



NSAI
Standards

Irish Standard
I.S. EN ISO 7027-2:2019

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

I.S. EN ISO 7027-2:2019

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 7027-2:2019

Published:

2019-02-20

*This document was published
under the authority of the NSAI
and comes into effect on:*

2019-03-10

ICS number:

13.060.60

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 7027-2:2019 is the adopted Irish version of the European Document EN ISO 7027-2:2019, Water quality - Determination of turbidity - Part 2: Semi-quantitative methods for the assessment of transparency of waters (ISO 7027-2:2019)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 7027-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2019

ICS 13.060.60

Supersedes EN ISO 7027:1999

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.

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, Serbia, 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: Rue de la Science 23, B-1040 Brussels

EN ISO 7027-2:2019 (E)

Contents

Page

European foreword.....	3
-------------------------------	----------

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.

This page is intentionally left blank

INTERNATIONAL STANDARD

**ISO
7027-2**

First edition
2019-01

Water quality — Determination of turbidity —

Part 2: Semi-quantitative methods for the assessment of transparency of waters

Qualité de l'eau — Détermination de la turbidité —

*Partie 2: Méthodes semi-quantitatives pour l'évaluation de la
transparence des eaux*



Reference number
ISO 7027-2:2019(E)

© ISO 2019

ISO 7027-2:2019(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Laboratory	2
4.1 General.....	2
4.2 Measurement using the transparency testing tube.....	2
4.2.1 Apparatus.....	2
4.2.2 Sampling and samples.....	2
4.2.3 Procedure.....	3
4.2.4 Expression of results.....	3
5 In situ methods (field methods)	3
5.1 General.....	3
5.2 Measurement using the transparency testing disc.....	3
5.2.1 Apparatus.....	3
5.2.2 Procedure.....	4
5.2.3 Expression of results.....	5
5.2.4 Estimation of the attenuation coefficient (in the marine environment).....	5
5.3 Determination of visibility by divers.....	5
5.3.1 Apparatus.....	5
5.3.2 Procedure.....	6
5.3.3 Expression of results.....	6
6 Test report	6
Annex A (informative) Devices	8
Annex B (informative) Interlaboratory field study results	10
Bibliography	12

ISO 7027-2:2019(E)

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).

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).

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.

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.

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.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-