

This is a preview of "ISO 13703:2000". Click here to purchase the full version from the ANSI store.

First edition
2000-12-15

Petroleum and natural gas industries — Design and installation of piping systems on offshore production platforms

*Industries du pétrole et du gaz naturel — Conception et installation de
systèmes de tuyauterie sur les plates-formes de production en mer*



Reference number
ISO 13703:2000(E)

© ISO 2000

This is a preview of "ISO 13703:2000". Click here to purchase the full version from the ANSI store.

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

This is a preview of "ISO 13703:2000". Click here to purchase the full version from the ANSI store.

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms, definitions, symbols and abbreviated terms	2
3.1 Terms and definitions	2
3.2 Symbols and abbreviated terms	4
4 General considerations	6
4.1 Materials	6
4.2 Code of pressure piping	7
4.3 Demarcation between systems with different pressure ratings	7
4.4 Corrosion considerations	9
5 Piping design	10
5.1 Pipe material grades	10
5.2 Sizing criteria — General	12
5.3 Sizing methods for liquid lines	12
5.4 Sizing criteria for single-phase gas lines	19
5.5 Sizing criteria for gas/liquid two-phase lines	23
5.6 Pipe wall thicknesses	26
5.7 Joint connections	30
5.8 Expansion and flexibility	31
5.9 Start-up provisions	32
6 Selection of valves	32
6.1 General	32
6.2 Types of valves	33
6.3 Fire resistance of valves	35
6.4 Valve sizing	35
6.5 Valve pressure and temperature ratings	36
6.6 Valve materials	37
7 Fittings and flanges	37
7.1 General	37
7.2 Welded fittings	38
7.3 Screwed fittings	38
7.4 Branch connections	38
7.5 Flanges	39
7.6 Proprietary connectors	41
7.7 Special requirements for sulfide stress-cracking service	41
7.8 Erosion prevention	41
8 Design considerations for particular piping systems	41
8.1 General	41
8.2 Wellhead accessory items	41
8.3 Flowline and flowline accessories	42
8.4 Production manifolds	45
8.5 Process vessel piping	45
8.6 Utility systems	47
8.7 Heating fluid and glycol systems	48
8.8 Pressure relief and disposal systems	48
8.9 Drain systems	50

This is a preview of "ISO 13703:2000". Click here to purchase the full version from the ANSI store.

8.10	Bridge piping between platforms	50
8.11	Risers	50
8.12	Sampling valves	51
9	Considerations of related items	51
9.1	General	51
9.2	Layout	51
9.3	Elevations	51
9.4	Piping supports	51
9.5	Other corrosion considerations	51
9.6	Thermal insulation	54
9.7	Noise	56
9.8	Pipe, valves and fittings tables	56
9.9	Inspection, maintenance, repair and modification	56
10	Installation and quality control	56
10.1	General	56
10.2	Welding	56
10.3	Pressure testing	57
10.4	Test record	58
	Annex A (informative) Example problems	59
	Annex B (informative) Examples of pipe, valves and fittings tables	71
	Annex C (informative) Acceptable butt-welded joint design for unequal wall thicknesses	74
	Bibliography	76

This is a preview of "ISO 13703:2000". Click here to purchase the full version from the ANSI store.

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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 13703 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum and natural gas industries*, Subcommittee SC 6, *Processing equipment and systems*.

Annexes A, B and C of this International Standard are for information only.

This is a preview of "ISO 13703:2000". Click here to purchase the full version from the ANSI store.

Introduction

This International Standard is based on API RP 14E, 5th edition, October 1991.