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Metrological Traceability of Test Results

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key words

measurement result property, combination of concepts, measurements, tests, methods and means of measurement

Traceability is a property of a measuring unit standard, a measuring instrument or a measurement result, which consists in the documented establishment of their connection with a state primary standard or a national primary standard of a foreign state of the corresponding unit of quantity through comparison of standards of units of quantities, verification, calibration of measuring instruments. We have analyzed the definition of the concept of traceability given in various domestic and foreign documents. The components of the metrological traceability of test results were established, and its legal and regulatory framework was provided. In addition, we have described the provision of metrological traceability in mechanical tensile testing as examples.

References

1. Federal Law of 26.06.2008 N 102-ФЗ On ensuring the uniformity measurements.
2. RMG 29–2013 State system for ensuring the uniformity of measurements. Metrology. Basic terms and definitions.
3. GOST ISO/IEC 17025–2019 General requirements for the competence of testing and calibration laboratories.
4. RF Ministry of Economic Development Order of 19.08.2019 N 506 On introduction of amendments to RF Ministry of Economic Development Order of 30.05.2014 N 326 On approval of accreditation Criteria, the list of documents confirming compliance of the applicant, the accredited person to accreditation criteria and list of documents in the field of standardization, compliance with which applicants, accredited persons and ensures their compliance with the criteria of accreditation.
5. GOST 16504–81 The system of state testing products. Product testing and quality control. Basic terms and definitions.
6. GOST 1497–84 Metals. Tensile testing methods.
7. GOST R 8.563–2009 GSI. Techniques (methods) of measurements.
8. RF Ministry of Industry and Trade Order of 15.12.2015 N 4091 On approval of the procedure for certification of primary reference methods (methods) of measurements, reference methods (methods) of measurements and methods (methods) of measurements and their application.
9. GOST R 51672–2000 Metrological support of product testing for conformity assessment purposes. Fundamentals.
10. GOST R 8.892–2015 GSI. Metrological support. Analysis of the state of the enterprise, organization, or association.
11. RF Ministry of Industry and Trade Order of 15.12.2015 N 4092 On approval of the procedure for assigning technical means to technical systems and devices with measuring functions.
12. GOST R 8.568–2017 GSI. Certification of test equipment. Fundamentals.
13. Kutyaikin V.G., Savrovsky K.K. Legal and regulatory framework for certification of test equipment, *Competency*, 2015, no. 9–10.
14. GOST R 8.000–2015 State system for ensuring the uniformity of measurements. Fundamentals.
15. RMG 63–2003 GSI. Ensuring the effectiveness of measurements in process control. Metrological examination of technical documentation.
16. Isaev L.K., Kuzin A.Yu. On traceability of measurements within the system of ensuring the unity of measurements in the Russian Federation, *Legislative and applied metrology*, 2019, no. 4.