International Standard

ISO 13503-2

Second edition
2024-12

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 remplissage de gravier

Reference number
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Foreword

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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.

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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

1 Scope

This document provides testing procedures for evaluating proppants used in hydraulic fracturing and gravel packing operations.

NOTE Proppants mentioned in this document refer to sand, ceramic, resin-coated, gravel packing proppants, and other materials used for hydraulic fracturing and gravel packing operations.

This document supplements API Std 19C, 2nd edition (2018), the requirements of which are applicable with the exceptions specified in this document.

This document provides consistent methodology for testing performed on hydraulic fracturing and/or gravel packing proppants.

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 any amendments) applies.

API Std 19C, *2nd edition (2018), Measurement of and Specifications for Proppants Used in Hydraulic Fracturing and Gravel-packing Operations*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in API Std 19C, 2nd edition (2018) and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
PropPaver
loading device for laying out proppant samples for crush resistance test, primarily used to ensure the proppant pack laid flat within the crush cell, and reducing the potential for operator-induced variability

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