

---

---

**Agricultural tractors — Requirements,  
test procedures and acceptance criteria  
for the operator's field of vision —**

**Part 1:  
Field of vision to the front**

*Tracteurs agricoles — Exigences, modes opératoires d'essai et critères  
d'acceptation relatifs au champ de visibilité du conducteur —*

*Partie 1: Champ de visibilité vers l'avant*

**Document Preview**

[ISO 5721-1:2013](#)

<https://standards.iteh.ai/catalog/standards/iso/b215e746-c10c-4072-8575-1d91fc6fa773/iso-5721-1-2013>



iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

[ISO 5721-1:2013](https://standards.iteh.ai/catalog/standards/iso/b215e746-c10c-4072-8575-1d91fc6fa773/iso-5721-1-2013)

<https://standards.iteh.ai/catalog/standards/iso/b215e746-c10c-4072-8575-1d91fc6fa773/iso-5721-1-2013>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2013

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
Foreword .....	iv
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>1</b>
<b>4 General provisions for testing .....</b>	<b>2</b>
4.1 Measurement accuracy .....	2
4.2 Eye position .....	2
<b>5 Requirements, test procedures and acceptance criteria .....</b>	<b>2</b>
5.1 Requirements .....	2
5.2 Test procedures .....	3
5.3 Acceptance criteria .....	4
<b>Bibliography .....</b>	<b>9</b>

iTeh Standards  
(<https://standards.itih.ai>)  
Document Preview

[ISO 5721-1:2013](https://standards.itih.ai/catalog/standards/iso/b215e746-c10c-4072-8575-1d91fc6fa773/iso-5721-1-2013)

<https://standards.itih.ai/catalog/standards/iso/b215e746-c10c-4072-8575-1d91fc6fa773/iso-5721-1-2013>

## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. [www.iso.org/directives](http://www.iso.org/directives)

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. [www.iso.org/patents](http://www.iso.org/patents)

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 4, *Tractors*.

This first edition of ISO 5721-1, together with ISO 5721-2, cancels and replaces ISO 5721:1989, which has been technically revised.

ISO 5721 consists of the following parts, under the general title *Agricultural tractors — Requirements, test procedures and acceptance criteria for the operator's field of vision*:

- *Part 1: Field of vision to the front*
- *Part 2: Field of vision to the side and to the rear*

# Agricultural tractors — Requirements, test procedures and acceptance criteria for the operator's field of vision —

## Part 1: Field of vision to the front

### 1 Scope

This part of ISO 5721 specifies the requirements, test procedures and acceptance criteria for the field of vision to the front of the operator of agricultural tractors.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5353:1995, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point*

### 3 Terms and definitions

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

#### 3.1 field of vision

area which can be viewed from the seated operators eye position

#### 3.1.1 direct field of vision

visibility by direct line of sight as determined by the light from the light source

#### 3.1.2 indirect field of vision

visibility with the aid of mirrors or with other visual aids such as closed circuit television cameras (CCTV)

#### 3.2 semi-circle of vision to the front

semi-circle described by a radius of 12 m about a point situated in the horizontal plane of the road vertically below the reference point, in such a way that, when facing the direction of motion, the arc of the semi-circle lies in front of the tractor, while the diameter bounding the semi-circle is at right angles to the longitudinal axis of the tractor

Note 1 to entry: See [Figure 2](#).

#### 3.3 angle of vision upwards

angle of vision limited downwards by a horizontal plane passing through the eye position and upwards by planes containing the rays of vision from the eye position to points of obscuration caused by vehicle components other than those which cause *masking effects* (3.4)

### 3.4

#### **masking effects**

chords of the sectors of the semi-circle of vision to the front which cannot be seen owing to structural components such as roof-pillars, air intakes or exhaust stacks and the frame of the windscreen

### 3.5

#### **sector of vision to the front**

<at the top> part of the field of vision limited by a horizontal plane passing through the reference point

### 3.6

#### **sector of vision to the front**

<in the plane of the road> part of the field of vision limited by the zone lying outside the semi-circle of vision to the front, and forming the continuation of the sector of the semi-circle of vision to the front, the chord of which is 9,50 m long, perpendicular to the plane parallel to the longitudinal median plane of the tractor passing through the centre of the driver's seat and bisected by that plane

### 3.7

#### **swept area of the windscreen wipers**

area of the outer surface of the windscreen swept by the windscreen wipers

### 3.8

#### **reference point**

position on the ground vertically below the eye position

## 4 General provisions for testing

### 4.1 Measurement accuracy

The equipment and techniques used to make the physical measurements shall be accurate to within  $\pm 2\%$  of the value measured.

### 4.2 Eye position

The eye position shall be located 680 mm above and 20 mm in front of the seat index point when determined in accordance with ISO 5353 (see [Figure 1](#)).

## 5 Requirements, test procedures and acceptance criteria

### 5.1 Requirements

#### 5.1.1 General

The tractor shall be constructed and equipped in such a way that, in road traffic and in farm use, the driver has an adequate field of vision, under all the usual conditions pertaining to highway use and to work undertaken in fields. The field of vision is adequate when the driver has at least a partial view of each front tyre or fender when in the straight ahead position and at track width appropriate for the overall width of single tyres not to exceed 2,55 m.

#### 5.1.2 Masking effects

Masking effects shall not exceed 700 mm.

Masking effects due to adjacent structural components over 80 mm in width shall be so configured that there is an interval of not less than 2 200 mm - measured as a chord of the semi-circle of vision to the front - between the centres of two masking effects.