

ISO 10303-31:1994-12 (E)

Industrial automation systems and integration - Product data representation and exchange - Part 31: Conformance testing methodology and framework: General concepts

Contents		Page
1	Scope	1
1.1	Applicability of this series of parts	1
1.2	Applicability of this part of ISO 10303	1
1.3	Coverage of this series of parts	1
1.4	Coverage of this part of ISO 10303	3
2	Normative references	3
3	Definitions	4
3.1	Terms defined in ISO 10303-1	4
3.2	Other definitions	4
3.2.1	abstract test case (ATC)	4
3.2.2	abstract test group	4
3.2.3	abstract test method	4
3.2.4	(laboratory) accreditation	5
3.2.5	accreditation body	5
3.2.6	assessor	5
3.2.7	attestation of conformity	5
3.2.8	basic tests	5
3.2.9	capabilities of an IUT	5
3.2.10	capability tests	5
3.2.11	certificate of conformance	5
3.2.12	certificate of conformity; certificate of conformance	5
3.2.13	certification body	5
3.2.14	certification mark	5
3.2.15	certification of conformity	6
3.2.16	certification system	6
3.2.17	client (of a testing laboratory)	6
3.2.18	comparability (of results)	6
3.2.19	conformance	6
3.2.20	conformance assessment process	6
3.2.21	conformance log	6
3.2.22	conformance testing	6
3.2.23	(conformance) test report	6
3.2.24	conforming Implementation	6
3.2.25	conformity; conformance	6
3.2.26	control board	6
3.2.27	declaration of conformance	6
3.2.28	declaration of conformity; (manufacturer's) declaration of conformance	7
3.2.29	executable test case	7
3.2.30	executable test suite	7
3.2.31	fail (verdict)	7
3.2.32	falsification testing	7
3.2.33	Implementation Under Test (IUT)	7
3.2.34	inconclusive (verdict)	7
3.2.35	in-house testing	7
3.2.36	manufacturer's declaration of conformance	7
3.2.37	non-conformance	7
3.2.38	non-conformity; non-conformance	7
3.2.39	pass (verdict)	7

3.2.40	PIXIT proforma	8
3.2.41	postprocessor	8
3.2.42	preprocessor	8
3.2.43	proficiency testing	8
3.2.44	Protocol Implementation eXtra Information for Testing (PIXIT)	8
3.2.45	repeatability (of results)	8
3.2.46	resolution tests	8
3.2.47	selected abstract test suite.....	8
3.2.48	selected executable test suite	8
3.2.49	System Under Test (SUT).....	8
3.2.50	test campaign.....	8
3.2.51	test case.....	8
3.2.52	test case error	8
3.2.53	test purpose	9
3.2.54	test realiser.....	9
3.2.55	test report	9
3.2.56	test verdict.....	9
3.2.57	testing laboratory	9
3.2.58	(test) verdict	9
3.2.59	verdict criteria	9
3.2.60	verification testing	9
4	Abbreviations	9
5	Conformance.....	10
5.1	The meaning of conformance in ISO 10303	10
5.2	Conformance requirements	10
5.3	Protocol Implementation Conformance Statement.....	10
5.4	A conforming system	11
6	Conformance testing.....	11
6.1	Introduction	11
6.2	Types of conformance tests	11
6.2.1	Basic tests	12
6.2.2	Capability tests	12
6.3	Protocol Implementation eXtra Information for Testing	13
6.4	Conformance assessment process overview.....	13
6.5	Preparation for testing	14
6.6	Test campaign.....	16
6.7	Analysis of results	16
6.8	Conformance test report production.....	16
6.9	Intrinsic properties of the conformance assessment process	17
6.9.1	Repeatability of results	17
6.9.2	Comparability of results.....	17
6.9.3	Auditability of results	17
7	Abstract test methods	18
8	Abstract and executable test suites	18
8.1	Structure	18
8.2	Test purposes	18
8.3	Abstract test cases.....	18
8.4	Executable test cases	20
8.5	Relationship between abstract and executable test cases	20
 Annexes		
A	Information object registration	21
B	Optional conformance requirements	22
C	Resolution tests	23

D Supporting organisations	24
D.1 Introduction	24
D.1.1 Purpose.....	24
D.1.2 Scope	24
D.1.3 Intended readership.....	24
D.1.4 Background	25
D.1.5 General philosophy of conformance testing	25
D.2 Responsible authorities	25
D.2.1 Control board	25
D.2.2 Accreditation body	28
D.2.3 Testing laboratory.....	28
D.2.4 Certification body	29
D.3 Administration and certification.....	30
D.3.1 Guidelines for role of the certification body	30
D.3.2 Sponsoring a laboratory accreditation programme.....	30
D.3.3 Conditions for testing laboratory accreditation	31
D.3.4 Criteria for accrediting testing laboratories.....	31
D.3.5 Testing laboratory assessment.....	32
D.4 The process of certification.....	34
D.4.1 Initial contact.....	34
D.4.2 Certificate of conformity content and presentation	34
D.4.3 National responsibilities	35
D.4.4 International (ISO TC184/SC4) responsibilities	35
E Bibliography	38
Index	39
Figures	
1 Relationship between conformance testing Standards and other series of parts.....	2
2 Overview of the conformance assessment process	15
3 Example structure of an abstract test suite	19
D.1 Infrastructure for conformance testing	26
D.2 Sample certificate of conformity	36
D.3 Sample form for additional claims made by the client	37