ISO 14723:2009-06 (E)

Petroleum and natural gas industries - Pipeline transportation systems - Subsea pipeline valves

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Conformance 1
2.1 Rounding 1
2.2 Compliance to standard 1

3 Normative references 1

4 Terms and definitions 3

5 Symbols and abbreviated terms 8
5.1 Symbols 8
5.2 Abbreviated terms 8

6 Valve types and configurations 9
6.1 Valve types 9
6.2 Valve configurations 10

7 Design 25
7.1 Design codes and calculations 25
7.2 Pressure and temperature ratings 25
7.3 Cavity relief 26
7.4 External pressure and loads 26
7.5 Sizes 26
7.6 Face-to-face and end-to-end dimensions 26
7.7 Valve operation 36
7.8 Pigging 36
7.9 Valve ends 37
7.10 Bypasses, drains and vents 38
7.11 Manual actuator-manual operator -- Handwheels and wrenches 38
7.12 Locking devices 39
7.13 Position of the obturator 39
7.14 Position indicators 39
7.15 Travel stops 39
7.16 ROV interface 39
7.17 Sealant injection 39
7.18 Lifting points and supports 40
7.19 Valve operator interface 40
7.20 Drive trains 41
7.21 Stem retention 41
7.22 Stem/shaft protector 41
7.23 Hydraulic lock 42
7.24 Corrosion/erosion 42
7.25 Hyperbaric performance 42
7.26 Design documents 42
7.27 Design document review 42

8 Materials 42
8.1 Material specification 42
8.2 Service compatibility 43
8.3 Forged parts 43
8.4 Composition limits 43
8.5 Impact test requirements of steels 44
8.6 Bolting 45
8.7 Sour service 45

9 Welding 45
9.1 Qualifications 45
9.2 Impact testing requirements of weldments 46
9.3 Hardness testing 47
9.4 Repair 47

10 Quality control 48
10.1 NDE requirements 48
10.2 Measuring and test equipment 48
10.3 Qualification of inspection and test personnel 49
10.4 NDE 49
10.5 NDE of repairs 49
10.6 Visual inspection of castings 50
11 Testing 50
11.1 General 50
11.2 Hydrostatic shell test 50
11.3 Operational/functional test 51
11.4 Hydrostatic seat test 51
11.5 Cavity-relief test 52
11.6 Low-pressure-gas seat test 52
11.7 Draining 53
11.8 Installation of body connections after testing 53
12 Coating 53
13 Marking 53
14 Preparation for shipment 55
15 Documentation 55
15.1 Documentation retained by manufacturer 55
15.2 Documentation shipped with valve 56

Annex A (normative) Requirements for non-destructive examination 57

Annex B (normative) Supplementary test requirements 60

Annex C (informative) Supplementary documentation requirements 65

Annex D (informative) Purchasing guidelines 66

Annex E (informative) Marking example 71

Bibliography 72