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## International Vocabulary of Terms In Legal Metrology (VIML2). 3<sup>rd</sup> Committee Draft (VIML2 2CD)

### NOTE

1. OIML V2-200:2008, 2.2 is the ISO/IEC Guide 99:2007. International vocabulary of metrology – Basic and general concepts and associated terms (VIM)
2. In column “Source”, references are given for the terms which have been quoted from the ISO and /or IEC standards and guides.

## 0. Introduction. Basic Terms

No.	Term	Definition	Notes and examples	Source
0.01	<b>metrology</b>	science of measurement and its application	NOTE Metrology includes all theoretical and practical aspects of measurement, whatever the measurement uncertainty and field of application.	OIML V2-200:2008, 2.2

## 0. Introduction. Basic Terms

No.	Term	Definition	Notes and examples	Source
0.02	<b>International System of Units, SI</b>	system of units, based on the International System of Quantities, their names and symbols, including a series of prefixes and their names and symbols, together with rules for their use, adopted by the General Conference on Weights and Measures (CGPM)	<p>NOTE 1 The SI is founded on the seven base quantities of the ISQ ... etc. [<i>ISQ: International System of Quantities. For the details on the names and symbols of the corresponding base units refer to OIML V2-200:2008 (ISO/IEC Guide 99:2007) International vocabulary of metrology – Basic and general concepts and associated terms (VIM)</i>].</p> <p>NOTE 2 The base units and the coherent derived units of the SI form a coherent set, designated the “set of coherent SI units”.</p> <p>NOTE 3 For a full description and explanation of the International System of Units, see the current edition of the SI brochure published by the Bureau International des Poids et Mesures (BIPM) and available on the BIPM website.</p> <p>NOTE 4 In quantity calculus, the quantity ‘number of entities’ is often considered to be a base quantity, with the base unit one, symbol 1.</p> <p>NOTE 5 The SI prefixes for multiples of units and submultiples of units are: ... etc. [<i>See: OIML V2-200:2008 (ISO/IEC Guide 99:2007) International vocabulary of metrology – Basic and general concepts and associated terms (VIM) and in the SI brochure. BIPM 2006</i>]</p>	OIML V2-200:2008, 1.16

## 0. Introduction. Basic Terms

No.	Term	Definition	Notes and examples	Source
0.03	<b>error (of indication)</b>	value of the indication of a measuring instrument minus a reference quantity value	<p>NOTE 1 This reference value is sometimes referred to as a (conventional) true quantity value.</p> <p>NOTE 2 The definition is adapted from the VIM definition 2.16 for ‘measurement error’.</p>	
0.04	<p><b>maximum permissible measurement error</b></p> <p>maximum permissible error</p> <p>limit of error</p>	<p>extreme value of <b>measurement error</b>, with respect to a known <b>reference quantity value</b>, permitted by specifications or regulations for a given <b>measurement, measuring instrument, or measuring system</b></p>	<p>NOTE 1 Usually the term “maximum permissible errors” or “limits of error” are used, where there are two extreme values.</p> <p>NOTE 2 The term “tolerance” should not be used to designate ‘maximum permissible error’.</p>	OIML V2-200:2008, 4.26
0.06	<b>intrinsic error</b>	error of a measuring instrument, determined under reference conditions		

## 0. Introduction. Basic Terms

No.	Term	Definition	Notes and examples	Source
0.07	<b>influence quantity</b>	<b>quantity</b> that, in a direct <b>measurement</b> , does not affect the quantity that is actually measured, but affects the relation between the <b>indication</b> and the <b>measurement result</b>	<p>EXAMPLE 1 Frequency in the direct measurement with an ammeter of the constant amplitude of an alternating current.</p> <p>EXAMPLE 2 Amount-of-substance concentration of bilirubin in a direct measurement of haemoglobin amount-of substance concentration in human blood plasma.</p> <p>EXAMPLE 3 Temperature of a micrometer used for measurement of length of a rod, but not the temperature of the rod itself, which can enter into the definition of the <b>measurand</b>.</p> <p>EXAMPLE 4 Background pressure in the ion source of a mass spectrometer during a measurement of amount-of substance fraction.</p> <p>NOTE 1 An indirect measurement involves a combination of direct measurements, each of which may be affected by influence quantities.</p> <p>NOTE 2 In the GUM, the concept ‘influence quantity’ is defined as in the 2nd edition of the VIM, covering not only the quantities affecting the <b>measuring system</b>, as in the definition above, but also those quantities that affect the quantities actually measured. Also, in the GUM this concept is not restricted to direct measurements.</p>	OIML V2-200:2008, 2.52

## 0. Introduction. Basic Terms

No.	Term	Definition	Notes and examples	Source
0.08	<b>rated operating condition</b>	operating condition that must be fulfilled during <b>measurement</b> in order that a <b>measuring instrument</b> or <b>measuring system</b> perform as designed	NOTE Rated operating conditions generally specify intervals of <b>values</b> for a <b>quantity</b> being measured and for any <b>influence quantity</b> .	OIML V2-200:2008, 4.8
0.09	<b>reference operating condition</b>  reference condition	operating condition prescribed for evaluating the performance of a <b>measuring instrument</b> or <b>measuring system</b> or for comparison of <b>measurement results</b>	NOTE 1 Reference operating conditions specify intervals of <b>values</b> of the <b>measurand</b> and of the <b>influence quantities</b> .  NOTE 2 In IEC 60050-300, item 311-06-02, the term “reference condition” refers to an operating condition under which the specified <b>instrumental measurement uncertainty</b> is the smallest possible.	OIML V2-200:2008, 4.11
0.10	<b>measuring instrument</b>	device used for making measurements, alone or in conjunction with one or more supplementary devices	NOTE 1A measuring instrument that can be used alone is a measuring system.  NOTE 2 A measuring instrument may be an indicating measuring instrument or a material measure.	OIML V2-200:2008, 3.1
0.11	<b>measurement transducer</b>	device, used in measurement, that provides an output quantity having a specified relation to the input quantity	EXAMPLE Thermocouple, electric current transformer, strain gauge, pH electrode, Bourdon tube, bimetallic strip.	OIML V2-200:2008, 3.7
0.12	<b>measuring system</b>	set of one or more measuring instruments and often other devices, including any reagent and supply, assembled and adapted to give information used to generate measured quantity values within specified intervals for quantities of specified kinds	NOTE A measuring system may consist of only one measuring instrument.	OIML V2-200:2008, 3.2

## 0. Introduction. Basic Terms

No.	Term	Definition	Notes and examples	Source
0.13	<b>scale of a displaying measuring instrument</b>	part of a displaying measuring instrument, consisting of an ordered set of marks together with any associated quantity values	OIML	V2-200:2008, 3.4
0.14	<b>indication</b>	<b>quantity value</b> provided by a <b>measuring instrument</b> or a <b>measuring system</b>	<p>NOTE 1 An indication may be presented in visual or acoustic form or may be transferred to another device. An indication is often given by the position of a pointer on the display for analog outputs, a displayed or printed number for digital outputs, a code pattern for code outputs, or an assigned quantity value for <b>material measures</b>.</p> <p>NOTE 2 An indication and a corresponding value of the <b>quantity</b> being measured are not necessarily values of quantities of the same <b>kind</b>.</p>	OIML V2-200:2008, 4.1



# 1. Metrology and Its Legal Aspects

No.	Term	Definition	Notes and examples	Source
1.01	<b>legal metrology</b>	practice and process of applying statutory and regulatory structure and enforcement to metrology (see 0.01)	<p>NOTE 1 The scope of legal metrology may be different from country to country.</p> <p>NOTE 2 Legal metrology includes:</p> <ul style="list-style-type: none"><li>• Setting up legal requirements;</li><li>• Control/conformity assessment of regulated products and regulated activities;</li><li>• Supervision of regulated products and of regulated activities; and</li><li>• Providing the necessary infrastructure for the traceability of regulated measurements and measuring instruments.</li></ul> <p>NOTE 3 There are also regulations outside the area of legal metrology pertaining to the accuracy and correctness of measurement methods.</p>	
1.02	<b>law on metrology</b>	legal acts and secondary legislation that provide the statutory structure to metrology	<p>NOTE Legal acts and secondary legislation in particular specify the legal units of measurement, prescribe</p> <ul style="list-style-type: none"><li>- requirements with respect to the properties of measuring instruments,</li><li>- accuracy of measurement in cases specified by law,</li><li>- a system of legal control of measuring instruments and metrological supervision</li></ul>	

# 1. Metrology and Its Legal Aspects

No.	Term	Definition	Notes and examples	Source
1.03	<b>legal metrology regulations</b>	technical regulations in the field of legal metrology	<p>NOTE 1 These regulations shall, when applicable, be compatible with the International Recommendations of the OIML and make use of their requirements.</p> <p>NOTE 2 The scope of legal metrology generally includes:</p> <ul style="list-style-type: none"> <li>• protection of the interests of individuals and enterprises;</li> <li>• protection of national interests;</li> <li>• protection of public health and safety, including in relation to the environment and medical services; and</li> <li>• meeting the requirements for commerce and trade.</li> </ul>	
1.04	<b>national responsible body</b>	organization or agency at the national level or in a nation, responsible for developing and / or enforcing laws or regulations regarding legal metrological control		
1.05	<b>metrological authority</b>	legal entity designated by law or by the government to be responsible for specified legal metrology activities	NOTE The legal entity may be a central or local government body, or a non – governmental body empowered by the government.	
1.06	<b>legal units of measurement</b>	units of measurement required or permitted by regulations	<p>NOTE 1 Legal units may be:</p> <ul style="list-style-type: none"> <li>- SI units,</li> <li>- their decimal multiples and submultiples as indicated by the use of SI prefixes,</li> <li>- non-SI units specified by relevant regulations.</li> </ul>	
			NOTE 2 See also OIML V2-200:2008, 1.9	

## 2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source
2.01	<b>legal metrological control</b>	the whole of legal metrology activities	NOTE Legal metrological control includes: - legal control of measuring instruments, - metrological supervision, - metrological expertise.	
2.02	<b>legal control of measuring instruments</b>	generic term used to globally designate legal operations to which measuring instruments may be subjected, e.g. type approval, verification, etc.		
2.03	<b>metrological supervision</b>	activity of legal metrological control to check the observance of metrology laws and regulations	NOTE 1 Metrological supervision also includes checking the correctness of quantities indicated on and contained in prepackages.  NOTE 2 For achieving these purposes, means and methods such as market surveillance and quality management may be utilized.	
2.04	<b>metrological expertise</b>	all the operations for the purpose of examining and demonstrating, e.g. to testify in a court of law, the condition of a measuring instrument and to determine its metrological properties, amongst others by reference to the relevant statutory requirements		

## 2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source
2.05	<b>type (pattern) evaluation</b>	conformity assessment procedure on one or more specimens of an identified type (pattern) of measuring instruments which results in an evaluation report and/or an evaluation certificate	<p>NOTE 1 “Pattern” is used in legal metrology with the same meaning as “type”; in the entries below, only “type” is used.</p> <p>NOTE 2 There are countries and economies where conformity assessment procedures are employed for type evaluation.</p>	
2.06	<b>type approval</b>	decision of legal relevance, based on the review of the type evaluation report, that the type of a measuring instrument complies with the relevant statutory requirements and results in the issuance of the type approval certificate	NOTE See also A1.26	
2.07	<b>type approval with limited effect</b>	approval of a type of measuring instrument that is linked with one or more specific restrictions such as: <ul style="list-style-type: none"><li>- the period of validity,</li><li>- number of instruments covered by the approval,</li><li>- obligation to notify the competent authorities of the place of installation of each instrument,</li><li>- use of the instrument</li></ul>		

## 2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source
2.08	<b>recognition of type approval</b>	legal decision taken by a party either voluntarily or based on a bi- or multilateral arrangement whereby a type approved by another party is recognized as complying with the relevant statutory requirements, without issuing a new type approval certificate	NOTE See also A1.34	
2.09	<b>withdrawal of a type approval</b>	decision of legal relevance canceling a type approval	NOTE The withdrawal is justified in case of: <ul style="list-style-type: none"><li>- alterations of the type,</li><li>- modification of its vital parts,</li><li>- circumstances that affect metrological durability and/or reliability,</li><li>- effects altering the metrological performance of the instrument required by law and coming to light only after the official type approval was granted.</li></ul>	
2.10	<b>verification of a measuring instrument</b>	conformity assessment procedure (other than type evaluation) which results in the affixing of a verification mark and/or issuing of a verification certificate	See also OIML V2-200:2008, 2.44	
2.11	<b>preliminary examination</b>	examination of a measuring instrument either to partial requirements or before certain elements of the measuring instrument are installed as part of the verification procedure		

## 2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source
2.12	<b>verification by sampling</b>	verification of a homogeneous batch of measuring instruments based on the results of examination of a statistically appropriate number of specimens selected at random from an identified lot		
2.13	<b>initial verification</b>	verification of a measuring instrument which has not been verified previously		
2.14	<b>subsequent verification</b>	any verification of a measuring instrument after a previous verification and including: - mandatory periodic verification, - verification after repair, - voluntary verification	NOTE Subsequent verification of a measuring instrument may be carried out before expiry of the period of validity of a previous verification either at the request of the user (owner) or when its verification is declared to be no longer valid.	
2.15	<b>mandatory periodic verification</b>	subsequent verification of a measuring instrument, carried out periodically at specified intervals according to the procedure laid down by the regulations		
2.16	<b>rejection of a measuring instrument</b>	decision of legal relevance that a measuring instrument does not comply with statutory requirements for verification and prohibiting its use for applications requiring mandatory verification		

## 2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source
2.17	<b>recognition of verification</b>	legal decision taken by a party, either voluntarily or based on a bi- or multilateral arrangement whereby a verification certificate issued and/or a verification mark applied by another party is recognized as complying with relevant requirements		
2.18	<b>inspection by sampling</b>	inspection of a homogeneous batch of measuring instruments based on the results of evaluation of a statistically appropriate number of specimens selected at random from an identified lot	NOTE ISO 3534-2 gives the following definition : “4.1.6 sampling inspection <b>inspection</b> (4.1.2) of selected <b>items</b> (1.2.11) in the group under consideration”	
2.19	<b>marking</b>	affixing of one or more of the marks such as verification, rejection, sealing and type approval marks (as described in 3.05, 3.06, 3.07 and 3.08)	NOTE 1 Verification and sealing marks may be combined.  NOTE 2 The manufacturer may be authorized to apply other marks.	
2.20	<b>obliteration of a verification mark</b>	cancellation of the verification mark when it has been found that the measuring instrument no longer complies with the statutory requirements		

## 2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source
2.21	<b>initial verification of measuring instruments utilizing the manufacturer's quality management system</b>	manufacturer's declaration of conformity of measuring instruments to legal metrological requirements for initial verification; the declaration permitted on condition that the manufacturer has a quality management system implemented and approved by a competent body	<p>NOTE 1. The national responsible body shall have in place a means for periodically validating the implementation of a manufacturer's quality management system.</p> <p>NOTE 2. The quality management program for measuring instruments shall be in accordance with legal metrological requirements for initial verification according to national laws or regulations for legal metrological control.</p>	
2.22	<b>placing on the market</b>	the first making available of a measuring instrument or a prepackage on the market	NOTE This may refer to the market of a single country or a group of countries (region).	
2.23	<b>putting into service (use)</b>	moment of the first use by the end-user of a measuring instrument for the purposes for which it was intended		



### 3. Documents and Marks within Legal Metrology

No.	Term	Definition	Notes and examples	Source
3.01	<b>type approval certificate</b>	document certifying that type approval has been granted		
3.02	<b>verification certificate</b>	document certifying that the verification of the measuring instrument was carried out and compliance with statutory requirements was confirmed		
3.03	<b>metrological expertise certificate</b>	document issued by an authorized institution and registered by it, stating the conditions under which the metrological expertise took place and reporting the investigation made and the results obtained		
3.04	<b>rejection notice</b>	document stating that a measuring instrument was found not to comply or no longer to comply with the relevant statutory requirements		
3.05	<b>verification mark</b>	mark applied to a measuring instrument certifying that the verification of the measuring instrument was carried out and compliance with statutory requirements was confirmed	NOTE The verification mark may identify the body responsible for verification and/or indicate the year or date of verification or its expiry date.	
3.06	<b>rejection mark</b>	mark applied to a measuring instrument in a conspicuous manner to indicate that the measuring instrument does not comply with the statutory requirements and obliterating the previously applied verification mark		

### 3. Documents and Marks within Legal Metrology

No.	Term	Definition	Notes and examples	Source
3.07	<b>sealing mark</b>	mark intended to protect the measuring instrument against any unauthorized modification, readjustment, removal of parts, etc.		
3.08	<b>type approval mark</b>	mark applied to a measuring instrument certifying its conformity to the approved type		

## 4. Classification of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
4.01	<b>category of instruments</b>	identification or classification of instruments according to unique metrological and technical characteristics that may include the measured quantity, the measuring range, and the principle or method of measurement		
4.02	<b>family of measuring instruments</b>	identifiable group of measuring instruments belonging to the same manufactured type within the same category that have the same design features and metrological principles for measurement but which may differ in some metrological and technical performance characteristics, as defined in the relevant recommendation		
4.03	<b>metrologically relevant</b>	attribute of any device, instrument, function or software that influences the measurement result or any other primary indication		
4.04	<b>module</b>	identifiable part of a measuring instrument or of a family of measuring instruments that performs a specific function or functions and that can be separately evaluated according to prescribed metrological and technical performance requirements as specified in the relevant recommendation	EXAMPLE Typical modules of a weighing instrument are: load cell, indicator, analog or digital data processing device, weighing module, terminal, primary display.	

## 4. Classification of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
4.05	<b>family of modules</b>	identifiable group of modules belonging to the same manufactured type that have similar design features but may differ in some metrological and technical performance requirements as defined in the relevant recommendation		
4.06	<b>type of a measuring instrument or module</b>	definitive model of a measuring instrument or module (including a family of instruments or modules) of which all of the elements affecting its metrological properties are suitably defined		
4.07	<b>legally controlled measuring instrument</b>	measuring instrument which conforms to prescribed requirements, in particular legal metrological requirements		
4.08	<b>legally relevant</b>	part of a measuring instrument, device or software subject to legal control		
4.09	<b>specimen of an approved type</b>	measuring instrument of an approved type, which on its own or together with suitable documentation, serves as a reference e.g. for checking conformity of instruments with the approved type		
4.10	<b>legally relevant parameter</b>	parameter of a measuring instrument, (electronic) device, sub-assembly, software or a module subject to legal control	NOTE The following types of legally relevant parameters can be distinguished: type-specific parameters and device-specific parameters.”	

## 4. Classification of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
4.11	<b>type-specific parameter</b>	legally relevant parameter with a value that depends on the type of instrument only	NOTE Type-specific parameters are part of the legally relevant software.	
4.12	<b>device-specific parameter</b>	legally relevant parameter with a value that depends on the individual instrument	NOTE Device-specific parameters comprise adjustment parameters (e.g. span adjustment or other adjustments or corrections) and configuration parameters (e.g. maximum value, minimum value, units of measurement, etc.).	
4.13	<b>approved type</b>	definitive model or family of measuring instruments permitted for legal use, the decision being confirmed by the issuing of a type approval certificate		
4.14	<b>measuring instrument acceptable for verification</b>	measuring instrument of an approved type, or one that meets statutory requirements and may be exempt from type approval		
4.15	<b>verification equipment</b>	equipment that meets the statutory requirements and that is used for verification		
4.16	<b>equipment under test</b>	a sub-assembly, a combination of subassemblies or a complete measuring instrument subject to a test	NOTE Abbreviated: EUT	

## 5. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
5.01	<b>scale interval</b>	value expressed in units of the measured quantity of the difference between: <ul style="list-style-type: none"> <li>• the values corresponding to two consecutive scale marks, for analog indication; or</li> <li>• two consecutive indicated values, for digital indication</li> </ul>		
5.02	<b>verification scale interval</b>	value, expressed in units of mass, used for the classification and verification of an instrument	NOTE This term applies to the weighing instruments.	
5.03	<b>number of verification scale intervals</b>	quotient of the maximum capacity and the verification scale interval: $n = \text{Max} / e$	NOTE This term applies to the weighing instruments.	
5.04	<b>indicating device</b>	part of the measuring instrument which displays the measurement results either continuously or on demand	NOTE A printing device is not an indicating device, although printed measurement result is considered to be an indication.	

## 5. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
5.05	<b>ancillary device</b>	device intended to perform a particular function, directly involved in elaborating, transmitting or displaying measurement results	<p>NOTE 1. An ancillary device may or may not be subject to legal metrology control according to its function in the measuring system or to national regulations.</p> <p>NOTE 2. Main ancillary devices are:</p> <ul style="list-style-type: none"> <li>• zero setting device;</li> <li>• repeating indicating device;</li> <li>• printing device;</li> <li>• memory device;</li> <li>• price indicating device;</li> <li>• totalizing indicating device;</li> <li>• pre-setting device;</li> <li>• self-service device.</li> </ul>	
5.06	<b>checking facility</b>	facility that is incorporated in a measuring instrument and which enables significant faults to be detected and acted upon.	NOTE «Acted upon» refers to any adequate response by the measuring instrument (luminous signal, acoustic signal, prevention of the measurement process, etc.).	
5.07	<b>control instrument</b>	weighing instrument used to determine the conventional true value of the mass of the test load(s)	<p>NOTE 1 Control instruments used for testing may be:</p> <ul style="list-style-type: none"> <li>• separate from the instrument being tested; or</li> <li>• integral, when a static weighing mode is provided by the instrument being tested</li> </ul> <p>NOTE 2 This term is applicable for weighing instruments.</p>	

## 5. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
5.08	<b>associated measuring instrument</b>	instrument for measuring certain measurands which are characteristic of the gas (temperature, pressure, calorific value, etc.) and which are used by the calculator with a view to making a correction and/or a conversion		
5.09	<b>terminal</b>	digital device that has one or more keys (or mouse, touch-screen, etc.) to operate the instrument, and a display to provide the measurement results transmitted via the digital interface or an analog data processing device	NOTE In particular this term is applied to non-automatic weighing instruments.	
5.10	<b>initial intrinsic error</b>	intrinsic error of a measuring instrument as determined prior to performance tests and durability evaluations		
5.11	<b>fault</b>	difference between the error of indication and the intrinsic error of a measuring instrument	NOTE 1 Principally, a fault is the result of an undesired change of data contained in or flowing through an electronic measuring instrument.  NOTE 2 From the definition it follows that in this Document, a “fault” is a numerical value which is expressed either in a unit of measurement or as a relative value, for instance as a percentage.	



## 5. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
5.12	<b>significant fault</b>	fault greater than the value specified in the relevant recommendation	<p>NOTE The relevant Recommendation may specify that the following faults are not significant, even when they exceed the value defined in 3.10:</p> <ul style="list-style-type: none"><li>a) Faults arising from simultaneous and mutually independent causes (e.g. EM fields and discharges) originating in a measuring instrument or in its checking facilities;</li><li>b) Faults implying the impossibility to perform any measurement;</li><li>c) Transitory faults being momentary variations in the indication, which cannot be interpreted, memorized or transmitted as a measurement result;</li><li>d) Faults giving rise to variations in the measurement result that are serious enough to be noticed by all those interested in the measurement result; the relevant Recommendation may specify the nature of these variations.</li></ul>	
5.13	<b>durability error</b>	difference between the intrinsic error after a period of use and the initial intrinsic error of a measuring instrument		

## 5. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
5.14	<b>significant durability error</b>	durability error greater than the value specified in the relevant recommendation	<p>NOTE The relevant recommendation may specify that durability errors are not significant, even when they exceed the value defined in 3.12, in the following cases:</p> <ul style="list-style-type: none"><li>a) The indication cannot be interpreted, memorized or transmitted as a measurement result;</li><li>b) The indication implies the impossibility to perform any measurement;</li><li>c) The indication is so obviously wrong that it is bound to be noticed by all those interested in the result of the measurement; or</li><li>d) A durability error cannot be detected and acted upon due to a breakdown of the appropriate durability protection facility.</li></ul>	
5.15	<b>influence factor</b>	influence quantity having a value within the rated operating conditions of a measuring instrument specified in the relevant recommendation		
5.16	<b>disturbance</b>	influence quantity having a value within the limits specified in the relevant recommendation, but outside the specified rated operating conditions of a measuring instrument		
5.17	<b>test program</b>	description of a series of tests for certain types of equipment		

## 5. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source
5.18	<b>performance test</b>	test intended to verify whether the EUT is able to accomplish its intended functions		
5.19	<b>durability test</b>	test intended to verify whether the EUT is able to maintain its performance characteristics over a period of use		

## 6. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source
6.01	<b>software identification</b>	sequence of readable characters (e.g. version number, checksum) that is inextricably linked to the software or software module under consideration	NOTE It can be checked on an instrument whilst in use.	
6.02	<b>software separation</b>	separation of the software in measuring instruments, which can be divided into a legally relevant part and a legally non-relevant part	NOTE These parts communicate via a software interface.	
6.03	<b>software protection</b>	securing of measuring instrument software or data domain by a hardware or software implemented seal	NOTE The seal must be removed, damaged or broken to obtain access to change software.	
6.04	<b>audit trail</b>	continuous data file containing a time stamped information record of events, e.g. changes in the values of the parameters of a device or software updates, or other activities that are legally relevant and which may influence the metrological characteristics		
6.05	<b>cryptographic certificate</b>	data set containing the public key belonging to a measuring instrument or a person plus a unique identification of the subject, e.g. serial number of the measuring instrument or name or Personal Identification Number (PIN) of the person	NOTE The data set is signed by a trustworthy institution with an electronic signature. 2.The assignment of a public key to a subject can be verified by using the public key of the trustworthy institution and decrypting the signature of the certificate.	

## 6. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source
6.06	<b>cryptographic means</b>	encryption of data by the sender (storing or transmitting program) and decryption by the receiver (reading program) with the purpose of hiding information from unauthorized persons or electronic signing of data with the purpose of enabling the receiver or user of the data to verify the origin of the data, i.e. to prove their authenticity	<p>NOTE 1. For electronic signing a public key system is used in general, i.e. the algorithm needs a pair of keys where only one has to be kept secret; the other may be public.</p> <p>NOTE 2. The sender (the sending or storing program) generates a hash code of the data and encrypts it with his secret key. The result is the signature. The receiver (the receiving or reading program) decrypts the signature with the public key of the sender and compares the result with the actual hash code of the data. In case of equality, the data are authenticated. The receiver may require a cryptographic certificate of the sender to be sure of the authenticity of the public key.</p>	
6.07	<b>data domain</b>	location in memory that each program needs for processing data	<p>NOTE 1. The location is defined by hardware addresses or by symbolic names</p> <p>NOTE 2. Data domains may belong to one software module only, or to several.</p>	
6.08	<b>error log</b>	continuous data file containing an information record of failures/faults that have an influence on the metrological characteristics	NOTE This especially applies to volatile failures that are not recognizable afterwards when the measurement values are used.	
6.09	<b>event</b>	action in which a modification of a measuring instrument parameter, adjustment factor or update of software module is made		

## 6. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source
6.10	<b>fixed legally relevant software part</b>	part of the legally relevant software that is and remains identical in the executable code to that of the approved type		
6.11	<b>legally relevant software part</b>	part of all software modules of a measuring instrument, electronic device, or sub-assembly that is legally relevant		
6.12	<b>sealing</b>	means intended to protect the measuring instrument against any unauthorized modification, readjustment, removal of parts, software, etc.	NOTE It can be achieved by hardware, software or a combination of both.	
6.13	<b>securing</b>	means preventing unauthorized access to the device's hardware or software part		
6.14	<b>storage device</b>	storage used for keeping measurement data ready after completion of the measurement for later legally relevant purposes (e.g. the conclusion of a commercial transaction		
6.15	<b>user interface</b>	interface that enables information to be interchanged between the operator and the measuring instrument or its hardware or software components, e.g. switches, keyboard, mouse, display, monitor, printer, touch-screen, software window on a screen including the software that generates it		

## Annex 1. Conformity Assessment in Legal Metrology

No.	Term	Definition	Notes and examples	Source
A1.1	<b>conformity assessment</b>	demonstration that specified requirements (3.1) relating to a product (3.3), process, system, person or body are fulfilled	<p>NOTE 1 The subject field of conformity assessment includes activities defined elsewhere in this International Standard, such as testing (4.2), inspection (4.3) and certification (5.5), as well as the accreditation (5.6) of conformity assessment bodies (2.5).</p> <p>NOTE 2 The expression “object of conformity assessment” or “object” is used in this International Standard to encompass any particular material, product, installation, process, system, person or body to which conformity assessment is applied. A service is covered by the definition of a product (see Note 1 to 3.3).</p> <p>NOTE 3 In this annex the numbers in brackets which appear in the definitions refer to the numbers of the entries in ISO/IEC 17000.</p>	ISO/IEC 17000, 2.1
A1.2	<b>conformity assessment body</b>	body that performs conformity assessment services	NOTE An accreditation body (2.6) is not a conformity assessment body.	ISO/IEC 17000, 2.5
A1.3	<b>accreditation body</b>	authoritative body that performs accreditation (5.6)	NOTE The authority of an accreditation body is generally derived from government.	ISO/IEC 17000, 2.6
A1.4	<b>conformity assessment system</b>	rules, procedures (3.2) and management for carrying out conformity assessment (2.1)	NOTE Conformity assessment systems may be operated at international, regional, national or sub-national level.	ISO/IEC 17000, 2.7

A1.5	<b>conformity assessment scheme, conformity assessment program</b>	conformity assessment system (2.7) related to specified objects of conformity assessment, to which the same specified requirements (3.1), specific rules and procedures (3.2) apply	NOTE Conformity assessment schemes may be operated at international, regional, national or sub-national level.	ISO/IEC 17000, 2.8
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## Annex 1. Conformity Assessment in Legal Metrology

No.	Term	Definition	Notes and examples	Source
A1.6	<b>(specified) requirement</b>	need or expectation that is stated	NOTE Specified requirements may be stated in normative documents such as regulations, standards and technical specifications.	ISO/IEC 17000, 3.1
A1.7	<b>product certification system</b>	system that has its own rules, procedures and management for carrying out product conformity assessment		
A1.8	<b>procedure</b>	specified way to carry out an activity or a process [ISO 9000:2000, 3.4.1]		ISO/IEC 17000, 3.2
A1.9	<b>product certification scheme</b>	product certification system related to specified products to which the same specified requirements, rules and procedures apply		
A1.10	<b>sampling</b>	provision of a sample of the object of conformity assessment, according to a procedure (3.2)		ISO/IEC 17000, 4.1
A1.11	<b>testing</b>	determination of one or more characteristics of an object of conformity assessment, according to a procedure (3.2)	NOTE “Testing” typically applies to materials, products or processes.	ISO/IEC 17000, 4.2



A1.12 **inspection**

examination of a product design, product (3.3), process or installation and determination of its conformity with specific requirements or, on the basis of professional judgement, with general requirements

NOTE Inspection of a process may include inspection of persons, facilities, technology and methodology.

ISO/IEC 17000,  
4.3

## Annex 1. Conformity Assessment in Legal Metrology

No.	Term	Definition	Notes and examples	Source
A1.13	<b>audit</b>	systematic, independent, documented process for obtaining records, statements of fact or other relevant information and assessing them objectively to determine the extent to which specified requirements (3.1) are fulfilled	NOTE Whilst “audit” applies to management systems, “assessment” applies to conformity assessment bodies as well as more generally.	ISO/IEC 17000, 4.4
A1.14	<b>peer assessment</b>	assessment of a body against specified requirements (3.1) by representatives of other bodies in, or candidates for, an agreement group (7.10)		ISO/IEC 17000, 4.5
A1.15	<b>review</b>	verification of the suitability, adequacy and effectiveness of selection and determination activities, and the results of these activities, with regard to fulfillment of specified requirements (3.1) by an object of conformity assessment		ISO/IEC 17000, 5.1
A1.16	<b>attestation</b>	issue of a statement, based on a decision following review (5.1), that fulfillment of specified requirements (3.1) has been demonstrated	NOTE 1 The resulting statement, referred to in this International Standard as a “statement of conformity”, conveys the assurance that the specified requirements have been fulfilled. Such an assurance does not, of itself, afford contractual or other legal guarantees.  NOTE 2 First-party and third-party attestation activities are distinguished by the terms 5.4 to 5.6. For second-party attestation, no special term is available.	ISO/IEC 17000, 5.2

## Annex 1. Conformity Assessment in Legal Metrology

No.	Term	Definition	Notes and examples	Source
A1.17	<b>scope of attestation</b>	range or characteristics of objects of conformity assessment covered by attestation (5.2)		ISO/IEC 17000, 5.3
A1.18	<b>declaration (of conformity)</b>	first-party attestation (5.2)		ISO/IEC 17000, 5.4
A1.19	<b>certification (of conformity)</b>	third-party attestation (5.2) related to products, processes, systems or persons	NOTE 1 Certification of a management system is sometimes also called registration.  NOTE 2 Certification is applicable to all objects of conformity assessment except for conformity assessment bodies (2.5) themselves, to which accreditation (5.6) is applicable.	ISO/IEC 17000, 5.5
A1.20	<b>accreditation</b>	third-party attestation (5.2) related to a conformity assessment body (2.5) conveying formal demonstration of its competence to carry out specific conformity assessment tasks		ISO/IEC 17000, 5.6
A12.1	<b>surveillance</b>	systematic iteration of conformity assessment activities as a basis for maintaining the validity of the statement of conformity		ISO/IEC 17000, 6.1
A1.22	<b>suspension</b>	temporary invalidation of the statement of conformity for all or part of the specified scope of attestation (5.3)		ISO/IEC 17000, 6.2

## Annex 1. Conformity Assessment in Legal Metrology

No.	Term	Definition	Notes and examples	Source
A1.23	<b>appeal</b>	request by the provider of the object of conformity assessment to the conformity assessment body (2.5) or accreditation body (2.6) for reconsideration by that body of a decision it has made relating to that object		ISO/IEC 17000, 6.4
A1.24	<b>complaint</b>	expression of dissatisfaction, other than appeal (6.4), by any person or organization to a conformity assessment body (2.5) or accreditation body(2.6), relating to the activities of that body, where a response is expected		ISO/IEC 17000, 6.5
A1.25	<b>agreement group</b>	bodies that are signatories to the agreement on which an arrangement is based		ISO/IEC 17000, 7.10
A1.26	<b>approval</b>	permission for a product (3.3) or process to be marketed or used for stated purposes or under stated conditions		ISO/IEC 17000, 1.1
A1.27	<b>reciprocity</b>	relationship between two parties where both have the same rights and obligations towards each other	NOTE 1 Reciprocity can exist within a multilateral arrangement comprising a network of bilateral reciprocal relationships.  NOTE 2 Although rights and obligations are the same, opportunities emanating from them can differ; this can lead to unequal relationships between parties.	ISO/IEC 17000, 7.11

## Annex 1. Conformity Assessment in Legal Metrology

No.	Term	Definition	Notes and examples	Source
A1.28	<b>equal treatment</b>	treatment accorded to products (3.3) or processes from one supplier that is no less favorable than that accorded to like products or processes from any other supplier, in a comparable situation		ISO/IEC 17000, 7.12
A1.29	<b>national treatment</b>	treatment accorded to products (3.3) or processes originating in other countries that is no less favourable than that accorded to like products or processes of national origin, in a comparable situation		ISO/IEC 17000, 7.13
A1.30	<b>equal and national treatment</b>	treatment accorded to products (3.3) or processes originating in other countries that is no less favorable than that accorded to like products or processes of national origin, or originating in any other country, in a comparable situation		ISO/IEC 17000, 7.14
A1.31	<b>designation</b>	governmental authorization of a conformity assessment body (2.5) to perform specified assessment activities		ISO/IEC 17000, 7.2
A1.32	<b>designating authority</b>	body established within government or empowered by government to designate conformity assessment bodies (2.5), suspend or withdraw their designation or remove their suspension from designation		ISO/IEC 17000, 7.3

## Annex 1. Conformity Assessment in Legal Metrology

Term	Definition	Notes and examples	Source
A1.33	<b>equivalence, equivalence of conformity assessment results</b>	sufficiency of different conformity assessment results to provide the same level of assurance of conformity with regard to the same specified requirements (3.1)	ISO/IEC 17000, 7.4
A1.34	<b>recognition, recognition of conformity assessment results</b>	acknowledgement of the validity of a conformity assessment result provided by another person or body	ISO/IEC 17000, 7.5
A1.35	<b>acceptance, acceptance of conformity assessment</b>	results use of a conformity assessment result provided by another person or body	ISO/IEC 17000, 7.6
A1.36	<b>unilateral arrangement</b>	arrangement whereby one party recognizes or accepts the conformity assessment results of another party	ISO/IEC 17000, 7.7
A1.37	<b>bilateral arrangement</b>	arrangement whereby two parties recognize or accept each other's conformity assessment results	ISO/IEC 17000, 7.8
A1.38	<b>multilateral arrangement</b>	arrangement whereby more than two parties recognize or accept one another's conformity assessment results	ISO/IEC 17000, 7.9