AS 3862:2020

Australian STANDARD®

External fusion-bonded epoxy coating for steel pipes

STANDARDS Australia

AS 3862:2020

This Australian Standard® was prepared by ME-038, Petroleum Pipelines. It was approved on behalf of the Council of Standards Australia on 27 March 2020.

This Standard was published on 9 April 2020.

The following are represented on Committee ME-038:

APGA Research and Standards Committee
Australasian Corrosion Association Incorporated
Australian Institute of Petroleum
Australian Petroleum Production and Exploration Association
Australian Pipelines and Gas Association Limited
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Department of Natural Resources, Mines and Energy (QLD)
Department of Planning and Environment — Division of Energy, Water and Portfolio Strategy
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This Standard was issued in draft form for comment as DR AS 3862:2018.

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ISBN 978 1 76072 807 6

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Originated as AS 3862—1991.
Second edition jointly revised and designated AS/NZS 3862:2002.
Revised and redesignated as AS 3862:2020.

Preface

This Standard was prepared by the Australian members of the joint Standards Australia/Standards New Zealand Committee ME-038, Petroleum Pipelines, to supersede AS/NZS 3862:2002.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide purchasers and manufacturers of petroleum pipelines with a Standard for the specification of pipeline coatings using external fusion-bonded epoxy.

The fusion-bonded epoxy coating referred to in this Standard is only intended to be applied to the external surfaces of pipes.

This Standard does not purport to satisfy all requirements for pipelines. The primary change in this revision is the inclusion of coverage for dual- and multi-layer fusion-bonded epoxy systems to supplement the existing single layer product. Some testing requirements were updated to reflect current practice as set out in other Standards.

The terms “normative” and “informative” have been used in this Standard to define the application of the appendix 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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Section 1 Scope and general

1.1 Scope

This Standard specifies requirements and methods of test for external fusion-bonded epoxy (FBE) coating of steel pipes for protection against corrosion. This Standard covers both single-layer and multi-layer coating systems.

NOTE 1 Guidelines to purchasers on information that should be supplied by the purchaser and those variables that should or may be agreed upon at the time of inquiry or order are given in Appendix A.

NOTE 2 Line pipe manufactured in accordance with API 5LW may not be suitable for application of FBE coating without requiring additional surface preparation. Surface imperfections in the form of steel slivers, burrs and laminations can cause excessive holidays, resulting in the need for extra surface cleaning, grinding or filing.

NOTE 3 Line pipe manufactured in accordance with API 5LW may require a more stringent straightness specification to allow coating in accordance with this Standard.

NOTE 4 Consideration should be given to strain ageing when specifying line pipe for FBE coating. Guidance is given in Clause 3.1.3.

Methods for demonstrating conformance with this Standard are given in Appendix B.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1627.4, *Metal finishing—Preparation and pre-treatment of surfaces, Part 4: Abrasive blast cleaning of steel*

AS 3894.1, *Site testing of protective coatings, Part 1: Non-conductive coatings—Continuity testing—High voltage (brush) method*

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

AS 3894.5, *Site testing of protective coatings, Part 5: Determination of surface profile*

AS 3894.6, *Site testing of protective coatings, Part 6: Determination of residual contaminants*

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

ASTM D149, *Standard Tests for Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies*

ASTM D257, *Standard Test Methods for DC Resistance or Conductance of Insulating Materials*

ASTM D1044, *Standard Test Method for Resistance of Transparent Plastics to Surface Abrasion*

ASTM D1653, *Standard Test Methods for Water Vapor Transmission of Organic Coating Films*

ASTM D1921, *Standard Test Methods for Particle Size (Sieve Analysis) of Plastic Materials*

ASTM D2240, *Standard Test Method for Rubber Property—Durometer Hardness*

ASTM D2370, *Standard Test Method for Tensile Properties of Organic Coatings*