SLOVENSKI STANDARD
SIST EN ISO 17078-4:2010

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Industrija za predelavo nafte in zemeljskega plina - Vrtalna in proizvodna oprema - 4. del: Postopki za vpenjalne osi s stranskimi žepi in pripadajočo opremo (ISO 17078-4:2010)

Petroleum and natural gas industries - Drilling and production equipment - Part 4: Practices for side-pocket mandrels and related equipment (ISO 17078-4:2010)

Erdöl- und Erdgasindustrie - Bohr- und Fördereinrichtung - Teil 4: Verfahren für Seitentaschen-Rohre und zugehörige Einrichtungen (ISO 17078-4:2010)

Industries du pétrole et du gaz naturel - Équipement de forage et de production - Partie 4: Pratiques pour raccords à poche latérale et équipement associé (ISO 17078-4:2010)

Ta slovenski standard je istoveten z: **EN ISO 17078-4:2010**

ICS:

75.180.10	Oprema za raziskovanje in odkopavanje	Exploratory and extraction equipment

SIST EN ISO 17078-4:2010 **en,fr**

EUROPEAN STANDARD
NORME EUROPÉENNE
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EN ISO 17078-4

April 2010

ICS 75.180.10

English Version

Petroleum and natural gas industries - Drilling and production equipment - Part 4: Practices for side-pocket mandrels and related equipment (ISO 17078-4:2010)

Industries du pétrole et du gaz naturel - Équipement de forage et de production - Partie 4: Pratiques pour raccords à poche latérale et équipement associé (ISO 17078-4:2010)

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN ISO 17078-4:2010) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical 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of an identical text or by endorsement, at the latest by October 2010, and conflicting national standards shall be withdrawn at the latest by October 2010.

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Endorsement notice

The text of ISO 17078-4:2010 has been approved by CEN as a EN ISO 17078-4:2010 without any modification.

INTERNATIONAL STANDARD

ISO 17078-4

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Petroleum and natural gas industries — Drilling and production equipment —

Part 4: Practices for side-pocket mandrels and related equipment

Industries du pétrole et du gaz naturel — Équipement de forage et de production —

Partie 4: Pratiques pour raccords à poche latérale et équipement associé

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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.

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ISO 17078-4 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 4, *Drilling and production equipment*.

ISO 17078 consists of the following parts, under the general title *Petroleum and natural gas industries — Drilling and production equipment*:

— *Part 1: Side-pocket mandrels*

— *Part 2: Flow-control devices for side-pocket mandrels*

— *Part 3: Running tools, pulling tools and kick-over tools and latches for side-pocket mandrels*

— *Part 4: Practices for side-pocket mandrels and related equipment*

Introduction

This part of ISO 17078 has been developed by users/purchasers and suppliers/manufacturers of subsurface side-pocket mandrels, flow-control devices used in side-pocket mandrels (hereafter called flow-control devices), and associated latches and installation tools that are used in conjunction with side-pocket mandrel flow-control devices. This equipment is intended for use in the worldwide petroleum and natural gas industry. This part of ISO 17078 is intended to provide supporting information, guidelines and practices to all parties who are involved in the specification, selection, manufacture, testing and use of side-pocket mandrels, flow-control devices and associated latches and installation tools.

In addition to this part of ISO 17078, ISO 17078-1 provides requirements for side-pocket mandrels used in the petroleum and natural gas industry. ISO 17078-2 provides requirements for flow-control devices. And, ISO 17078-3 provides requirements for latches and installation tools that are used in conjunction with side-pocket mandrel flow-control devices. Other pertinent side-pocket mandrel-related information can be found in API standards listed in the bibliography.

It is necessary that users of this part of ISO 17078 be aware that requirements above those outlined in this part of ISO 17078 can be needed for individual applications. This part of ISO 17078 is not intended to inhibit a supplier/manufacturer from offering, or the user/purchaser from accepting, alternative equipment or engineering solutions. This can be particularly applicable where there is innovative or developing technology. Where an alternative is offered, it is the responsibility of the supplier/manufacturer to identify any variations from this part of ISO 17078 and provide details.

Petroleum and natural gas industries — Drilling and production equipment —

Part 4:
Practices for side-pocket mandrels and related equipment

1 Scope

This part of ISO 17078 provides informative documentation to assist the user/purchaser and the supplier/manufacturer in specification, design, selection, testing, calibration, reconditioning, installation and use of side-pocket mandrels, flow-control devices and associated latches and installation tools. The product-design and manufacturing-related requirements for these products are included within the other parts of ISO 17078.

The content and coverage of several industry documents are compiled and refined within ISO 17078 (all parts).

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 14313, *Petroleum and natural gas industries — Pipeline transportation systems — Pipeline valves*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

ISO 17078-1:2004, *Petroleum and natural gas industries — Drilling and production equipment — Part 1: Side-pocket mandrels*

ISO 17078-2:2007, *Petroleum and natural gas industries — Drilling and production equipment — Part 2: Flow-control devices for side-pocket mandrels*

ISO 17078-3:2009, *Petroleum and natural gas industries — Drilling and production equipment — Part 3: Running tools, pulling tools and kick-over tools and latches for side-pocket mandrels*

ANSI/ASME B16.5, *Pipe Flanges and Flanged Fittings*

ANSI/ASME B16.34, *Valves Flanged, Threaded and Welding End*

ANSI/ASME B31.8, *Gas Transmission and Distribution Piping Systems*

ANSI/API MPMS 14.31-1990, Dimensioning and Tolerancing

GPA 8185-90, *Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluid, Part 1, General Equations and Uncertainty Guidelines*, American Gas Association, Report No. 3

ASME Boiler and Pressure Vessel Code (BPVC), Section VIII, Pressure Vessels, Division 1, *Rules for Construction of Pressure Vessels*

ASME Boiler and Pressure Vessel Code (BPVC), Section VIII, Pressure Vessels, Division 2, *Alternative Rules*

3 Terms and definitions

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

NOTE For quality-system-related terms used in this part of ISO 17078 and not defined below, reference can be made to ISO 9000 for additional definitions.

3.1
acceptance
flow-control device, component(s) and/or assembly(s) accepted for use

3.2
acceptance criteria
measures or conditions that shall be met for a test to be successful

3.3
ager
pressure chamber used to externally pressure test a flow-control device for a specified period of time and/or number of cycles

3.4
coating
application of a film of material on the surface of another material for different purposes

3.5
compatibility testing
testing to confirm that various side-pocket mandrels and related products fit and work together

3.6
critical length
linear distance in a side-pocket mandrel between orienting sleeve no-go and face of pocket, measured perpendicular to face of pocket

3.7
design verification grade
levels of design requirements for side-pocket mandrels and associated equipment in accordance with ISO 17078-1, ISO 17078-2, and ISO 17078-3

3.8
dome
chamber that contains an internal pressure that is applied to the responsive element, which may be a bellows or piston

3.9
dummy flow-control device
blank device that is installed in a side-pocket mandrel to prevent flow or pressure communication between the casing annulus and the tubing

3.10
gas port
holes in a side-pocket mandrel where gas enters the pocket of the mandrel

3.11
informative
information that is meant to enlighten the user/purchaser or supplier/manufacturer, without containing requirements

3.12
injection pressure operated
injected-gas-pressure-operated flow-control device

3.13
latch
retention mechanism for a flow-control device that is installed in a side-pocket mandrel

3.14
linear mass
mass per length of tubular product

3.15
loading conditions
loading conditions that it is anticipated to apply to the side-pocket mandrel, including, but not limited to, tensile and compressive loads, internal (burst) pressures, external (collapse) pressures, bending stresses, etc.

3.16
manufacturing
process(es) and action(s) performed by an equipment supplier/manufacturer that are necessary to provide finished component(s), assemblies and related documentation that fulfil the requests of the user/purchaser, and to meet the standards of the supplier/manufacturer

NOTE Manufacturing begins when the supplier/manufacturer receives the order and is completed at the moment the component(s), assembly(ies), and related documentation are transferred to a transportation provider.

3.17
model
name and/or description of a device that has unique components and functional characteristics and that distinguish it from other models of the same type

3.18
operating environment
set of environmental conditions that the product is exposed to during its service life, including, but not limited to, such environmental variables as temperature, pressure, liquid composition and properties, gas composition and properties, solids, etc.

3.19
operational parameters
requirements and restrictions to which the product is exposed during its service life

EXAMPLES Operating environment, landing and retrieval of flow-control devices, injection of various well treatment chemicals/fluids, etc.

3.20
product functional testing
process, method(s) and/or test(s) that are used by the supplier/manufacturer to demonstrate that a particular device has been manufactured to fully meet the functional and manufacturing requirements for that product as defined by the appropriate ISO specifications

3.21
production pressure operated
production-pressure-operated flow-control device

3.22
quality control grade
process and/or method(s) used by the supplier/manufacturer to assure the quality of the materials, manufacturing process(es) and traceability as defined in the appropriate ISO specifications