AS ISO 6396:2020
ISO 6396:2008
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Australian STANDARD®

STANDARDS Australia

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

AS ISO 6396:2020

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Australian Industry Group
Better Regulation Division — SafeWork NSW
Construction and Mining Equipment Industry Group
Department of Natural Resources, Mines and Energy, Qld
Department of Regional NSW
Engineers Australia / Mining Electrical and Mining Mechanical Engineering Society
Institute of Instrumentation, Control & Automation Australia
Minerals Council of Australia
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Preface

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

The objective of this document 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 operating under dynamic test conditions.

It is applicable to earth-moving machinery as defined in ISO 6165 and as specified in AS ISO 6395:2020, Annex A.

This document is identical with, and has been reproduced from, ISO 6396:2008, *Earth-moving machinery — Determination of emission sound pressure level at operator's position — Dynamic test conditions,* and its Corrigendum No. 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 document".

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

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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.

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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 6396 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 second edition cancels and replaces the first edition (ISO 6396:1992), which has been technically revised.

Introduction

This International Standard is a specific test code for earth-moving machinery as defined in ISO 6165.

A simulated dynamic test condition, rather than an actual work cycle, is used. Simulated dynamic test conditions provide noise emission data which are repeatable and representative. Actual work cycle tests are complex and repeatability can be a problem.

Specific procedures are described in this International Standard to enable the time-averaged A-weighted emission sound pressure level in dynamic 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 6395. 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 dynamic test conditions.

Corresponding measurements of noise emitted to the environment and noise at the operator's position under stationary test conditions are described in ISO 6393 and ISO 6394, respectively.

NOTES

Australian Standard®

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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 operating under dynamic test conditions.

It is applicable to earth-moving machinery as defined in ISO 6165 and as specified in ISO 6395:2008, 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 6395:2008, *Earth-moving machinery — Determination of sound power level — Dynamic test conditions*

ISO 9249, *Earth-moving machinery — Engine test code — Net power*

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*

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 being used to carry 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.

5 Test environment

For the purposes of this International Standard, the test environment specified in ISO 6395 applies.