

**SLOVENSKI STANDARD  
SIST EN ISO 21809-5:2010****01-julij-2010**

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**Naftna industrija in industrija zemeljskega plina - Zunanje prevleke za cevovode, zakopane v zemljo ali potopljene v vodo, v sistemih cevovodnega transporta - 5. del: Zunanje betonske prevleke (ISO 21809-5:2010)**

Petroleum and natural gas industries - External coatings for buried or submerged pipelines used in pipeline transportation systems - Part 5: External concrete coatings (ISO 21809- 5:2010)

Erdöl- und Erdgasindustrie - Umhüllungen für erd- und wasserverlegte Rohrleitungen in Transportsystemen - Teil 5: Betonummantelungen (ISO 21809-5:2010)

Industries du pétrole et du gaz naturel - Revêtements externes des conduites enterrées ou immergées utilisées dans les systèmes de transport par conduites - Partie 5: Revêtements extérieurs en béton (ISO 21809-5:2010)

**Ta slovenski standard je istoveten z: EN ISO 21809-5:2010**

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**ICS:**

25.220.99	Druge obdelave in prevleke	Other treatments and coatings
75.200	Oprema za skladiščenje nafte, naftnih proizvodov in zemeljskega plina	Petroleum products and natural gas handling equipment

**SIST EN ISO 21809-5:2010****en**

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NORME EUROPÉENNE  
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**EN ISO 21809-5**

April 2010

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**Petroleum and natural gas industries - External coatings for buried or submerged pipelines used in pipeline transportation systems - Part 5: External concrete coatings (ISO 21809-5:2010)**

Industries du pétrole et du gaz naturel - Revêtements externes des conduites enterrées ou immergées utilisées dans les systèmes de transport par conduites - Partie 5: Revêtements extérieurs en béton (ISO 21809-5:2010)

Erdöl- und Erdgasindustrie - Umhüllungen für erd- und wasserlegte Rohrleitungen in Transportsystemen - Teil 5: Betonummantelungen (ISO 21809-5:2010)

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## Foreword

This document (EN ISO 21809-5:2010) 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 October 2010, and conflicting national standards shall be withdrawn at the latest by October 2010.

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INTERNATIONAL  
STANDARD

ISO  
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First edition  
2010-04-01

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

Part 5:

**External concrete coatings**

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*Industries du pétrole et du gaz naturel — Revêtements externes des  
conduites enterrées ou immergées utilisées dans les systèmes de  
transport par conduites —*

SIST EN ISO 21809-5:2010

Partie 5: Revêtements extérieurs en béton

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 21809-5 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 2, *Pipeline transportation systems*.

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: Fusion-bonded epoxy coatings*
- *Part 3: Field joint coatings*
- *Part 4: Polyethylene coatings (2-layer PE)*
- *Part 5: External concrete coatings*

## Introduction

It is necessary that users of this part of ISO 21809 be aware that further or differing requirements might 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 if there is innovative or developing technology. If an alternative is offered, it is the responsibility of the vendor to identify any variations from this part of ISO 21809 and provide details.

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

## Part 5: External concrete coatings

### 1 Scope

This part of ISO 21809 specifies the requirements for qualification, application, testing and handling of materials required for the application of reinforced concrete coating externally to either bare pipe or pre-coated pipe for use in pipeline transportation systems for the petroleum and natural gas industries as defined in ISO 13623.

The external application of concrete is primarily used for the negative buoyancy of pipes used in buried or submerged pipeline systems and/or for the mechanical protection of the pipe and its pre-coating.

This part of ISO 21809 is applicable to concrete thicknesses of 25 mm or greater.

### 2 Normative references

[SIST EN ISO 21809-5:2010](https://standards.iteh.ai/catalog/standards/sist/93570206-54cb-4e1b-83d2-4510a4718418/iso-21809-5:2010)

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

ISO 31-0:1992, *Quantities and units — Part 0: General principles*

ISO 1920-5: 2004, *Testing of concrete — Part 5: Properties of hardened concrete other than strength*

ISO 10474, *Steel and steel products — Inspection documents*

EN<sup>1)</sup> 197-1, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*

EN 206-1, *Concrete — Part 1: Specification, performance, production and conformity*

EN 450-1, *Fly ash for concrete — Part 1: Definition, specifications and conformity criteria*

EN 450-2, *Fly ash for concrete — Part 2: Conformity evaluation*

EN 934-2, *Admixtures for concrete, mortar and grout — Part 2: Concrete admixtures — Definitions, requirements conformity, marking and labelling*

EN 1008, *Mixing water for concrete — Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete*

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1) CEN, European Committee for Standardization, Central Secretariat, Rue de Stassart 36, B-1050, Brussels, Belgium.