

Australian/New Zealand Standard™

**Mechanical jointing fittings for use with
crosslinked polyethylene (PE-X) for
pressure applications**

**Part 3: Plastics piping systems for hot
and cold water installations—
Crosslinked polyethylene (PE-X)—
Fitness for purpose of the system (ISO
15875-5:2003, MOD)**



AS/NZS 2537.3:2011

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee PL-006, Polyolefin Pipe Systems. It was approved on behalf of the Council of Standards Australia on 23 March 2011 and on behalf of the Council of Standards New Zealand on 18 March 2011.
This Standard was published on 13 April 2011.

The following are represented on Committee PL-006:

Certification Interests (Australia)
Energy Networks Association
Engineers Australia
Master Plumbers, Gasfitters and Drainlayers New Zealand
National Plumbing Regulators Forum
New Zealand Water and Waste Association
Plastics Industry Pipe Association of Australia
Plastics New Zealand
Plumbing Products Industry Group
Water Services Association 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 Standards may also be withdrawn.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.

Australian/New Zealand Standard™

**Mechanical jointing fittings for use with
crosslinked polyethylene (PE-X) for
pressure applications**

**Part 3: Plastics piping systems for hot
and cold water installations—
Crosslinked polyethylene (PE-X)—
Fitness for purpose of the system (ISO
15875-5:2003, MOD)**

Originated in Australia as part of AS 2537—1982.
Previous edition part of AS 2537—1994.
Jointly revised and redesignated AS/NZS 2537.3:2011.

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

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee PL-006, Polyolefin Pipe Systems to supersede, in part, AS 2537—1994, *Mechanical jointing fittings for use with crosslinked polyethylene (PE-X) pipe for hot and cold water applications*.

This Standard is an adoption with national modifications and has been reproduced from ISO 15875-5:2003, *Plastics piping systems for hot and cold water installations—Crosslinked polyethylene (PE-X), Part 5: Fitness for purpose of the system*. The modifications and additional requirements are set out in Appendix ZZ.

The objective of this Standard is to specify the general requirements to demonstrate fitness for purpose of mechanical jointing fittings made for use with crosslinked polyethylene pipes in hot and cold water applications.

Other parts of AS/NZS 2537 are:

AS/NZS

- 2537.1 Part 1: Plastics piping systems for hot and cold water installations—Crosslinked polyethylene (PE-X)—General (ISO 15875-1, MOD)
- 2537.2 Part 2: Plastics piping systems for hot and cold water installations—Crosslinked polyethylene (PE-X)—Fittings (ISO 15875-3:2003, MOD)
- 2537.4 Part 4: Plastics piping systems for hot and cold water installations—Crosslinked polyethylene (PE-X)—Guidance for the assessment of conformity (ISO/TS 15875-7:2003, MOD)
- 2537.5 Part 5: Plastics pipes and fittings—Crosslinked polyethylene (PE-X) pipe systems for the conveyance of gaseous fuels—Metric series—Specifications—Fittings for mechanical jointing (including PE-X/metal transitions) (ISO 14531-3:2006, MOD)

As this Standard is reproduced from an international Standard, the following applies:

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text ‘this part of EN ISO 15875’ should read ‘this part of AS/NZS 2537’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

The term ‘normative’ has been used in this Standard to define the application of the annex or appendix to which it applies. A ‘normative’ annex or appendix is an integral part of a Standard.

CONTENTS

	<i>Page</i>
1	Scope1
2	Normative references1
3	Terms and definitions, symbols and abbreviated terms2
4	Fitness for purpose of the joints and the piping system.....2
4.1	General.....2
4.2	Internal pressure test3
4.3	Bending test3
4.4	Pull-out test4
4.5	Thermal cycling test5
4.6	Pressure cycling test.....5
4.7	Leaktightness under vacuum6
	Bibliography7

AUSTRALIAN/NEW ZEALAND STANDARD

Mechanical jointing fittings for use with crosslinked polyethylene (PE-X) pipe for pressure applications

Part 3:

**Plastics piping systems for hot and cold water installations—
Crosslinked polyethylene (PE-X)—Fitness for purpose of the system
(ISO 15875-5:2003, MOD)****1 Scope**

This Part of EN ISO 15875 specifies the characteristics of the fitness for purpose of crosslinked polyethylene (PE-X) piping systems, intended to be used for hot and cold water installations within buildings for the conveyance of water whether or not intended for human consumption (domestic systems) and for heating systems, under design pressures and temperatures according to the class of application (see Table 1 of EN ISO 15875-1:2003).

This standard covers a range of service conditions (application classes) and design pressure classes. For values of T_D , T_{max} and T_{mal} in excess of those in Table 1 of Part 1, this standard does not apply.

NOTE It is the responsibility of the purchaser or specifier to make the appropriate selections from these aspects, taking into account their particular requirements and any relevant national regulations and installation practices or codes.

It also specifies the test parameters for the test methods referred to in this standard.

In conjunction with the other parts of EN ISO 15875:2003 (see Foreword) it is applicable to PE-X pipes, fittings, their joints and to joints with components of other plastics and non-plastics materials intended to be used for hot and cold water installations.

2 Normative references

This standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of, any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 712, *Thermoplastics piping systems — End-load bearing mechanical joints between pressure pipes and fittings — Test method for resistance to pull-out under constant longitudinal force*

EN 713, *Plastics piping systems — Mechanical joints between fittings and polyolefin pressure pipes — Test method for leaktightness under internal pressure of assemblies subjected to bending*