INTERNATIONAL STANDARD

ISO 10407

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Petroleum and natural gas industries — Drilling and production equipment — Drill stem design and operating limits

Industries du pétrole et du gaz naturel — Étude des garnitures de forage et de leurs limites d'exploitation

Reference number
ISO 10407:1993(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 10407 was prepared by the American Petroleum Institute (API) (as RP 7G, 14th 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.

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Introduction

International Standard ISO 10407:1993 reproduces the content of API RP 7G, 14th edition, 1990. 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 10407:1993 and reissue it, when practicable, in a form complying with these rules.

This standard is not intended to obviate the need for sound engineering judgement as to when and where this standard should be utilized and users of this standard 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 A forms an integral part of this standard.

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Petroleum and natural gas industries — Drilling and production equipment — Drill stem design and operating limits

1 Scope

This International Standard lays down the properties of drill pipe and tool joints, drill collars, kellys, and establishes principles for the design and use of drill stem and their components.

2 Requirements

Requirements are specified in:

> "API Recommended Practice 7G (RP 7G), Fourteenth Edition, August 1, 1990 — *Recommended Practice for Drill Stem Design and Operating Limits*",

which is adopted as ISO 10407.

For the purposes of international standardization, however, modifications shall apply to specific clauses and paragraphs of publication API RP 7G. These modifications are outlined below.

Throughout publication API RP 7G, the conversion of English units shall be made in accordance with ISO 31, in particular for the quantities listed hereafter.

LENGTH	1 inch (in)	= 25,4 mm (exactly)
	1 foot (ft)	= 304,8 mm or 0,304 8 m (exactly)
	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 foot-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 cubic foot	= 0,028 316 8 m^3 or 28,316 8 dm^3
	1 gal (US)	= 0,003 785 4 m^3 or 3,785 4 dm^3
	1 barrel (US)	= 0,158 987 m^3 or 158,987 dm^3
MASS	1 pound (lb)	= 0,453 592 37 kg (exactly)
LINEIC MASS	1 pound per foot (lb/ft)	= 1,488 163 9 kg/m