



COMMITTEE DRAFT OIML CD1

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OIML TC 1

Project p1

Title: International Vocabulary of Terms in Legal metrology

Secretariat:

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Circulated to P- and O-members and liaison international bodies and external organisations for:

 discussion at (date and place of meeting): comments by: 30 December 2009 vote (P-members only) and comments

TITLE OF THE CD (English):

Revised OIML Vocabulary

International Vocabulary of Terms in Legal metrology

TITLE OF THE CD (French):

Vocabulaire de OIML

Vocabulaire international des termes de métrologie légale (VIML)

Original version in: English

**Explanatory Note
to the 1st Draft of the Revised Version of the International Vocabulary of Terms in
Legal Metrology**

Note: the Revised Version of the International Vocabulary of Terms in Legal Metrology is further referred to as VIML2

1. Documents being circulated to the OIML TC1 Members are:

- a) VIML REV 1st CD (11) and
- b) VIML REV WD Enquiry Evaluation (N8).

In case of the 1st CD the layout of the WD has been preserved. The new text added to the WD is printed in blue, the removed parts of the WD are printed in red.

The results of the evaluation of comments to the Working Draft of VIML2, which were received by the TC1 Secretariat are presented in tabular form in N8. The observations made by the TC1 Secretariat to each comment are contained in column 7 of the table. Requests of the Secretariat to the referees (CN, RS, JP, SK) are also placed in column 7.

2. The expected response

The above mentioned documents are accompanied by:

- a) Template for comments to the VIML REV 1st CD (N12) and
- b) Voting Form.

The referees are requested to make their comments in the same way as in case of the WD and – as requested by the Secretariat in column 7 of N8 – add details to their proposals made to the WD.

The TC1 Secretariat wishes to express its thanks to the colleagues who have delivered their comments to the WD. Most of their proposals have been implemented in the 1CD.

3. Deadlines

The OIML TC1 Members and other cooperating addressees are kindly requested to send their comments and remarks by e-mail to the OIML TC1 Secretariat before December 30, 2009.

1. Metrology and Its Legal Aspects

No.	Term	Definition	Notes and examples	Source	Editorial remarks
1.01	metrology	science of measurement and its application	Metrology includes all theoretical and practical aspects of measurement, whatever the measurement uncertainty and field of application.	OIML V2-200:2008, 2.2	
1.02	legal metrology	part of metrology relating to activities which result from statutory requirements and concern measurement, units of measurement, measuring instruments and methods of measurement and which are performed by competent bodies	<p>1) The scope of legal metrology may be different from country to country.</p> <p>2) The competent bodies responsible for legal metrology activities or part of these activities are usually called legal metrology services.</p> <p>3) Legal metrology includes four main activities:</p> <ul style="list-style-type: none"> • Setting up legal requirements; • Control/conformity assessment of regulated products and regulated activities; • Supervision of regulated products and of regulated activities; and • Providing the necessary infrastructure for the traceability of regulated measurements and measuring instruments. <p>4) There are also regulations outside the area of legal metrology pertaining to the accuracy and correctness of measurement methods.</p>	<p>VIML:2000,1.2</p> <p>OIML D1:2004 (E)</p>	Definition from VIML:2000, 1.2, supplemented with Note 3 from OIML D1:2004 (E)
1.03	metrological assurance	all the regulations, technical means and necessary operations used to ensure the credibility of measurement results in legal metrology national regulatory environment		Adapted from VIML:2000, 1.3	

1. Metrology and Its Legal Aspects

No.	Term	Definition	Notes and examples	Source	Editorial remarks
1.04	law on metrology	legal acts and regulations that in particular define specify the legal units of measurement and prescribe requirements as regards properties of measuring instruments and accuracy of measurement in cases specified by law as well as a system of legal control of measuring instruments and metrological supervision the organizational structure of legal metrology programs and activities		Adapted from VIML:2000, 3.1	
1.05	legal metrology regulations	regulations on measurements, on prepackages and on measuring instruments made by the authority in order to: <ul style="list-style-type: none">• protect the interests of individuals and enterprises;• protect national interests;• protect public health and safety, including in relation to the environment and medical services; and <ul style="list-style-type: none">• meet the requirements of international trade	These regulations shall, when applicable, be compatible with the International Recommendations of the OIML and make use of their requirements.	OIML D1:2004 (E), V.1	

1. Metrology and Its Legal Aspects

No.	Term	Definition	Notes and examples	Source	Editorial remarks
1.06	national metrology infrastructure	basic national system indispensable for implementation of law and order in the field of measurement	<p>The national metrology infrastructure should comprise:</p> <ul style="list-style-type: none"> • a legal corpus, including the laws and regulations that have provisions related to metrology; • an authority in the government, in charge of the national metrology policy, and of coordinating the action of other departments related to metrological issues; • one or several institutes in charge of tasks assigned at national level for the metrology policy; • system of national measurement standards and dissemination of legal units; • a (voluntary) system for accrediting calibration laboratories and, if required, testing laboratories, inspection bodies and certification bodies; • structures for disseminating knowledge and competencies in metrology (e.g. training, education, consultants, etc.); and • services to industry and to the economy in the field of metrology (e.g. calibration, maintenance, training, consultancy, type testing, verification, etc.). 	OIML D1:2004 (E), II.1	Definition based on general definition of “infrastructure”, Notes drawn from OIML D1
1.07	national responsible body	national organization or agency responsible for implementing laws or regulations regarding legal metrological control of measuring instruments in order to ensure necessary accuracy of measurements	The national service of legal metrology may fall under the jurisdiction of the national responsible body.	Adapted from OIML D 27: 2001 (E), 2.1	The Note is adapted from the following passage of D27: “The national service of legal metrology may fall under the jurisdiction of the national responsible body [referred to in OIML D 27: 2001 (E)]; therefore, when delegated the responsibility, the national service of legal metrology should be substituted for the “national responsible body” throughout the text of this Document.”

1. Metrology and Its Legal Aspects

No.	Term	Definition	Notes and examples	Source	Editorial remarks
1.08	metrological authority	legal entity (i.e. the verification, and/or issuing authority) designated or formally accepted by the government to be responsible for ascertaining that the measuring instrument satisfies all or some specific requirements of a relevant recommendation or regulation	Usually it is a government or local government body authorized by law on a national level to be responsible for type approval, verification, and/or issuing authority.	Adapted from OIML R 51-1: 2006 (E), T.1.9	Note that OIML D9:2004 (E) gives the following general definition: “2.15 Authority: public (Government or local Government) body authorized by law on a national level to be responsible for metrological supervision as a whole or in part”

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.01	legal metrological control	the whole of legal metrology activities which contribute to metrological assurance	Legal metrological control includes: - legal control of measuring instruments, - metrological supervision, - metrological expertise.	VIML:2000, 2.1	
2.02	legal control of measuring instruments	generic term used to globally designate legal operations to which measuring instruments may be subjected, e.g. type approval, verification, etc.		VIML:2000, 2.2	
2.03	metrological supervision	control exercised in respect of the manufacture, import, installation, use, maintenance and repair of measuring instruments, performed in order to check that they are used correctly as regards the observance of metrology laws and regulations	Metrological supervision also includes checking the correctness of quantities indicated on and contained in prepackages. For achieving purposes means and methods market surveillance and quality management may be utilized.	VIML:2000, 2.3, modified	Note that OIML D9:2004 (E) gives the following comment: “5 Forms of metrological supervision: The target areas (forms) of metrological supervision are as follows: - use of legal units; - market surveillance; - quality system surveillance; - field surveillance; - repairs and installation of measuring instruments.”
2.04	metrological expertise	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		VIML:2000, 2.4	

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.05	type (pattern) evaluation	systematic examination and testing of the performance of one or more specimens of an identified type (pattern) of measuring instruments against documented requirements, the results of which are contained in the evaluation report, in order to determine whether the type may be approved	“Pattern” is used in legal metrology with the same meaning as “type”; in the entries below, only “type” is used.	VIML:2000, 2.5	
2.06	type approval	decision of legal relevance, based on the evaluation report, that the type of a measuring instrument complies with the relevant statutory requirements and is suitable for use in the regulated area in such a way that it is expected to provide reliable measurement results over a defined period of time		VIML:2000, 2.6	
2.07	type approval with limited effect	approval of a type of measuring instrument that is linked with one or more specific restrictions such as: - the period of validity, - number of instruments covered by the approval, - obligation to notify the competent authorities of the place of installation of each instrument, - use of the instrument		VIML:2000, 2.7	
2.08	examination for conformity with approved type	part of the examination of a measuring instrument carried out to ascertain its conformity with the approved type		VIML:2000, 2.8	

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.09	recognition of type approval	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 regulatory statutory requirements, without issuing a new type approval certificate		VIML:2000, 2.9	
2.10	withdrawal of a type approval	decision of legal relevance canceling a type approval	The withdrawal is justified in case of: - alterations of the type, - modification of its vital parts , - circumstances that affect metrological durability and/or reliability, - effects altering the metrological performance of the instrument required by law and coming to light only after the official type approval was granted.	VIML:2000, 2.10, modified	
2.12	preliminary examination	partial examination of certain elements of a measuring instrument of which verification will be completed at the place of installation or an examination carried out before certain elements of the measuring instrument are fitted		VIML:2000, 2.12	

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.13	verification of a measuring instrument	procedure (other than type approval) which includes the examination and marking and/or issuing of a verification certificate, that ascertains and confirms that the measuring instrument complies with the statutory requirements		VIML:2000, 2.13	<p>OIML V2-200:2008,2.2 gives the following general definition:</p> <p>“2.44 verification provision of objective evidence that a given item fulfils specified requirements</p> <p>EXAMPLE 1 Confirmation that a given reference material as claimed is homogeneous for the quantity value and measurement procedure concerned, down to a measurement portion having a mass of 10 mg.</p> <p>EXAMPLE 2 Confirmation that performance properties or legal requirements of a measuring system are achieved.</p> <p>EXAMPLE 3 Confirmation that a target measurement uncertainty can be met.</p> <p>NOTE 1 When applicable, measurement uncertainty should be taken into consideration.</p> <p>NOTE 2 The item may be, e.g. a process, measurement procedure, material, compound, or measuring system.</p> <p>NOTE 3 The specified requirements may be, e.g. that a manufacturer's specifications are met.</p> <p>NOTE 4 Verification in legal metrology, as defined in VIML 2000, and in conformity assessment in general, pertains to the examination and marking and/or issuing of a</p>

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.14	verification by sampling	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		VIML:2000, 2.14	
2.15	initial verification	verification of a measuring instrument which has not been verified previously		VIML:2000, 2.15	See also: 2.29 (below)
2.16	subsequent verification	any verification of a measuring instrument after a previous verification and including: - mandatory periodic verification, - verification after repair, - voluntary verification	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.	VIML:2000, 2.16	
2.17	mandatory periodic verification	subsequent verification of a measuring instrument, carried out periodically at specified intervals according to the procedure laid down by the regulations		VIML:2000, 2.17	
2.18	voluntary verification	any verification which does not result from the application of obligation		VIML:2000, 2.18	
2.19	rejection of a measuring instrument	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		VIML:2000, 2.19	

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.20	recognition of verification	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		VIML:2000, 2.20	
2.21	inspection of a measuring instrument	examination of a measuring instrument to ascertain all or some of the following: - verification mark and/or certificate is valid, - no sealing marks are damaged, - after verification the instrument suffered no obvious modification, - its errors do not exceed the maximum permissible in service errors	Inspection of a measuring instrument may be done only after verification.	VIML:2000, 2.21	Note that OIML D9:2004 (E) refers to the present definition in the following way: “2.8 Inspection Function of an investigation to ascertain that the legal requirements related to the matter under investigation are observed. (<i>A more general form of the definition is given in the VIML under 2.21 for inspection of a measuring instrument</i>).”
2.22	inspection by sampling	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		VIML:2000, 2.22	
2.23	marking	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)	1) Verification and sealing marks may be combined. 2) The manufacturer may be authorized to apply other marks.	VIML:2000, 2.23, modified	The numbers in the definition were adjusted so that they refer to the present working draft.

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.24	obliteration of a verification mark	cancellation of the verification mark when it has been found that the measuring instrument no longer complies with the statutory requirements		VIML:2000, 2.24	
2.27	conformity assessment of a measuring instrument	examination , testing and evaluation of measuring instruments to ascertain whether or not a single instrument, an instrument lot or a production series of instruments comply with all statutory requirements applicable to this instrument type	Conformity assessment does not only concern metrological requirements but also requirements relating to: <ul style="list-style-type: none">- safety,- EMC,- software identification,- ease of use,- marking, etc.	VIML:2000, 2.11	

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.28	module of conformity assessment of measuring instruments	set comprising a limited number of different procedures applicable to conformity assessment of measuring instruments, which is combined with other sets of the same kind in a variety of ways in order to establish complete conformity assessment procedures	<p>1. Conformity assessment may be made in various way. One of them is based on a scheme made up of so-called conformity assessment modules which can be combined with each other in a variety of ways in order to establish complete conformity assessment procedures</p> <p>2. Some of the mentioned combinations are applicable for conformity assessment of measuring instruments.</p>	Adapted from “Guide to the implementation of directives based on the New Approach and the Global Approach”, 5.1, European Commission ed. (called “Blue Guide”, further referred to as ”BG”)	BG 5.1, page 31: “Conformity assessment is subdivided into modules, which comprise a limited number of different procedures applicable to the widest range of products. The modules relate to the design phase of products, their production phase or both. The eight basic modules and their eight possible variants can be combined with each other in a variety of ways in order to establish complete conformity assessment procedures. As a general rule, a product is subject to conformity assessment according to a module during the design as well as the production phase. Each New Approach directive describes the range and contents of possible conformity assessment procedures, which are considered to give the necessary level of protection. The directives also set out the criteria governing the conditions under which the manufacturer can make a choice, if more than one option is provided for.”

2. Legal Metrology Activities

No.	Term	Definition	Notes and examples	Source	Editorial remarks
2.29	initial verification of measuring instruments utilizing the manufacturer's quality management system	manufacturer's declaration of conformity of measuring instruments to legal metrological requirements for initial verification; the declaration permitted on condition that the manufacturer a quality management system implemented and approved by competent body	1. The national responsible body shall have in place a means for periodically validating the implementation of a manufacturer's quality management system. 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.	OIML D 27: 2001 (E), modified	
2.30	authorization of a measuring system	operation that brings the measuring system into a condition suitable for the commencement of the delivery		OIML R 139: 2007 (E), T.2.8	
2.31	placing on the market	making a measuring instrument or a prepackage available for end user on the market for the first time in the specific country (or region), either for payment or free of charge		OIML D9:2004 (E), modified	
2.32	putting into service (use)	moment of the first use by the end-user of a measuring instrument for the purposes for which it was designed -intended		OIML D9:2004 (E), modified	

3. Documents and Marks within Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
3.01	type approval certificate	document certifying that type approval has been granted		VIML:2000 ,3.2	
3.02	verification certificate	document certifying that the verification of the measuring instrument was carried out with a satisfactory result and compliance with statutory requirements was confirmed		VIML:2000, 3.3, modified	
3.03	metrological expertise certificate	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		VIML:2000, 3.4	
3.04	rejection notice	document stating that a measuring instrument was found not to comply or no longer to comply with the relevant statutory requirements		VIML:2000, 3.5	
3.05	verification mark	mark applied to a measuring instrument certifying that the verification of the measuring instrument was carried out with satisfactory results and compliance with statutory requirements was confirmed	The verification mark may identify the body responsible for verification and/or indicate the year or date of verification or its expiry date.	VIML:2000, 3.7, modified	

3. Documents and Marks within Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
3.06	rejection mark	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		VIML:2000, 3.8	
3.07	sealing mark	mark intended to protect the measuring instrument against any unauthorized modification, readjustment, removal of parts, etc.		VIML:2000, 3.9	
3.08	type approval mark	mark applied to a measuring instrument certifying its conformity to the approved type		VIML:2000, 3.10	

4. Units of Measurement

No.	Term	Definition	Notes and examples	Source	Editorial remarks
4.01.	legal units of measurement	units of measurement required or permitted by regulations	Legal units may be: - SI units, - their decimal multiples and submultiples as indicated by the use of SI prefixes, - non-SI units specified by relevant regulations.	VIML:2000, 4.1	
4.02	International System of Units, SI	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>1. The SI is founded on the seven base quantities of the International System of Quantities. For the details on the names and symbols of the corresponding base units refer to ISO/IEC Guide 99:2007 International vocabulary of metrology – Basic and general concepts and associated terms (VIM).</p> <p>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>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>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>5 The SI prefixes for multiples of units and submultiples of units are listed in ISO/IEC Guide 99:2007 International vocabulary of metrology – Basic and general concepts and associated terms (VIM) and in the SI brochure.</p>	OIML V2-200:2008, 1.16, modified	

4. Units of Measurement

No.	Term	Definition	Notes and examples	Source	Editorial remarks
4.03	documentation of a measurement standard	all the documents attached to or associated with a measurement standard describing its technical and metrological characteristics and indicating the conditions and methods of its conservation, maintenance and use		VIML:2000, 3.6	

5. Classification of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
5.01	measuring instrument	device used for making measurements, alone or in conjunction with one or more supplementary devices	<ol style="list-style-type: none">1. A measuring instrument that can be used alone is a measuring system.2. A measuring instrument may be an indicating measuring instrument or a material measure.	OIML V2-200:2008, 3.1	Note that OIML B3:2003 quotes VIM 4.1: “device intended to be used to make measurements, alone or in conjunction with supplementary device(s) Note: “measuring instruments” means any device or system with a measuring function (that is covered by Article 1 and 3) MID Directive 2004/22/EC”
5.02	category of instruments	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		OIML B3:2003, 2.2	

5. Classification of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
5.03	family of measuring instruments	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		OIML B3:2003, 2.3	Note that OIML R 76-1: 2006 (E), T.3.5 gives a definition which combines the definitions of family of measuring instruments and that of family of modules and modifies them. It reads: “Identifiable group of weighing instruments or modules belonging to the same manufactured type that have the same design features and metrological principles for measurement (for example the same type of indicator, the same type of design of load cell and load transmitting device) but which may differ in some metrological and technical performance characteristics (e.g. Max, Min, <i>e</i> , <i>d</i> , accuracy class, etc.)”.
5.05	metrologically relevant	attribute of any device, instrument, function or software that influences the measurement result or any other primary indication		Adapted from OIML R 21: 2007 (E), 2.1.4	Note that OIML R 76-1: 2006 (E), T.2.9 gives the following definition: “Any device, module, part, component or function of a weighing instrument that may influence the weighing result or any other primary indication is considered as metrologically relevant.” OIML R 21: 2007 (E), 2.1.4 gives the following definition: “Any device, instrument, function or software (of a taximeter) that influences the measurement result or any other primary indication is considered as metrologically relevant.”

5. Classification of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
5.06	module	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.	OIML B3:2003, 2.4) modified	Note that OIML R 76-1: 2006 (E), T.2.2 gives the following definition: “Identifiable part of an instrument that performs a specific function or functions, and that can be separately evaluated according to specific metrological and technical performance requirements in the relevant Recommendation. The modules of a weighing instrument are subject to specified partial error limits. Note: Typical modules of a weighing instrument are: load cell, indicator, analog or digital data processing device, weighing module, terminal, primary display.”
5.07	family of modules	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		OIML B3:2003, 2.5	
5.08	type of a measuring instrument or module	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		OIML B3:2003, 2.6	
5.09	legally controlled measuring instrument	measuring instrument which conforms to prescribed requirements, in particular legal metrological requirements		VIML:2000,4.3	

5. Classification of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
5.10	legally relevant	part of a measuring instrument, device or software subject to legal control		OIML R 21: 2007 (E), 2.1.5	
5.11	specimen of an approved type	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		VIML:2000,4.6	
5.12	legally relevant parameter	parameter of a measuring instrument, device, software or a module subject to legal control	The following types of legally relevant parameters can be distinguished: type-specific parameters and device specific parameters.	OIML R 76-1:2006 (E), T.2.8.2	See 7.36, 7.15 and 7.22
5.13	type-specific parameter	legally relevant parameter with a value that depends on the individual instrument	Device-specific parameters comprise calibration parameters (e.g. span adjustment or other adjustments or corrections) and configuration parameters (e.g. maximum capacity, minimum capacity, units of measurement, etc.)	OIML R 76-1: 2006 (E), T.2.8.4	See 7.36
5.14	device-specific parameter	legally relevant parameter with a value that depends on the individual instrument	Device-specific parameters comprise calibration parameters (e.g. span adjustment or other adjustments or corrections) and configuration parameters (e.g. maximum capacity, minimum capacity, units of measurement, etc.)	OIML R 76-1: 2006 (E), T.2.8.4	See 7.15
5.15	approved type	definitive model or family of measuring instruments permitted for legal use, the decision being confirmed by the issuing of a type approval certificate		VIML:2000, 4.5	

5. Classification of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
5.16	measuring instrument acceptable for verification	measuring instrument of an approved type, or one that meets relevant specifications statutory requirements and may be exempt from type approval		VIML:2000,4.4, modified	
5.17	verification equipment	equipment that meets the statutory requirements and that is used for verification		VIML:2000,4.7	
5.18	equipment under test	a sub-assembly, a combination of subassemblies or a complete meter measuring instrument subject to a test	Abbreviated: EUT	OIML R 75-1: 2002 (E), 3.5, modified	

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.01	scale of a displaying measuring instrument	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 (4.17)	OIML R 35-1: 2007 (E), 2.1. 4 gives the following definition: “set of all the scale marks and associated numbering”
6.02	scale interval	value expressed in units of the measured quantity of the difference between : <ul style="list-style-type: none"> • the difference between the values corresponding to two consecutive scale marks, for analog indication; or • the difference between two consecutive indicated values, for digital indication 		Adapted from OIML R 35-1: 2007 (E), 2.1.5	
6.03	verification scale interval	value, expressed in units of the measured quantity mass, used for the classification and verification of an instrument		Adapted from OIML R 76-1: 2006 (E), T.3.2.3	OIML R 76-1: 2006 (E), T.3.2.3: “verification scale interval, e: value, expressed in units of mass, used for the classification and verification of an instrument”
6.04	number of verification scale intervals	quotient of the maximum capacity and the verification scale interval: $n = \text{Max} / e$		OIML R 76-1: 2006 (E), T.3.2.5	

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.05	adjustment device*	device incorporated in the meter that only allows shifting of the relative error curve generally parallel to itself, with a view to bringing errors within the maximum permissible errors and to set the weighted mean error at minimum		Adapted from OIML R 140: 2007 (E), T.1.11.1	<p>* Note that OIML R 76-1: 2006 (E), T.2 Construction of an instrument observes:</p> <p>“In this Recommendation the term “device” is used for any means by which a specific function is performed, irrespective of the physical realization, e.g. by a mechanism or a key initiating an operation. The device may be a small part or a major portion of an instrument.”</p> <p>In fact this also applies to other OIML publications. And it has to be noted that VIM suggested in the introductory note to Chapter 4 a hierarchy of terms pertaining to the measurement equipment. It was recommended there to consider the term “measuring instrument” more general than the term “device”. However ISO/IEC Guide 99:2007 applies the term “devices for measurement” as more general than “measuring instrument” (Chapter 3; 3.1).</p> <p>Also note that eg. R49 gives a definition which is identical in meaning and almost identical in wording:</p> <p>“2.1.6 Adjustment device Device incorporated in the meter, that only allows the error curve to be shifted generally parallel to itself, with a view to bringing errors (of indication) within the maximum permissible errors.”</p>

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.06	indicating device	part of the meter measuring instrument which displays continuously the measurement results	A printing device which provides an indication at the end of the measurement is not an indicating device.	OIML R 139: 2007 (E), T.1.4, modified	
6.07	correction device	device connected to or incorporated in the meter/and or a calculator for automatically correcting the volume at metering conditions, by taking into account the flowrate and/or the characteristics of the gas to be measured (temperature, pressure, gas composition, etc.) and by also taking into account pre-established calibration curves	The characteristics of the gas may either be measured using associated measuring instruments, or stored in a memory in the instrument.	OIML R 140: 2007 (E) T.1.11.2, modified	<p>This term is applicable for gasmeters but there exist almost identical definitions applicable for other kinds of measuring instruments. The question is whether there is a need of one common definition or it is enough to admit that the existing definitions in OIML Recommendations are variants of one definition which have been adapted to the specific needs without however losing single meaning.</p> <p>Note that eg. R49-1 gives a definition which is almost identical.</p> <p>“2.1.7 Correction device Device connected to or incorporated in the meter for automatically correcting the volume at metering conditions, by taking into account the flowrate and/or the characteristics of the water to be measured (e.g. temperature and pressure) and the pre-established calibration curves. The characteristics of the water to be measured may either be measured using associated measuring instruments, or be stored in a memory in the instrument.”</p>

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.08	ancillary device	device intended to perform a particular function, directly involved in elaborating, transmitting or displaying measurement results	<p>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>2. Main ancillary devices are:</p> <ul style="list-style-type: none"> • zero setting device; • repeating indicating device; • printing device; • memory device; • price indicating device; • totalizing indicating device; • pre-setting device; • self-service device. 	Adapted from OIML R 139: 2007 (E), T.1.5	<p>Note that in OIMLR49-1 there is a definition which is almost identical: “2.1.8 Ancillary device Device intended to perform a particular function, directly involved in elaborating, transmitting or displaying measurement results. The main ancillary devices are: (a) zero setting device; (b) price indicating device; (c) repeating indicating device; (d) printing device; (e) memory device; (f) tariff control device; (g) pre-setting device; and (h) self service device. <i>Note:</i> An ancillary device may or may not be subject to legal metrological control according to national regulations.”</p>

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.09	checking facility	<p>facility incorporated in a water meter with electronic devices and which enables significant faults to be detected and acted upon</p> <p>Facility that is incorporated in a measuring instrument and which enables significant faults to be detected and acted upon.</p>	<p>The checking of a transmission device aims at verifying that all the information which is transmitted (and only that information) is fully received by the receiving equipment.</p> <p>«Acted upon» refers to any adequate response by the measuring instrument (luminous signal, acoustic signal, prevention of the measurement process, etc.).</p>	<p>OIML R 49-1: 2006 (E), 2.5.4</p> <p>OIML D 11:2004 (E): 3.18</p>	<p>Note that OIML R 49-1: 2006 (E) gives the following definition: “2.5.4 Checking facility facility incorporated in a water meter with electronic devices and which enables significant faults to be detected and acted upon <i>Note</i> The checking of a transmission device aims at verifying that all the information which is transmitted (and only that information) is fully received by the receiving equipment.” This term is applicable for flowmeters.</p>
6.10	control instrument	<p>weighing instrument used to determine the conventional true value of the mass of the test load(s).</p>	<p>Control instruments used for testing may be:</p> <ul style="list-style-type: none"> • separate from the instrument being tested; or • integral, when a static weighing mode is provided by the instrument being tested <p>This term is applicable for weighing instruments.</p>	<p>OIML R 51-1: 2006 (E), T.1.7</p>	<p>This term is applicable for weighing instruments.</p>

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.11	associated measuring instrument	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		OIML R 140: 2007 (E), T.1.9	Note that simultaneously in OIML R 117-1: 2007(E) another definition was adopted: “T.a.7 Associated measuring device Device, connected to the calculator, the correction device or the conversion device, and converting, during the measurement the characteristic quantities (temperature, pressure, density, viscosity, etc.) of the liquid into signals destined for the calculator, with a view to making a correction and/or a conversion. It includes an associated measuring sensor and an associated measuring transducer.”

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.12	calculator	part of the measuring system that receives the output signals from the flow measuring device(s) or from another calculator and possibly from the associated measuring instruments, transforms them and/or processes them into data , and, if appropriate, displays the measurement results or stores the results in memory until they are used. In addition, the calculator may be capable of transmitting and receiving data from peripheral equipment	A measuring system may have one, two or more calculators, for instance a mechanical calculator to produce the volume at metering conditions and which transmits the value to a mechanical indicating device, an electronic calculator which also calculates the volume at metering conditions, associated with an electronic indicating device, and another one to calculate the converted value.	OIML R 140: 2007 (E), T.1.3, modified	<p>Directive 2004/22 gives the following: “ - MI-004, Definitions ... calculator as defined in Article 4(b) ... Article 4 (b) of the Directive reads: For the purposes of this Directive: (b) ‘sub-assembly ’ means a hardware device, mentioned as such in the specific annexes, that functions independently and makes up a measuring instrument together - with other sub-assemblies with which it is compatible, or - with a measuring instrument with which it is compatible;</p> <p>-MI-005, Definitions: Calculator A part of a meter that receives the output signals from the measurement transducer(s) and possibly, from associated measuring instruments and displays the measurement results”</p> <p>OIML R 117 states as follows: “ T.1.3: Calculator A part of the meter that receives the output signals from the transducer(s) and, possibly, from associated measuring instruments, transforms them and, if appropriate, stores in memory the results until they are used. In addition, the calculator may be capable of communicating both ways with peripheral equipment.”</p>

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
					<p>OIML R 139: 2007 (E) gives the following definition:</p> <p>“T.1.3 Calculator</p> <p>T.1.3.1 Metering calculator Part of the meter that receives the output signals from the transducer(s) and, possibly, from associated measuring instruments, transforms them and, if appropriate, stores the results in memory until they are used.</p> <p>T.1.3.2 Operational calculator Optional part of the meter that receives the digital output signals from the metering calculator and, possibly, from associated measuring instruments, which processes them into data for the indicating device.</p> <p><i>Note:</i> The metering calculator and the operational calculator may be two separate elements or form a single unit. Except in the case of a particular need to dissociate the two kinds of calculators, the association of both functions is called the calculator in this Recommendation.”</p>

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.13	conversion device	<p>device which automatically converts the volume measured at metering conditions into a volume at base conditions, or into a mass, by taking account of the characteristics of the liquid (temperature, pressure, density, relative density...) measured using associated measuring instruments, or stored in a memory device, which automatically converts:</p> <ul style="list-style-type: none"> • the volume measured at metering conditions into a volume at base conditions, or • the volume measured at metering conditions into a mass, or • the measured mass into a volume at metering conditions, or • the measured mass into a volume at base conditions, or • the volume at metering conditions or the measured mass of a mixture of pure ethanol (ethyl alcohol) and water into a volume or the mass of pure ethanol contained in that mixture, by taking account of the characteristics of the liquid (temperature, pressure, density, relative density, etc.) measured using associated measuring devices, or stored in a memory 	<p>The quotient of the volume at base conditions, or of the mass, to the volume at metering conditions is referred to as “conversion factor”.</p> <p>The ratio of the converted quantity to the quantity at metering conditions is referred to as the "conversion factor."</p>	OIML R117-1:2007, T.1.12-c.4	<p>Note that OIML R 140: 2007 (E) gives no definition but, under T.1.12, the following notes are placed:</p> <p>“ 1 In this Recommendation the wording “conversion device” covers conversion devices as such, as well as the conversion function in a calculator. 2 A calculator, a correction device and a conversion device may be combined in a single unit.”</p> <p>The previous edition of OIML R 117 gives the following definition</p> <p>“T.1.12 conversion device device which automatically converts the volume measured at metering conditions into a volume at base conditions, or into a mass, by taking account of the characteristics of the liquid (temperature, pressure, density, relative density...) measured using associated measuring instruments, or stored in a memory</p> <p>Note</p> <p>The quotient of the volume at base conditions, or of the mass, to the volume at metering conditions is referred to as “conversion factor”.</p>

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.14	terminal	digital device that has one or more keys (or mouse, touch-screen, etc.) to operate the instrument, and a display to provide the measurement weighing results transmitted via the digital interface of a weighing module or an analog data processing device		OIML R 76-1: 2006 (E), T.2.2.5, modified	
6.15	measuring system	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	A measuring system may consist of only one measuring instrument.	OIML V2-200:2008, 3.2 (4.5)	Note that OIML R 140: 2007 (E), T.1.7 gives the following definition: “System which comprises the metering module (see T.1.8), and all the ancillary devices and additional devices and, when appropriate, a documented provisions system ensuring the quality and the traceability of data.”
6.16	meter model	different sizes of heat meters or sub-assemblies having a family similarity in the principles of operation, construction and materials		Adapted from OIML R 75-1: 2002 (E), 4.13	
6.17	meter	instrument intended to measure, memorize and display the volume or mass of gas passing through the flow measuring device at metering conditions	The display may be a remote indicating device.	Adapted from OIML R 140: 2007 (E), T.1.1	

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.18	family of meters	<p>group of meters of different sizes and/or different flowrates, in which all the meters shall have the following characteristics:</p> <ul style="list-style-type: none"> • the same manufacturer; • geometric similarity of the measuring part; • the same metering principle; • roughly the same ratios Q_{\max}/Q_{\min} and Q_{\max}/Q_t; • the same accuracy class; • the same electronic device for each meter size; • a similar standard of design and component assembly; and • the same materials for those components that are critical to the performance of the meter. 	This term is applicable to flowmeters.	OIML R 137-1: 2006 (E), 2.1.13	
6.19	metering module	<p>subassembly of a measuring system which corresponds to the meter(s) itself (themselves), associated, where applicable, with an additional calculator with a correction and an indicating device, and to all other parts of the gas circuit of the measuring system (in particular additional devices)</p>		OIML R 140: 2007 (E), T.1.8	
6.21	electronic device	device employing sub-assemblies	1. An electronic device is usually manufactured as a separate unit and is	OIML D 31:2008 (E), 3.2	

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
		and performing a specific function	<p>capable of being tested</p> <p>2. An electronic device may be a complete measuring instrument (e.g. counter scale, electricity meter) or a part of a measuring instrument (e.g. printer, indicator).</p> <p>3. An electronic device may be a module in the sense this term is used in OIML B 3 OIML Certificate System for Measuring Instruments [2].</p>		
6.22	electronic measuring instrument	measuring instrument intended to measure an electrical or non-electrical quantity using electronic means and/or equipped with electronic devices	For the purpose of OIML D 11:2004(E) it was assumed that ancillary equipment, as long as it was subject to legal metrological control, was considered a part of the measuring instrument.	Based on OIML D 11:2004(E), 3.1	
6.23	sub-assembly	part of an electronic device employing electronic components and having a recognizable function of its own.	Amplifiers, comparators, power converters, etc.	Based on OIML D 11:2004(E), 3.3	

6. Construction and Operation of Measuring Instruments

No.	Term	Definition	Notes and examples	Source	Editorial remarks
6.20	measurement transducer	device, used in measurement, that provides an output quantity having a specified relation to the input quantity	<i>Examples:</i> Thermocouple, electric current transformer, strain gauge, pH electrode, Bourdon tube, bimetallic strip.	OIML V2-200:2008,3.7 (4.3)	OIML R 49-1: 2006 (E) gives the following definition: “2.1.2 measuring transducer: part of the meter which transforms the flow or the volume of the water to be measured into signals which are passed to the calculator. It can be based on a mechanical, or an electrical, or an electronic principle. It may be autonomous or use an external power source Note: For the purposes of this Recommendation, the measurement transducer includes the flow sensor or volume sensor.”
6.2+4	indication of an instrument	value of a quantity provided by a measuring instrument	The terms “indication”, “indicate” or “indicating” include both displaying and/or printing.	OIML R 51-1: 2006 (E), T.1.10	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.01	legally relevant software	<p>programs, data, type-specific and device-specific parameters that belong to the measuring instrument or module, and define or fulfill functions which are subject to legal control</p> <p>software/hardware/data or part of the software/hardware/data of a measuring instrument which interferes with properties regulated by legal metrology, e.g. the accuracy of the measurement or the correct functioning of the measuring instrument</p>	<p><i>Examples:</i> Final results of the measurement, i.e. gross, net and tare/ preset tare value (including the decimal sign and the unit), identification of the weighing range and the load receptor (if several load receptors have been used), software identification.</p>	<p>OIML R 76-1: 2006 (E), T.2.8.1 OIML D 31:2008(E). 3.1.29</p>	
7.02	software identification	<p>sequence of readable characters of software that is inextricably linked to the software (e.g. version number, checksum) software identification</p> <p>sequence of readable characters (e.g. version number, checksum) that is inextricably linked to the software or software module under consideration</p>	<p>It can be checked on an instrument whilst in use.</p>	<p>OIML R 76-1: 2006 (E), T.2.8.6 OIML D 31:2008(E). 3.1.42</p>	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.03	software separation	<p>unambiguous separation of software into legally relevant software and non-legally relevant software</p> <p>software in measuring instruments/electronic devices/sub-assemblies can be divided into a legally relevant part and a legally non-relevant part.</p>	<p>If no software separation exists, the whole software is to be considered as legally relevant.</p> <p>These parts communicate via a software interface.</p>	<p>Adapted from OIML R 76-1: 2006 (E), T.2.8.7</p> <p>OIML D 31:2008(E). 3.1.46</p>	
7.04	software protection	<p>securing of measuring instrument software by a hardware or software implemented seal which has to be removed, damaged or broken to obtain access to change software</p> <p>securing of measuring instrument software or data domain by a hardware or software implemented seal</p>	<p>The seal must be removed, damaged or broken to obtain access to change software.</p>	<p>OIML R 21: 2007 (E), 2.2.8.5</p> <p>OIML D 31:2008(E). 3.1.45</p>	
7.05	acceptable solution	<p>design or principle of a software module or hardware unit, or design or principle of a feature that is considered to comply with a particular requirement.</p>	<p>An acceptable solution provides an example of how a particular requirement may be met. It does not prejudice any other solution that also meets the requirement.</p>	<p>OIML D 31:2008 (E), 3.1.1</p>	
7.06	audit trail	<p>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</p>		<p>OIML D 31:2008 (E), 3.1.2</p>	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.07	authentication	checking of the declared or alleged identity of a user, process, or device (e.g. checking that downloaded software originates from the owner of the type approval certificate)		OIML D 31:2008 (E), 3.1.3	
7.08	authenticity	result of the process of authentication (passed or failed)		OIML D 31:2008 (E), 3.1.4	
7.09	closed network	network of a fixed number of participants with a known identity, functionality and location	See also: open network	OIML D 31:2008 (E), 3.1.6	
7.10	commands	a sequence of electrical (optical, electromagnetic, etc.) signals on input interfaces or codes in data transmission protocols	Commands can be generated by the software of the measuring instrument / electronic device / sub-assembly (software commands) or generated by the user through the user interface of the measuring instrument (user commands).	OIML D 31:2008 (E), 3.1.7	
7.10	communication	exchange of information between two or more units (e.g. software modules, electronic devices, subassemblies, etc.) according to specific rules		OIML D 31:2008 (E), 3.1.8	
7.11	communication interface	electronic, optical, radio or other technical interface that enables information to be passed between components of a measuring instrument (e.g. electronic devices) or sub-assemblies		OIML D 31:2008 (E), 3.1.9	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.12	cryptographic certificate	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	<ol style="list-style-type: none">1. 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.	OIML D 31:2008 (E), 3.1.10	
7.13	cryptographic means	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	<ol style="list-style-type: none">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.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.	OIML D 31:2008 (E), 3.1.11, modified	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.14	data domain	location in memory that each program needs for processing data	<p>1. Depending on the kind of programming language used, this location is defined by hardware addresses or by symbolic names (variable names). The size of the smallest addressable domain is typically one byte, but the size is nearly not limited: it ranges from 1 bit (e.g. a flag of a register) to arbitrary data structures which may be as large as the needs of the programmer are.</p> <p>2. Data domains may belong to one software module only, or to several. For high level languages (such as JAVA, C/C+, etc.) it is easy to separate the data domain of one software module from access by any other software modules by means of the language.</p>	OIML D 31:2008 (E), 3.1.12	
7.15	device-specific parameter	legally relevant parameter with a value that depends on the individual instrument	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.).	OIML D 31:2008 (E), 3.1.13	<p>Note that OIML R 76-1: 2006 (E), T.2.8.4 gives a similar definition: “legally relevant parameter with a value that depends on the individual instrument</p> <p>Note Device-specific parameters comprise calibration parameters (e.g. span adjustment or other adjustments or corrections) and configuration parameters (e.g. maximum capacity, minimum capacity, units of measurement, etc.)”</p>
7.16	error log	continuous data file containing an information record of failures/faults that have an influence on the metrological characteristics		OIML D 31:2008 (E), 3.1.14	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.17	event	Action in which a modification of a measuring instrument parameter, adjustment factor or update of software module is made.	This especially applies to volatile failures that are not recognizable afterwards when the measurement values are used.	OIML D 31:2008 (E), 3.1.20	
7.18	event counter	non resettable counter that increments each time an event occurs		OIML D 31:2008 (E), 3.1.21	
7.19	executable code	file installed on the computer system of the measuring instrument, electronic device, or sub-assembly (EPROM, hard disk, etc.)	This code is interpreted by the microprocessor and transposed into certain logical, arithmetical, decoding, or data transporting operations.	OIML D 31:2008 (E), 3.1.22	
7.20	fixed legally relevant software part	part of the legally relevant software that is and remains identical in the executable code to that of the approved type		OIML D 31:2008 (E), 3.1.24	
7.21	integrity of programs, data, or parameters	assurance that the programs, data, or parameters have not been subjected to any unauthorized or unintended changes while in use, transfer, storage, repair or maintenance		OIML D 31:2008 (E), 3.1.26	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.22	legally relevant parameter	Parameter of a measuring instrument, electronic device, or a sub-assembly subject to legal control. The following types of legally relevant parameters can be distinguished: type-specific parameters and device-specific parameters.		OIML D 31:2008 (E), 3.1.30	Note that OIML R 76-1:2006 (E), T.2.8.2 gives the following definition: “parameter of a measuring instrument, device, 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.” Modifications in green by the editor. See also 7.15 and 7.36
7.23	legally relevant software part	part of all software modules of a measuring instrument, electronic device, or sub-assembly that is legally relevant		OIML D 31:2008 (E), 3.1.31	
7.24	non-interruptible / interruptible measurement	a cumulative continuous measuring process with no definite end	1. The measuring process cannot be stopped and continued again by a user or operator without inadmissibly disturbing the measurement or the supply with goods or energy. 2. If the cumulative measurement of a quantity of a substance can be stopped easily and rapidly during normal operation – not only in case of emergency – without falsifying the measurement result, it is called interruptible.	OIML D 31:2008 (E), 3.1.34	
7.25	open network	network of arbitrary participants (electronic devices with arbitrary functions)	The number, identity and location of a participant can be dynamic and unknown to the other participants (see also closed network).	OIML D 31:2008 (E), 3.1.35	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.26	sealing	means intended to protect the measuring instrument against any unauthorized modification, readjustment, removal of parts, software, etc.	It can be achieved by hardware, software or a combination of both.	OIML D 31:2008 (E), 3.1.38	
7.27	securing	means preventing unauthorized access to the device's hardware or software part		OIML D 31:2008 (E), 3.1.39	
7.28	software	generic term comprising program code, data, and parameters		OIML D 31:2008 (E), 3.1.40	
7.29	software examination	technical operation that consists of determining one or more characteristics of the software according to the specific procedure (e.g. analysis of technical documentation or running the program under controlled conditions)		OIML D 31:2008 (E), 3.1.41	
7.30	software interface	program code and a dedicated data domain which receive, filter, or transmit data between software modules (not necessarily legally relevant)		OIML D 31:2008 (E), 3.1.43	
7.31	source code	computer program written in a form (programming language) that is legible and editable	Source code is compiled or interpreted into executable code.	OIML D 31:2008 (E), 3.1.47	

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.32	storage device	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)		OIML D 31:2008 (E), 3.1.48	
7.33	time stamp	unique monotonically increasing time value, e.g. in seconds or a date and time string denoting the date and/or time at which a certain event or fault occurred	This data is presented in a consistent format, allowing for easy comparison of two different records and tracking progress over time.	OIML D 31:2008 (E), 3.1.50	
7.34	transmission of measurement data	transmission of measurement data via communication networks or other means to a distant electronic device where they are further processed and/or used for legally regulated purposes		OIML D 31:2008 (E), 3.1.52	
7.36	type-specific parameter	legally relevant parameter with a value that depends on the type of instrument only	Type-specific parameters are part of the legally relevant software.	OIML D 31:2008 (E), 3.1.53	Note that OIML R 76-1: 2006 (E), T.2.8.4 gives the following definition: “legally relevant parameter with a value that depends on the individual instrument Note Device-specific parameters comprise calibration parameters (e.g. span adjustment or other adjustments or corrections) and configuration parameters (e.g. maximum capacity, minimum capacity, units of measurement, etc.)” See also 7.22.

7. Software in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
7.37	universal computer	computer that is not constructed for a specific purpose but that can be adapted to the metrological task by software	In general this software is founded on an operating system that permits loading and execution of software for specific purposes.	OIML D 31:2008 (E), 3.1.54	
7.38	user interface	interface that enables information to be interchanged between a human 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		OIML D 31:2008 (E), 3.1.55	

8. Tests in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
8.01	performance test	test to verify whether the equipment under test is capable of performing its intended functions		OIML R 76-1: 2006 (E), T.7	Note the similar definitions in: OIML R 51-1: 2006 (E), T.6.3 test to verify that the equipment under test (EUT) is able to accomplish its intended functions OIML R 21: 2007 (E), 2.5.10 test intended to verify whether the EUT is capable of accomplishing its intended functions The term is also used in OIML R 49-1 (2.4.7) and R 137-1 (2.4.8).
8.02	function test	test conducted at ambient environmental conditions of the type evaluation test to check the distance and time accuracy and functionality of the taximeter	This term applicable for legal metrological control of taximeters.	OIML R 21: 2007 (E), 2.5.11	This term applicable for legal metrological control of taximeters.
8.03	span stability test	test to verify that the equipment under test is capable of maintaining its performance characteristics over a period of use		OIML R 51-1: 2006 (E), T.6.4	
8.04	endurance test	test intended to verify whether the water meter is able to maintain its performance characteristics over a period of use		OIML R 49-1: 2006 (E), 2.4.8	This term applicable for legal metrological control of water meters.

8. Tests in Legal Metrology

No.	Term	Definition	Notes and examples	Source	Editorial remarks
8.05	operational test	test carried out on a complete instrument using a test load or loads of the type that it is intended to weigh, and using the load conveyor or load transport system to move it on to and off the load receptor	This term is applicable for legal metrological control of weighing instruments	OIML R 51-1: 2006 (E), T.6.1	This term is applicable for legal metrological control of weighing instruments.
8.07	simulation test	test carried out on a complete instrument or part of an instrument in which any part of the weighing measuring operation is simulated		Adapted from OIML R 51-1: 2006 (E), T.6.2	This term is applicable for legal metrological control of weighing instruments. It seems however that it may be useful for other fields of measurement to which it can be easily adapted by omitting the word “weighing”.
8.08	test	series of operations intended to verify the compliance of the equipment under test (EUT) with specified requirements		OIML D 11: 2004 (E), 3.20	
8.09	test procedure	detailed description of the test operations		OIML D 11: 2004 (E), 3.20.1	
8.10	test program	description of a series of tests for certain types of equipment		OIML D 11: 2004 (E), 3.20.2	
8.11	performance test	test intended to verify whether the EUT is able to accomplish its intended functions		OIML D 11: 2004 (E), 3.20.3	
8.12	durability test	test intended to verify whether the EUT is able to maintain its performance characteristics over a period of use		OIML D 11: 2004 (E), 3.20.4	

Template for comments and project leader observations

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MC ¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note/ Example (e.g. Note 1)	Type of com- ment ²	Comment (justification for change) by Member Country or Liaison Organization	Proposed change by the Member Country or Liaison Organization	Project Leader observations on each comment submitted

Explanations

- 1 **Member Country:** enter the ISO 3166 two-letter country code, e.g. FR for France
- 2 **Type of comment:** **ge** = general **te** = technical **ed** = editorial

Note

Columns 1, 2, 4, 5 are compulsory.