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En cumplimiento del punto 11.2.6.4 de las Reglas Internas de CEN/CENELEC Parte 2, se ha otorgado el rango de norma española al Documento Europeo siguiente:

<b>Documento Europeo</b>	<b>Título</b>	<b>Fecha de Disponibilidad</b>
EN ISO 13503-5:2006	Industrias del petróleo y del gas natural. Fluidos de terminación y materiales. Parte 5: Procedimientos para medir la conductividad a largo plazo de los agentes de sostén (ISO 13503-5:2006) (Ratificada por AENOR en septiembre de 2006.)	2006-07-01

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## English Version

# Petroleum and natural gas industries - Completion fluids and materials - Part 5: Procedures for measuring the long-term conductivity of proppants (ISO 13503-5:2006)

Industries du pétrole et du gaz naturel - Fluides de complétiion et matériaux - Partie 5: Modes opératoires pour mesurer la conductivité à long terme des agents de soutènement (ISO 13503-5:2006)

# Erdöl- und Erdgasindustrie - Komplettierungsflüssigkeiten und Materialien - Teil 5: Verfahren zur Messung der Langzeitleitfähigkeit von Stützmaterialien (ISO 13503- 5:2006)

This European Standard was approved by CEN on 24 May 2006.

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CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

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## Foreword

This document (EN ISO 13503-5:2006) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum 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 AFNOR.

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of an identical text or by endorsement, at the latest by January 2007, and conflicting national standards shall be withdrawn at the latest by January 2007.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## Endorsement notice

The text of ISO 13503-5:2006 has been approved by CEN as EN ISO 13503-5:2006 without any modifications.

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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 13503-5 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*.

ISO 13503 consists of the following parts, under the general title *Petroleum and natural gas industries — Completion fluids and materials*:

- *Part 1: Measurement of viscous properties of completion fluids*
  - *Part 2: Measurement of properties of proppants used in hydraulic fracturing and gravel-packing operations*
  - *Part 3: Testing of heavy brines*
  - *Part 4: Procedure for measuring stimulation and gravelpack fluid leakoff under static conditions*
  - *Part 5: Procedures for measuring the long-term conductivity of proppants*