13	Folding ROPS
14	Labelling
15	Extension to other tractor models
15.1	Administrative extension
15.2	Technical extension
15.2.1	General
15.2.2	Extension of the structural test results to other models of tractors
15.2.3	Extension of the structural test results to modified models of the protective structure
15.2.4	Type extension limits
15.2.5	Increase of the declared reference mass
16	Test report
Annex A	(normative) Requirements for providing resistance to brittle fracture of rear-mounted ROPS at a reduced operation temperature
Annex B	(informative) Folding ROPS test procedures
Annex C	(normative) Test report for rear-mounted ROPS
C.1	General
C.2	Specification of test tractor
C.2.1	Identification of tractor to which a rear-mounted ROPS is fitted for the test
C.2.1.1	General
C.2.1.2	Numbers
C.2.2	Tractor mass
C.2.3	Wheelbase/moment of inertia of the tested tractor
C.2.4	Test tyre and track settings
C.3	Specification of rear-mounted ROPS
C.4	Test results
C.4.1	Impact and crushing tests
C.4.1.1	Condition of tests
C.4.1.2	Permanent deflections measured after the tests
C.4.2	Static loading and crushing tests
C.4.2.1	Condition of tests
C.4.2.2	Permanent deflections measured after the tests
C.4.2.3	Curves (static test only)
C.4.3	Cold weather performance (resistance to brittle fracture)
C.4.4	Tractor(s) to which the protective structure is fitted
C.4.5	Seat belt anchorage performance
C.4.5.1	Loading in the forward and upward direction

- C.4.5.2 Loading in the rearward and upward direction**
- C.4.5.3 Curves, drawings and photos**
- C.5 Minor modification test report**
- C.5.1 Specification of the protective structure**
- C.5.2 Denomination of tractors to which the protective structure is fitted**
- C.5.3 Details of modifications**
- C.5.4 Statement**

Page count: 58