

AS 4321:2025



STANDARDS
Australia



Fusion-bonded medium-density polyethylene coating and lining for pipes and fittings



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AS 4321:2025

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- Australian Industry Group
- Australian Steel Association
- Bureau of Steel Manufacturers of Australia
- Engineers Australia
- Plumbing Products Industry Group
- Water Services Association of Australia
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Preface

This Standard was prepared by the Standards Australia Committee WS-009, Rolled and Welded Steel Pipes, to supersede AS 4321:2001.

The objective of this document is to provide a standard specification for fusion-bonded medium-density polyethylene coating and lining for pipes and fittings, for use by the manufacturers and purchasers of these products.

This revised edition differs from the 2001 edition as follows:

- (a) Withdrawn/superseded standards have been updated.
- (b) Alternative test methods have been added.
- (c) The requirements for the use of the reinstatement compound have been made clearer.
- (d) More detail has been specified for the test reports.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Australian Standard®

Fusion-bonded medium-density polyethylene coating and lining for pipes and fittings

1 Scope

This document specifies requirements for factory-applied fusion-bonded medium-density polyethylene coating and lining of pipes and fittings, for protection against corrosion.

Polyethylene materials conforming to this document are intended for application to pipes and fittings where the pipeline operating temperatures are not less than -40 °C nor more than 70 °C for the coating and 50 °C for the lining.

The coating is intended for use on pipes and fittings for underground and underwater service, including steel piling. The lining is intended for use on pipes and fittings for pipelines conveying wastewater and water intended for human consumption.

Methods for determining compliance with this document are given in [Appendix A](#).

NOTE Guidelines on requirements that are to be specified by the purchaser at the time of enquiry or order are given in [Appendix B](#).

2 Normative references

AS 1199, *Sampling procedures and tables for inspection by attributes*

AS 1281, *Cement mortar lining of steel pipes and fittings*

AS 1627.2, *Metal finishing—Preparation and pretreatment of surfaces, Part 2: Power tool cleaning*

AS 1627.4, *Metal finishing—Preparation and pretreatment of surfaces, Part 4: Abrasive blast cleaning*

AS 3894.3, *Site testing of protective coatings—Method 3: Determination of dry film thickness*

AS 4352, *Tests for coating resistance to anodic disbonding*

AS 4822, *External field joint coatings for steel pipelines*

AS ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

AS/NZS 3500.0, *National Plumbing and Drainage Code, Part 0: Glossary of terms*

AS/NZS 4020, *Products for use in contact with drinking water*

AS/NZS 4131, *Polyethylene (PE) compounds for pressure pipes and fittings*

ISO 2859-1, *Sampling procedures for inspection by attributes, Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 527-3, *Plastics — Determination of tensile properties — Part 3: Test conditions for films and sheets*

ISO 1183-1, *Plastics—Methods for determining the density of non-cellular plastics, Part 1: Immersion method, liquid pycnometer method and titration method*

ISO 39511, *Sequential sampling plans for inspection by variables for percent nonconforming (known standard deviation)*

ASTM D1238, *Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer*

ASTM D1693, *Test Method for Environmental Stress-cracking of Ethylene Plastics*