



Metallic materials — Tensile testing — Method of test at elevated temperature



AS 2291:2020

This Australian Standard® was prepared by MT-006, Mechanical Testing Of Metals. It was approved on behalf of the Council of Standards Australia on 17 June 2020.

This Standard was published on 26 June 2020.

The following are represented on Committee MT-006:

- Australian Pipelines and Gas Association
- Bureau of Steel Manufacturers of Australia
- Materials Australia
- National Association of Testing Authorities Australia
- University of Technology Sydney
- Weld Australia

This Standard was issued in draft form for comment as DR AS 2291:2020.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

AS 2291:2020
ISO 6892-2:2018



Metallic materials — Tensile testing — Method of test at elevated temperature

Originated as AS 2291—1979.
Previous edition AS 2291—2007.
Third edition 2020.

COPYRIGHT

© ISO 2020 — All rights reserved
© Standards Australia Limited 2020

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

Preface

This Test Method was prepared by the Standards Australia Committee MT-006, Mechanical Testing Of Metals to supersede AS 2291—2007, *Metallic materials — Tensile testing at elevated temperatures*.

The objective of this Test Method is to specify a method of tensile testing of metallic materials at temperatures higher than room temperature.

This Test Method is identical with, and has been reproduced from, ISO 6892-2:2018, *Metallic materials — Tensile testing — Part 2: Method of test at elevated temperature*.

As this document has been reproduced from an International Test Method, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

Contents

Preface	ii
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and designations	2
5 Principle	3
6 Test piece	3
7 Determination of original cross-sectional area (S_0)	3
8 Marking the original gauge length (L_0)	3
9 Apparatus	3
10 Test conditions	5
10.1 Setting the force zero point	5
10.2 Gripping of the test piece, fixing of the extensometer and heating of the test piece, not necessarily in the following sequence	5
10.2.1 Method of gripping	5
10.2.2 Fixing of the extensometer and establishing the gauge length	5
10.2.3 Heating of the test piece	6
10.3 Testing rate based on strain rate control (Method A)	6
10.3.1 General	6
10.3.2 Strain rate for the determination of the upper yield strength (R_{eH}) or proof strength properties (R_p and, if required, R_t)	6
10.3.3 Strain rate for the determination of the lower yield strength (R_{eL}) and percentage yield point extension (A_e), if required	6
10.3.4 Strain rate for the determination of the tensile strength (R_m), percentage elongation after fracture (A), percentage reduction area (Z), and, if required, percentage total extension at the maximum force (A_{gt}), percentage plastic extension at maximum force (A_g)	7
10.4 Method of testing with expanded strain rate ranges (Method B)	7
10.4.1 General	7
10.4.2 Rate for the determination of yield strength or proof strength properties	7
10.4.3 Rate for the determination of tensile strength	7
10.5 Choice of the method and rates	7
10.6 Documentation of the chosen testing conditions	8
11 Determination or calculation of the properties	8
12 Test report	8
13 Measurement uncertainty	9
14 Figures	9
15 Annexes	10
Annex A (informative) Addition to ISO 6892-1:2016, Annexes B and D	12
Annex B (informative) Measurement uncertainty	18
Bibliography	21

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-