



FINAL DRAFT

International Standard

ISO/FDIS 13332

Reciprocating internal combustion engines — Test code for the measurement of structure-borne noise emitted from high-speed and medium-speed reciprocating internal combustion engines measured at the engine feet

Moteurs alternatifs à combustion interne — Code d'essai pour le mesurage du bruit solide émis par les moteurs alternatifs à combustion interne à vitesse élevée et à vitesse moyenne, mesuré aux pieds du moteur

ISO/TC 70

Secretariat: **SAC**

Voting begins on:
2025-09-17

Voting terminates on:
2025-11-12

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO/FDIS 13332

<https://standards.iteh.ai/catalog/standards/iso/3e09a4ea-14fe-44c5-8fb2-1397aaaac2bb/iso-fdis-13332>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Measure environment	3
4.1 Acoustic environment	3
4.2 Meteorological conditions	4
5 Measuring instruments	4
5.1 General rule	4
5.2 Verification	4
6 Installation and operating conditions	4
6.1 General rule	4
6.2 Installation conditions	4
6.3 Mounting Requirements	4
6.4 Operating conditions	5
7 Acceleration measurement	5
7.1 General rule	5
7.2 Uncertainty	5
7.3 Mount selection	6
7.4 Accelerometer Position	6
7.4.1 Recommended Position	6
7.4.2 Alternative arrangement	8
7.5 Accelerometer Installation	10
7.6 Preliminary Test	10
7.7 Formal Test	11
8 Calculation	11
8.1 Calculation of Velocity and Angular Velocity	11
8.2 Calculation of time-averaged velocity levels and time-averaged angular velocity levels in each measurement direction	12
9 Recorded Information	12
10 Test Report	13
Annex A (normative) Other connections between the engine and test surroundings	14
Annex B (normative) Corrections if the accelerometers are not in the contact plane between the machinery foot and isolator	15
Annex C (normative) Determination of Frequency range of measurement	17
Annex D (normative) Test record	20
Bibliography	22

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

This second edition cancels and replaces the first edition (ISO 13332:2000), which has been technically revised.

The main changes are as follows:

- revised [Clause 3](#);
- "Symbols" in [Clause 4](#) of the previous edition has been deleted and the requirements for "measuring environment" has been added (see [Clause 4](#));
- "Technical Background" in [Clause 5](#) of the previous edition has been deleted and provisions for "measuring instruments" has been added (see [Clause 5](#));
- content related to the installation and operating conditions of the measured object has been moved to [Clause 6](#) of this document (see [Clause 6](#));
- content related to "acceleration measurement" has been moved to [Clause 7](#) of the this document, requirements of measurement uncertainty have been supplemented; measurements of angular velocity and angular acceleration have be added (see [Clause 7](#));
- "calculation" has been added (see [Clause 8](#));
- added provisions on "record content" (see [Clause 9](#));
- requirements related to "reporting" has been added (see [Clause 10](#));
- requirements related to "connections between engine and test environment" has been added (see [Annex A](#));
- content on "sensor contact plane height correction" has been added (see [Annex B](#));
- relevant content of "Frequency range" in the previous edition [Clause 7](#) has been moved to [Annex C](#);

ISO/FDIS 13332:2025(en)

— "Engine-Structure-borne Noise Characterization - Test Report Form" has been moved to [Annex D](#).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO/FDIS 13332

<https://standards.iteh.ai/catalog/standards/iso/3e09a4ea-14fe-44c5-8fb2-1397aaaac2bb/iso-fdis-13332>