

VEE KVALITEET. HÄGUSUSE MÄÄRAMINE. OSA 2:  
SEMIKVANTITATIIVSED MEETODID VEE  
LÄBIPAISTVUSE HINDAMISEKS

Water quality - Determination of turbidity - Part 2:  
Semi-quantitative methods for the assessment of  
transparency of waters (ISO 7027-2:2019)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 7027-2:2019 sisaldab Euroopa standardi EN ISO 7027-2:2019 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 7027-2:2019 consists of the English text of the European standard EN ISO 7027-2:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Water quality - Determination of turbidity - Part 2: Semi-quantitative methods for the assessment of transparency of waters (ISO 7027-2:2019)

Qualité de l'eau - Détermination de la turbidité - Partie 2: Méthodes semi-quantitatives pour l'évaluation de la transparence des eaux (ISO 7027-2:2019)

Wasserbeschaffenheit - Bestimmung der Trübung - Teil 2: Semi-quantitative Verfahren zur Beurteilung der Transparenz von Gewässern (ISO 7027-2:2019)

This European Standard was approved by CEN on 6 January 2019.

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

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## European foreword

This document (EN ISO 7027-2:2019) has been prepared by Technical Committee ISO/TC 147 "Water quality" in collaboration with 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of an identical text or by endorsement, at the latest by August 2019, and conflicting national standards shall be withdrawn at the latest by August 2019.

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

This document supersedes EN ISO 7027:1999.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 7027-2:2019 has been approved by CEN as EN ISO 7027-2:2019 without any modification.

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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)).

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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 147, *Water quality*, Subcommittee SC 2, *Physical, chemical and biochemical methods*.

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](http://www.iso.org/members.html).

This first edition of ISO 7027-2, together with ISO 7027-1:2016, cancels and replaces ISO 7027:1999, which has been technically revised.

A list of all parts in the ISO 7027 series can be found on the ISO website.

## Introduction

Turbidity in waters is caused by the presence of undissolved and/or colloidal matter and small organisms (for example bacteria, phyto- and zooplankton) present in the water. Turbidity changes the lighting conditions in surface waters by absorption and scattering of the light and thus influences the trophic status of these waters. For the indicative assessment of the lighting conditions of waters or the transparency of the water, semi-quantitative methods can be used (Reference [2]).

Measurements of transparency can be affected by the presence of dissolved light-absorbing substances (substances imparting colour) as well as by particles (such as sediments).

In semi-quantitative methods such as the determination of transparency depth by Secchi disc, reflections on the water surface can cause interferences. These are often dependent on the light and wind conditions.

NOTE Results of a field study for the validation of this document is given in [Annex B](#).

# Water quality — Determination of turbidity —

## Part 2:

## Semi-quantitative methods for the assessment of transparency of waters

**WARNING** — Working in or around water is inherently dangerous. Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices.

**IMPORTANT** — It is absolutely essential that tests conducted in accordance with this document be carried out by suitably qualified and trained staff.

### 1 Scope

This document specifies the following semi-quantitative methods for the assessment of transparency of waters:

- a) measurement of visual range using the transparency testing tube (applicable to transparent and slightly cloudy water), see [Clause 4](#);
- b) measurement of visual range in the upper water layers using the transparency testing disc (especially applicable to surface, bathing water, waste water and often used in marine monitoring), see [5.1](#);
- c) measurement of visibility by divers in a destined depth, see [5.2](#).

**NOTE** The quantitative methods using optical turbidimeters or nephelometers are described in ISO 7027-1.

### 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 amendments) applies.

CIE S 017/E, *ILV: International Lighting Vocabulary*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in CIE S 017 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1

##### **transparency**

permeability with respect to electromagnetic waves, here especially of light

Note 1 to entry: In this document, transparency is used in terms of visibility in waters.