

INTERNATIONAL
STANDARD

ISO
204

Third edition
2018-08

**Metallic materials — Uniaxial creep
testing in tension — Method of test**

*Matériaux métalliques — Essai de fluage uniaxial en traction —
Méthode d'essai*



Reference number
ISO 204:2018(E)

© ISO 2018



COPYRIGHT PROTECTED DOCUMENT

© ISO 2018

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

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and designations	6
5 Principle	8
6 Apparatus	8
7 Test pieces	12
7.1 Shape and dimensions	12
7.1.1 Shape and dimension of smooth test pieces	12
7.1.2 Shape and dimension of notched test pieces	13
7.2 Preparation	13
7.3 Determination of the original cross-sectional area	14
7.4 Marking of the original gauge length, L_0	14
7.5 Determination of the reference length, L_r	14
8 Test procedure	15
8.1 Heating of the test piece	15
8.2 Application of the test force	15
8.3 Test interruptions	16
8.3.1 Planned interruptions of the test	16
8.3.2 Multiple test piece machine with several test pieces in line	16
8.3.3 Combined test	16
8.3.4 Accidental interruption of the test	16
8.4 Recording of temperature and elongation or extension	16
8.4.1 Temperature	16
8.4.2 Elongation and extension	16
8.4.3 Elongation-time diagram or extension-time diagram	17
9 Determination of results	17
10 Test validity	17
11 Accuracy of the results	17
11.1 Expression of the results	17
11.2 Final uncertainty	18
12 Test report	18
Annex A (informative) Information concerning drift of thermocouples	23
Annex B (informative) Information concerning methods of calibration of thermocouples	26
Annex C (normative) Creep testing using test pieces with V or blunt circumferential notches	27
Annex D (informative) Method of estimating the uncertainty of the measurement in accordance with the Guide to the expression of uncertainty in measurement (GUM)	31
Annex E (informative) Representation of results and extrapolation	38
Annex F (informative) Computer compatible representation of standards	48
Bibliography	49