

Small craft — Measurement of airborne sound emitted by powered recreational craft

The European Standard EN ISO 14509:2000, with the incorporation of amendment A1:2004 has the status of a British Standard

ICS 17.140.30; 47.080

National foreword

This British Standard is the official English language version of EN ISO 14509:2000, including amendment A1:2004. It is identical with ISO 14509:2000, including amendment 1:2004.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by **A1** **A1**.

The UK participation in its preparation was entrusted to Technical Committee GME/33, Small craft, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 February 2001

Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii to iv, pages 1 to 17, the Annex ZA page, the Annex ZB page and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments
15362	2 December 2004	See national foreword

© BSI 2 December 2004

ISBN 0 580 36651 0

ICS 01.014.30

English version

**Small craft - Measurement of airborne sound emitted by
powered recreational craft**

(includes amendment A1:2004)
(ISO 14509:2000 + A1:2004)

Petits navires - Mesurage du bruit aérien émis par les
navires de plaisance motorisés
(inclut l'amendement A1:2004)
(ISO 14509:2000 + A1:2004)

Kleine Wasserfahrzeuge - Messung des von
motorgetriebenen Sportbooten abgestrahlten Luftschalls
(enthält Änderung A1:2004)
(ISO 14509:2000 + A1:2004)

This European Standard was approved by CEN on 8 October 2000, and amendment A1 was approved by CEN on 2 September 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard ISO 14509:2000 has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with CEN/CMC.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2001, and conflicting national standards shall be withdrawn at the latest by May 2001.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 14509:2000 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

Foreword to amendment A1

This document (EN ISO 14509:2000/A1:2004) has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with CMC.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZB, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 14509/A1:2004 has been approved by CEN as EN ISO 14509:2000/A1:2004 without any modifications.

INTERNATIONAL STANDARD

ISO 14509

First edition
2000-11-01

Incorporating amendment 1
2004-09-15

Small craft — Measurement of airborne sound emitted by powered recreational craft

*Petits navires — Mesurage du bruit aérien émis par les navires de
plaisance motorisés*



Reference number
ISO 14509:2000(E)

Contents

Page

Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols	4
5 Measurement quantity.....	4
6 Measurement uncertainty	4
7 Measuring equipment.....	5
7.1 Equipment specifications	5
7.2 Equipment calibration	5
8 Test site specifications and environmental conditions.....	5
8.1 Test site specifications	5
8.2 Environmental conditions.....	5
8.3 Background noise	6
9 Test course, microphone positions and measurement distance	7
9.1 General.....	7
9.2 Distance correction	8
10 Operating conditions.....	9
11 Test procedure	9
12 Test report	10
13 Standard craft specifications for outboard motor type tests according to clause 10	11
14 Standard craft specifications for type tests for stern drives with integral exhaust systems according to clause 10	11
 Annex A (normative) Measurement of the sound exposure level.....	 12
Annex B (informative) Example of test report form.....	15
Bibliography	17

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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 14509 was prepared by Technical Committee ISO/TC 188, *Small craft*.

Annex A forms a normative part of this International Standard. Annex B is for information only.

Amendment 1 to ISO 14509:2000 was prepared by Technical Committee ISO/TC 188, *Small craft*.

Small craft — Measurement of airborne sound emitted by powered recreational craft

1 Scope

This International Standard specifies the conditions for obtaining reproducible and comparable measurement results of the maximum sound pressure level of airborne sound generated during the passage of powered recreational craft of up to 24 m length of hull, including inboards, stern drives, personal watercraft (PWC) and outboard motors. ^[A1] It also specifies type tests for stern drives with integral exhaust systems and for outboard motors, based on standard craft. ^[A1]

Annex A specifies the procedure to be followed if, in addition to the maximum sound pressure level, the determination of the sound exposure level is desired.

NOTE For craft other than those specified above, ISO 2922 is applicable for sound emission measurements.

The accuracy grade of the acoustical test procedures specified in this International Standard is engineering grade (grade 2) as defined in ISO 12001. See also clause 6.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 8665, ^[A1] *Small craft — Marine propulsion reciprocating internal combustion engines — Power measurements and declarations.* ^[A1]

ISO 10087, *Small craft — Hull identification — Coding system.*

ISO 12001, *Acoustics — Noise emitted by machinery and equipment — Rules for the drafting and presentation of a noise test code.*

IEC 61672-1, ^[A1] *Electroacoustics — Sound level meters — Part 1: Specifications.* ^[A1]

IEC 60942, *Electroacoustics — Sound calibrators.*

^[A1] Footnote deleted ^[A1]