Australian Standard®

Fittings for use with polyethylene pipes

Part 2: Electrofusion fittings

This Australian Standard was prepared by Committee PL/6, Polyethylene Pipe. It was approved on behalf of the Council of Standards Australia on 15 March 1989 and published on 18 August 1989.

The following interests are represented on Committee PL/6:

Confederation of Australian Industry

Department of Public Works, N.S.W.

Engineering and Water Supply Department, S.A.

Federated Master Plumbers of Australia

Melbourne and Metropolitan Board of Works

Metropolitan Water Authority, W.A.

Plastics Institute of Australia

Rural Water Commission, Vic.

Water Board, Sydney

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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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 88056.

Australian Standard®

Fittings for use with polyethylene pipes

Part 2: Electrofusion fittings

First published as AS 1406.2—1989.

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

ISBN 0 7262 5654 4

PREFACE

This Standard was prepared by the Standards Australia Committee on Polyethylene Pipe, as part of the review and revision of AS 1460—1973, *Mechanical jointing fittings for use with polyethylene pressure pipes.*

This Standard is a new part of AS 1460, and extends the scope of the original Standard to cover electrofusion fittings. The other part of AS 1460 which is complementary to this Standard is *Fittings for use with polyethylene pipes, Part 1: Mechanical jointing fittings.*

CONTENTS

STANDARDS AUSTRALIA

Australian Standard
Fittings for use with polyethylene pipes

Part 2: Electrofusion fittings

1 SCOPE. This Standard specifies requirements for polyethylene electrofusion fittings for use with polyethylene pressure pipes manufactured in accordance with AS 1159.

This Standard is applicable to fittings manufactured for use in the conveyance of water in water supply, agricultural, industrial and other applications.

NOTE: Appendix A sets out alternative methods of assessing compliance with the performance requirements of this Standard.

2 REFERENCED DOCUMENTS. The documents below are referred to in this Standard.

AS

1159	Polyethylene (polythene) pipe for pressure applications
1199	Sampling procedures and tables for inspection by attributes
1349	Bourdon tube pressure and vacuum gauges
1399	Guide to AS 1199—Sampling procedures and tables for inspection by attributes
1463	Polyethylene pipe extrusion compounds
1722	Pipe threads of Whitworth form
1722.1	Part 1: Sealing pipe threads
1722.2	Part 2: Fastening pipe threads
1821-1823	Suppliers Quality Systems
2000	Guide to AS 1821-1823—Suppliers quality systems
2033	Installation of polyethylene pipe systems
2490	Sampling procedures and charts for inspection by variables for percent defective
3900	Quality systems—Guide to selection and use
3901	Quality systems for design/development, production, installation and servicing
3902	Quality systems for production and installation
3903	Quality systems for final inspection and test
3904	Quality systems—Guide to quality management and quality system elements

SAA

MP 52	Manual of authorisation procedures for plumbing and drainage products

FS

0220	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of water

3 DEFINITIONS. For the purpose of this Standard, the definitions below apply.

3.1 Hoop stress—the stress in a pipe or fitting under pressure acting tangentially to the perimeter of a transverse section.

3.2 Working pressure—the maximum pressure that can be sustained by the type and class of pipe or fitting for its estimated useful life under the anticipated working conditions.

3.3 Test pressure—the pressure applied internally to pipes and fittings when being tested for strength and watertightness.

3.4 Type—a number classification of polyethylene pipe in accordance with the type classification of polyethylene entrusion compound.

3.5 Type test—a test intended to prove the suitability and performance of a new composition, a new compounding or processing technique, or a new design or size of pipe, joint or fitting.

3.6 Quality control test—a test carried out during or after manufacture to prove the quality of a production run of fittings.

4 CLASSIFICATION. Polyethylene electrofusion fittings, shall be classified according to the maximum static working pressure at a pipe system temperature of 20°C as follows:

(a) Class 3—maximum static working pressure of 0.3 MPa.

(b) Class 4.5—maximum static working pressure of 0.45 MPa.

(c) Class 6—maximum static working pressure of 0.6 MPa.

(d) Class 9—maximum static working pressure of 0.9 MPa.

(e) Class 12—maximum static working pressure of 1.2 MPa.

(f) Class 15-maximum static working pressure of 1.5 MPa.

NOTE: Selection of class should be based on consideration of all factors which may affect the operation of the pipe system, e.g. temperature of operation, fluctuating pressure conditions, external loading, and media to be conveyed.

5 EFFECT OF TEMPERATURE ON WORKING PRESSURE. The working pressure of the fitting should be derated in accordance with AS 2033.

6 COMPOSITION. Polyethylene electrofusion fittings shall be manufactured from polyethylene compounds complying with AS 1463.

The addition of the manufacturer's own rework resulting from the manufacture of fittings complying with this Standard is permissible. Such rework materials shall be of the same type number as the material being processed. No other rework material shall be used.