

SLOVENSKI STANDARD

SIST EN ISO 13503-3:2022

01-julij-2022

Nadomešča:

SIST EN ISO 13503-3:2006

SIST EN ISO 13503-3:2006/AC:2007

Industrija za predelavo nafte in zemeljskega plina - Tekočine in materiali za zaključna dela - 3. del: Preskušanje težkih slaníc (ISO 13503-3:2022)

Petroleum and natural gas industries - Completion fluids and materials - Part 3: Testing of heavy brines (ISO 13503-3:2022)

Erdöl- und Erdgasindustrie - Komplettierungsflüssigkeiten und –materialien - Teil 3: Prüfung von schweren Solen (ISO 13503-3:2022)

Industries du pétrole et du gaz naturel - Fluides de complétion et matériaux - Partie 3: Essais de saumures denses (ISO 13503-3:2022)

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>

Ta slovenski standard je istoveten z: EN ISO 13503-3:2022

ICS:

75.100	Maziva	Lubricants, industrial oils and related products
75.180.30	Oprema za merjenje prostornine in merjenje	Volumetric equipment and measurements

SIST EN ISO 13503-3:2022

en,fr,de

**iTeh STANDARD
PREVIEW
(standards.iteh.ai)**

SIST EN ISO 13503-3:2022

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 13503-3

May 2022

ICS 75.100

Supersedes EN ISO 13503-3:2005

English Version

**Petroleum and natural gas industries - Completion fluids
and materials - Part 3: Testing of heavy brines (ISO 13503-
3:2022)**

Industries du pétrole et du gaz naturel - Fluides de
complétion et matériaux - Partie 3: Essais de saumures
denses (ISO 13503-3:2022)

Erdöl- und Erdgasindustrie -
Komplettierungsflüssigkeiten und -materialien - Teil 3:
Prüfung von schweren Solen (ISO 13503-3:2022)

This European Standard was approved by CEN on 26 March 2022.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3

**iTeh STANDARD
PREVIEW
(standards.iteh.ai)**

SIST EN ISO 13503-3:2022
<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>

European foreword

This document (EN ISO 13503-3:2022) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" in collaboration with 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 November 2022, and conflicting national standards shall be withdrawn at the latest by November 2022.

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 13503-3:2005.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

It is a STANDARD
PREVIEW
(standards.iteh.ai)

Endorsement notice

SIST EN ISO 13503-3:2022

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-0a53-4024-9a71-022102210221/sist-en-iso-13503-3-2022>

The text of ISO 13503-3:2022 has been approved by CEN as EN ISO 13503-3:2022 without any modification.

2022

**iTeh STANDARD
PREVIEW
(standards.iteh.ai)**

SIST EN ISO 13503-3:2022

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>

INTERNATIONAL STANDARD

ISO
13503-3

Second edition
2022-04

Petroleum and natural gas industries — Completion fluids and materials —

Part 3: Testing of heavy brines

*Industries du pétrole et du gaz naturel — Fluides de complétion et
matériaux —*

Partie 3: Essais de saumures denses

SIST EN ISO 13503-3:2022

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>



Reference number
ISO 13503-3:2022(E)

© ISO 2022

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 13503-3:2022

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

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
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Supplements to API RP 13J, 5th edition (2014)	2
4.1 General.....	2
4.2 Method for determining iron content.....	2
4.3 Method for determining carbonate and bicarbonate concentrations.....	2
4.3.1 General.....	2
4.3.2 Determination of carbonate concentration by titration in the titration sample.....	2
4.3.3 Calculation of carbonate fraction in the titration sample.....	3
4.3.4 Calculation of bicarbonate concentration in the titration sample.....	5
4.3.5 Calculation of total carbonate and bicarbonate concentration.....	5
4.3.6 Calculation of carbonate and bicarbonate concentrations in the original sample (before pH adjustment).....	5
4.4 Method for determining CT.....	6
4.4.1 General.....	6
4.4.2 Application and procedure.....	7
4.4.3 Preparation of seeding material.....	7
4.4.4 Selection of seeding material.....	8
4.4.5 Determination of approximate CT.....	11
4.4.6 Accurate determination of CT.....	11
4.5 Method for measuring pH of formate brines.....	14

SIST EN ISO 13503-3:2022

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>

ISO 13503-3:2022(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 of 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 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 3, *Drilling and completion fluids, well cements and treatment fluids*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 12, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 13503-3:2005), which has been technically revised.

This document supplements API RP 13J, 5th edition (2014).

The technical requirements of this document and API RP 13J used to be identical. In the meantime API RP 13J has been technically revised as API RP 13J, 5th edition (2014). The purpose of this edition of ISO 13503 is to bring this document up-to-date, by referencing the current edition of API RP 13J and including supplementary content.

The main changes are as follows:

- the method for measuring crystallization temperature in formate brines is described in this document and differs from the method described in API RP 13J, 5th edition (2014) due to the specific nature of formate brines;
- the method for measuring pH in formate brines is described in this document and differs from the method described in API RP 13J, 5th edition (2014), since the API recommended method is unsuitable for formate brines;
- the method for determining carbonate and bicarbonate concentrations in formate brines is described in this document and differs from the buffer capacity method described in API RP 13J, 5th edition (2014), since the API recommended method is unsuitable for formate brines.

A list of all parts in the ISO 13503 series can be found on the ISO website.

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.

**iTeh STANDARD
PREVIEW
(standards.iteh.ai)**

SIST EN ISO 13503-3:2022

<https://standards.iteh.ai/catalog/standards/sist/3eac771e-dda5-48cd-9dc7-1b42a3b7c623/sist-en-iso-13503-3-2022>