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Australian Standard 2518—1982

FUSION-BONDED LOW-DENSITY POLYETHYLENE COATING FOR PIPES AND FITTINGS

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Gas Association

Brisbane City Council

Confederation of Australian Industry

Department of Housing and Construction

Department of Public Works, N.S.W.

Engineering and Water Supply Department, S.A.

Gas and Fuel Corporation of Victoria

Hunter District Water Board

Institution of Engineers, Australia

Melbourne and Metropolitan Board of Works

Metropolitan Water Sewerage and Drainage Board, Sydney

Metropolitan Water Supply Sewerage and Drainage Board, W.A.

Queensland Water Resources Commission

State Rivers and Water Supply Commission, Vic.

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This standard was issued in draft form for comment as DR 80094.

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AMENDMENT No 1
to
AS 2518—1982
FUSION-BONDED LOW-DENSITY POLYETHYLENE COATING FOR PIPES AND FITTINGS

REVISED TEXT

SUMMARY: The following sections of the standard are covered by this amendment: Clauses 4.9, D4.2.1.

Published on 6 February 1984.

Page 8. Clause 4.9.

AMDT No 1 FEB. 1984

Delete existing clause and *substitute*:

4.9 FREQUENCY. The coating shall be tested at a frequency of not less than that specified in Table 4.2. For tests required by Clauses 4.2, 4.6, 4.8(a) and 4.8(b), one coated pipe from each batch shall be tested. A batch shall comprise 250 coated pipes or part thereof for each order except that small orders of the same specified minimum coating thickness, coated successively may be grouped together to form a batch of up to 50 pipes.

Page 14. Clause D4.2.1.

AMDT No 1 FEB. 1984

Delete existing clause and *substitute*:

D4.2.1 *General.* Attach a specimen to the sanding jig using double-sided adhesive tape (see Fig. D1). The long dimension of the specimen is to be aligned in the direction of travel of the sanding belt.

Fit a waterproof sanding belt and adjust the speed to approximately 5 m/s. Adjust the cooling water so that there is an even flow across the whole width of the belt. A belt size of P80 or finer shall be used to sand the specimen down to within 0.2 mm of the final sanded thickness. A belt size of P150 or finer shall be used to further sand the specimen until the thickness is between 80 percent and 90 percent of the specified minimum coating thickness. When removal of the test sample has resulted in deep tear marks into the coating, the specimen may be further sanded (with a P150 or finer belt) down to not less than 70 percent of the specified minimum coating thickness.

If this does not remove the tear marks, the sample shall be replaced by a sample from the same pipe or from another pipe in the same batch. Repeat the above procedure for the other three specimens, except that the specimen for density and environmental stress-cracking resistance determinations shall not be sanded below 1.75 mm.

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PREFACE

This standard was prepared by a subcommittee of the Association's Committee for Rolled and Welded Steel Pipes at the request of manufacturers and users of fusion-bonded low-density polyethylene external protective coating for pipes and fittings. It is one of a series of standards being prepared as alternatives to the original coal-tar primer/enamel coating system standards.

The fusion-bonded polyethylene coating referred to in this standard is to be applied only to *external* surfaces of pipes and fittings.

Attention is drawn to the fact that this standard does not purport to satisfy all requirements in SAA pipelines codes. Contracting parties may therefore need to consider further requirements to satisfy contracts invoking SAA pipeline codes.

This standard may require reference to the following standards:

AS 1145	Determination of Tensile Properties of Plastics Materials
AS 1193	Determination of the Density and Relative Density of Plastics Excluding Cellular Plastics
AS 1327	Standard Environments for Conditioning and Testing Plastics Materials
AS 1463	Polyethylene Pipe Extrusion Compounds
AS 1579	Arc Welded Steel Pipes for Water and Gas
AS 1580	Methods of Test for Paints and Related Materials Method 108.1—Determination of Dry Film Thickness on Iron and Steel Substrates (Permanent Magnet Instruments)
AS 1627	Code of Practice for Preparation and Pretreatment of Metal Surfaces Prior to Protective Coating Part 2—Power Tool Cleaning of Steel Surfaces Part 4—Abrasive Blast Cleaning of Steel Surfaces
ASTM D 1693	Environmental Stress-cracking of Ethylene Plastics
ASTM G 8	Cathodic Disbonding of Pipeline Coatings

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
FUSION-BONDED LOW-DENSITY POLYETHYLENE COATING FOR PIPES AND FITTINGS

SECTION 1. SCOPE AND DEFINITIONS

1.1 SCOPE. This standard specifies requirements for fusion-bonded low-density polyethylene coating of pipes and fittings for protection against corrosion. The coating is intended for use where it is not subject to weather exposure, although a safe period of 18 months of weather exposure is allowed for to cover the storage period prior to installation.

NOTES:

1. Guidelines to purchasers on requirements that must be specified by the purchaser and those that must or may be agreed upon at the time of enquiry or order are given in Appendix A.
2. The attention of purchasers is drawn to the necessity to ascertain the expected weathering period of the coating before installation, and in the likelihood of 18 months being exceeded, to make provision for shielding of the coating from direct sunlight.

Polyethylene materials complying with this standard are intended for application to pipes and fittings where the pipeline operating temperatures are not normally more than + 60°C nor less than − 40°C.

1.2 DEFINITIONS. For the purpose of this standard, the following definitions apply.

1.2.1 Coating—fusion-bonded low-density polyethylene compound applied externally to pipes and fittings.

1.2.2 Flaw—any part of the coating not complying with the electrical insulation requirements of this standard.

1.2.3 Fusion-bond—the bond produced between the polyethylene and the surface of the pipe and/or fitting when the polyethylene is applied to the heated pipe or fitting.

1.2.4 Weather exposure—continuously exposed without protection from direct sunlight and weathering elements.

1.2.5 Surface preparation—treatment of the pipe and/or fitting surface to receive polyethylene coating.