AS/NZS ISO 6394:2019
ISO 6394:2008

AS/NZS ISO 6394:2019

Australian/New Zealand Standard™

Earth-moving machinery—Determination of emission sound pressure level at operator's position—Stationary test conditions

STANDARDS Australia

STANDARDS NEW ZEALAND
PAEREWA AOTEAROA

AS/NZS ISO 6394:2019

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee AV-003, Acoustics Human Effects. It was approved on behalf of the Council of Standards Australia on 29 January 2019 and by the New Zealand Standards Approval Board on 30 January 2019.

This Standard was published on 19 March 2019.

The following are represented on Committee AV-003:

Accident Compensation Corporation (New Zealand)
Association of Australasian Acoustical Consultants
Australian Acoustical Society
Australian Chamber of Commerce and Industry
Australian Council of Trade Unions
Australian Hearing
Engineers Australia
New Zealand Audiological Society
Worksafe Division, Department of Commerce, (WA)

This Standard was issued in draft form for comment as DR AS ISO 6394:2018.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

www.standards.govt.nz

ISBN 978 1 76072 397 2

AS/NZS ISO 6394:2019
ISO 6394:2008

Australian/New Zealand Standard™

Earth-moving machinery—Determination of emission sound pressure level at operator's position—Stationary test conditions

First published as part of AS 2012—1977.
AS 2012—1977 revised and redesignated in part as AS 2012.2—1990.
Revised and redesignated as AS/NZS ISO 6394:2019.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee AV-003, Acoustics Human Effects, to supersede AS 2012.2—1990, *Acoustics—Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors—Stationary test condition, Part 2: Operator's position*.

The objective of this Standard is to specify a method for determining the emission sound pressure level of earth-moving machinery at the operator's position, measured in terms of the time-averaged A-weighted emission sound pressure level while the machine is stationary with the engine operating at the rated speed under no-load conditions. It is applicable to earth-moving machinery as defined in ISO 6165 and specified in AS ISO 6393:2019.

This Standard is identical with, and has been reproduced from ISO 6394:2008, Earth-moving machinery — Determination of emission sound pressure level at operator's position — Stationary test, and its Corrigendum 1 (2009), which has been added at the end of the source text.

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text "this International Standard" should read "this Australian/New Zealand Standard".

(b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

Contents

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 6394 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety requirements and human factors*, in collaboration with Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This third edition cancels and replaces the second edition (ISO 6394:1998), which has been technically revised.

Introduction

This International Standard is a specific test code for earth-moving machinery as defined in ISO 6165. It is an extension of ISO 11201, which contains the general requirements of many types of machinery and equipment.

Specific procedures are described in this International Standard to enable the time-averaged A-weighted emission sound pressure level in stationary test conditions to be determined in a manner which is repeatable. Attachments (bucket, dozer, etc.) for the manufacturer's production version are intended to be fitted since this is the configuration most likely to exist when the machine is in actual use.

This International Standard enables compliance with noise limits to be determined, if applicable. It can also be used for evaluation purposes in noise reduction investigations.

A complementary test code is given in ISO 6393. This other specific test code is intended to be used to determine the noise emitted by earth-moving machinery in terms of the A-weighted sound power level with the machine under stationary test conditions.

Corresponding measurements of noise emitted to the environment and noise at the operator's position under dynamic test conditions are described in ISO 6395 and ISO 6396, respectively.

Australian/New Zealand Standard

Earth-moving machinery—Determination of emission sound pressure level at operator's position—Stationary test conditions

1 Scope

This International Standard specifies a method for determining the emission sound pressure level of earth-moving machinery at the operator's position, measured in terms of the time-averaged A-weighted emission sound pressure level while the machine is stationary with the engine operating at the rated speed under no-load conditions.

It is applicable to earth-moving machinery as defined in ISO 6165 and specified in ISO 6393:2008, Annex A.

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

ISO 6393:2008, *Earth-moving machinery — Determination of sound power level — Stationary test conditions*

ISO 9249, *Earth-moving machinery — Engine test code — Net power*[1)]

ISO 11201, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane*[2)]

IEC 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11201, ISO 6165 and the following apply.

3.1
time-averaged A-weighted sound pressure level
$L_{pA,T}$
A-weighted sound pressure level averaged on an energy basis over the whole measurement period, T

4 Instrumentation

The instrumentation shall be capable of carrying out measurements as described in Clause 8. The preferred instrumentation system for acquiring the data is an integrating-averaging sound level meter complying with the requirements of IEC 61672-1 for a class 1 instrument.

1) To be published. (Revision of ISO 9249:1997)

2) To be published. (Revision of ISO 11201:1995)