



# FINAL DRAFT International Standard

## ISO/FDIS 13503-2

### Oil and gas industries including lower carbon energy — Completion fluids and materials —

#### Part 2: Measurement of properties of proppants used in hydraulic fracturing and gravel-packing operations

*Industries du pétrole et du gaz, y compris les énergies à faible teneur en carbone — Fluides de complétion et matériaux —*

*Partie 2: Mesurage des propriétés des agents de soutènement utilisés dans les opérations de fracturation hydraulique et de gravillonnage*

[ISO/FDIS 13503-2](#)

ISO/TC 67/SC 3

Secretariat: **UNI**

Voting begins on:  
**2024-09-18**

Voting terminates on:  
**2024-11-13**

**ISO/CEN PARALLEL PROCESSING**

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

[ISO/FDIS 13503-2](https://standards.iteh.ai/catalog/standards/iso/a66f2be7-15ca-48c6-a20a-f14683b1f267/iso-fdis-13503-2)

<https://standards.iteh.ai/catalog/standards/iso/a66f2be7-15ca-48c6-a20a-f14683b1f267/iso-fdis-13503-2>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2024

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](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Supplements to API Std 19C, 2nd edition (2018)</b> .....	<b>2</b>
4.1 General requirements.....	2
4.2 Sampling device.....	2
4.3 Sieve analysis.....	2
4.3.1 Procedure.....	2
4.3.2 Specifications — Sieve analysis of proppants.....	2
4.4 Proppant crush resistance.....	4
4.4.1 Equipment and materials.....	4
4.4.2 Sample preparation.....	4
4.4.3 Assemble and set up the crush cell and PropPaver loading device.....	5
4.4.4 Proppant placing procedure—Crush resistance testing.....	7
<b>Annex A (Informative) Comparison of revised clauses</b> .....	<b>8</b>
<b>Bibliography</b> .....	<b>9</b>

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

[ISO/FDIS 13503-2](https://standards.iteh.ai/catalog/standards/iso/a66f2be7-15ca-48c6-a20a-f14683b1f267/iso-fdis-13503-2)

<https://standards.iteh.ai/catalog/standards/iso/a66f2be7-15ca-48c6-a20a-f14683b1f267/iso-fdis-13503-2>

## 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 document 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)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

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

This document was prepared by Technical Committee ISO/TC 67, *Oil and gas industries including lower carbon energy*, 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, *Oil and gas industries including lower carbon energy*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 13503-2:2006), which has been technically revised. It also incorporates the Amendment ISO 13503-2:2006/Amd 1:2009.

This document supplements API Std 19C, 2nd edition (2018).

The technical requirements of this document and API Std 19C used to be identical. In the meantime API Std 19C has been technically revised as API Std 19C, 2nd edition (2018). The purpose of this edition of ISO 13503-2 is to bring it up to date, by referencing the current edition of API Std 19C and including supplementary content.

The main changes are as follows:

- a new stand sampling device has been used for proppant packed in bags;
- proppant on the sieves has been removed and directly weighed in sieve analysis testing;
- the average diameter calculation has been added;
- the remaining total amount on the last sieve and in the pan has been updated to not exceed 2 % by mass of the total tested proppant sample;
- PropPaver loading device has been used instead of Pluviator loading device;
- the upper and lower designating sieve sizes have been kept for sample preparation and after pressurizing in crush resistance test;
- shaking duration of 10 min has been maintained for both sample preparation and after pressurizing in crush resistance test.

## ISO/FDIS 13503-2:2024(en)

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

# iTeh Standards (<https://standards.iteh.ai>) Document Preview

[ISO/FDIS 13503-2](https://standards.iteh.ai/catalog/standards/iso/a66f2be7-15ca-48c6-a20a-f14683b1f267/iso-fdis-13503-2)

<https://standards.iteh.ai/catalog/standards/iso/a66f2be7-15ca-48c6-a20a-f14683b1f267/iso-fdis-13503-2>

