

# INTERNATIONAL STANDARD

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## **Petroleum and natural gas industries — Drilling fluids — Processing systems evaluation**

*Industries du pétrole et du gaz naturel — Fluides de forage —  
Évaluation des systèmes de traitement*



Reference number  
ISO 13501:2005(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 13501 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, and well cements*.

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## Introduction

This International Standard covers equipment which is commonly used in petroleum and natural gas drilling fluids processing. This equipment can be purchased or rented from multiple sources, and is available worldwide. No single-source or limited-source equipment is included, either by inference or reference.

International Standards are published to facilitate communications between purchasers and manufacturers, or provide interchangeability between similar equipment and materials purchased from different manufacturers and/or at different times, and to provide an adequate level of safety when the equipment or materials are utilized in the manner and for the purposes intended. This International Standard provides minimum requirements and is not intended to inhibit anyone from purchasing or using equipment made to other standards. This International Standard is subject to periodic review and can be revised or withdrawn at such time as deemed appropriate.

The purpose of this International Standard is to provide a method of assessing the performance of solids control equipment systems in the field. It includes procedures for evaluation of shale shakers, centrifugal pumps, degassers, hydrocyclones, mud cleaners and centrifuges, as well as an entire system evaluation. Shale-shaker screen Labelling and separation potential of shale-shaker screens have been addressed as part of this International Standard.

This International Standard is based on API RP 13C, third edition, December 2004 (for drilling fluid processing equipment) and shale-shaker screen API RP 18E, third edition, May 1, 1993 (for shale-shaker screens).

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# Petroleum and natural gas industries — Drilling fluids — Processing systems evaluation

## 1 Scope

This International Standard provides a standard procedure for assessing and modifying performance of solids control equipment systems commonly used in the field in petroleum and natural gas drilling fluids processing.

This procedure is not intended for the comparison of similar types of individual pieces of equipment.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

ANSI/AWWA Standard C700, *Cold-water meters — Displacement type, bronze main case*

API, *Manual of Petroleum Measurement Standards*

## 3 Terms, definitions, symbols and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

### 3.1 Terms and definitions

#### 3.1.1

##### **addition section**

compartment(s) in the surface drilling fluid system between the removal section and the suction section which provides a well-agitated compartment(s) for the addition of commercial products such as chemicals, necessary solids and liquids

#### 3.1.2

##### **agitator**

##### **mechanical stirrer**

mechanically driven mixer that stirs the drilling fluid by turning an impeller near the bottom of a mud compartment to blend additives, suspend solids and maintain a uniform consistency of the drilling fluid

#### 3.1.3

##### **aperture**

(screen cloth) opening between the wires in a screen cloth

#### 3.1.4

##### **aperture**

(screen surface) opening in a screen surface