

This is a preview of "ISO 5130:2019". [Click here to purchase the full version from the ANSI store.](#)

Third edition
2019-07

Acoustics — Measurements of sound pressure level emitted by stationary road vehicles

Acoustique — Mesurages du niveau de pression acoustique émis par les véhicules routiers en stationnement



Reference number
ISO 5130:2019(E)

© ISO 2019



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

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
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of "ISO 5130:2019". Click here to purchase the full version from the ANSI store.

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Instrumentation	2
4.1 Instrumentation for acoustical measurement.....	2
4.1.1 General.....	2
4.1.2 Operational check.....	2
4.1.3 Verification.....	3
4.2 Instrumentation for engine-speed measurement.....	3
5 Acoustical environment, meteorological conditions and background noise	3
5.1 Test site.....	3
5.2 Meteorological conditions.....	4
5.3 Background noise.....	4
6 Test procedure	4
6.1 General comments.....	4
6.2 Positioning and preparation of the vehicle.....	4
6.3 Microphone position.....	5
6.4 Target engine speed.....	10
6.4.1 General.....	10
6.4.2 Vehicles of category L.....	10
6.4.3 Vehicles of category M, N.....	11
6.5 Engine operating conditions.....	11
6.6 Multi-mode exhaust system.....	11
7 Measurements	11
8 Interpretation of results	12
9 Measurement uncertainty	12
10 Test report	12
Annex A (informative) Technical background information	14
Annex B (informative) Measurement uncertainty — Framework for uncertainty analysis based on ISO/IEC Guide 98-3	15
Bibliography	18

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 documents 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This third edition cancels and replaces the second edition (ISO 5130:2007) which has been technically revised. It also incorporates the Amendment ISO 5130:2007/Amd.1:2012. The main changes compared to the previous edition are as follows:

- In the scope, it has been clarified that this document applies only to vehicles of categories L, M and N equipped with internal combustion engines, and furthermore that vehicles with an internal combustion engine which cannot operate when the vehicle is operated at stationary are outside the scope of this document.
- The microphone position to be used, depending on the location of the exhaust outlets, has been modified to include new variations of exhaust outlet design. New and updated figures have been added to clarify the position of microphone to be used.

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.

This is a preview of "ISO 5130:2019". [Click here to purchase the full version from the ANSI store.](#)

Introduction

This sound pressure level measurement procedure has been developed for use in the engineering evaluation of the sound pressure level performance of road vehicles in the vicinity of the exhaust systems. The method is intended to check vehicles in use and also to determine variations in the exhaust sound pressure level that can result from

- the wear, maladjustment or modification of particular components, when the defect does not appear by visual inspection;
- the partial or complete removal of devices increasing the emission of certain sound pressure levels.

It is possible to determine some of these variations by comparing the measurements with reference measurements made under similar conditions, for example during the type approval of the vehicle, using the same method. Other variations can be detected only when the engine is operated at a realistic load.

The document incorporates certain provisions of SAE J1492:2008-10^[1] for measuring the sound pressure levels of exhaust systems of passenger cars and light trucks.