

Australian/New Zealand Standard™

Buried flexible pipelines

Part 2: Installation



AS/NZS 2566.2:2002

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee WS-028, Design and installation of buried flexible pipes. It was approved on behalf of the Council of Standards Australia on 25 June 2002 and on behalf of the Council of Standards New Zealand on 27 June 2002. This Standard was published on 12 August 2002.

The following are represented on Committee WS-028:

AusPoly
Australasian Railway Association
Australian Chamber of Commerce and Industry
Australian Industry Group
AUSTROADS
Composites Institute of Australia
Concrete Pipe Association of Australasia
Department of Land and Water Conservation, NSW
Institution of Engineers Australia
PVC pipeline industry association
Plastics New Zealand
Stormwater Industry Association
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 Standards may also be withdrawn.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 or Standards New Zealand web site at 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.

Australian/New Zealand Standard™

Buried flexible pipelines

Part 2: Installation

First published as AS/NZS 2566.2:2002.
Reissued incorporating Amendment No. 1 (June 2013).
Reissued incorporating Amendment No. 2 (May 2018).
Reissued incorporating Amendment No. 3 (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 Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WS-028—Design and Installation of Buried Flexible Pipes.

This Standard incorporates Amendment No. 1 (June 2013), Amendment No. 2 (May 2018) and Amendment No. 3 (November 2018). The changes required by the Amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard is Part 2 of AS/NZS 2566 *Buried flexible pipelines*. The Parts are as follows:

Part 1: *Structural design*.

Part 1: *Structural design—Commentary*

Part 2: *Installation* (this Standard).

A2 | The purpose of Amendment 2 to AS/NZS 2566.2 is to update the text to reflect changes in AS/NZS 2566.1 Amendment 1, and to make editorial corrections.

Additionally, errors in Table 6.1 have been corrected.

The objective of this Standard is to provide designers and installers with uniform procedures for the installation of buried flexible pipelines.

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

Statements expressed in mandatory terms in notes to figures and tables are deemed to be requirements of the Standard. All other notes are for information and guidance only.

Informative appendices and notes, except as mentioned above, use the word ‘should’ (implying for information and guidance only), whereas normative appendices, clauses, figures and tables use the word ‘shall’ (implying a mandatory requirement).

Where the term ‘specified’ has been used, but no reference given to where the requirement is to be found, the requirement is expected to be stated or referred to in other project documentation.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	5
1.2 REFERENCED DOCUMENTS.....	5
1.3 APPLICATION	5
1.4 DEFINITIONS	6
1.5 NOTATION.....	10
1.6 WORK METHOD STATEMENT	11
1.7 ASSET PROTECTION.....	11
SECTION 2 TRANSPORTATION, HANDLING AND STORAGE	
2.1 SCOPE.....	12
2.2 TRANSPORTATION	12
2.3 HANDLING	12
2.4 ON-SITE STORAGE.....	13
SECTION 3 PIPELINE COMPONENTS ACCEPTANCE CRITERIA	
3.1 SCOPE.....	14
3.2 ACCEPTANCE CRITERIA	14
3.3 ACCEPTANCE AFTER RECTIFICATION.....	14
SECTION 4 EXCAVATION	
4.1 SCOPE.....	15
4.2 PRIOR TO COMENCEMENT	15
4.3 EXCAVATION METHOD.....	15
4.4 EMBEDMENT ZONE GEOMETRY	17
SECTION 5 INSTALLATION	
5.1 SCOPE.....	20
5.2 LAYING.....	20
5.3 FOUNDATION	23
5.4 EMBEDMENT ZONE.....	23
5.5 FILL ZONE	28
5.6 COMPACTION	29
5.7 DEFLECTION CRITERIA	31
5.8 ALTERNATIVE EMBEDMENT MATERIAL FOR PIPE RESTRAINT	31
SECTION 6 FIELD TESTING	
6.1 SCOPE.....	36
6.2 PURPOSE.....	36
6.3 PRESSURE PIPELINES—HYDROSTATIC PRESSURE TESTING	36
6.4 NON-PRESSURE PIPELINES—LEAKAGE TESTING.....	40
6.5 DEFLECTION TESTING.....	42
SECTION 7 COMMISSIONING	
7.1 GENERAL.....	43
7.2 CLEANING WATER SUPPLY PIPELINES.....	43
7.3 DISINFECTION OF DRINKING WATER SUPPLY PIPELINES.....	43

APPENDICES

A	LIST OF REFERENCED DOCUMENTS.....	44
B	INSTALLATION AND RELATED MANUFACTURING STANDARDS	47
C	GUIDE TO THE INSTALLATION PROCESS	48
D	WORK METHOD STATEMENT	50
E	ASSET PROTECTION.....	51
F	METHODS OF JOINTING	52
G	EMBEDMENT MATERIALS—PARTICLE SIZE AND GRADING LIMITS	56
H	EMBEDMENT AND FILL MATERIALS—COMPACTION	59
I	PREVENTION OF EMBEDMENT ZONE SOIL PARTICLE MIGRATION	62
J	SPECIFICATION FOR GEOTEXTILE FILTER FABRIC	63
K	CONTROLLED LOW STRENGTH MATERIALS—CLSM	64
L	STABILIZED SOILS AND AGGREGATES	68
M	FIELD HYDROSTATIC TESTING FOR PRESSURE PIPELINES.....	72
N	LEAKAGE TESTING FOR NON-PRESSURE PIPELINES	83
O	DIAMETRAL DEFLECTION MEASUREMENT.....	86

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Buried flexible pipelines

Part 2: Installation

SECTION 1 SCOPE AND GENERAL**1.1 SCOPE**

This Standard specifies requirements for the installation, field testing and commissioning of buried flexible pipelines with structural design in accordance with AS/NZS 2566.1. These pipelines rely primarily upon side support to resist vertical loads without excessive deformation by adopting an elliptical shape.

NOTE: Australian and New Zealand Standards generally do not—

- (a) restate the duties of employers, employees, designers and installers;
- (b) determine the applicability of regulatory limitations; or
- (c) determine appropriate health and safety practices.

1.2 REFERENCED DOCUMENTS

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

1.3 APPLICATION**1.3.1 Applicable installations**

This Standard applies to flexible pipes conveying water, wastewater, stormwater or slurry, for both pressure and non-pressure applications, or for flexible pipes serving as conduits for the later installation of cables or pipes.

This Standard is applicable to flexible pipes that are manufactured from the materials listed in Table 1.1, and that are—

- (a) homogeneous or composite;
- (b) creep affected (plastics) or unaffected (metallic); or
- (c) plain or structured wall.

Provided suitable data can be obtained, this Standard may be used for pipelines whose pipe materials are not given in Table 1.1 and where open cut excavation techniques are used.

NOTES:

- 1 Australian and New Zealand installation standards specific to different flexible pipe materials and their related manufacturing Standards are given in Appendix B.
- 2 Guidance, in the form of flow charts, to the installation process is given in Appendix C.