

<b>STN</b>	<b>Ropný a plynárenský priemysel Prevádzka v Arktíde Meteorologické údaje z oceánu, údaje o ľade a morskom dne (ISO 35106: 2017)</b>	<b>STN EN ISO 35106</b>  45 0216
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Petroleum and natural gas industries - Arctic operations - Metocean, ice, and seabed data (ISO 35106:2017)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/20

Obsahuje: EN ISO 35106:2019, ISO 35106:2017

**130596**

EUROPEAN STANDARD

EN ISO 35106

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2019

ICS 75.020

English Version

## Petroleum and natural gas industries - Arctic operations - Metocean, ice, and seabed data (ISO 35106:2017)

Industries du pétrole et du gaz naturel - Opérations en  
Arctique - Données océano-météorologiques et  
données sur les glaces et les planchers océaniques (ISO  
35106:2017)

Erdöl- und Erdgasindustrie - Arktisbetrieb - Metocean-,  
Eis- und Meeresboden-Daten (ISO 35106:2017)

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**EN ISO 35106:2019 (E)**

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## **European foreword**

The text of ISO 35106:2017 has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 35106:2019 by Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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The text of ISO 35106:2017 has been approved by CEN as EN ISO 35106:2019 without any modification.

**INTERNATIONAL  
STANDARD**

**ISO  
35106**

First edition  
2017-12

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**Petroleum and natural gas  
industries — Arctic operations —  
Metocean, ice, and seabed data**

*Industries du pétrole et du gaz naturel — Opérations en Arctique  
— Données océano-météorologiques et données sur les glaces et les  
planchers océaniques*



Reference number  
ISO 35106:2017(E)

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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](http://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](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 8, *Arctic operations*.

**ISO 35106:2017(E)****Introduction**

The series of documents on arctic operations (currently ISO 35101 to ISO 35106) addresses operational requirements for use by the petroleum and natural gas industries in arctic and cold regions. Through their application, the intention is to ensure human life safety and to minimize environmental damage. At the same time, the series of documents is intended to provide wide latitude in the choice of operational and design solutions without hindering innovation. Sound engineering judgment is, therefore, necessary in the use of these documents.

This document is developed to provide a coherent and consistent definition of data requirements for operations and designs in arctic and cold regions. With application to offshore, coastal and onshore situations, the document focuses on meteorological, oceanographic, seabed and ice considerations. In addition to the requirements of this document, the requirements of ISO 19901-1 for metocean data, ISO 19906 for ice properties data and ISO 19901-4 and ISO 19901-8 for seabed data also apply.

For many geographical regions, physical environmental data are insufficient for rigorous statistical determination of appropriate extreme and abnormal environmental actions and are insufficiently detailed for the conduct of specialized operations. The determination of relevant operational and design parameters therefore relies on the interpretation of the available data by subject matter experts, together with an assessment of other meteorological, oceanographic, seabed and ice information. In particular, uncertainties can arise from analyses based on limited data sets.

[Annex A](#) provides background to and guidance on the use of this document and it is intended to be read in conjunction with the main body of this document. The clause numbering in [Annex A](#) is the same as in the normative text to facilitate cross-referencing.

# Petroleum and natural gas industries — Arctic operations — Metocean, ice, and seabed data

## 1 Scope

This document specifies requirements and provides recommendations and guidance for the collection, analysis and presentation of relevant physical environmental data for activities of the petroleum and natural gas industries in arctic and cold regions. Activities include design and operations, which involve planning and actual execution.

Reference to arctic and cold regions in this document is deemed to include both the Arctic and other locations characterized by low ambient temperatures and the presence or possibility of sea ice, icebergs, shelf ice, glaciers, icing conditions, persistent snow cover, frozen surfaces of lakes and rivers, localized and rapidly changing weather systems and/or permafrost.

This document outlines requirements for a range of different operations that have been or are presently being undertaken and for existing design concepts. This document can also be used for other operations and new design concepts in arctic and cold regions as long as it is recognized that all data requirements are not necessarily addressed.

## 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 12494, *Atmospheric icing of structures*

ISO 19900, *Petroleum and natural gas industries — General requirements for offshore structures*

ISO 19901-1, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 1: Metocean design and operating considerations*

ISO 19901-4, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 4: Geotechnical and foundation design considerations*

ISO 19901-6, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 6: Marine operations*

ISO 19901-8, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 8: Marine soil investigations*

ISO 19906, *Petroleum and natural gas industries — Arctic offshore structures*

ISO 35101, *Petroleum and natural gas industries — Arctic operations — Working environment*

ISO 35103, *Petroleum and natural gas industries — Arctic Operations — Environmental monitoring for offshore exploration*

ISO 35104, *Petroleum and natural gas industries — Arctic operations — Ice management*

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