

Australian Standard[®]

Installation of ABS pipe systems

This Australian Standard was prepared by Committee PL/1, ABS Pipe Systems. It was approved on behalf of the Council of Standards Australia on 17 May 1989 and published on 13 November 1989.

The following interests are represented on Committee PL/1:

Electricity Commission of New South Wales
Engineering and Water Supply Department, S.A.
Hunter District Water Board
Melbourne and Metropolitan Board of Works
Plastics Institute of Australia
Water Authority of Western Australia
Water Board, Sydney
Water Resources Commission, Qld

***Review of Australian Standards.** To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 88102.

AS 3690—1989

Australian Standard[®]

Installation of ABS pipe systems

First published as AS 3690—1989.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 5798 2

PREFACE

This Standard was prepared by the Standards Australia Committee on ABS Pipe Systems under the direction of the Plastics Standards Board.

The Standard specifies requirements, and sets out recommendations for ABS pipe systems, but does not detail specific steps to be taken to achieve satisfactory installation. Detailed design of a specific system should encompass manufacturers' recommendations and instructions.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
SECTION 1. SCOPE, DEFINITIONS AND MATERIAL REQUIREMENTS	
1.1 SCOPE	4
1.2 APPLICATION	4
1.3 REFERENCED DOCUMENTS	4
1.4 DEFINITIONS	4
1.5 MATERIALS	5
SECTION 2. GENERAL REQUIREMENTS AND RECOMMENDATIONS FOR THE SELECTION AND USE OF ABS PIPES	
2.1 SCOPE OF SECTION	6
2.2 HANDLING AND STORAGE	6
2.3 SAFETY	6
2.4 CONSIDERATIONS FOR THE SELECTION OF ABS PIPING MATERIALS	6
SECTION 3. JOINTING METHODS	
3.1 SCOPE OF SECTION	8
3.2 GENERAL METHODS FOR JOINTING ABS PIPE SYSTEMS	8
SECTION 4. INSTALLATION	
4.1 SCOPE OF SECTION	10
4.2 GENERAL	10
4.3 INSTALLATION OF PIPE WORK BELOW GROUND	10
4.4 INSTALLATION OF PIPEWORK ABOVE GROUND	11
SECTION 5. PRESSURE TESTING	
5.1 SCOPE OF SECTION	14
5.2 GENERAL	14
5.3 PREPARATION FOR TEST	14
5.4 PRESSURE GAUGES	14
5.5 TEST FLUID	14
5.6 TEST PRESSURE AND PERIOD	14
5.7 TEST PROCEDURE	14
5.8 ACCEPTANCE CRITERIA	14
APPENDICES	
A CHEMICAL RESISTANCE OF ABS	15
B THERMAL LINEAR EXPANSION	19
C PIPING LAYOUTS	20

STANDARD AUSTRALIA

Australian Standard
Installation of ABS pipe Systems

SECTION 1. SCOPE DEFINITIONS AND
MATERIAL REQUIREMENTS

1.1 SCOPE. This Standard specifies requirements and sets out recommended methods for installing acrylonitrile butadiene styrene (ABS) pipelines, above or below ground, for both pressure and non-pressure applications. Information is included on the selection, storage and handling, of ABS pipes.

NOTE: The suitability of ABS for conveyance of a range of chemicals is tabulated in Appendix A.

1.2 APPLICATION. This Standard is primarily intended for use in association with pipe and fittings complying with AS 3518.1 and AS 3518.2.

The Standard does not apply to electrical installations, for which reference should be made to AS 3000.

1.3 REFERENCED DOCUMENTS. The following documents are referred to in this Standard:

AS	
1349	Bourdon tube pressure and vacuum gauges
1529	Code of practice for installation of household type hot water supply systems
1722	Pipe threads of Whitworth form
1722.1	Part 1: Sealing pipe threads
2129	Flanges for pipes, valves and fittings
2566	Plastics pipelaying design
3000	SAA Wiring Rules
3518	Acrylonitrile butadiene styrene (ABS) pipes and fittings for pressure applications
3518.1	Part 1: Pipes
3518.2	Part 2: Solvent cement fittings

3691 Solvent cements and priming (cleaning) fluids for use with ABS pipes and fittings

1.4 DEFINITIONS. For the purpose of this Standard the definitions below apply.

1.4.1 Backfill—material used for filling trenches and excavations after a pipeline has been laid underground. It is normally placed on top of pipe bedding material (see Figure 1.1).

1.4.2 Bedding material—material surrounding the pipe and bedding it in position. The bedding comprises three zones, viz the pipe underlay, the pipe overlay, and the pipe side support (see Figure 1.1).

1.4.3 Design pressure—the maximum pressure, resulting from the combination of static and dynamic pressures, that could possibly be imposed on the pipe or fitting during its operating life.

1.4.4 Maximum allowable working pressure—the maximum pressure that can be sustained with a factor of safety, by the type or class of pipe or fitting for its estimated useful life under the anticipated working conditions.

NOTE: Values are as set out in the relevant Australian Standard specifications.

1.4.5 Pipe overlay—the layer of bedding material between the pipe side-support material and the backfill, having the purpose of protecting the pipe from damage and of providing a means of distributing superimposed loads (see Figure 1.1).

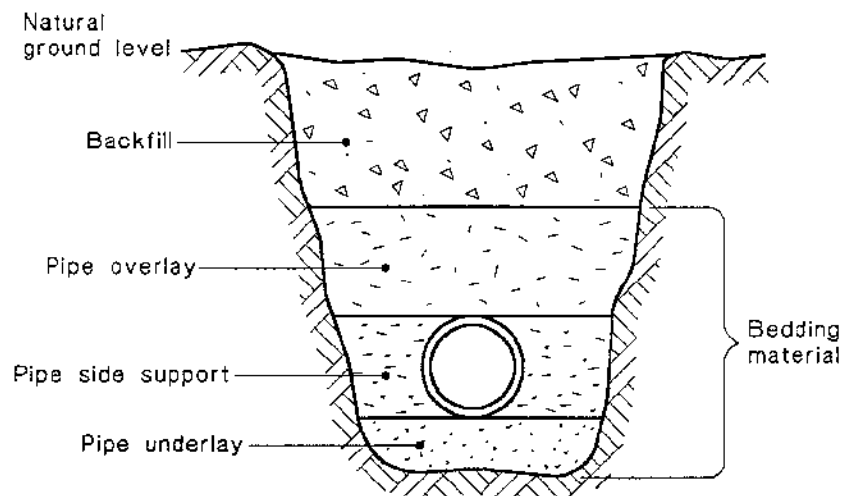


FIGURE 1.1 LAYERS IN A TRENCH INSTALLATION