ISO 4094:2017-12 (E)

Paper, board and pulps - General requirements for the competence of laboratories author ized for the issue of optical reference transfer standards of level 3

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Management requirements for Authorized Laboratories 3
4.1 Organization 3
4.2 Management system 4
4.3 Document control 5
4.3.1 General 5
4.3.2 Document approval and issue 5
4.3.3 Document changes 6
4.4 Review of requests, tenders and contracts 6
4.5 Subcontracting of calibrations 7
4.6 Purchasing services and supplies 7
4.7 Service to the customer 8
4.8 Complaints 8
4.9 Control of nonconforming testing and/or calibration work 8
4.10 Improvement 9
4.11 Corrective action 9
4.11.1 General 9
4.11.2 Cause analysis 9
4.11.3 Selection and implementation of corrective actions 9
4.11.4 Monitoring of corrective actions 9
4.11.5 Additional audits 9
4.12 Preventive action 9
4.13 Control of records 10
4.13.1 General 10
4.13.2 Technical records 10
4.14 Internal audits 11
4.15 Management reviews 11

5 Technical requirements 12
5.1 General 12
5.2 Personnel 12
5.3 Accommodation and environmental conditions 13
5.4 Test and calibration methods and method validation 14
5.4.1 General 14
5.4.2 Selection of methods 14
5.4.3 Laboratory-developed methods 14
5.4.4 Non-standard methods 15
5.4.5 Validation of methods 15
5.4.6 Estimation of uncertainty of measurement 16
5.4.7 Control of data 16
5.5 Equipment 17
5.6 Measurement traceability 18

5.6.1 General 18
5.6.2 Specific requirements - calibration 18
5.6.3 Reference standards and reference materials 18
5.7 Proficiency testing and inter-laboratory comparisons 19
5.8 Sampling 19
5.9 Handling of test and calibration items 19
5.10 Assuring the quality of test and calibration results 20
5.11 Reporting the results 20
5.11.1 General 20
5.11.2 Test reports and calibration certificates 21
5.11.3 Test reports 21
5.11.4 Calibration certificates 22
5.11.5 Opinions and interpretations 22
5.11.6 Electronic transmission of results 22
5.11.7 Format of reports and certificates 22
5.11.8 Amendments to test reports and calibration certificates 23

Annex A (normative)Specificrequirementsforlaboratoriesauthorizedtoissueoptical property reference transfer standards of level 3 24

Annex B (informative) ISO/TC 6 measurement quantities and standards included in the scope of this standard 28

Annex C (informative)ExampleofcertificateofcomplianceasanAuthorizedLaboratory meeting the requirements of this document 29

Annex D (informative) Table of contents for Authorized Laboratory biennial report 30

Bibliography 32