
**Metallic materials — Fatigue testing —
Axial plane bending method**

*Matériaux métalliques — Essais de fatigue — Méthode par flexion
plane axiale*

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

[ISO 22407:2021](https://standards.itih.ai/catalog/standards/iso/1cb9e3d4-342d-44f6-bd8b-c45cdd2a960c/iso-22407-2021)

<https://standards.itih.ai/catalog/standards/iso/1cb9e3d4-342d-44f6-bd8b-c45cdd2a960c/iso-22407-2021>



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

[ISO 22407:2021](https://standards.iteh.ai/catalog/standards/iso/1cb9e3d4-342d-44f6-bd8b-c45cdd2a960c/iso-22407-2021)

<https://standards.iteh.ai/catalog/standards/iso/1cb9e3d4-342d-44f6-bd8b-c45cdd2a960c/iso-22407-2021>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

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	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols	4
4.1 Symbols related to specimen geometry.....	4
4.2 Symbols related to testing device.....	4
4.3 Symbols related to fatigue test.....	4
5 Principle of test	5
6 Test plan	5
6.1 General outline.....	5
7 Specimen	5
7.1 Shape of specimens.....	5
7.2 Size of specimen.....	6
7.3 Preparation of specimens.....	6
7.3.1 General.....	6
7.3.2 Machining procedure.....	7
7.3.3 Sampling and marking.....	7
7.3.4 Dimensional checks.....	8
7.3.5 Storage and handling.....	8
8 Apparatus	8
8.1 Testing machine.....	8
8.1.1 Introduction.....	8
8.1.2 Force transducer.....	8
8.1.3 Displacement transducer.....	9
8.1.4 Cycle counter.....	9
8.1.5 Instrumentation for test monitoring.....	9
8.1.6 Anti-rotation system.....	9
8.2 Testing device.....	9
9 Stress calculation	10
9.1 Introduction.....	10
9.2 Rectangular cross-section.....	10
9.2.1 Angular corner.....	10
9.2.2 Rounded corner.....	10
9.3 Bevelled cross-section.....	10
10 Stress homogeneity check	11
10.1 Principle.....	11
10.2 Measurement method.....	11
10.3 Calculations.....	11
11 Test procedure	11
11.1 Mounting of testing device.....	11
11.2 Mounting of specimen.....	12
11.3 Rate of testing.....	12
11.4 Application of force or displacement.....	12
11.5 Recording of temperature and humidity.....	12
11.6 Criterion of failure and test termination.....	12
11.6.1 Criterion of failure.....	12
11.6.2 Test termination.....	13
11.7 Test validity.....	13
12 Presentation of fatigue results	13

13	Test report	13
14	Measurement uncertainty	14
Annex A	(informative) Fatigue notched specimens	17
Bibliography	18

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

[ISO 22407:2021](https://standards.iteh.ai/catalog/standards/iso/1cb9e3d4-342d-44f6-bd8b-c45cdd2a960c/iso-22407-2021)

<https://standards.iteh.ai/catalog/standards/iso/1cb9e3d4-342d-44f6-bd8b-c45cdd2a960c/iso-22407-2021>