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Water quality - Sampling - Part 6: Guidance on sampling of rivers and streams (ISO 5667-6:2014)

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. 04/17

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Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnožovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.



EUROPEAN STANDARD

EN ISO 5667-6

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

## Water quality - Sampling - Part 6: Guidance on sampling of rivers and streams (ISO 5667-6:2014)

Qualité de l'eau - Échantillonnage - Partie 6: Lignes directrices pour l'échantillonnage des rivières et des cours d'eau (ISO 5667-6:2014)

Wasserbeschaffenheit - Probenahme - Teil 6: Anleitung zur Probenahme aus Fließgewässern (ISO 5667-6:2014)

This European Standard was approved by CEN on 30 April 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## European foreword

The text of ISO 5667-6:2014 has been prepared by Technical Committee ISO/TC 147 “Water quality” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 5667-6:2016 by Technical Committee CEN/TC 230 “Water analysis” the secretariat of which is held by DIN.

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 March 2017, and conflicting national standards shall be withdrawn at the latest by March 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

Please see informative Annex ZA (A-deviation), which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 5667-6:2014 has been approved by CEN as EN ISO 5667-6:2016 without any modification.

## **Annex ZA** **(informative)**

### **A-deviation**

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN-CENELEC national member.

This European Standard does not fall under any Directive of the EU.

In the relevant CEN-CENELEC countries (Estonia), these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

<u>Clause</u>	<u>Deviation</u>
1	According to the regulation of Estonian Minister of the Environment no 30, 06.05.2002 "Sampling procedure", paragraph 15, only three methods described in the standard, are permitted to use for sampling from surface water in Estonia – discrete sampling, composite sampling or continuous sampling.
6	According to the regulation of Estonian Minister of the Environment no 30, 06.05.2002 "Sampling procedure", paragraph 9, clause 4, temperature for storage and transportation of sample must be between 2 °C-5 °C.
7	According to the regulation of Estonian Minister of the Environment no 30, 06.05.2002 "Sampling procedure", paragraph 16, clause 3 <sup>1</sup> , a sample must be collected from the depth of surface water of 25 cm. If the depth of water in the stream is less than 50 cm, the sample must be collected at a depth of 1/3.
7.2	According to the regulation of Estonian Minister of the Environment no 30, 06.05.2002 "Sampling procedure", paragraph 14, clause 3, sampling from near the bridges is not recommended. If it is necessary, a sample must be collected from the upstream side of the bridge.

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## **Water quality — Sampling —**

### **Part 6: Guidance on sampling of rivers and streams**

*Qualité de l'eau — Échantillonnage —*

*Partie 6: Lignes directrices pour l'échantillonnage des rivières et des  
cours d'eau*





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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 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 147, *Water Quality*, Subcommittee SC 6, *Sampling*.

This third edition cancels and replaces the second edition (ISO 5667-6:2005), which has been technically revised.

ISO 5667 consists of the following parts, under the general title *Water quality — Sampling*:

- *Part 1: Guidance on the design of sampling programmes and sampling techniques*
- *Part 3: Preservation and handling of water samples*
- *Part 4: Guidance on sampling from lakes, natural and man-made*
- *Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems*
- *Part 6: Guidance on sampling of rivers and streams*
- *Part 7: Guidance on sampling of water and steam in boiler plants*
- *Part 8: Guidance on the sampling of wet deposition*
- *Part 9: Guidance on sampling from marine waters*
- *Part 10: Guidance on sampling of waste waters*
- *Part 11: Guidance on sampling of groundwaters*
- *Part 12: Guidance on sampling of bottom sediments*
- *Part 13: Guidance on sampling of sludges*
- *Part 14: Guidance on quality assurance and quality control of environmental water sampling and handling*
- *Part 15: Guidance on the preservation and handling of sludge and sediment samples*

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- *Part 16: Guidance on biotesting of samples*
- *Part 17: Guidance on sampling of bulk suspended solids*
- *Part 19: Guidance on sampling of marine sediments*
- *Part 20: Guidance on the use of sampling data for decision making — Compliance with thresholds and classification systems*
- *Part 21: Guidance on sampling of drinking water distributed by tankers or means other than distribution pipes*
- *Part 22: Guidance on the design and installation of groundwater monitoring points*
- *Part 23: Guidance on passive sampling in surface water*

## Introduction

An understanding of the purpose of sampling is an essential prerequisite to identifying the principles to be applied to a particular sampling problem. Examples of the purposes of sampling programmes commonly devised for rivers and streams are as follows:

- a) to determine the suitability of the water quality of a river or stream within a river basin for a particular use, such as
  - 1) a source of drinking water,
  - 2) for agricultural use (e.g. all types of irrigation, live-stock watering),
  - 3) for the maintenance or development of fisheries,
  - 4) for amenity use (e.g. aquatic sports and swimming), and
  - 5) for conservation and protection of aquatic life;
- b) to assess the impact of human activities on the quality of water, such as
  - 1) study of the effects of waste discharge or accidental spillages on a receiving water,
  - 2) assessment of the impact of land use on river or stream quality,
  - 3) assessment of the effect of the accumulation and release of substances including contaminants from bottom deposits on aquatic biota within the water mass, or on bottom deposits,
  - 4) study of the effects of abstraction, river regulation, and river-to-river water transfers on the chemical quality of rivers and their aquatic biota, and
  - 5) study of the effects of river engineering works on the water quality (e.g. addition or removal of weirs, changes to channel or bed structure).



# Water quality — Sampling —

## Part 6:

## Guidance on sampling of rivers and streams

**WARNING** — The focus of this part of ISO 5667 is the collection and integrity of water samples. The collection of these samples can be hazardous and attention is therefore drawn to the existence in some countries of legislative requirements for the safety of personnel. It is essential that all sampling personnel have had thorough health and safety training for the conditions they are likely to encounter.

### 1 Scope

This part of ISO 5667 sets out the principles to be applied to the design of sampling programmes, sampling techniques, and the handling of water samples from rivers and streams for physical and chemical assessment.

It is not applicable to the sampling of estuarine or coastal waters nor for microbiological sampling.

NOTE 1 Procedures for microbiological sampling are given in ISO 19458.[\[10\]](#)

This part of ISO 5667 is neither applicable to the examination of sediment, suspended solids or biota, nor to dammed stretches of rivers or streams. Also, it is not applicable to passive sampling of surface waters (see ISO 5667-23).

NOTE 2 In cases where naturally occurring or artificially constructed dams result in the retention or storage of water for several days or more, the stretch of the river or stream should be considered as a standing water body. For sampling purposes, see ISO 5667-4.

### 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 5667-1, *Water quality — Sampling — Part 1: Guidance on the design of sampling programmes and sampling techniques*

ISO 5667-3, *Water quality — Sampling — Part 3: Preservation and handling of water samples*

ISO 5667-11, *Water quality — Sampling — Part 11: Guidance on sampling of groundwaters*

ISO 5667-14, *Water quality — Sampling — Part 14: Guidance on quality assurance and quality control of environmental water sampling and handling*

ISO 6107-2:2006, *Water quality — Vocabulary — Part 2*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**