



**SLOVENSKI STANDARD**  
**SIST EN ISO 10438-1:2008**  
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**SIST EN ISO 10438-1:2004**

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Petroleum, petrochemical and natural gas industries - Lubrication, shaft-sealing and control-oil systems and auxiliaries - Part 1: General requirements (ISO 10438-1:2007)

Erdöl-, petrochemische und Erdgasindustrie - Schmieröl-, Sperröl- und Regelölversorgungsanlagen und Hilfsanlagen - Teil 1: Allgemeine Anforderungen (ISO 10438-1:2007)

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Industries du pétrole, de la pétrochimie et du gaz naturel - Systèmes de lubrification, systèmes d'étanchéité, systèmes d'huile de régulation et leurs auxiliaires - Partie 1: Exigences générales (ISO 10438-1:2007)

**Ta slovenski standard je istoveten z: EN ISO 10438-1:2007**

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English Version

Petroleum, petrochemical and natural gas industries -  
Lubrication, shaft-sealing and control-oil systems and auxiliaries  
- Part 1: General requirements (ISO 10438-1:2007)

Industries du pétrole, de la pétrochimie et du gaz naturel -  
Systèmes de lubrification, systèmes d'étanchéité, systèmes  
d'huile de régulation et leurs auxiliaires - Partie 1:  
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Erdöl-, petrochemische und Erdgasindustrie - Schmieröl-,  
Sperröl- und Regelölversorgungsanlagen und Hilfsanlagen  
- Teil 1: Allgemeine Anforderungen (ISO 10438-1:2007)

This European Standard was approved by CEN on 14 December 2007.

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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 Management Centre has the same status as the official versions.

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## Foreword

This document (EN ISO 10438-1:2007) 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 June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 10438-1:2003.

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, 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 the United Kingdom.

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The text of ISO 10438-1:2007 has been approved by CEN as a EN ISO 10438-1:2007 without any modification.

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**Petroleum, petrochemical and natural gas  
industries — Lubrication, shaft-sealing  
and control-oil systems and auxiliaries —**

**Part 1:  
General requirements**

**iTeh STANDARD PREVIEW**  
*Industries du pétrole, de la pétrochimie et du gaz naturel — Systèmes  
de lubrification, systèmes d'étanchéité, systèmes d'huile de régulation  
et leurs auxiliaires*  
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*Partie 1: Exigences générales*

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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 10438-1 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 6, *Processing equipment and systems*.

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This second edition cancels and replaces the first edition (ISO 10438-1:2003), which has been technically revised.

ISO 10438 consists of the following parts, under the general title *Petroleum, petrochemical and natural gas industries — Lubrication, shaft-sealing and control-oil systems and auxiliaries*:

- Part 1: *General requirements*
- Part 2: *Special-purpose oil systems*
- Part 3: *General-purpose oil systems*
- Part 4: *Self-acting gas seal support systems*

## Introduction

This part of ISO 10438 was developed jointly with API 614, 5th edition, together with the other three parts of ISO 10438.

NOTE API 614 is equivalent to ISO 10438 (all parts).

Users of this part of ISO 10438 should be aware that further or differing requirements can be needed for individual applications. This part of ISO 10438 is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This can be particularly appropriate where there is innovative or developing technology. Where an alternative is offered, the vendor should identify any variations from this part of ISO 10438 and provide details.

This part of ISO 10438 requires the purchaser to specify certain details and features.

A bullet (•) at the beginning of a clause or subclause indicates that either a decision is required or further information is to be provided by the purchaser. This information should be indicated on the datasheet(s); otherwise it should be stated in the quotation request or in the order.

In this International Standard, United States customary (USC) units are included in brackets for information.

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# Petroleum, petrochemical and natural gas industries — Lubrication, shaft-sealing and control-oil systems and auxiliaries —

## Part 1: General requirements

### 1 Scope

This part of ISO 10438 specifies general requirements for lubrication systems, oil-type shaft-sealing systems, dry-gas face-type shaft-sealing systems and control-oil systems for general- or special-purpose applications. General-purpose applications are limited to lubrication systems. These systems can serve equipment such as compressors, gears, pumps and drivers.

This part of ISO 10438 is intended to be used in conjunction with ISO 10438-2, ISO 10438-3 or ISO 10438-4, as appropriate.

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### 2 Normative references

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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 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 10434, *Bolted bonnet steel gate valves for the petroleum, petrochemical and allied industries*

ISO 13706, *Petroleum, petrochemical and natural gas industries — Air-cooled heat exchangers*

ISO 15649, *Petroleum and natural gas industries — Piping*

ISO 15761, *Steel gate, globe and check valves for sizes DN 100 and smaller, for the petroleum and natural gas industries*

ISO 16812, *Petroleum, petrochemical and natural gas industries — Shell-and-tube heat exchangers*

IEC 60079 (all parts), *Electrical apparatus for explosive gas atmospheres*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

ANSI/API RP 551, *Process Measurement Instrumentation*

API RP 520 (all parts), *Sizing, Selection, and Installation of Pressure-Relieving Devices in Refineries*

API STD 526, *Flanged Steel Pressure Relief Valves*

## ISO 10438-1:2007(E)

API STD 611, *General-Purpose Steam Turbines for Petroleum, Chemical and Gas Industry Services*

API RP 686-96, *Machinery Installation and Installation Design*

ASME B1.1, *Unified Inch Screw Threads (UN and UNR Thread Form)*

ASME B16.5, *Pipe Flanges and Flanged Fittings: NPS 1/2 through 24*

ANSI/ASME B16.11, *Forged Fittings, Socket-Welding and Threaded*

ANSI/ASME Y14.2M, *Line Conventions and Lettering*

ASTM A193/A193M-07, *Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High Temperature or High Pressure Service and Other Special Purpose Applications*

ASTM A194/A194M-07, *Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both*

ASTM E94, *Standard Guide for Radiographic Examination*

ASTM E709, *Standard Guide for Magnetic Particle Examination*

ANSI/AWS D1.1/D1.1M, *Structural Welding Code — Steel*

ISA 18.1, *Annunciator Sequences and Specifications*

NEMA 250, *Enclosures for Electrical Equipment (1 000 Volts Maximum)*

TEMA, *Standards of the Tubular Exchanger Manufacturers Association*, 8th ed.

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### 3 Terms, abbreviated terms and definitions

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

#### 3.1 Terms and definitions

##### 3.1.1

##### **alarm point**

preset value of a parameter at which an alarm warns of a condition requiring corrective action

##### 3.1.2

##### **block-in time**

period required after the driver is tripped to isolate a piece of equipment, such as a compressor, from its system and to depressurize it

##### 3.1.3

##### **booster pump**

oil pump that takes suction from the discharge of another pump to provide oil at a higher pressure

##### 3.1.4

##### **coast-down time**

period required after the driver is tripped for the equipment to come to rest

##### 3.1.5

##### **components**

machinery and hardware items, such as reservoirs, pumps, coolers, filters, valves, and instruments, that are part of the system

**3.1.6****console**

total system whose components and controls are packaged as a single unit on a continuous or joined baseplate

NOTE 1 With a console, the purchaser is required only to make external connections.

NOTE 2 Rundown tanks and seal-oil tanks that are separately mounted, as well as other items such as instrumentation mounted on the equipment, are not part of the console.

**3.1.7****continuous-flow transfer valve**

valve that can simultaneously divert both inlet and outlet flows from one component to its installed spare equipment without altering the continuity of full flow through the transfer valve to the equipment

**3.1.8****control oil**

oil required to operate such components as relays, servomotors and power pistons on the main equipment

**3.1.9****cool-off time**

period during which oil has to be circulated through the equipment to prevent heat damage after the driver is tripped

**3.1.10****device position**

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**3.1.10.1****normally open**

de-energized position of a device (e.g. automatically controlled electric switch or valve) remaining in an open position during operation unless energized

NOTE During operation of the equipment, the positions of these devices are not necessarily the same as their on-the-shelf positions.

**3.1.10.2****normally closed**

de-energized position of a device (e.g. automatically controlled electric switch or valve) remaining in a closed position during operation unless energized

NOTE During operation of the equipment, the positions of these devices are not necessarily the same as their on-the-shelf positions.

**3.1.11****double seal**

seal arrangement that utilizes two seal faces in an opposed configuration, whereby sealing gas is injected between the seal faces

NOTE See tandem seal (3.1.49).

**3.1.12****dry gas seal system**

self-acting dry gas seal module and all other components necessary for operation of the self-acting dry gas seal

**3.1.13****equipment**

main machinery served by the oil or gas system