INTERNATIONAL STANDARD

ISO 10433

First edition
1994-04-01

Petroleum and natural gas industries — Drilling and production equipment — Specification for wellhead surface safety valves and underwater safety valves for offshore service

Industries du pétrole et du gaz naturel — Équipment de forage et de production — Spécifications pour vannes de protection de tête de puits en surface et vannes de protection sous-marines pour utilisation en mer

Reference number
ISO 10433:1994(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.

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.

International Standard ISO 10433 was prepared by the American Petroleum Institute (API) (as Spec 14D, 9th edition) and was adopted, under a special "fast-track procedure", by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum and natural gas industries*, in parallel with its approval by the ISO member bodies.

International Organization for Standardization
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Introduction

International Standard ISO 10433:1994 reproduces the content of API Spec 14D, 9th edition, 1994. ISO, in endorsing this API document, recognizes that in certain respects the latter does not comply with all current ISO rules on the presentation and content of an International Standard. Therefore, the relevant technical body, within ISO/TC 67, will review ISO 10433:1994 and reissue it, when practicable, in a form complying with these rules.

This International Standard is not intended to obviate the need for sound engineering judgement as to when and where this International Standard should be utilized and users should be aware that additional or differing requirements may be needed to meet the needs for the particular service intended.

Standards referenced herein may be replaced by other international or national standards that can be shown to meet or exceed the requirements of the referenced standards.

Appendix D to this document shall not be considered as requirements.

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Petroleum and natural gas industries — Drilling and production equipment — Specification for wellhead surface safety valves and underwater safety valves for offshore service

1 Scope

This International Standard lays down the specification for wellhead surface protective valves and underwater protective valves used as means of ensuring well stream shutoff.

2 Requirements

Requirements are specified in:

"API Specification 14D (Spec 14D), Ninth Edition, June 1, 1994 — *Specification for Wellhead Surface Safety Valves and Underwater Safety Valves for Offshore Service*",

which is adopted as ISO 10433.

For the purposes of international standardization, however, modifications shall apply to specific clauses and paragraphs of publication API Spec 14D. These modifications are outlined below.

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Information given in the POLICY is relevant to the API publication only.

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Table 104.1, Referenced standards

The reference standards indicated hereafter are available under an ISO reference:

API RP14H as ISO 10419
API Spec 5CT as ISO 11960 (at present under preparation)
API Spec 6A as ISO 10423
API Std 5B as ISO 10422
API Spec 5L as ISO 3183-1
MIL-STD-105 D shall be replaced by ISO 2859-1.

Page 31

Subclause 605.2j(2) Weld NDE — Surface

Third paragraph, second indent, first line to read:

"No rounded indications greater than 1/8 inch (3mm)..."

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Table 605.1, Quality control requirements welding

Codes f and g, read:

"...25 % of wall thickness or 1/2 in (13 mm), whichever is less."

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Section 700, Equipment marking

References to the use of the API Monogram do not form an integral part of the ISO standard.

The same remark applies also to the following sections:

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Section 900, Testing and assembly (see 904.3)

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Section 1000, Repair and remanufacture requirements (see 1008.1a and 1008.1b)

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Appendix A — Metric conversion

Replace by the following:

The conversion of English units shall be made in accordance with ISO 31.

LENGTH	1 inch (in)	= 25,4 mm (exactly)
PRESSURE	1 pound-force per square inch (lbf/in^2)	= 6 894,757 Pa
	NOTE 1 bar = 10^5 Pa	
STRENGTH OR STRESS	1 pound-force per square inch (lbf/in^2)	= 6 894,757 Pa
IMPACT ENERGY	1 food-pound force (ft·lbf)	= 1,355 818 J
TORQUE	1 foot-pound force (ft·lbf)	= 1,355 818 N·m
TEMPERATURE	The following formula was used to convert degrees Fahrenheit (°F) to degrees Celsius (°C): $°C = 5/9\ (°F - 32)$	
VOLUME	1 gal (US)	= 0,003 785 4 m^3 or 3,785 4 dm^3
MASS	1 pound (lb)	= 0,453 592 37 kg (exactly)
FLOWRATE	1 gallon per minute (gal/min)	= 0,003 785 4 m^3/min or 3,785 4 dm^3 /min (or l/min)

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Appendix D — Test agency license criteria

Information given in Appendix D is relevant to the API publication only.

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Specification for Wellhead Surface Safety Valves and Underwater Safety Valves for Offshore Service

API SPECIFICATION 14D (SPEC 14D)
NINTH EDITION, JUNE 1, 1994

STEP
Strategies for Today's Environmental Partnership

American Petroleum Institute
1220 L Street, Northwest
Washington, DC 20005

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Issued by
AMERICAN PETROLEUM INSTITUTE
Exploration & Production Department

FOR INFORMATION CONCERNING TECHNICAL CONTENTS OF
THIS PUBLICATION CONTACT THE API EXPLORATION & PRODUCTION DEPARTMENT,
700 NORTH PEARL, SUITE 1840 (LB-382), DALLAS, TX 75201-2845 — (214) 953-1101.
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Users of this publication should become familiar with its scope
and content. This document is intended to supplement rather
than replace individual engineering judgment.

OFFICIAL PUBLICATION

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FOREWORD

The purpose of this specification is to provide requirements for wellhead surface safety valves and underwater safety valves. A wellhead surface safety valve (SSV) or an underwater safety valve (USV) is used as one means of assuring well stream shutoff.

API RP 14H: Recommended Practice for Installation, Maintenance, and Repair of Surface Safety Valves and Underwater Safety Valves Offshore, also provides guidelines for recommended installation, operation, maintenance, and testing procedures for SSVs/USVs.

This standard was developed as an API Specification under the jurisdiction of the API Exploration & Production Department Committee on Standardization of Offshore Safety and Anti-Pollution Equipment (OSAPE), and was prepared with the guidance of the API, the Offshore Operators Committee (OOC), and the Western States Petroleum Association (WSPA).

The API OSAPE Committee has the following scope:

API Specifications and Recommended Practices for safety and anti-pollution equipment and systems used in offshore oil and gas production, giving emphasis when appropriate in such standards to manufacturing, equipment testing, and systems analysis methods.

Other publications formulated by this committee are:

Spec 14A: Specification for Subsurface Safety Valve Equipment

RP 14B: Recommended Practice for Design, Installation, Repair, and Operation of Subsurface Safety Valve Systems.

RP 14C: Recommended Practice for Analysis, Design, Installation, and Testing of Basic Surface Safety Systems on Offshore Production Platforms.

RP 14E: Recommended Practice for Design and Installation of Offshore Production Platform Piping Systems.

RP 14F: Recommended Practice for Design and Installation of Electrical Systems for Offshore Production Platforms.

RP 14G: Recommended Practice for Fire Prevention and Control on Open Type Offshore Production Platforms.

RP 14H: Recommended Practice for Use of Surface Safety Valves and Underwater Safety Valves Offshore.

RP 14J: Recommended Practice for Design and Hazards Analysis for Offshore Production Facilities.

Attention Users of This Publication: API Specifications usually include bar notations in the margin to indicate items that have been changed from the previous edition. These bar notations have not been included in this document due to the extensiveness of revisions made in this edition. Every Section of this document includes revisions from the previous edition.

This is the Ninth Edition of this publication and supersedes all previous editions. It includes changes to the Eighth Edition, August 1991, as approved by letter ballot.

This Standard shall become effective on the date printed on the cover but may be used voluntarily from the date of distribution.

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