
**Acoustics — Measurement of insertion
loss of ducted silencers without flow
— Laboratory survey method**

*Acoustique — Détermination de la perte d'insertion de silencieux en
conduit sans écoulement — Méthode de contrôle en laboratoire*

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

ISO 11691:2020

<https://standards.iteh.ai/catalog/standards/iso/52711033-fecb-458c-81aa-f12a762c61fb/iso-11691-2020>



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

ISO 11691:2020

<https://standards.iteh.ai/catalog/standards/iso/52711033-fecb-458c-81aa-f12a762c61fb/iso-11691-2020>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

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	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Test facility and arrangement	2
4.1 General	2
4.2 Sound measuring equipment	3
4.3 Sound source equipment	4
4.3.1 General	4
4.3.2 Electronic equipment, loudspeaker unit and transition element	4
4.3.3 Modal filter	4
4.4 Transition element	5
4.5 Test ducts and substitution duct	5
4.6 Reverberation room	5
4.7 Other measurement environments	5
5 Test procedure	5
6 Measurement uncertainty	6
7 Information to be recorded	6
7.1 General	6
7.2 Description of the silencer under test	6
7.3 Description of the test arrangement	7
7.4 Acoustical test result	7
8 Information to be reported	7
Bibliography	8

<https://standards.iteh.ai/catalog/standards/iso/52711033-fecb-458c-81aa-f12a762c61fb/iso-11691-2020>

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 second edition cancels and replaces the first edition (ISO 11691:1995), which has been technically revised. The main changes compared to the previous edition are as follows:

- a modal filter has been inserted after the source to bring the standard more in line with the corresponding arrangements in ISO 7235:2003^[5], and
- in this edition, test ducts and test object should, if possible, have the same cross-sections.

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.

Introduction

The insertion loss of absorbent silencers is generally not affected by the air flow, provided that the flow velocity does not exceed approximately 20 m/s in the narrowest cross-section of the silencer. In practice, non-uniform flow distributions must be considered, therefore the limit velocity of 20 m/s corresponds to a design velocity of 10 m/s to 15 m/s.

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

ISO 11691:2020

<https://standards.iteh.ai/catalog/standards/iso/52711033-fecb-458c-81aa-f12a762c61fb/iso-11691-2020>

