



BSI Standards Publication

Petroleum and natural gas industries – External coatings for buried or submerged pipelines used in pipeline transportation systems

Part 3: Field joint coatings

National foreword

This British Standard is the UK implementation of EN ISO 21809-3:2016+A1:2020. It is identical to ISO 21809-3:2016, incorporating amendment 1:2020. It supersedes BS EN ISO 21809-3:2016, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by A1 A1.

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**Petroleum and natural gas industries - External coatings
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transportation systems - Part 3: Field joint coatings (ISO
21809-3:2016)**

Industries du pétrole et du gaz naturel - Revêtements
externes des conduites enterrées ou immergées
utilisées dans les systèmes de transport par conduites -
Partie 3: Revêtements des joints soudés sur site (ISO
21809-3:2016)

Erdöl- und Erdgasindustrie - Umhüllungen für erd- und
wasserverlegte Rohrleitungen in Transportsystemen -
Teil 3: Nachumhüllungen (ISO 21809-3:2016)

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European foreword

This document (EN ISO 21809-3:2016) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" in collaboration with Technical Committee ECISS/TC 110 "Steel tubes, and iron and steel fittings" the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

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The text of ISO 21809-3:2016 has been approved by CEN as EN ISO 21809-3:2016 without any modification.

Foreword to amendment A1

This document (EN ISO 21809-3:2016/A1:2020) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" in collaboration with Technical Committee CEN/TC 459/SC 10 "Steel tubes, and iron and steel fittings" the secretariat of which is held by UNI.

This Amendment to the European Standard EN ISO 21809-3:2016 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2020, and conflicting national standards shall be withdrawn at the latest by October 2020.

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Endorsement notice

The text of ISO 21809-3:2016/Amd 1:2020 has been approved by CEN as EN ISO 21809-3:2016/A1:2020 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 2, *Pipeline transportation systems*.

This second edition cancels and replaces the first edition (ISO 21809-3:2008), which has been technically revised. It also incorporates the Amendment ISO 21809-3:2008/Amd 1:2011.

ISO 21809 consists of the following parts, under the general title *Petroleum and natural gas industries — External coatings for buried or submerged pipelines used in pipeline transportation systems*:

- *Part 1: Polyolefin coatings (3-layer PE and 3-layer PP)*
- *Part 2: Single layer fusion-bonded epoxy coatings*
- *Part 3: Field joint coatings*
- *Part 4: Polyethylene coatings (2-layer PE)*
- *Part 5: External concrete coatings*

Multilayer fusion bonded epoxy coatings is to form the subject of future part 6.

Coating repairs on rehabilitation is to form the subject of future part 11.

Introduction

Users of this part of ISO 21809 are to be aware that further or differing requirements can be needed for individual applications. This part of ISO 21809 is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This can be particularly applicable where there is innovative or developing technology. Where an alternative is offered, the vendor is to identify any variations from this part of ISO 21809 and provide details.

Petroleum and natural gas industries — External coatings for buried or submerged pipelines used in pipeline transportation systems —

Part 3: Field joint coatings

1 Scope

This part of ISO 21809 specifies requirements for field joint coating of seamless or welded steel pipes for buried and submerged sections of pipeline transportation systems used in the petroleum, petrochemical and natural gas industries as defined in ISO 13623. This part of ISO 21809 specifies the qualification, application and testing of the corrosion protection coatings applied to steel surfaces left bare after the joining of pipes and fittings (components) by welding.

This part of ISO 21809 defines and codifies in [Table 1](#) the different types of field joint coatings for pipelines.

This part of ISO 21809 does not address requirements for additional mechanical protection, for thermal insulation or for joint infills of concrete weight-coated pipes.

NOTE Field joints of pipes and fittings coated in accordance with this part of ISO 21809 are considered suitable for further protection by means of cathodic protection.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 34-1, *Rubber, vulcanized or thermoplastic — Determination of tear strength — Part 1: Trouser, angle and crescent test pieces*

ISO 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 62, *Plastics — Determination of water absorption*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 527-2, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics*

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

ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness)*

ISO 1431-1, *Rubber, vulcanized or thermoplastic — Resistance to ozone cracking — Part 1: Static and dynamic strain testing*

ISO 1523, *Determination of flash point — Closed cup equilibrium method*

ISO 1817, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*