

INTERNATIONAL STANDARD

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Earth-moving machinery — Operator's field of view —

Part 2: Evaluation method

*Engins de terrassement — Visibilité du conducteur —
Partie 2: Méthode d'évaluation*



Reference number
ISO 5006-2:1993(E)

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.

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.

International Standard ISO 5006-2 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Sub-Committee SC 2, *Safety requirements and human factors*.

ISO 5006 consists of the following parts, under the general title *Earth-moving machinery — Operator's field of view*:

- Part 1: *Test method*
- Part 2: *Evaluation method*
- Part 3: *Criteria*

Annex A of this part of ISO 5006 is for information only.

Introduction

This part of ISO 5006 provides a means for evaluating the operator's ability to have visibility to a perimeter area around an earth-moving machine. The perimeter chosen is a circle with a 12 m radius on the test surface around the machine. This circular area is divided into four specific areas. Visibility categories are established based on the ability of the operator to distinguish objects on the perimeter considering specific machine design, function and operation.

The 700 mm masking dimension is chosen because such a masking would effectively prevent an operator from seeing a person located beyond a masking of that width. When there are adjacent maskings, it has been found that a masking separation distance or spacing of 1 300 mm is necessary in order to ensure that an operator would be able to recognize that a person was or is in the visibility area.

The evaluation method recognizes that for visibility areas to the front of some machines, large maskings may exist. As a result of the specific operational modes of these machines, these masking areas are of less importance due to minimized maskings in other areas around the machine. This acceptance has been based on a number of years of worldwide experience with these types of machines.

Large maskings areas are also accepted for some machines to the rear visibility areas. This is allowed because these machines operate primarily in a forward mode.

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Earth-moving machinery — Operator's field of view —

Part 2: Evaluation method

1 Scope

This part of ISO 5006 specifies a method for evaluating the maskings which may be present on the perimeter designated in ISO 5006-1.

This part does not consider evaluation of maskings which may be present with operational movement of working tools.

This part of ISO 5006 applies to earth-moving machinery which has a specific operator's station.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 5006. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 5006 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5006-1:1991, *Earth-moving machinery — Operator's field of view — Part 1: Test method.*

3 Definitions

For the purposes of this part of ISO 5006, the definitions given in ISO 5006-1 apply.

4 Evaluation method

4.1 General

4.1.1 When maskings overlap adjacent visibility areas, the masking shall be evaluated in the visibility test area in which the greatest part of the masking lies.

4.1.2 Adjacent narrow maskings may be combined with the space between them and treated as one larger masking to reduce the count of maskings.

4.1.3 The space between any two adjacent maskings in the visibility test area being evaluated and the space with adjacent maskings in the adjoining visibility test area shall be equal to or greater than 1 300 mm. If this is not the case, the two maskings and the space shall be combined to result in one reported masking. See figures 1 to 3.

4.1.4 A masking under 100 mm may be neglected, when it is not covered by the requirements in 4.1.3.

4.2 Maskings at sector of vision

4.2.1 Visibility category I

The visibility is evaluated as category I, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.1, there are no more than two maskings each with a masking chord length of 700 mm or less (see figure 1).

4.2.2 Visibility category II

The visibility is evaluated as category II if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.2, the masking conditions in 4.2.1 are met (see figure 2).

4.2.3 Visibility category III

The visibility is evaluated as category III, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.2, there are no more than two maskings with a masking chord length of 700 mm or less and two maskings with a masking chord length of 1 300 mm or less (see figure 3).

4.3 Field of vision

4.3.1 Visibility category I

The visibility is evaluated as category I, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.1, there are no more than one masking with a masking chord length of 700 mm or less and no more than one masking with a masking chord length of 1 300 mm or less in each of the left and right areas of the field of vision (see figure 1).

4.3.2 Visibility category II

The visibility is evaluated as category II, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.2, the masking conditions in 4.3.1 are met.

4.3.3 Visibility category III

The visibility is evaluated as category III, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.2, there are more than one of the maskings of 4.3.2 with a chord length of 5 500 mm or less (see figure 3).

4.4 Field of view

4.4.1 Visibility category I

The visibility is evaluated as category I, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.1, there are no more than two maskings with a masking chord length of 700 mm or less in either the left or the right field of view (see figure 1).

4.4.2 Visibility category II

The visibility is evaluated as category II, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.3, there are no more than one masking with a masking chord length of 700 mm or less and one masking with a masking chord length of 1 300 mm or less in either the left or right field of view (see figure 2).

4.4.3 Visibility category III

The visibility is evaluated as category III, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.3, there are no more than one masking with a masking chord length of 700 mm or less and one masking with a masking chord length of 5 000 mm or less in either the left or right field of view (see figure 3).

4.5 Visual field

4.5.1 Visibility category I

The visibility is evaluated as category I, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.1, there are no more than two maskings with a masking chord length of 700 mm or less and one masking with a masking chord length of 1 300 mm or less in the rear visual field (see figure 1).

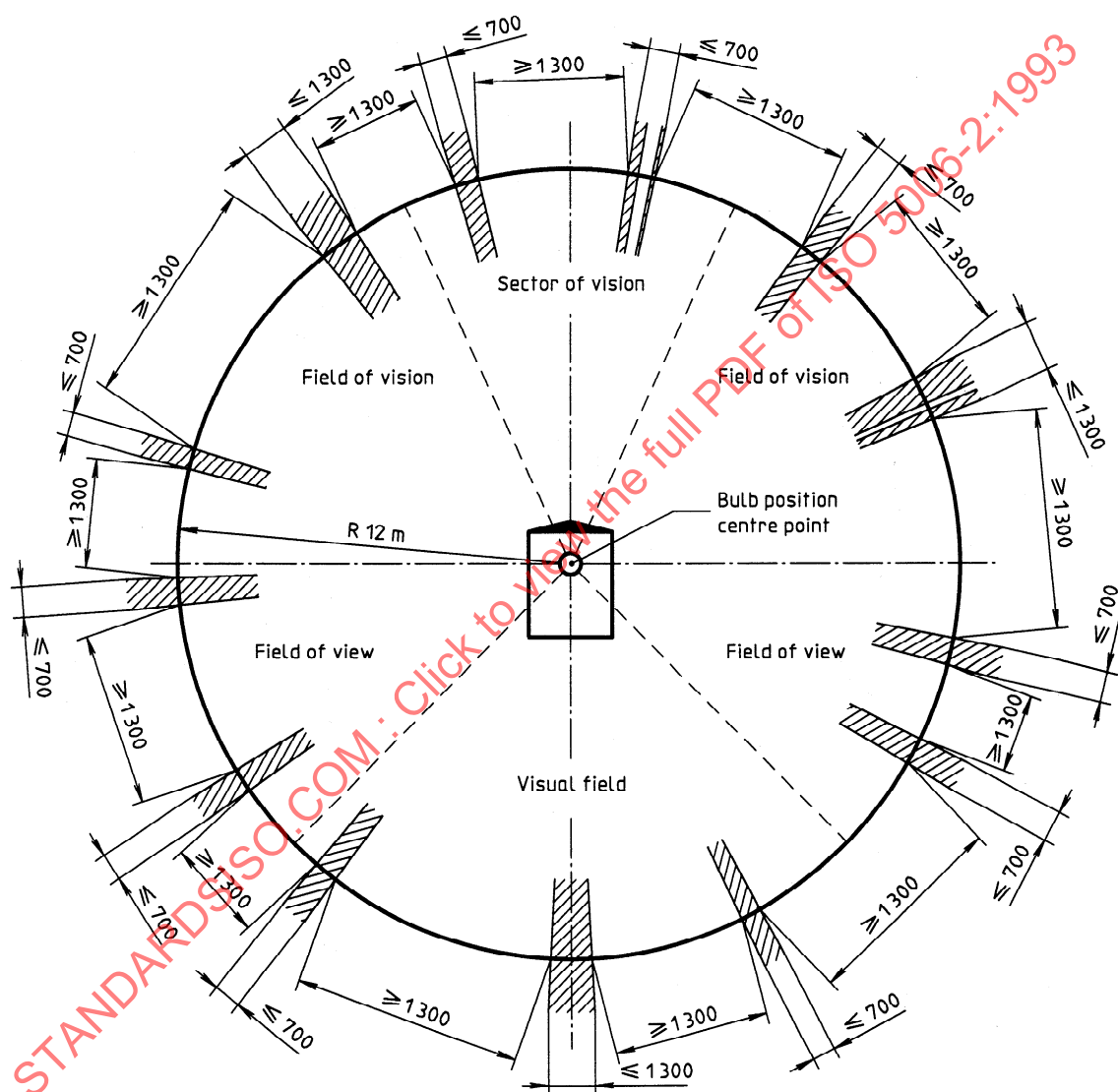
4.5.2 Visibility category II

The visibility is evaluated as category II, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.4, there are no more than two maskings with a masking chord length of 1 110 mm or less and one masking with a masking chord length of 2 060 mm or less (see figure 2).

4.5.3 Visibility category III

The visibility is evaluated as category III, if, when measured in accordance with ISO 5006-1:1991, sub-clause 6.2.1, there are not more than two maskings with a masking chord length of 700 mm or less and one masking with a masking chord length of 5 000 mm or less (see figure 3).

Dimensions in millimetres



Bulb spacing 65 mm

Figure 1 — Category I evaluation

Dimensions in millimetres

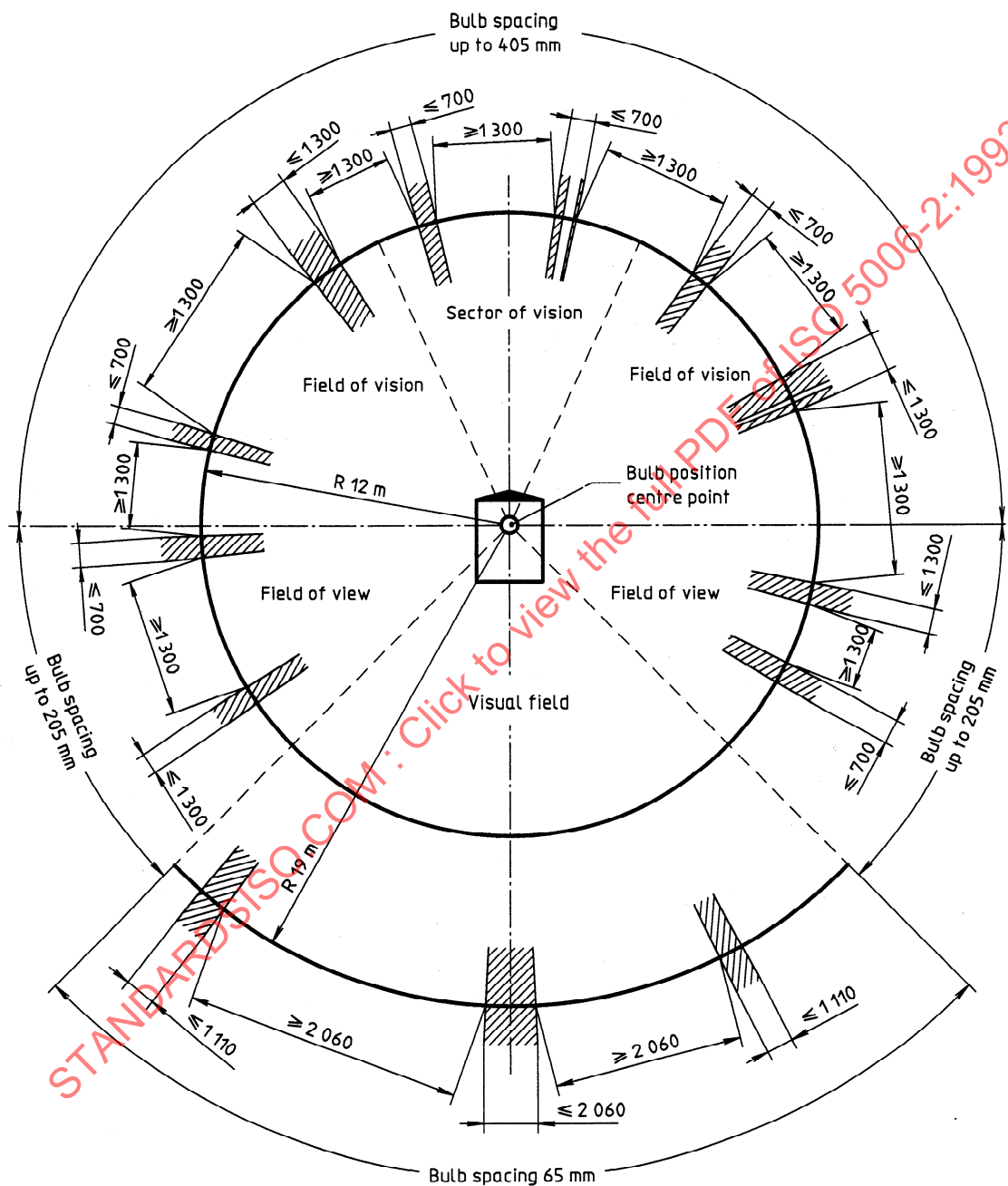


Figure 2 — Category II evaluation

Dimensions in millimetres

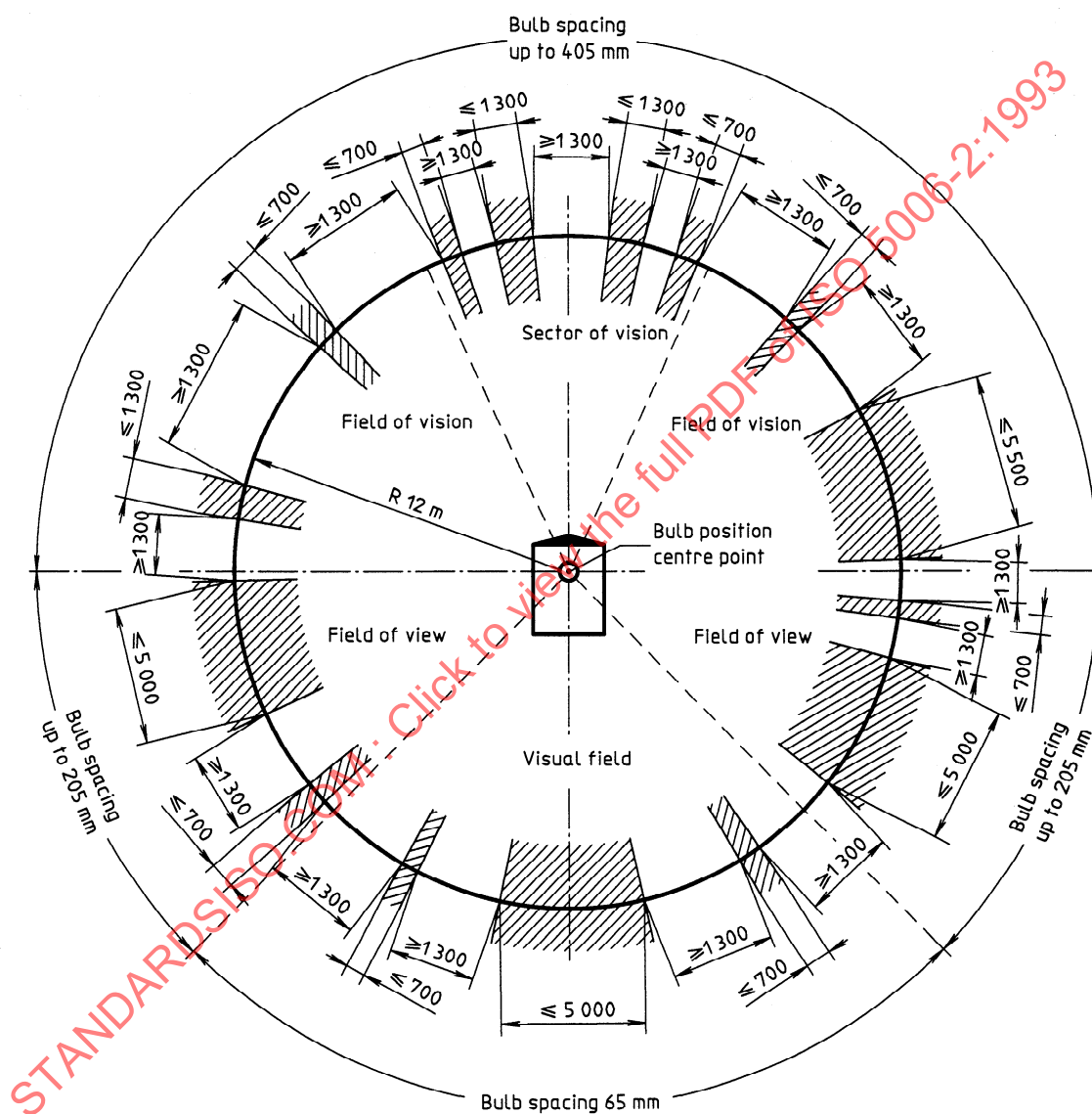


Figure 3 — Category III evaluation