

Australian/New Zealand Standard™

Pipelines—Gas and liquid petroleum

Part 5: Field pressure testing



AS/NZS 2885.5:2012

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME-038, Petroleum Pipelines. It was approved on behalf of the Council of Standards Australia on 1 May 2012 and on behalf of the Council of Standards New Zealand on 1 May 2012.

This Standard was published on 20 September 2012.

The following are represented on Committee ME-038:

APIA Research and Standards Committee
Australasian Corrosion Association
Australian Chamber of Commerce and Industry
Australian Institute of Petroleum
Australian Petroleum Production and Exploration Association
Australian Pipeline Industry Association
Bureau of Steel Manufacturers of Australia
Department for Manufacturing, Innovation, Trade Resources and Energy, (SA)
Department of Labour New Zealand
Department of Mines and Petroleum (WA)
Department of Natural Resources and Mines (Qld)
Department of Resources (NT)
Energy Networks Association
Energy Safe Victoria
Gas Association of New Zealand
NSW Department of Trade and Investment, Regional Infrastructure and Services
Petroleum Exploration and Production Association New Zealand
Welding Technology Institute of Australia

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

AS/NZS 2885.5:2012

Australian/New Zealand Standard™

Pipelines—Gas and liquid petroleum

Part 5: Field pressure testing

First published as AS 1978—1977.
Jointly revised and redesignated as AS/NZS 2885.5:2002.
This edition 2012.

COPYRIGHT

© Standards Australia Limited/Standards New Zealand

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 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140

ISBN 978 1 74342 219 9

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-038, Petroleum Pipelines, to supersede AS/NZS 2885.5:2002.

The objective of this Standard is to set out methods for the determination of the strength and the leak tightness of a pipeline test section.

This revision includes the following substantial changes:

- (a) The document structure is changed to improve its readability.
- (b) A new section 'Safety' is included. The new section (Section 2) incorporates safety requirements from the 2002 revision, and introduces new obligations for assessing safety, using the 'Safety management process' of AS 2885.1, *Pipelines—Gas and liquid petroleum*, Part 1: *Design and construction*.
- (c) Guidance is provided for freeze sectioning of a pipeline to assist in location of a leak.
- (d) In previous revisions of the Standard, the test engineer was required to make engineering (design) assessments. This revision defines the responsibilities of the design engineer and the test engineer, and the design responsibilities moved to AS 2885.1.
- (e) The strength test end-point limit is redefined, with three test types being defined. Where there is a possibility of yield in any pipe, additional analysis is required using knowledge gained through research undertaken by the APIA Research and Standards Committee.
- (f) The volume-controlled strain (offset volume) strength test end-point limit is deleted since it does not reliably predict premature strain in a few pipes.
- (g) The criteria for leak test acceptance are redefined to recognize the effort required to identify leaks in test sections of various volumes.
- (h) Criteria are provided for assessing a leak test of large diameter pipe. This revision provides for test sections involving large diameter pipe to be extended to practical lengths, and recognizes the experience from testing the Moomba to Sydney pipeline.
- (i) The provision in AS 2885.1 for pneumatic testing of pipelines is recognized.
- (j) The requirements for reporting are revised to make them consistent with requirements of other parts of the Standard, and to reflect current industry expectations.
- (k) The method for assessing and accepting entrained air is revised.

At the date of publication of this Standard, the research being undertaken by APIA Research and Standards Committee on 'Understanding hydrostatic test uncertainty' is incomplete. Because this research is expected to improve the leak test methods, the results of this research may be incorporated in a future amendment to the Standard.

Statements expressed in normative terms in notes to tables and figures are deemed to be requirements of this Standard.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	5
1.2 APPROVAL	5
1.3 APPLICATION	5
1.4 EXCLUSIONS.....	5
1.5 DEFINITIONS.....	6
1.6 TESTING PERSONNEL	8
1.7 SYMBOLS AND UNITS.....	8
1.8 ABBREVIATIONS	10
1.9 REFERENCED DOCUMENTS.....	11
1.10 ROUNDING OF NUMBERS	11
SECTION 2 SAFETY	
2.1 BASIS OF SECTION	12
2.2 HAZARD ASSESSMENT.....	12
2.3 EMERGENCY RESPONSE PLAN	12
2.4 COMMUNICATIONS AND TRANSPORT	13
2.5 EXCLUSION ZONE	13
2.6 ENVIRONMENTAL SAFETY.....	14
2.7 WORKING WITH COMPRESSED AIR OR GAS.....	14
2.8 PROCEDURES AND PRECAUTIONS WHERE TEST FLUID IS AIR OR GAS....	15
2.9 FILLING AND DEWATERING	15
2.10 PROCEDURES AND PRECAUTIONS WHERE TEST FLUID IS PETROLEUM LIQUID	15
2.11 PIPE SUBJECTED TO FREEZE SECTIONING.....	16
SECTION 3 PRESSURE TEST DESIGN	
3.1 BASIS OF SECTION	18
3.2 DESIGN RESPONSIBILITIES	18
3.3 STRENGTH TEST PRESSURE TYPES	18
3.4 LEAK TEST REQUIREMENTS	20
3.5 PRESSURE TEST SECTION DESIGN.....	21
SECTION 4 EQUIPMENT AND TEST LIQUID	
4.1 BASIS OF SECTION	22
4.2 ACCURACY, SENSITIVITY, AND REPEATABILITY OF EQUIPMENT.....	22
4.3 INSTALLATION AND LOCATION OF TEST EQUIPMENT.....	24
4.4 TEST FLUID	25
4.5 TEST HEADERS.....	25
SECTION 5 PREPARATION FOR TESTS	
5.1 BASIS OF SECTION	26
5.2 TEST PLAN	26
5.3 TEST SECTION	28
5.4 PRESSURE TEST PROCEDURE	28
5.5 SITE WORK.....	28

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](#)
-