

---

---

**Mechanical vibration and shock —  
Characterization of the dynamic  
mechanical properties of visco-elastic  
materials —**

Part 2:  
**Resonance method**

**AMENDMENT 1**

*Vibrations et chocs mécaniques — Caractérisation des propriétés  
mécaniques dynamiques des matériaux visco-élastiques —*

*Partie 2: Méthode de résonance*

*AMENDEMENT 1*



Reference number  
ISO 18437-2:2005/Amd.1:2010(E)

© ISO 2010

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

-----

## 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.

Amendment 1 to ISO 18437-2:2005 was prepared by Technical Committee ISO/TC 108, *Mechanical vibration, shock and condition monitoring*.



# Mechanical vibration and shock — Characterization of the dynamic mechanical properties of visco-elastic materials —

## Part 2: Resonance method

### AMENDMENT 1

*Page iv, Foreword*

Add after Part 3:

- *Part 4: Dynamic stiffness method*
- *Part 5: Poisson's ratio based on comparison between measurements and finite element analysis*

Delete at the end of the list:

Part 4 (*Impedance method*) is under preparation.

Add at the end of the list:

The following part is in preparation:

- Part 1: Principles and guidelines

*Page 3, Clause 3, paragraph 3, 2nd sentence*

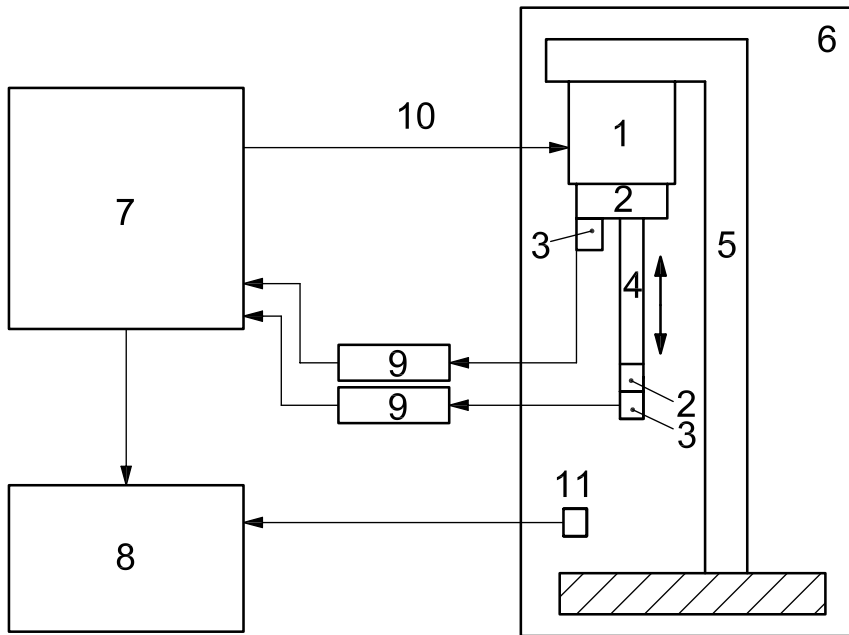
Add a new definition at the end of the clause.

#### **3.8**

##### **relaxation time**

time taken by an exponentially decaying quantity to decrease in magnitude by a factor  $1/e = 0,367\ 9$

Replace the existing figure with the following.



**Key**

- |                                       |                                  |
|---------------------------------------|----------------------------------|
| 1 electro-dynamic vibration generator | 7 dual-channel spectrum analyser |
| 2 mounting blocks                     | 8 computer                       |
| 3 accelerometers                      | 9 charge amplifiers              |
| 4 test specimen                       | 10 noise source                  |
| 5 test stand                          | 11 temperature sensor            |
| 6 environmental chamber               |                                  |

**Figure 1 — Schematic diagram of the resonance apparatus**

In the third sentence, replace “60 °C” by “-60 °C”.

Replace the second sentence by the following.

The mould should be at least 150 mm long, with uniform square lateral dimensions of 6,0 mm  $\begin{smallmatrix} 0 \\ -0,1 \end{smallmatrix}$  mm.

Replace the existing text by the following.

A uniform circular cross-section of 6 mm to 8 mm diameter is also acceptable instead of a square bar.

*Page 7, 5.4.1, paragraph 2*

Replace the first sentence by the following.

The data shall be displayed so as to observe that, at certain frequencies, the magnitude of the frequency response function, known as the acceleration ratio,  $A$ , exhibits resonance peaks in the kilohertz region, while the phase angle,  $\phi$ , goes through several cycles of  $360^\circ$ .

*Page 9, 6.1*

Replace the last line of the definitions below Equation (3) with the following.

$\xi$  and  $\beta$  are the roots of Equations (2) and (3).

---

---

**ICS 17.160**

Price based on 3 pages