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**Mobile elevating work platforms —  
Design, calculations, safety requirements  
and test methods relative to special  
features —**

Part 3:  
**MEWPs for orchard operations**

*Plates-formes élévatrices mobiles de personnel — Conception, calculs,  
exigences de sécurité et méthodes d'essai concernant les  
caractéristiques spéciales —*

*Partie 3: PEMP pour vergers*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16653-3 was prepared by Technical Committee ISO/TC 214, *Elevating work platforms*.

ISO 16653 consists of the following parts, under the general title *Mobile elevating work platforms — Design, calculations, safety requirements and test methods relative to special features*:

- *Part 1: MEWPs with retractable guardrail systems*
- *Part 2: MEWPs with non-conductive (insulating) components*
- *Part 3: MEWPs for orchard operations*

## Introduction

The object of ISO 16653 is to define rules for safeguarding persons and objects against the risk of accident associated with the operation of special-application mobile elevating work platforms (MEWPs).

The requirements of ISO 16653 are intended to supplement or modify those of ISO 16368 (see Clause 2). Unless specified otherwise within this part of ISO 16653, all the relevant provisions of ISO 16368 are applicable in addition to the provisions of this part of ISO 16653.

ISO 16653 does not repeat all the general technical rules applicable to every electrical, mechanical or structural component.

The safety requirements of this part of ISO 16653 have been drawn up on the basis that MEWPs are periodically maintained according to manufacturers' instructions, working conditions, frequency of use and applicable regulations.

It is assumed that MEWPs will be checked for function daily before start of work and that they will not be put into operation unless all required control and safety devices are available and in working order. If a MEWP is seldom used, the checks may be made before start of work.

For the application of this part of ISO 16653, it is assumed that operators are trained and competent in the operation of MEWPs in orchards.

Where, for clarity, an example of a safety measure is given in the text, this is not intended as the only possible solution. Any other solution leading to an equivalent level of safety is permissible.

The specification of a MEWP for orchard operation is not intended to limit the use of other categories of MEWPs in orchards, as long as the requirements of ISO 16368 and ISO 18893<sup>1)</sup> are met.

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1) *Mobile elevating work platforms — Safety principles, inspection, maintenance and operation*

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# Mobile elevating work platforms — Design, calculations, safety requirements and test methods relative to special features —

## Part 3: MEWPs for orchard operations

### 1 Scope

This part of ISO 16653 specifies the design, calculations, safety requirements and test methods relevant to mobile elevating work platforms (MEWPs) suitable for orchard operations. It is intended to be used in conjunction with ISO 16368, whose requirements it modifies, supplements or confirms. Unless otherwise stated in this part of ISO 16653, the provisions of ISO 16368 apply.

This part of ISO 16653 specifies the structural design calculations and stability criteria, construction, safety examinations and tests to be carried out before a MEWP to be used in orchard operations is first put into service. It identifies the hazards arising from the use of MEWPs in orchard operations and describes methods for the elimination or reduction of those hazards.

It is applicable to single-person boom-type MEWPs, controlled from the platform and used to move a person to working positions for picking fruit and maintaining trees and trellis vines in an orchard.

**NOTE** These are typically non-slewing units, based on a two-wheel drive axle and a castor trailing wheel. The lift height requirements vary depending on the plants grown and climatic conditions. MEWPs used in stone fruit, pip fruit and citrus orchards typically will have a lift height of 2,5 m to 4,5 m. MEWPs used in avocado orchards will typically have a lift height up to 6,5 m with occasional units of 8 m to 10 m. At harvest time, the MEWP for orchard operations is fitted with a picking bag to collect fruit and transport it to a collection point. The rated load, including operator, is typically 170 kg to 200 kg.

### 2 Normative references

The following referenced documents are indispensable for the application 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 16368:2010, *Mobile elevating work platforms — Design, calculations, safety requirements and test methods*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16368 and the following apply.

#### 3.1

##### **orchard**

defined area where fruit or nuts are grown commercially