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Earth-moving machinery — Field of vision of surveillance and rear-view mirrors

Part 1: Test methods

AS ISO 14401.1:2021

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Australian Industry Group
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Construction and Mining Equipment Industry Group
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Engineers Australia / Mining Electrical and Mining Mechanical Engineering Society
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Earth-moving machinery — Field of vision of surveillance and rear-view mirrors

Part 1: Test methods

First published as AS ISO 14401.1:2021.

Preface

This Standard was prepared by the Standards Australia Committee ME-063, Earthmoving Equipment.

The objective of this document is to specify a static test method for determining the field of vision provided by surveillance and rear-view mirrors fitted to earth-moving machinery as defined in ISO 6165.

This document is identical with, and has been reproduced from, ISO 14401-1:2009, *Earth-moving machinery — Field of vision of surveillance and rear-view mirrors — Part 1: Test methods*.

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(a) In the source text "this part of ISO 14401" should read "this document".

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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.

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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 14401-1 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 1, *Test methods relating to safety and machine performance*.

This second edition cancels and replaces the first edition (ISO 14401-1:2004), which has been technically revised.

ISO 14401 consists of the following parts, under the general title *Earth-moving machinery — Field of vision of surveillance and rear-view mirrors*:

— *Part 1: Test methods*

— *Part 2: Performance criteria*

Introduction

This part of ISO 14401 provides test methods for evaluating the field of vision from surveillance and rear-view mirrors fitted to certain earth-moving machinery.

As specified in ISO 5006, mirrors may also be fitted on earth-moving equipment to help meet the visibility performance requirements of ISO 5006 when those requirements cannot be met by direct visibility alone. The testing procedures for mirrors in this part of ISO 14401 and in ISO 5006 have been aligned to allow a mirror to fulfil the requirements of both ISO 5006 and ISO 14401-2.

Mirrors can also be fitted for the purpose of compliance with national or local regulations, e.g. on-road requirements.

NOTES

Australian Standard®

Earth-moving machinery — Field of vision of surveillance and rear-view mirrors

Part 1: Test methods

1 Scope

This part of ISO 14401 specifies a static test method for determining the field of vision provided by surveillance and rear-view mirrors fitted to earth-moving machinery as defined in ISO 6165.

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 3411, *Earth-moving machinery — Physical dimensions of operators and minimum operator space envelope*

ISO 5006:2006, *Earth-moving machinery — Operator's field of view — Test method and performance criteria*

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

ISO 6016, *Earth-moving machinery — Methods of measuring the masses of whole machines, their equipment and components*

ISO 6165, *Earth-moving machinery — Basic types — Identification and terms and definitions*

ISO 14401-2:2009, *Earth-moving machinery — Field of vision of surveillance and rear-view mirrors — Part 2: Performance criteria*

3 Terms and definitions

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

3.1
65 mm light spacing
space between light bulb filaments representing the binocular eye spacing of 50 % of seated earth-moving operators according to ISO 3411

3.2
205 mm light spacing
space between light bulb filaments representing the eye spacing that can be achieved by 50 % of seated earth-moving machinery operators according to ISO 3411, considering the restrictions on the operator when body torso and both body torso and head are moved from side to side to view an angle of up to 45° to the rear on each side of the operator

3.3
405 mm light spacing
space between light bulb filaments representing the eye spacing that can be achieved by 50 % of seated earth-moving machinery operators according to ISO 3411, considering that the operator has good capability of moving the upright body torso and head when viewing to the front