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Australian/New Zealand Standard™

Plastics piping systems for renovation of underground drainage and sewerage networks under pressure

Part 3: Lining with close-fit pipes



AS/NZS ISO 11297.3:2023

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- Australian Industry Group
- Energy Networks Australia
- Engineers Australia
- Gas Association of New Zealand
- Joint Accreditation System of Australia & New Zealand
- Plastic Industry Pipe Association of New Zealand
- Plastics Industry Pipe Association of Australia
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Australian/New Zealand Standard™

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Part 3: Lining with close-fit pipes

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee PL-006, Polyolefin Pipe Systems.

The objective of this document is to specify the requirements and test methods for close-fit lining systems intended to be used for the renovation of underground drainage and sewerage networks under pressure.

It applies to pipes and fittings, as manufactured, as well as to the installed lining system. It is applicable to polyethylene (PE) pipes of either solid wall single layer or co-extruded layer construction, which is reduced in the factory or on site to provide a close-fitting independent or interactive pressure pipe liner, as well as associated fittings and joints for the construction of the lining system. It is not applicable to PE coated pipes having a peelable, contiguous, thermoplastic additional layer on the outside of the pipe.

It is applicable to PE pipes, fittings and assemblies intended to be used at an operating temperature of 20 °C as the reference temperature.

This document is to be read in conjunction with AS/NZS ISO 11297.1:2023

This document is identical with, and has been reproduced from, ISO 11297-3:2018, *Plastics piping systems for renovation of underground drainage and sewerage networks under pressure — Part 3: Lining with close-fit pipes*.

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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.

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National Foreword

For application within Australia and New Zealand, where the following ISO standards are referenced, see table below for AS or AS/NZS Standards that may be used in place of the ISO Standards:

ISO Standard	Replace with
ISO 4427-1:2019, <i>Plastics piping systems for water supply and for drainage and sewerage under pressure — Polyethylene (PE) — Part 1: General</i>	AS/NZS 4131:2010, <i>Polyethylene (PE) compounds for pressure pipes and fittings</i>
ISO 4427-2:2019, <i>Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) — Part 2: Pipes</i>	AS/NZS 4130:2018, <i>Polyethylene (PE) pipes for pressure applications</i>
ISO 4427-3:2019, <i>Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) — Part 3: Fittings</i>	AS/NZS 4129:2020, <i>Fittings for polyethylene (PE) pipes for pressure applications</i>
ISO 4435:2003, <i>Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly (vinyl chloride) (PVC-U)</i>	AS/NZS 1260:2017, <i>PVC-U pipes and fittings for drain, waste and vent applications</i>
ISO 4437-1:2014, <i>Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) — Part 1: General</i>	AS/NZS 4131:2010, <i>Polyethylene (PE) compounds for pressure pipes and fittings</i>
ISO 4437-2:2014, <i>Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) — Part 2: Pipes</i>	AS/NZS 4130:2018, <i>Polyethylene (PE) pipes for pressure applications</i>
ISO 4437-3:2014, <i>Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) — Part 3: Fittings</i>	AS/NZS 4129:2020, <i>Fittings for polyethylene (PE) pipes for pressure applications</i>
ISO 8772:2006, <i>Plastics piping systems for non-pressure underground drainage and sewerage — Polyethylene (PE)</i>	AS/NZS 5065:2005, <i>Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications</i>

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 8, *Rehabilitation of pipeline systems*.

This second edition cancels and replaces the first edition (ISO 11297-3:2013), which has been technically revised.

The main changes compared to the previous edition are as follows:

- [Figure 1](#) and [Clauses 1, 5.2.2, 5.5, 8.4, 9.3.4](#) and [9.4](#) have been technically revised;
- New sub-clauses [5.9, 6.3](#) and [8.9](#) specifying regional requirements for pipes, fittings and the installed system respectively, have also been added in accordance with the Vienna Agreement, to allow reference to European standards in countries where these are mandated by law in place of ISO standards of identical scope.

A list of all parts in the ISO 11297 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This International Standard is a part of a system standard for plastics piping systems of various materials used for renovation of existing pipelines in a specified application area. System standards for renovation dealing with the following applications are either available or in preparation:

- ISO 11296, *Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks*;
- ISO 11297, *Plastics piping systems for renovation of underground drainage and sewerage networks under pressure* (this document);
- ISO 11298, *Plastics piping systems for renovation of underground water supply networks*;
- ISO 11299, *Plastics piping systems for renovation of underground gas supply networks*.

These system standards are distinguished from system standards for conventionally installed plastics piping systems by the requirement to verify certain characteristics in the “as installed” condition, after site processing. This is in addition to verification of characteristics of plastics piping systems “as manufactured”.

Each of the System Standards comprises a:

- *Part 1: General*

and all applicable renovation technique family-related parts, which for non- drainage and sewerage networks under pressure include or potentially include the following:

- *Part 2: Lining with continuous pipes*
- *Part 3: Lining with close-fit pipes* (this document)
- *Part 4: Lining with cured-in-place pipes*
- *Part 5: Lining with discrete pipes*
- *Part 6: Lining with adhesive-backed hoses*

The requirements for any given renovation technique family are specified in Part 1, applied in conjunction with the relevant other part. For example, both ISO 11297-1 and this document together specify the requirements relating to lining with close-fit pipes. For complementary information, see ISO 11295. Not all technique families are pertinent to every area of application and this is reflected in the part numbers included in each System Standard.

A consistent structure of clause headings has been adopted for all parts to facilitate direct comparisons across renovation technique families.

[Figure 1](#) shows the common part and clause structure and the relationship between ISO 11297 and system standards for other applications.