



SLOVENSKI STANDARD SIST EN ISO 14998:2013

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Industrija za predelavo nafte in zemeljskega plina - Oprema za vrtine - Pribor za kompletiranje (ISO 14998:2013)

Petroleum and natural gas industries - Downhole equipment - Completion accessories (ISO 14998:2013)

Erdöl- und Erdgasindustrie - Bohrloch-Ausrüstung - Komplettierungsausrüstung / Zubehör (ISO 14998:2013)

Industries du pétrole et du gaz naturel - Équipement de fond de trou - Accessoires de complétion (ISO 14998:2013)

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ICS:

75.180.10	Oprema za raziskovanje in odkopavanje	Exploratory and extraction equipment
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EUROPEAN STANDARD

EN ISO 14998

NORME EUROPÉENNE

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July 2013

ICS 75.180.10

English Version

Petroleum and natural gas industries - Downhole equipment - Completion accessories (ISO 14998:2013)

Industries du pétrole et du gaz naturel - Équipement de
fond de trou - Accessoires de complétion (ISO 14998:2013)

Erdöl- und Erdgasindustrie - Bohrloch-Ausrüstung -
Komplettierungsausrüstung / Zubehör (ISO 14998:2013)

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Foreword

This document (EN ISO 14998:2013) 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of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

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INTERNATIONAL
STANDARD

ISO
14998

First edition
2013-07-15

**Petroleum and natural gas
industries — Downhole equipment —
Completion accessories**

*Industries du pétrole et du gaz naturel — Équipement de fond de
trou — Accessoires de complétion*

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ISO 14998:2013(E)**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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. www.iso.org/patents

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The committee responsible for this document is ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 4, *Drilling and production equipment*.

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Introduction

This International Standard has been developed by users/purchasers and suppliers/manufacturers completion accessories intended for use in the petroleum and natural gas industry worldwide. This International Standard is intended to give requirements and information to both parties in the selection, manufacture, testing and use of completion accessories. Further, this International Standard addresses supplier/manufacturer requirements which set the minimum requirements with which suppliers/manufacturers shall comply to claim conformity with this International Standard.

This International Standard has been structured to allow for grades of increased requirements both in quality control and design validation. These variations allow the user/purchaser to select the grade required for a specific application for a chosen accessory.

The three quality grades provide the user/purchaser the choice of requirements to meet a specific preference or application. Quality grade Q3 is the minimum grade of quality offered by this product standard. Quality grade Q2 provides additional inspection and verification steps, and quality grade Q1 is the highest grade provided. Additional quality requirements may be specified by the user/purchaser as supplemental requirements.

Seven standard design validation grades (V0 to V6) provide the user/purchaser the choice of requirements to meet a specific preference or application. Design validation grade V6 is the minimum grade and represents equipment where the validation method has been defined by the supplier/manufacturer. The complexity and severity of the validation testing increases as the grade number decreases.

Users of this International Standard should be aware that requirements above those outlined in this International Standard may be needed for individual applications. This International Standard is not intended to inhibit a supplier/manufacturer from offering, or the user/purchaser from accepting, alternative equipment or engineering solutions. This may be particularly applicable where there is innovative or developing technology. Where an alternative is offered, the supplier/manufacturer should identify any variations from this International Standard.

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Petroleum and natural gas industries — Downhole equipment — Completion accessories

1 Scope

This International Standard provides requirements and guidelines for completion accessories, as defined herein for use in the petroleum and natural gas industry. This International Standard provides requirements for the functional specification and technical specifications including: design, design verification and validation, materials, documentation and data control, redress, repair, shipment, and storage. This International Standard covers the pressure containing, load bearing, disconnect/reconnect, tubing movement, and opening a port functionalities of completion accessories.

Products covered under ISO 11960, ISO 10432, ISO 10423, ISO 14310, ISO 16070, ISO 28781, ISO 10407-2, ISO 17824, and ISO 17078-1 are not included. Also not included are other products such as: liner/tubing hangers, down-hole well test tools, inflow control devices, surface controlled sliding sleeves and chokes, down-hole artificial lift equipment, and all functionalities relating to electronics. This International Standard does not cover the connections to the well conduit. Installation of these products is outside the scope of this International Standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3601-1, *Fluid power systems — O-rings — Part 1: Inside diameters, cross-sections, tolerances and designation codes*

ISO 3601-3, *Fluid power systems — O-rings — Part 3: Quality acceptance criteria*

ISO 9000, *Quality management systems — Fundamentals and vocabulary*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

ISO 11960, *Petroleum and natural gas industries — Steel pipes for use as casing or tubing for wells*

ISO 15156 (all parts), *Petroleum and natural gas industries — Materials for use in H₂S — containing environments in oil and gas production*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9000 and the following apply.

3.1

anchor

completion accessory designed to disconnect or reconnect the tubing by attaching to a designed receptacle

3.2

assembly

product comprised of more than one component

ISO 14998:2013(E)**3.3****blast joint**

completion accessory with anti-erosion provision on the OD

3.4**casing**

conduit that is an integral lining of a drilled well typically from the surface downward which is not used for a production conduit

3.5**chemical injection mandrel**

completion accessory with provision to attach conduit(s) for injection of chemicals

3.6**component**

individual part of an assembly

3.7**completion accessory**

equipment that forms an integral part of the tubing (3.70) and is not covered by any other ISO downhole equipment standards

Note 1 to entry: See 5.2.

3.8**conduit**

casing, tubing or liner, either metallic or non-metallic

3.9**cross-over**

(see tubing adapter)

3.10**design validation**

process of proving a design by testing to demonstrate conformity of the product to design requirements

[SOURCE: SOURCE: ISO/TS 29001:2010, 3.1.7]

3.11**design verification**

process of examining the result of a given design or development activity to determine conformity with specified requirements

[SOURCE: SOURCE: ISO/TS 29001:2010, 3.1.8]

3.12**disconnect load**

load at which a completion accessory is designed to disconnect

3.13**drift diameter**

minimum ID of a completion accessory, expressed as the OD of the drift bar utilized during assembly inspection, as outlined in 7.4.11

3.14**down-hole well test tools**

down-hole tools temporarily set in place for the purpose of evaluating the production potential of the chosen formation

3.15**down-hole artificial lift equipment**

equipment integral to the conduit that provides additional energy to the production fluids

3.16**end connection**

thread or other mechanism connecting the completion accessory to the conduit

3.17**expansion [travel] joint**

completion accessory that facilitates tubing movement

3.18**exposed component**

flow-wetted component, internally wetted component, and/or component contacted by well fluid in the annulus

3.19**fill valve**

completion accessory with provision to open and/or close a port in the tubing to allow passage of fluids between the ID of the tubing and the annulus, or vice versa

3.20**flow coupling**

completion accessory with anti-erosion provision on the ID

3.21**flow-wetted component**

component that comes in direct contact with the dynamic movement of well fluids in the flow stream

3.22**free-passage**

passing a tool or component over or through another tool or component with un-restricted movement

3.23**gauge OD**

maximum specified product OD

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3.24**gauge mandrel**

completion accessory with provision to attach permanent monitoring devices

3.25**grade**

category or rank given to different requirements for quality or design validation

3.26**heat traceable**

traceable back to a unique heat and heat treatment of material

3.27**inflow control device**

device incorporated into a sand control screen that regulates the flow into the production conduit

3.28**internally wetted component**

flow-wetted component and any component out of the flow stream, but contacted by well fluids through a port or other passage to the flow-wetted area

3.29**job lot**

batch of material or components that have undergone the same process or series of processes