

---

---

**Rolling bearings — Noise testing of  
rolling bearing greases —**

**Part 4:  
Test and evaluation method NQ**

*Roulements — Essais de bruit de graisse pour roulement —*

*Partie 4: Méthode d'essai et interprétation NQ*

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

ISO 21250-4:2020

<https://standards.iteh.ai/catalog/standards/iso/cbc3fd81-03a9-4c4d-8c64-bf90348ec52a/iso-21250-4-2020>



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

ISO 21250-4:2020

<https://standards.iteh.ai/catalog/standards/iso/cbc3fd81-03a9-4c4d-8c64-bf90348ec52a/iso-21250-4-2020>



**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](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Symbols, abbreviated terms and subscripts</b> .....	<b>2</b>
<b>5 Calculation method</b> .....	<b>2</b>
5.1 Signal processing.....	2
5.2 Peak detection .....	2
<b>6 Test method NQ</b> .....	<b>4</b>
6.1 Measuring principle.....	4
6.2 Testing procedure.....	4
<b>7 Evaluation of results</b> .....	<b>5</b>
<b>Annex A (informative) Test machine</b> .....	<b>6</b>
<b>Annex B (informative) Calibration</b> .....	<b>9</b>
<b>Bibliography</b> .....	<b>10</b>

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

ISO 21250-4:2020

<https://standards.iteh.ai/catalog/standards/iso/cbc3fd81-03a9-4c4d-8c64-bf90348ec52a/iso-21250-4-2020>

## 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](http://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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 4, *Rolling bearings*.

A list of all parts in the ISO 21250 series can be found on the ISO website.

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](http://www.iso.org/members.html).

## Introduction

The rolling bearing life theory emphasizes the use of pure and homogeneous lubricants as essential for a long bearing service life. The lubrication of rolling bearings is described in several national standards. The GfT worksheet 3<sup>[4]</sup> contains theoretical and practical knowledge of rolling bearing lubrication.

Grease lubrication is the most common type of rolling bearing lubrication. The purity grade of rolling bearing grease is influenced by thickeners, base oils, additives and solid lubricant additives as well as the manufacturing process and is reflected in the running noise. Therefore, noise testing of rolling bearing greases is recommended.

In addition, grease noise testing in accordance with this document allows the grease manufacturers to develop low-noise lubricants with better damping properties. This document can also support the rolling bearing manufacturers and end-users in the selection of low-noise grease with better damping properties.

This document covers requirements for the testing assembly and the test machine of method NQ to determine and assess the noise characteristics of rolling bearing grease jointly with ISO 21250-1, ISO 21250-2 and ISO 21250-3.

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

[ISO 21250-4:2020](https://standards.iteh.ai/catalog/standards/iso/cbc3fd81-03a9-4c4d-8c64-bf90348ec52a/iso-21250-4-2020)

<https://standards.iteh.ai/catalog/standards/iso/cbc3fd81-03a9-4c4d-8c64-bf90348ec52a/iso-21250-4-2020>

