

Water quality — Sampling —

Part 17: Guidance on sampling of suspended sediments

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National foreword

This British Standard reproduces verbatim ISO 5667-17:2000 and implements it as the UK national standard.

The UK participation in its preparation was entrusted by Technical Committee EH/3, Water quality, to Subcommittee EH/3/6, Sampling, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

This is one of a series of standards on water quality, others of which have been, or will be, published as sections of BS 6068. The various sections of BS 6068 are comprised within Parts 1 to 7, which, together with Part 0, are listed below.

- Part 0 *Introduction*
- Part 1 *Glossary*
- Part 2 *Physical, chemical and biochemical methods*
- Part 3 *Radiological methods*
- Part 4 *Microbiological methods*
- Part 5 *Biological methods*
- Part 6 *Sampling*
- Part 7 *Precision and accuracy*

Cross-references

The British Standards which implement international publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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This document comprises a front cover, an inside front cover, the ISO title page, pages ii to v, a blank page, pages 1 to 12, an inside back cover and a back cover.

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Water quality — Sampling —
Part 17:
Guidance on sampling of suspended
sediments

Qualité de l'eau — Échantillonnage —

Partie 17: Lignes directrices pour l'échantillonnage des sédiments en suspension



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Contents		Page
1	Scope	1
2	Terms and definitions	1
3	Sampling equipment	1
4	Sampling procedure	4
5	Interpretation of data	6
6	Safety precautions	7
Annex		
A	Information on suspended solids and their sampling	9
A.1	Relationship of certain analytes to suspended solids	9
A.2	Relationship of suspended solids concentration to analyte concentration	9
A.3	Problems inherent in conventional analyses of suspended solids analyte concentration	9
A.4	Centrifuge types	10
	Bibliography.....	11

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 3.

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 part of ISO 5667 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 5667-17 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 6, *Sampling (general methods)*.

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

- *Part 1: Guidance on the design of sampling programmes*
- *Part 2: Guidance on sampling techniques*
- *Part 3: Guidance on the preservation and handling of samples*
- *Part 4: Guidance on sampling from lakes, natural and man-made*
- *Part 5: Guidance on sampling of drinking water and water used for food and beverage processing*
- *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 from sewage and water-treatment works*
- *Part 14: Guidance on quality assurance of environmental water sampling and handling*
- *Part 15: Guidance on preservation and handling of sludge and sediment samples*
- *Part 16: Guidance on biotesting of samples*
- *Part 17: Guidance on sampling of suspended sediments*
- *Part 18: Guidance on sampling of groundwater at contaminated sites*

Annex A of this part of ISO 5667 is for information only.

Introduction

This part of ISO 5667 reflects the important role of suspended solids in flowing water, especially of the silt + clay ($< 63 \mu\text{m}$) component and associated carbon, as a transport medium for nutrients (especially phosphorus), trace metals, and certain classes of organic compounds (see A.1).

Although analysis of suspended solids has been carried out for many years, there are no standard methods for field sampling of suspended solids for water quality purposes. While standard methods exist for sampling of suspended mineral sediment for sedimentological purposes these are often not appropriate for the chemical analysis of suspended solids. Because of the lack of standards for sampling of suspended solids for water quality purposes and the improbability of achieving complete standardization because of differences in the objectives of water quality programmes and the lack of standard apparatus, this part of ISO 5667 provides guidance to the various sampling procedures, their biases, and alternatives. This part of ISO 5667 excludes sampling protocols that apply to conventional water sampling. Field and laboratory filtration procedures that are conventionally used to measure the quantity of suspended solids are also excluded. Any reference to these methods is solely for the purpose of demonstrating their profound limitations for sediment quality purposes.

The objectives of a water quality programme will dictate the size of sample required and, therefore, the type of apparatus to be used. Generally, however, the analysis of physical, chemical, biological and toxicological properties may require gram-size samples. Examples of programme objectives that require bulk collection of suspended solids include:

- a) ambient monitoring for water quality assessment, control or regulation;
- b) in-river monitoring of effluents for regulatory or control purposes, especially for chemical and toxicological properties;
- c) research into water quality, including physico-chemical processes that affect the pathways, fate and effects of suspended solids and their associated nutrient and contaminant chemistry;
- d) recovery of suspended solids for purposes of physical analysis, including particle size, organic content including particulate organic carbon, sediment geochemistry, inorganic and organic chemistry of suspended solids, and toxicity of suspended solids.