
Naftna in plinska industrija, vključno z nizkoogljično energijo - Katodna zaščita cevovodov - 1. del: Cevovodi na kopnem (ISO 15589-1:2026)

Oil and gas industries including lower carbon energy - Cathodic protection of pipeline transportation systems - Part 1: On-land pipelines (ISO 15589-1:2026)

Öl- und Gasindustrie einschließlich kohlenstoffarmer Energieträger - Kathodischer Korrosionsschutz für Rohrleitungssysteme - Teil 1: Rohrleitungen an Land (ISO 15589-1:2026)

Industries du pétrole et du gaz y compris les énergies à faible teneur en carbone - Protection cathodique des systèmes de transport par conduites - Partie 1: Conduites terrestres (ISO 15589-1:2026)

Ta slovenski standard je istoveten z: EN ISO 15589-1:2026

ICS:

75.200

Oprema za skladiščenje
naftne, naftnih proizvodov in
zemeljskega plina

Petroleum products and
natural gas handling
equipment

SIST EN ISO 15589-1:2026

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 15589-1

July 2026

ICS 75.200

Supersedes EN ISO 15589-1:2017

English Version

Oil and gas industries including lower carbon energy -
Cathodic protection of pipeline transportation systems -
Part 1: On-land pipelines (ISO 15589-1:2026)

Industries du pétrole et du gaz y compris les énergies à
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Energieträger - Kathodischer Korrosionsschutz für
Rohrleitungssysteme - Teil 1: Rohrleitungen an Land
(ISO 15589-1:2026)

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Ref. No. EN ISO 15589-1:2026 E

EN ISO 15589-1:2026 (E)

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European foreword

This document (EN ISO 15589-1:2026) has been prepared by Technical Committee ISO/TC 67 "Oil and gas industries including lower carbon energy" in collaboration with Technical Committee CEN/TC 219 "Cathodic protection" the secretariat of which is held by BSI.

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International Standard

ISO 15589-1

Oil and gas industries including lower carbon energy — Cathodic protection of pipeline transportation systems —

Part 1: On-land pipelines

*Industries du pétrole et du gaz y compris les énergies à faible
teneur en carbone — Protection cathodique des systèmes de
transport par conduites —*

Partie 1: Conduites terrestres

**Third edition
2026-07**

ISO 15589-1:2026(en)

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Published in Switzerland

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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 document 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).

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This document was prepared by Technical Committee ISO/TC 67, *Oil and gas industries including lower carbon energy*, Subcommittee SC 2, *Pipeline transportation systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 219, *Cathodic protection*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 15589-1:2015), which has been technically revised.

The main changes are as follows:

- cathodic protection criteria have been extended with further clarification on the application of the criteria;
- requirements for design have been more detailed; periodicities for inspection of cathodic equipment have been enlarged; and the option for remote monitoring has been added;
- requirements for measurements and testing during commissioning have been further detailed.

A list of all parts in the ISO 15589 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

ISO 15589-1:2026(en)**Introduction**

Pipeline cathodic protection is achieved by the supply of sufficient direct current to the external pipe surface, so that the steel-to-electrolyte potential is lowered to values at which external corrosion is reduced to an insignificant rate.

Cathodic protection is normally used in combination with a suitable protective coating system to protect the external surfaces of steel pipelines from corrosion.

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Oil and gas industries including lower carbon energy — Cathodic protection of pipeline transportation systems —

Part 1: On-land pipelines

1 Scope

This document specifies requirements and gives recommendations for the pre-installation surveys, design, materials, equipment, installation, commissioning, operation, inspection, and maintenance of cathodic protection systems for the external surface of on-land pipelines.

This document is applicable to on-land pipelines and piping systems used in other industries and transporting other media such as industrial gases, waters, or slurries.

Throughout this document, on-land pipelines mean:

- pipelines that are buried;
- landfalls of offshore pipeline sections protected by onshore based cathodic protection installations;
- immersed sections of on-land pipelines such as river or lake crossings.

This document is applicable to pipelines of carbon steel, stainless steel, cast iron, galvanized steel, and copper.

This document does not apply to pipelines made of reinforced concrete (see ISO 12696).

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. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8044, *Corrosion of metals and alloys — Vocabulary*

ISO 10012, *Measurement management systems — Requirements for measurement processes and measuring equipment*

ISO 13623, *Petroleum and natural gas industries — Pipeline transportation systems*

ISO 13847, *Petroleum and natural gas industries — Pipeline transportation systems — Welding of pipelines*

ISO 21809-3, *Oil and gas industries including lower carbon energy — External coatings for buried or submerged pipelines used in pipeline transportation systems — Part 3: Field joint coatings*

ISO 21809-5, *Oil and gas industries including lower carbon energy — External coatings for buried or submerged pipelines used in pipeline transportation systems — Part 5: External concrete coatings*

ISO 21857, *Petroleum, petrochemical and natural gas industries — Prevention of corrosion on pipeline systems influenced by stray currents*

IEC 60079-10-1, *Explosive atmospheres — Part 10-1: Classification of areas — Explosive gas atmospheres*