



TC7_SC5_P1 Template Form for Comments		TC7_SC5_P1_N012
PG Comments on: TC7_SC5_P1_N005 TC7_SC5_P1_N006 TC7_SC5_P1_N007	Title: OIML R 129, CD2: Multi-dimensional measuring instruments Parts 1, 2 and 3	
Document date: 16 December 2016	Circulation date: 16 December 2016	Closing date for comments: 03 April 2017
Convener: Australia	Please type your comments in this template form and post it (in Word format) as soon as possible and <u>no later than the closing date</u> using the PG vote and comment page after logging in with your username.	

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1	IR-1				We don't have any comment at this stage		Thank you.
2	US-1	all	Gen.	The US strongly supports the following comment from NL concerning the 2CD: <i>"The draft part 1 and part 2 contain questions on essential implementation issues to the PG. The draft therefore cannot be considered ready for voting on approval to enter the next stage (preliminary CIML on-line ballot)."</i>	This comment is the main reason for the: negative US vote on the 2CD of R129.	High	Noted.
3	DK-1		Gen.	In different places in the document is this "mpes" used. What is the meaning of this - is it the maximum permitted error of standard deviation ?	Change all the "mpes" to "mpe" in the document.		Accepted. Document Amended.
4	NL-1	General	Gen.	The draft part 1 and part 2 contain questions on essential implementation issues to the PG. The draft therefore cannot be considered ready for voting on approval to enter the next stage (preliminary CIML on-line ballot)	A negative NL vote is cast on the draft for the reason mentioned.	High	Noted.
5	FR-1	Part 1 1.	techn	Answer to your question: We agree with the scope of the recommendation.			Thank you.
6	US-2	Part 1	Gen.	In general, everything in Part 1 of R129 needs to be checked to ensure that only metrological, technical, and performance <u>requirements</u> of these instruments are found in Part 1 Sections. Any sentence that mentions <u>testing requirements</u> or <u>testing procedures</u> needs to be moved to Part 2.	Several instances need attention.	High	Noted. The Recommendation is now split in to 3 separate parts.

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7	US-3	Scope (5 th para)	Ed.	Suggested edit.	If the multi -dimensional measuring instrument is associated with a weighing instrument, which is also used for determining the charges, the requirements for the associated weighing instrument are found included in the following other OIML Recommendations:		Accepted
8	US-4	Scope (3 rd para. and 2.1.1)		Remove from the definition that the smallest possible rectangular box be found. While this is a nice theoretical construct, in practice an irregular object is placed on its natural bottom and it occupies space in a carrier conveyance that is larger than the theoretical minimum. Furthermore, this restriction has the effect of preventing MDMD devices from being used to dimension irregular objects due to the fact that the smallest rectangular box for some irregular objects must extend below the ground plane.	Proposed change: “an instrument that measures the length (L), width (W) and height (H) dimensions of an object and determines the smallest rectangular parallelepiped (rectangular box) which fully encloses that object when placed on its natural bottom.”		This suggestion has not been accepted. The Secretariat feels that this proposal would require a definition for “natural bottom” that is potentially ambiguous and overly complicated. Also, presumably for any wider or deeper dimension to be included in the measurement the object would need to be set up in a way that these extra dimensions would be detected by the instrument in order to be measured.
9	CA-1	2.1	gen	Question: Is the PG happy with these definitions for length (L), width (W) and height (H)? Should each term include “the maximum linear dimension . . .”?	Canada is partially happy with definitions. See proposed changes above. “Maximum” is unnecessary. There is only one reported length, width, and height. Furthermore, “maximum” is confusing as well since the document constantly refers to the “smallest” box.		Thank you. Definitions now changed.
10	CA-2	2.1.1	Tech	Alter 2.1.1 to read: “ Multi-dimensional measuring instrument An instrument that measures the dimensions an object and determines the length (L), width (W) and height (H) of the smallest rectangular parallelepiped (rectangular box) which fully encloses that object.”	The measuring instrument measures the dimensions of the object but, the length, width and height displayed always refer to the smallest calculated rectangular box that fits the object. When the object is a box, we have no problem but when the object is say, a triangular prism, the measuring machine does not display the dimensions of the prism but rather the L x W x H of the smallest box around that prism.		Accepted

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11	FR-2	Part 1 2.1.1	Tech	Answer to your question: We agree with the definitions.			Thank you – see # 10.
12	NL-2	2.1.1	Gen.	Agree with revised definitions, maximum linear dimension is not needed to be defined.	As is the convention for terminology OIML B 6-2 A.2.1.4 delete the articles “a” and “an” at the start of definitions.	High	Accepted.
13	US-5	2.1.1	Ed.	<u>Response to question:</u> OK with definitions.			Thank you – see # 10.
14	DK-2	New 2.1.x	Tech	With the requirement for uncertainty of the measurement it will be necessary for the instrument to measure internally with a resolution smaller than the scale interval d. In order to check with during type examination and verification this recommendation should define an extended indicating device.	Insert the following between section 2.1.6 and 2.1.7: 2.1.7 Extended indicating device Device temporarily changing the actual display scale interval, to a value less than the verification scale interval, d, following a manual command.		Not accepted. Secretariat is unsure as to the requirement of this suggested definition. Can you please provide more information and clarify the comment?
15	AUT-1	2.1.1.1 to 2.1.1.3 Terminology		The term “rectangular parallelepiped (rectangular box)” presuppose the following definitions with one exception: now one side of the box must be horizontal. This is a modification of the current praxis. Actually this side can be parallel to the conveyor belt (if any) which itself may not be completely horizontally.			Taken as a comment. See #10 for more information. The definitions for length, height and width is also now modified to make the definitions more principle based.
16	CA-3	2.1.1.1	Tech	Alter 2.1.1.1 to read: 2.1.1.1 length (L) A linear dimension that is parallel to the measuring surface.	1) In the document, sometimes, the length that we are referring to is determined, not measured. We removed measured. 2) “horizontally relative to the instrument” can be confusing. Especially in cases where your instrument has an odd shape or is installed at an incline. We prefer referring to a specific part of the instrument: the measuring surface.		Not accepted. 1) This recommendation is for measuring instruments. Even if a dimension is determined that determination must take place in relation to a measurement. 2) Not all instruments will have a “measuring surface”. Furthermore, for many instruments the measuring surface could more accurately refer to a surface of the object being measured. The definitions of length, height and width modified.

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17	CA-4	2.1.1.2	Tech	Alter 2.1.1.2 to read: 2.1.1.2 width (W) A linear dimension that is parallel to the measuring surface and at 90 degrees relative to the length.	Same as our comment for 2.1.1.1		Not accepted. Please see Secretariat's response to #16 above.
18	CA-5	2.1.1.3	Tech	Alter 2.1.1.3 to read: 2.1.1.3 height (H) A linear dimension that is oriented 90 degrees to the measuring surface.	The measuring surface being 2 dimensional (2D), any dimension 90 degrees from that surface is perpendicular to that surface and is, therefore, the height.		Not accepted. Please see Secretariat's response to # 16 above.
19	DK-3	2.1.1.3	Edit	Definition of height should follow the same way of explanation as definition of length and width.	The text could be changed to: a linear dimension that is measured vertically to the instrument and at 90 degrees relative to the length.		Accepted with modification. The height is measured relative to the length and width dimensions of the object, not the instrument. “. . . measured . . .” has been included for consistency with 2.1.1.1 and 2.1.1.2.
20	DE-1	2.1.9	Tech	Please add detailed specifications for multi-interval instruments	E.g. is there a minimal range for the divided partial measuring ranges, who decides which range is responsible for the measurement (in our opinion this cannot be the measuring instrument itself), ...		Not accepted. Secretariat unsure about the requirement and its proposed uses. Can we get more information as to the requirement and some examples of instances where this requirement would be beneficial?
21	NL-3	2.1.10	Gen.	There is no need for defining “electronic device”. Moreover in the revision of the VIML and OIML D 11 (2013) the “electronic device” is no longer defined and OIML G 18 is in revision to adapt to the actual VIML and other vocabularies. Where applied in this Recommendation OIML R 129-2: 6.1 it concerns what is defined in OIML D 11(2013) : 3.3	If considered necessary it is suggested to copy the definition of “device” from OIML D 11: 3.3 and to use “devices” instead of “electronic subassemblies” in R 129-2: 6.1 Documentation.	High	Accepted.
22	NL-4	2.1.11	Gen.	See comment on 2.1.10	Delete	High	Accepted.

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23	FR-3	2.1.12	techn	“will measure correctly” is imprecise. There shall be a link with the MPEs or in general the applicable requirements.	Replace by “will satisfy all applicable requirements”.		Not accepted. “Satisfy all applicable requirements” is as equally imprecise. What are the applicable requirements and where are they to be found?
24	FR-4	2.1.13	techn	“will measure correctly” is imprecise. There shall be a link with the MPEs or in general the applicable requirements.	Replace by “will satisfy all <i>applicable</i> requirements”.		Not accepted. “Satisfy all applicable requirements” is as equally imprecise. What are the applicable requirements and where are they to be found?
25	CA-6	2.2.1	Tech	Alter 2.2.1 to read: 2.2.1 rectangular box (rectangular parallelepiped) Polyhedron having 6 faces that are parallel in pairs with each pair being perpendicular to both other pairs.	Current definition allows object other than rectangular box. (i.e. a box with 2 diamond shape surfaces that are parallel to each other would fit the proposed definition of <i>rectangular box</i>)		Modified with wording suggested in #26 below.
26	FR-5	2.2.1	Techn	The definition “polyhedron having six faces that are parallel in pairs” is not sufficient to be equivalent to a “rectangular box”	Add “having dihedral angles as right angles”.		Accepted.
27	CA-7	2.2.3	Edit	Alter 2.2.3 to read: 2.2.3 measured dimensions Length (L), width (W) or height (H), measured by the measuring instrument, of the smallest rectangular box which fully encloses the object.	Adjective “measuring” added to better define the word and match the proposed definition of <i>measuring instrument</i> in CD2.		Accepted.
28	US-6	2.2.3	Tech. / ed.	Remove from the definition that the smallest possible rectangular box be found. While this is a nice theoretical construct, in practice an irregular object is placed on its natural bottom and it occupies space in a carrier conveyance that is larger than the theoretical minimum. Furthermore, this restriction has the effect of preventing MDMD devices from being used to dimension irregular objects due to the fact that the smallest rectangular box for some irregular objects must extend below the ground plane.	Proposed change: 2.2.3 measured dimensions length (L), width (W) or height (H), measured by the instrument, of the smallest rectangular box which fully encloses the object when placed on its natural bottom.		Not accepted. Please see Secretariat’s response for #8/US-4.
29	AUT-2	2.2.4 Terminology		One should simply refer to 2.1.1: “The volume of the rectangular parallelepiped as defined in section 2.1.1”			Not accepted. 2.1.1 defines the instrument.

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30	CA-8	2.2.4	Edit	Alter 2.2.4 to read: 2.2.4 dimensional volume (Dim Vol or DV) Volume of the smallest rectangular box which fully encloses the object. It is the product of the indicated values of length (L), width (W) and height (H). (L x W x H)	To only calculation possible to obtain dimensional volume is the product of the dimensions (L x W x H). We feel the word “product” is more specific and explains the concept better than the word “calculation”, which is much broader. In our opinion, OIML B 6-2:2012, A.1.1.1 is better met with our suggestion.		Accepted.
31	FR-6	2.2.4	Tech	Answer to your question: We agree with the change.			Thank you – see change in line with #30 & 34.
32	CA-9	2.2.4	Gen	Note this change from “volume” to “dimensional volume”. Question: Do members of the PG agree with this change?	Yes, we proposed this change.		Thank you – see change in line with #30 & 34.
33	NL-5	2.2.4	Gen.	The amendment is considered to be an improvement		High	Noted – thank you – see change in line with CA-8/US-7.
34	US-7	2.2.4	Tech.	The dimensional volume has nothing to do with the smallest rectangular box which fully encloses the object, it is only a product of the dimensions. This proposed change also avoids the “cuboid” issue. In response to the question, “dimensional volume” is OK ... definition needs change indicated.	Dimensional volume product of the indicated values of length (L), width (W) and height (H).		Accepted – and see change in line with #30.
35	NL-6	2.2.5	Edit	Maximum measurable dimension	suggest to amend to: maximum measurable value of a dimension...		Not accepted. Dimension is measurable. The value is a symbol of the measured dimension.
36	NL-7	2.2.6	Edit	“..measured smallest..” instead of “..smallest measured..”?	adapt to the outcome		Not accepted.
37	NL-8	2.2.9	Edit		As is the convention for terminology OIML B 6-2 A.2.1.4 delete the articles “a” and “an” at the start of definitions.		Accepted.

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38	NL-9	2.3.6	Gen.	<p>This definition is not in agreement with the referred VIML 5.14 “fault exceeding the applicable fault limit value <i>Note ...</i>”</p> <p>The requirement specifying the “fault limit” value should not be part of the terminology but should be part of “metrological requirements”</p>	<p>Suggested amendments:</p> <p>- Insert:</p> <p>2.3.2 fault limit value specified in the applicable Recommendation delimiting non-significant faults [VIML 5.13]</p> <p>- Change 2.3.6 to:</p> <p>2.3.6 significant fault fault exceeding the applicable fault limit value <i>Note....</i>” [VIML 5.14]</p> <p>- Insert somewhere between 4.1.2 and 4.3.1 a subclause</p> <p>4.2.2 Value of the fault limit The fault limit value is one scale interval (d)</p>	High	<p>Accepted. Added as 2.3.6. Subsequent numbering changed.</p> <p>Accept – now 2.3.7</p> <p>Accepted. Added as 4.1.3. Subsequent numbering changed.</p>
39	DE-2	4.1.1	Gen.	Definition of the min. object dimension	The minimum dimension should be variable e.g. 5d or 10d independent of the used scale interval		<p>Not accepted. Minimum dimension is set relative to d as $d = mpe$. Less than the specified value would measure an object with increasingly greater error. Eg. Currently 10d = 10% error in the minimum object where as 5d would result in a possible 20% error for a minimum object.</p>

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40	DK-4	4.1.1 table 1	Techn	There is no technical reason for having a minimum dimension of 50 d, when $d > 10 \text{ cm}$, and not 20 d like for $2 \text{ cm} < d \leq 10 \text{ cm}$.	Change the last two lines in table 1 to the following line: $2 \text{ cm} < d \qquad 20 \text{ d}$		Not accepted. Minimum dimension is set relative to d as $d = mpe$. Less than the specified value would measure an object with increasingly greater error. Minimums are set relative to the scale interval to prevent smaller measurements being accepted with relatively large possible errors.
41	NL-10	4.1.1	Techn	The Note is inconsistent. Furthermore a smaller value of d (suitable instrument) should solve the needs of Japan's postal office.	Delete the Note		Accepted. An instrument cannot measure a lower minimum dimension without reducing its scale interval (smaller d value).
42	DE-3	4.1.2	Edit	Replace "1·d" with "1.0·d".	Good practice requires that all digits must be specified explicitly when stating accuracy		Accepted.
43	DE-4	4.1.6	Gen.	Why using a higher uncertainty of the mpe?	Still use the factor $K=2$ with 1/3 uncertainty of the mpe This was a very well and practical number in the past		Accepted. Uncertainty changed to one-third of mpe.
44	DK-5	4.1.6 a)	Techn	If the dimension of the test object shall be known to an expanded uncertainty of 1/5 mpe how shall it then be possible to have the same expanded uncertainty of the determination of the errors on indications of dimensions ? Even the error contribution from the indication will be more than 1/5 mpe if it isn't possible to use a test scale interval on the instrument.	The expanded uncertainty should be changed to 1/3 mpe and it should be clear that instruments whit out the possibility of a test scale interval 10 times smaller than the d can't have a type examination certificate.		Partially accepted. Uncertainty changed to 1/3 mpe.
45	NL-11	4.1.6(a)	Gen.	Part 1 of a Recommendation should state the requirements to be verified applying the tests in Part 2 and not refer to a requirement only applicable to the execution of tests.	Delete "When a test is conducted" furthermore refer to OIML G1-100 and/or OIML G 19 instead of GUM	High	Accepted. 4.17 (a) [previously 4.16(a)] amended.

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46	NL-12	4.2.1	Edit.	Because of the definition “Influence factors” are directly coupled to “Rated operating conditions” the amendment would mean that there are influence factors that are applicable outside the rated operating conditions, which is not in agreement with the definition. Moreover clause lists the rated operating conditions	Suggest to reinstate the previous title	High	Accepted.
47	NL-13	4.2.1	Techn	This change implies that in case of DC mains the voltage variation requirement is different from OIML D11 (2013)	Reinstate “battery operated”	High	Accepted.
48	NL-14	4.2.1	Techn	The specification of the rated operating conditions should be mentioned separately from the required accuracy when within the rated operating conditions. The added text “The indication for the same input shall remain within the mpes when applied to reference conditions before and after the test (see 4.1.6(d)) and when applied to the test conditions specified in (a) A.2.4 and (b) A.2.2.” Would mean that the indication is allowed to exceed the mpe in the range of the rated operating conditions, while these ranges are wider than the reference conditions. No reference can be made to A.2.4 and A.2.2 while Part 1 does not include these clauses. Furthermore making reference to the testing is not preferred while in principle the implementation in national legislation of only part 1 should be sufficient to cover the requirements. The reference conditions probably refer to the specifications in 4.1.6	Part 2 concerns the execution of tests to prove that the measuring instrument fulfils the requirements stated in Part 1. The requirements should be “stand alone”. The tests should indicate the accepted way of verifying that the requirements are fulfilled. For this reason the tests need to refer to the requirements and not the opposite. The added text therefore could probably be better moved to Part 2	High	Accepted. Text amended in 4.2.1.
49	AUT-3	4.2.2		We agree to add the respective clause to 4.2.1.			Thank you. Note (c) added to 4.2.1.
50	AUT-4		Gen.	We agree to all remaining proposals			Thank you.
51	CA-10	4.2.2		Question: Does the PG agree with the proposal to add: “(c) relative humidity of 85% at high temperature limit” as an additional condition in 4.2.1 and to delete the requirement for this test as suggested in comment #47 of the combined comments?	Yes. No comment.		Thank you. Note (c) added to 4.2.1.
52	FR-8	4.2.2		Answer to your question: We agree with 85 % of humidity. It is in line with R51			Thank you. Note (c) added to 4.2.1.

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53	NL-15	4.2.2	Gen.	See as in 4.2.1; do not mention (the execution of) tests in Part 1	It is suggested to delete 4.2.2 completely and to add the humidity specification “(c) relative humidity of 85% at high temperature limit” as part of the rated operating conditions		Accepted.
54	US-8	4.2.2 4.3.3	Gen.	Repeated comment: In general, everything in Part 1 of R129 needs to be checked to ensure that only metrological, technical, and performance <u>requirements</u> of these instruments are found in Part 1 Sections. Any sentence that mentions <u>testing requirements</u> or <u>testing procedures</u> needs to be moved to Part 2.		High	Accepted.
55	US-9	4.2.2	Tech.	Answer to question: OK to add humidity.			Thank you. Note (c) added to 4.2.1.
56	CA-11	4.3.3	Edit./ Tech	Alter 4.3.3 to read: 4.3.3 Tests for disturbances; severity levels Instruments shall be tested so as to determine if they will withstand the appropriate disturbances as listed in Table A.1 when subject to the applicable severity levels given in A.3.	We agree with CD1 comments number 48 and 49. Withstanding disturbances <u>is</u> the test. The strike out portion is unnecessary.		Accepted.
57	NL-16	4.3.3	Gen.	See as in 4.2.1; do not mention (the execution of) tests in Part 1	amend to read: “4.3.3 Disturbance conditions <i>No significant fault shall occur when instruments are subjected to the underneath disturbances :”</i> And list the applicable disturbances	High	Accepted.
58	NL-17	4.3.4	Techn	The fault limit should be stated in 4.3.4	<i>No significant fault shall occur when instruments based on light or acoustic measuring techniques are subjected to the underneath light or acoustic disturbances</i> And further mention that the fault limit is the MPE		Accepted with modification.
59	DE-6		Gen.	Please add a general reference to OIML D 31 “General requirements for software controlled measuring instruments” or add detailed information as was done in a draft of the OML Recommendation “Protein Measuring Instruments for Cereals Grain and Oil Seeds” (extract of it see below)			Accepted. Software requirements have been added as section 6 in Part 1 of the Recommendation.

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60	FR-7	5	Techn	<p>The document does not deal with any software requirement. The software part is becoming more and more the main critical part of the instrument. For example, in OIML R76 there is a specific annex for software requirements. In R 51 which covers instruments very similar and sometimes coupled with the multidimensional instrument there are requirements in chapters T.2.7.8 and 3.4.5.</p> <p>This is the main reason for the vote NO.</p>	OIML D31 should be used (General requirements for software controlled measuring instruments) to define some basic requirements. Or requirements similar to what is in R51 should be included.	High	Accepted. Software requirements have been added as section 6 in Part 1 of the Recommendation.
61	NL-18	5.2.1	Edit.	Sub clauses (c), (d), (g) should reflect the possibility to store the measurement result.	Include definition: 2.1.x indication displayed, printed or stored measurement result		Accepted with modification. Definition for <i>indication</i> added at 2.1.12.
62	CA-12	5.2.1 (a)	Tech.	<p>We do not agree with the third option that was added to 5.2.1 (a) as a result of comment 55 / NL-25. This option should be removed. While such a feature is permissible, it should not be a substitute for a display or a printer.</p> <p>Alter 5.2.1 a) to read:</p> <p>5.2.1 General (a) An instrument shall have either:</p> <ul style="list-style-type: none"> • an indicator which displays the measurement results • a printer which prints the measurement results <p>a device to transmit, store and preserve measurement results so that they can durably be reconstructed from the stored data</p>	<p>The way it reads now, 5.2.1 (a) allows a display, a printer, <u>or</u> a transmission device. We feel that the third option of the transmission device would make inspections (either in a lab or in the field) very difficult if it were the only option that was available on a specific instrument.</p> <p>While both a display and a printer would definitely allow for immediate results from the instrument, the transmission device does not allow this, thus making the inspection difficult and slow.</p> <p>For on-site inspections, it may even delay the issuance of a certificate for the instrument.</p> <p>In our country, because we perform routine examinations in the field, waiting days for issuing a certificate is not an option.</p>		Accepted with modification. The instrument may <u>also</u> have “a device to transmit, store and preserve measurement results so that they can durably be reconstructed from the stored data.”

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63	CA-13	5.2.1 (e)	Tech.	We do not agree with the rewording of this section as a result of comment 56 / JP-1. This should be re-worded to: (e) The indicated measurements for an object must persist long enough so that they may be easily read by an observer. The indications should be clearly assignable to a specific object.”	As written, this section is too prescriptive and is not enforceable. The first part does not allow a device to return to a ready or zero indication between measurements that are made far apart from one another (several minutes for example). The “1 s” stipulation in the second part is not practical to test. The entire part (e) cannot work when applied to non-singulated devices that may measure multiple objects at once. Suggested rewording is more open.		Accepted.
64	NL-19	5.2.2	Edit.	“clarity” is not well defined and mentioned in the subclause as part of clarity next to size and shape	Suggest to amend the title to “ 5.2.2 Presentation of indications ”		Accepted.
65	DE-5	5.2.4		Implementation of a dynamic scale interval for each axis in steps mentioned in the first sentence (1,2 or 5 x 10 ⁿ)	depending on: ➔ Dimension e.g. special height detected via Photo-eye ➔ Speed ➔ Shape: cubic / irregular		Not accepted. The suggested wording is quite specific and restricts the use of the instrument. The current wording is more open. However, if there is a requirement for adding the specificity, can you provide more information as to the applicability?
66	FR-9	5.2.4	Techn	“if all three axes are multi-interval, then d x1 = d y1 = d z1 , d x2 = d y2 = d z2 , ... , d xr = d yr = d zr” What about the partial Max ? shall they be the same ?	If the answer is yes, this should be specified clearly.		Not accepted. Unsure about the requirement. Can you provide more information? Also see response to #65.

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67	CA-14	5.2.5	Tech. / edit.	Alter 5.2.5 to read: 5.2.5 Decimal numbers If the indication is expressed in a decimal form, there shall be at least one zero preceding the decimal mark for values less than one. The decimal mark on tickets shall be printed out with the measured value by the printer, with at least one zero preceding the decimal mark for values less than one.	CD2 comment 61 is clearer on what needs to be indicated and printed but, with the words ‘at least’, one could have a printed ticket that would look like this: 0000.05 m instead of the correct way of doing it which is: 0.05 m		Accepted.
68	NL-20	5.2.5	Edit.		Suggest to use “ <i>sign</i> ” instead of “ <i>mark</i> ”		Not accepted. “sign” may be interpreted to imply a “+” or “-” (positive or negative).
69	NL-21	5.2.6	Edit.	incorrect sentence an indication can be a printed or a displayed value “must” is not the correct word where it concerns a requirement.	5.2.6 prevention of incorrect indications Displaying or printing of the quantity value of any dimension shall either be inhibited, or an error message shall be indicated together with the measurement indication, if the axis being measured: (a) is shorter than...: or (b) instrument.		Accepted with modification. Substituted “included together with” for “indicated together with”.
70	DK-6	New 5.2.7	Tech.	There shall be inserted requirements for an extended indicating device.	Insert the following between section 5.2.6 and 5.2.7: 5.2.7 Extended indicating devices When an instrument is fitted with an extended indicating device, displaying the indication with a display scale interval smaller than d shall be possible only: - during pressing a key; or - for a period not exceeding 5 seconds after a manual command. In any case printing or data transmission shall not be possible while the extended indicating device is in operation.		Not accepted. The requirement for extended indication device is already provided in 5.2.1(g). 5.2.1(g) amended to reflect the proposed insertion.

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71	US-10	5.2.9	Ed.	The phrase “(which shall have sufficient storage capacity for the intended purpose)” is redundant with the requirement. Also, a requirement should not be in a note.	Move from note to clause. Delete the parenthetical phrase (and add commas) to read as follows: “When the customer is not present during the measurement process, the above information need not be displayed or printed out at the time but shall be available on request, e.g., retrievable from a data storage device.”		Accepted.
72	DK-7	5.2.10	Techn	What is this paragraph about? As far as I know, the technical construction of the measuring instrument does it technical impossible to have an unstable indication. When a measuring is done, the result is clear and ready it can’t change and it can’t be unstable. The instrument isn’t a scale that happens to be on a shifting point between to indications, it is a length measuring instrument and it can’t be on a shifting point between to indications.	Delete the paragraph.		Accepted. Also, 5.2.1 (b) slightly modified to accommodate for equilibrium stability while totalising, data transfer etc.
73	NL-22	5.3.1	Gen.	Would “Nameplate” mean that measuring instruments which permanently show all the required markings on the housing of the measuring instrument not fulfil the markings requirement?	Suggest to allow (some) markings to be permanently visible and non-erasable marked in the vicinity of the indicating device		Not accepted. “some” markings is ambiguous – which markings are “some”. The current requirement is simpler and provides a roughly common location for all instruments.
74	NL-23	5.3.2	Edit.	“Notice” is not the correct word. Moreover it has two different meanings in the way applied in the first two lines 1. As contents of a message 2. As the paper on which the message is presented. This concerns “technical manual and/or specifications”	5.3.2 technical specifications Any specifications or limitations related to the instruments’ use or the objects being measured shall be clear and visibly presented to the operator or in an operator’s manual, for example (a)..; (b)..; (c) whether the instrument..; (d) whether the box..; (e). ;(g).dimensions.		Accepted with modifications.

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75	NL-24	5.4.1 Note	Edit.	<p>“..fixed only <i>in</i> a..” “..<i>in</i> a clearly visible place that <i>points</i> to..”</p> <p>“..in the operation manual, the OIML Certificate and OIML Test Report”</p> <p>What about the availability of these documents?</p>	<p>“..fixed only <i>on</i> a..” “..<i>on</i> a clearly visible place that <i>directs</i> to</p> <p>Please indicate.</p>		Accepted with modifications.
76	CA-15	5.4.2 (e)	Techn	<p>Remove 5.4.2 (e):</p> <p>(e) A reference record in the same form as the incremental record shall be permanently marked on the instrument to indicate that the parameters have been accessed since the last verification (for example the reference record could be associated with the verification mark).</p>	<p>We interpret ‘reference record’ as duplicate of the “incremental record”, which is a value that changes every time that the parameters of the instrument are accessed. Are we right? If so, we don’t want this record to be permanently marked on the instrument because, by nature, its value or identity will change through time.</p> <p>We feel 5.4.2 (a), (b), (c), (d), (f) and (g) cover all of our needs with regards to sealing.</p>		Accepted. Requirement (e) removed.
77	NL-25	5.5.2	Edit.	The new definition of ancillary devices makes these requirements inappropriate. These requirements are meant for equipment not being part of the instrument	Revert to auxiliary devices or change to peripheral devices		Accepted. Ancillary devices changed to peripheral devices throughout.
78	NL-26	Part 2	Gen.	During the revision of a Recommendation it is required to update an OIML Recommendation to the latest published versions of the vocabularies and the latest version of other published OIML documents providing the horizontal aspects for production of OIML Recommendations like OIML B 6-2, OIML D 11 and OIML D 31. Referring to previous versions of these publications cannot be accepted.			Accepted. All references updated.
79	FR-12	6		It does seem logical to place the initial verification and subsequent verification in the part concerning type evaluation.	Change the numeration of the parts : 6- type evaluation 7- initial verification 8- subsequent verification.		Accepted. Part 2 of the Recommendation: 1 Type evaluation 2 Initial Verification 3 Subsequent Verification

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80	CA-16	6.4.2	Techn	<p>6.4.2 Test objects</p> <p>The test shall be carried out using appropriate test objects of various sizes and of stable dimensions. The test objects shall be opaque, rigid and with flat faces and well defined straight edges. Test objects may consist of rectangular boxes with dimensions which are known to an expanded uncertainty (coverage factor $k = 2$) of not more than one-third of the mpe.</p>	<p>The Canadian experience shows that 1/5 mpe is very hard to achieve. Reaching this requirement results in costly (hard to find material that is rigid enough), heavy (nature of materiel makes manipulating the objects results in injuries to personnel) and non-durable (even the best material, after a few runs, breaks easily) test objects.</p> <p>We currently have a 1/3 mpe requirement that we feel is the maximum we can achieve with the material available. We have to consider this: these test objects are not made to be looked at. Even with the most delicate handling, the dimensioning process makes the test objects take a severe beating.</p>		To be discussed.
81	CA-17	6.4.2	Gen.	<p>Note: It has been proposed to allow test objects to have different dimensions to $N \times d$ if the instrument is provided with a test scale interval at least 5 times smaller than d – see comment #74/NL-29.</p> <p>Question: Does the PG agree with this proposal?</p>	<p>No, all MDMDs are digital devices meaning that the 1d limit of error is effectively 1.49d, as rounding will return any measurement up to 1.49d back down to 1d. As an example, if a device were to measure 1.2 d without enhanced resolution mode, it would be rounded to 1 d and pass. If we were to test the same device with enhanced resolution, 1.2 d would not be rounded and the device would fail. It is for this reason that MDMDs are not tested using enhanced/expanded/high resolution modes, even if they are available.</p> <p>It is a not a requirement, for Canada, that an MDMD have these modes, so it unduly disadvantages a device that does, if it were to be used.</p>		<p>Thank you.</p> <p>Comments and feedback sought on the new proposed requirement.</p> <p>Please see Part 2 of the Recommendation CD3.</p>
82	DK-8	6.4.2	Techn	<p>The dimension criteria $N \times d$ should be deleted since we have the criteria for the expanded uncertainty of 1/5 mpe. The reason that the $N \times d$ is of no use is, that mpe always follows the scale interval since mpe is one scale interval, and therefore the dimension of the test object will always be in line with the dimension measured.</p>	<p>Delete the criteria for $N \times d$ for test objects.</p>		<p>Thank you.</p> <p>Comments and feedback sought on the new proposed requirement.</p> <p>Please see 1.4.2, Part 2 of the Recommendation CD3.</p>

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83	FR-10	6.4.2	Techn	Answer to your question: We agree to allow test objects to have different dimensions to N x d if the instrument is provided with a test scale interval at least 5 times smaller than d. it is line with R76 for example.			Thank you. Comments and feedback sought on the new proposed requirement. Please see 1.4.2, Part 2 of the Recommendation CD3.
84	NL-27	6.4.2	Gen.	Agree			Thank you. Comments and feedback sought on the new proposed requirement. Please see 1.4.2, Part 2 of the Recommendation CD3.
85	US-11	6.4.2	Techn	Answer: Disagree with the proposal. Do not see the added benefit.			Thank you. Comments and feedback sought on the new proposed requirement. Please see 1.4.2, Part 2 of the Recommendation CD3
86	DK-9	6.4.3	Edit.	What is the meaning of this paragraph?	Delete the paragraph if it is about the mpe, because the mpe is mentioned in 4.1.2. If not, refer to 4.1.2 or use the same text as in 4.1.2.		Accepted. First paragraph amended. Also amended 2.1.4 Accuracy tests in Part 2 of the Recommendation.

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87	CA-18	6.4.5	Techn	<p>Alter 6.4.5 to read:</p> <p>6.4.5 Test for irregular shaped objects</p> <p>An irregular test object is an object constructed such that the projection of the 3-dimensional object onto a flat 2-dimensional surface will not be in the shape of a rectangle for any orientation of the irregular object.</p> <p>If the instrument is marked with a minimum protrusion to be measured, a test object with that size protrusion shall be used to verify the marked limit.</p> <p>If a particular irregularly-shaped object is frequently encountered by an instrument then test object/s should be used that test the instrument's measurement capabilities with respect to that frequently encountered object.</p>	<p>We have simplified our proposed definition to include only the properties of the object and not construction method. The definition as it stands allows for objects that are far too simple to truly test a device's capability with irregular objects.</p> <p>We agree with the Secretariat's addition of the third paragraph</p>		Accepted with modifications. Secretariat unsure about the need to define irregular shaped objects. The ability of the instrument to measure such an object accurately is of more importance than the need to define the object. Third paragraph moved to 2.1.3 Part 2 of the Recommendation under Test objects.
88	DK-10	6.4.5	Techn	<p>During type evaluation all instruments has to be tested with irregular shaped objects.</p> <p>You can't talk about 'if the instrument is marked with' or 'frequently encountered by an instrument' under paragraph 6.4.</p>	Text about issues that only can occur after the instrument is put on the market should at least be moved to paragraph 6.5 or mentioned elsewhere.		Accepted. Modified text added to 2.1.3, Part 2 of the Recommendation under Test objects.
89	FR-11	6.4.5	Techn	Answer to your question: We agree with the addition.			Thank you. Third paragraph now added to 2.1.3, Part 2 of the Recommendation under Test objects.

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90	NL-28	6.4.5	Techn	<p>Since 6.4.5 concerns the execution of tests in the scope of type evaluation for which the requirements are stated in Part 1 there should not be any requirements stated in part 2. Moreover the issue discussed in the suggested sentence is already covered by the statement about the measurement uncertainty in the first paragraph. This statement implies that a measurement uncertainty evaluation should be made for such a case.</p> <p>The sentence: “if a particular irregularly-shaped object is frequently encountered....” further would suggest that at the type evaluation it is yet known for which kind of irregularly shaped objects the type of instrument when approved will be used when in production. This could have consequences for markings etc.</p>	The suggested implementation might introduce confusion about its meaning.		Accepted with modification. Third paragraph has been moved to 2.1.3, Part 2 of the Recommendation under Test objects. This is now contained to verification only.
91	US-12	6.4.5	Techn	Remove the requirement that the smallest possible rectangular box be found. While this is a nice theoretical construct, in practice an irregular object is placed on its natural bottom and it occupies space in a carrier conveyance that is larger than the theoretical minimum. Furthermore, this restriction has the effect of preventing MDMD devices from being used to dimension irregular objects, which is not a benefit to the consumer or the package carrier. Also consider adding an informational note regarding irregular objects with an obtuse angle.	<p>6.4.5 Tests for irregular shaped objects “For irregular shaped test objects, measurements shall be made with the object placed on its natural bottom and the smallest dimension for an axis shall be equal to, or greater than the minimum dimension for that axis.”</p> <p>“Note: Irregular objects, depending on their shapes, may produce measurements that are slightly larger than the smallest theoretical enclosing rectangular box.”</p>		Not accepted. This proposal would require a definition for “natural bottom” that is potentially ambiguous and overly complicated. Also, presumably for any wider or deeper dimension to be included in the measurement the object would need to be set up in a way that these extra dimensions would be detected by the instrument in order to be measured.
92	DK-11	6.5.4	Techn	Please don't refer to a test in Annex A but describe exactly what has to be done at initial verification, because it is always become a discussion what is applicable.	The test could be changed to: Two test objects on near minimum dimensions and one near maximum dimensions shall be used for the accuracy test. One test shall be carried out for each test object at the operation conditions at the time of verification. The mpe is specified in 4.1.2.		Not accepted. This proposal would reduce the number of test objects from 5 to 3 for a single test, as well as potentially create the need for an additional test object.

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93	DK-12	6.5.5 b)	Techn	Test for different orientation and positions should not be an option but should be described and carried out. The reason is, that in the real world these instruments some times are damaged. As an example one or more of the measuring devices that measure the object could be tipped out of its normal position, and therefore may not be able to measure the object when placed in the out most positions.	Instruments where the object moves under measuring: a) The largest test object shall be measured both in the right and left most position of the direction of movement. b) The test object shall be measured in at least one different orientation, e.g. turned 45 degrees horizontal. Instruments where the object is stationery under measuring: The largest test object shall be measured when placed in every of the 4 corners of the measuring area. The object shall be placed as far out in the corners as possible.		Not accepted. The tests carried out under 1.4.6 and 1.4.7 covers this. The aim of clauses 2 & 3 in Part 2 of the recommendation is to provide tests for initial verification and subsequent verification. Current wording provides the flexibility for verification depending upon the proposed use of the instrument.
94	FR-13	6.5.5	Techn	“Other tests as appropriate”. What does that mean? Is it regarding the future use of the instrument or is it regarding the functioning of the instrument? For example, for the speed, if the user only apply a medium speed, does the initial verification has to be performed at Min and Max speed?	Clarify the choice of the tests of initial verification regarding the use or the functioning of the instrument.		Not accepted. Please see Secretariat’s response for #93.
95	FR-14	6.6	Techn	Same question as 6.5.5 for the choices of the test, in particular for the speed limits.	Clarify the choice.		Not accepted. Clause 3, in Part 2 of the Recommendation refers to Accuracy tests as per 2.1.4, Part 2 of the Recommendation.
96	FR-15	A.1.2	Techn	Answer to your question: We agree with the proposal of a separate repeatability test.			Thank you. Repeatability test now added to Part 2 of the Recommendation under A.1.2.
97	NL-29	A.1.2	Gen.	Yes.			Thank you. Repeatability test now added to Part 2 of the Recommendation under A.1.2.

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98	US-13	A.1.2	Tech.	Response to question: Not clear on the Convener's proposal for this.	Please provide the actual text change of the proposal.		Thank you. Repeatability test now added to Part 2 of the Recommendation under A.1.2.
99	CA-19	A.1.3	Edit.	In title A.1.3 Test for disturbances , change the font to match all other title.	This particular title is using a different type of font.		Accepted.
100	FR-16	A.2	Techn	Answer to your question: We agree to align the requirements with D11.			Thank you. Tests updated to align with latest version of D11 as appropriate.
101	US-14	A.2	Tech.	Response to question: Yes, agree that all test should be updated to agree with the latest version of D11. Please provide the text changes. (See also comment US-1).			Thank you. Tests updated to align with latest version of D11 as appropriate.
102	FR-17	A.2, A.3	Edit / techn.	In testing procedures, the level of severity is not mentioned, only the specified values applied are in the table.	In order to facilitate the understanding the level of severity as defined in D11 should be added.		Thank you. Tests updated to align with latest version of D11. Level of severity provided where appropriate.
103	NL-30	A.2.1	Techn	Yes as required.	Update and include applicable requirements and tests using OIML D 11 (2013)	High	Thank you. Tests updated to align with latest version of D11 as appropriate.
104	FR-18	A.4.1	Techn	Answer to your question: We agree with the proposal.			Thank you. Can you provide examples of instances of uneven light that are not already covered by A.4.1 (g) & (h)?

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105	JP-1	A.4.1	Techn	Netherlands proposed adding a test using uneven light in the comment #97/NL-42 with illustrations of typical patterns. We comprehended that an intense pattern of uneven light would be projected on the instrument in addition to the ambient light. However, detailed explanations and specifications of the uneven light, which are necessary to conduct the test, are not sufficient. More information such as illuminance of the uneven light on the instrument, contrast of the pattern, wavelength (or color) of the light are requested. We would accept this test if such information could be added.	Add more information on the uneven light.		Thank you.
106	NL-31	A.4.1	Edit.	“Uneven light” is not clear.	Suggest to use “Unequally distributed light”		Thank you. Can you provide examples of instances of uneven light or unequally distributed light that are not already covered by A.4.1 (g) & (h)?
107	US-15	A.4.1	Tech.	Responses to question: Not totally clear what this test is attempting to accomplish ... when that is clear ... maybe an improved test procedure can be developed. So, yes, maybe providing examples would assist in clarifying what the test is attempting to accomplish			Thank you. Please see Secretariat’s response #104.