

Australian/New Zealand Standard™

**Polyethylene and polypropylene pipes  
and fittings for drainage and sewerage  
applications**



## **AS/NZS 5065:2005**

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 5 August 2005 and on behalf of the Council of Standards New Zealand on 12 August 2005.

This Standard was published on 18 October 2005.

---

The following are represented on Committee PL-006:

AUSTAP  
Certification Interests (Australia)  
CSIRO Manufacturing & Infrastructure Technology  
Energy Networks Association  
Engineers Australia  
Master Plumbers, Gasfitters and Drainlayers New Zealand  
New Zealand Water and Waste Association  
Plastics Industry Pipe Association of Australia  
Plastics New Zealand  
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 Standards may also be withdrawn.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](http://www.saiglobal.com) or Standards New Zealand web site at [www.standards.govt.nz](http://www.standards.govt.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 Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

---

*This Standard was issued in draft form for comment as DR 05012.*

---

## Australian/New Zealand Standard™

# Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications

First published as AS/NZS 5065:2005.  
Reissued incorporating Amendment No. 1 (February 2010).  
Reissued incorporating Amendment No. 2 (November 2018).

### **COPYRIGHT**

© Standards Australia Limited

© The Crown in right of New Zealand, administered by the New Zealand Standards Executive

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, PO Box 1473, Wellington 6140.

## PREFACE

This Australian/New Zealand Standard was prepared by Committee PL-006, Polyolefin Pipe Systems.

*This Standard incorporates Amendment No. 1 (February 2010) and No. 2 (November 2018). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.*

The objective of this Standard is to provide manufacturers, specifiers and purchasers with minimum requirements for the manufacture and performance of polyethylene (PE) and polypropylene (PP) pipes and fittings for gravity sewerage and drainage applications.

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.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard. Notes to text are for information and guidance only.

## CONTENTS

	<i>Page</i>
FOREWORD.....	4
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	5
1.2 MEANS FOR DEMONSTRATING COMPLIANCE .....	5
1.3 REFERENCED DOCUMENTS.....	5
1.4 DEFINITIONS.....	5
1.5 PACKAGING, STORAGE AND TRANSPORTATION .....	6
SECTION 2 MATERIALS	
2.1 MATERIALS.....	7
2.2 WEATHERING RESISTANCE FOR HANDLING AND STORAGE .....	8
2.3 ELASTOMERIC SEALS.....	8
SECTION 3 PERFORMANCE REQUIREMENTS	
3.1 TESTS ON PIPES AND FITTINGS—THERMAL STABILITY .....	9
3.2 TESTS ON PIPES.....	9
3.3 TESTS ON FITTINGS .....	10
3.4 TESTS ON ELASTOMERIC SEAL JOINTS .....	10
SECTION 4 PIPES	
4.1 DIMENSIONS.....	11
4.2 PIPE EFFECTIVE LENGTH.....	22
4.3 SPIGOT ENDS .....	22
4.4 STRIPES.....	22
4.5 SOCKETS FORMED ON PIPE ENDS.....	22
4.6 FREEDOM FROM DEFECTS .....	22
4.7 MARKING .....	23
4.8 WITNESS MARK .....	23
SECTION 5 FITTINGS	
5.1 GENERAL.....	24
5.2 DIMENSIONS OF FITTINGS.....	24
5.3 FREEDOM FROM DEFECTS .....	29
5.4 MARKING .....	29
APPENDICES	
A MEANS FOR DEMONSTRATING CONFORMITY WITH THIS STANDARD .....	30
B REFERENCED DOCUMENTS.....	34

## FOREWORD

A1 | In this Standard, pipes and fittings are classified in terms of stiffness, based on minimum ring-bending stiffness values measured in short-term tests. Four common stiffness classes are given: SN 2, SN 4, SN 8 and SN 16, which are based on the requirements of ISO 8772:2006, *Plastics piping systems for non-pressure underground drainage and sewerage—Polyethylene (PE)*, and ISO 8773:2006, *Plastics piping systems for non-pressure underground drainage and sewerage—Polypropylene (PP)*. Stiffness class of SN 1.25 can only be used for pipes of nominal outside diameter (DN) greater than 600 mm.

Changes to this edition include the exclusion of additives containing compounds based on lead, cadmium or mercury and changing the reporting requirements for ring flexibility to reflect the changes in the test method.

By convention, plastics pipe systems are often designed on the basis of 50 year extrapolated test data. This is established international practice but is not intended to imply the service life of drainage pipe is limited to 50 years. For correctly manufactured and installed systems, the actual life cannot be predicted, but can logically be expected to be well in excess of 100 years before major rehabilitation is required.

The test criteria specified in this Standard apply to pipes and fittings at the time of manufacture. Storage prior to installation, the passage of time since manufacture and use in service may alter pipe and fitting properties such that the pipes or fittings may no longer meet the performance requirements of this Standard.

## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

**Australian/New Zealand Standard****Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications**

## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Standard specifies requirements for polyethylene (PE) and polypropylene (PP) pipes and fittings for sewerage and drainage applications, above and below ground, inside and outside of buildings, and intended to be used where the pipeline is operating under gravity flow and the operating pressure is low. It includes requirements for both plain and structured wall pipes and fittings.

A1 | Pipes manufactured to this Standard are intended to be installed in accordance with AS/NZS 2033, AS/NZS 2566.2, AS/NZS 3500.2, AS/NZS 3500.3, WSA 02 and other utility/authority requirements.

**1.2 MEANS FOR DEMONSTRATING COMPLIANCE**

Compliance with this Standard shall be demonstrated in accordance with Appendix A.

**1.3 REFERENCED DOCUMENTS**

The documents referred to in this Standard are listed in Appendix B.

**1.4 DEFINITIONS**

For the purpose of this Standard, the definitions given in AS/NZS 3500.0 and those below apply. Where there is conflict between the definitions of AS/NZS 3500.0 and this Standard, the definitions in this Standard apply.

**1.4.1 Co-extruded 'jacket' pipes**

A pipe comprised of two layers, where the melts are bonded simultaneously in a die head as part of the extrusion process.

**1.4.2 Effective seal**

A1 | That part of the interface between the elastomeric seal and the spigot and socket where the contact pressure is greater than 0.4 MPa for vulcanized seals and 0.47 MPa for thermoplastic seals.

**1.4.3 Effective sealing length****1.4.3.1 Socket-mounted seals**

The distance between the cross-sectional centre of the elastomeric sealing ring installed in the socket and the root of the socket.

**1.4.3.2 Spigot-mounted seals**

The distance from the position of effective seal of the elastomeric sealing ring to the mouth of a socket or the point at which the mouth of a socket flares.