

DIN EN ISO 15463:2010-08 (E)

Petroleum and natural gas industries_- Field inspection of new casing, tubing and plain-end drill pipe (ISO_15463:2003_+ Cor._1:2009); English version
EN_ISO_15463:2003_+ AC:2009, only on CD-ROM

Contents		Page
Foreword.....		5
Introduction.....		6
1 Scope		7
2 Conformance.....		7
2.1 Normative references		7
2.2 Units of measurement		7
2.3 Tables and figures		7
3 Normative references		8
4 Terms, definitions, symbols and abbreviated terms.....		8
4.1 Terms and definitions		8
4.2 Symbols and abbreviated terms		19
5 Application		20
5.1 Basis for inspection		20
5.2 Applicability of inspections		21
5.3 Repeatability of results		21
5.4 Consequences of variability		21
6 Ordering information.....		22
7 Quality assurance		22
8 Qualification of inspection personnel		23
8.1 General.....		23
8.2 Written procedure		23
8.3 Qualification of inspection personnel		23
8.4 Training programmes		23
8.5 Examinations.....		23
8.6 Experience		24
8.7 Requalification		24
8.8 Documentation.....		24
8.9 NDT personnel certification.....		24
9 General inspection procedures.....		24
9.1 General.....		24
9.2 Documents at job site		25
9.3 Pre-inspection procedures		25
9.4 Records and notification.....		25
9.5 Post-inspection procedures		25
9.6 Job site checklist.....		26
9.7 Documentation.....		26
10 Acceptance criteria, disposition and responsibility		27
10.1 General.....		27
10.2 Basis for acceptance.....		27
10.3 Responsibility for rejections		27
11 Visual and dimensional inspection.....		27
11.1 General.....		27
11.2 Application		27
11.3 Drift mandrels.....		27
11.4 Precision callipers (micrometer, vernier calliper or dial calliper).....		28
11.5 Length- and diameter-measuring devices (steel rules, steel length- or diameter-measuring tapes, and other non-adjustable measuring devices).....		28
11.6 Depth gauges		28

11.7	External surface illumination	28
11.8	Internal surface illumination	29
11.9	Full-length visual inspection (FLVI) of new OCTG.....	29
11.10	Outside diameter verification	30
11.11	Straightness	30
11.12	Drift testing	30
11.13	Visual thread inspection (VTI).....	32
12	Hardness testing	35
12.1	General	35
12.2	Application	35
12.3	Equipment	35
12.4	Calibration	35
12.5	Standardization.....	36
12.6	Procedures	36
13	Magnetic particle inspection (MPI)	37
13.1	General	37
13.2	Application	37
13.3	Equipment and materials	38
13.4	Magnetic particles	39
13.5	Illumination equipment and optical aids.....	39
13.6	General procedures.....	39
13.7	Calibration	40
13.8	Standardization.....	41
13.9	Periodic checks	41
13.10	End area inspection (SEA).....	41
13.11	Inspection of unattached couplings (UCMPI).....	42
13.12	Full-length magnetic particle inspection (FLMPI)	44
14	Electromagnetic inspection (EMI).....	44
14.1	General	44
14.2	Equipment	45
14.3	Application	45
14.4	Calibration	45
14.5	Standardization.....	46
14.6	Equipment requirements and periodic checks	48
14.7	Inspection procedure	48
15	Residual magnetism and demagnetization.....	48
15.1	General	48
15.2	Application	49
15.3	Services	49
16	Gamma-ray wall thickness inspection	50
16.1	General	50
16.2	Application	50
16.3	Equipment	50
16.4	Calibration and standardization.....	50
16.5	Inspection procedure	51
17	Electromagnetic grade comparison	51
17.1	General	51
17.2	Application	51
17.3	Equipment	51
17.4	Calibration and standardization.....	52
17.5	Inspection procedure	52
18	Ultrasonic inspection	53
18.1	General	53
18.2	Application	53

	Page
18.3	General procedures for calibration, standardization, and inspection53
18.4	Inspection for longitudinal, transverse, and oblique imperfections54
18.5	Standardization55
18.6	Procedure for the detection of longitudinal, transverse and oblique imperfections56
18.7	Inspection of the body wall for wall thinning.....56
18.8	Ultrasonic inspection of longitudinal welds57
18.9	Manual ultrasonic thickness gauging.....58
18.10	Manual ultrasonic shear-wave inspection60
19	Evaluation of imperfections and deviations61
19.1	General.....61
19.2	Application61
19.3	Equipment61
19.4	Calibration and standardization procedures62
19.5	Procedure for evaluating outside-surface-breaking pipe body imperfections62
19.6	Procedure for evaluating inside-surface-breaking pipe body imperfections.....64
19.7	Procedure for evaluating welds64
19.8	Procedure for evaluating grinds65
19.9	Procedure for evaluating large-area wall reduction.....65
19.10	Procedure for evaluating imperfections in upsets.....66
19.11	Procedure for evaluation of outside surface imperfections on couplings.....67
19.12	Procedure for evaluation of visually-located thread imperfections68
19.13	Procedure for triangle location and coupling makeup position70
19.14	Procedure for evaluating straightness.....71
19.15	Procedure for evaluating pipe diameter.....72
20	Hydrostatic pressure testing72
20.1	General.....72
20.2	Application72
20.3	Equipment, safety and general procedures72
20.4	Equipment calibration74
20.5	Operating procedure74
21	Marking75
21.1	General.....75
21.2	Authority75
21.3	Guidelines.....75
21.4	Marking of prime OCTG76
21.5	Marking of no-drift OCTG.....77
21.6	Marking of conditioned OCTG.....77
21.7	Marking of conditionable OCTG (still to be conditioned).....77
21.8	Marking of non-conditionable OCTG (rejects).....78
21.9	Marking of OCTG not meeting ISO/API standards for hardness78
21.10	Marking of prime couplings and connectors78
21.11	Marking of conditioned couplings and connectors79
21.12	Marking of conditionable couplings and connectors (still to be conditioned)79
21.13	Marking of non-conditionable couplings and connectors (rejects)79
Annex A	(normative) Tables in SI units80
Annex B	(normative) Figures97
Annex C	(normative) Tables in USC units102
Bibliography118