

Australian/New Zealand Standard™

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

**Part 1: Plastics piping systems for hot
and cold water installations—
Crosslinked polyethylene (PE-X)—
General (ISO 15875-1:2003, MOD)**



AS/NZS 2537.1:2011

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.

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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

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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 15875-1:2003, *Plastics piping systems for hot and cold water installations—Crosslinked polyethylene (PE-X)*, Part 1: *General* and its Amendment 1 (2007) which is added at the end of the source text. The modifications and additional requirements for application of ISO 15875-1 in Australia and New Zealand are set out in Appendix ZZ.

The design pressure (p_D) of fittings complying with this Standard is applicable at the service conditions specified in Table 1 of ISO 15875.1. For example, Class 1/10 bar and Class 2/10 bar fittings are suitable for continuous use at pressures up to 1.0 MPa and temperatures to 60°C or 70°C respectively and these fittings satisfy the requirements for hot and cold water plumbing applications specified in AS/NZS 3500. For PE-X pipes complying with AS/NZS 2492, the PN classification is determined at 20°C and is de-rated at elevated temperatures. Therefore, the design pressure of fittings to this Standard is not numerically the same as the PN rating of PE-X plumbing pipes.

Where there is a need to retest and/or change the marking of a product already complying with AS 2537—1994, this will be required to be completed within 2 years of the publication of the revised Standard.

The objective of this Standard is to specify the general aspects 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

- | | | |
|--------|---------|---|
| 2537.2 | Part 2: | Plastics piping systems for hot and cold water installations—Crosslinked polyethylene (PE-X)—Fittings (ISO 15875-3, MOD) |
| 2537.3 | 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) |
| 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 appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

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AUSTRALIAN/NEW ZEALAND STANDARD

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

Part 1:

Plastics piping systems for hot and cold water installations—Crosslinked polyethylene (PE-X)—General (ISO 15875-1:2003, MOD)

1 Scope

This Part of EN ISO 15875 specifies the general aspects 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).

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

NOTE It is in 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 (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 ISO 15875-2:2003, *Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X) — Part 2: Pipes (ISO 15875-2:2003)*

EN ISO 15875-3:2003, *Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X) — Part 3: Fittings (ISO 15875-3:2003)*

ISO 472:1999, *Plastics — Vocabulary*

ISO 1043-1:2001, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

3 Terms and definitions, symbols and abbreviated terms

For the purposes of this standard, the following terms and definitions, symbols and abbreviated terms apply.

3.1 Terms and definitions

In addition to the terms and definitions given below, the terms and definitions given in ISO 472:1999 and ISO 1043-1:2001 apply.

3.1.1 Geometrical terms and definitions

3.1.1.1 Nominal size

3.1.1.1.1

nominal size (DN)

numerical designation of the size of a component, which is a convenient round number, approximately equal to the manufacturing dimensions in millimetres (mm)

3.1.1.1.2

nominal size (DN/OD)

nominal size, related to the outside diameter