

FINAL DRAFT  
RECOMMENDATION

51st CIML Meeting

Strasbourg 2016

SUBMITTED  
FOR CIML  
APPROVAL

Revision of R 87:

Quantity of product in prepackages

(Info)

Revision of R 87 - Quantity of product in prepackages



ORGANISATION INTERNATIONALE  
DE MÉTROLOGIE LÉGALE

INTERNATIONAL ORGANIZATION  
OF LEGAL METROLOGY

## Result of CIML online voting

### Revision of OIML R 87

#### Quantity of product in prepackages

Second CIML Preliminary online ballot

Deadline: 2016-09-23

**Votes cast: 35 (Yes: 33 – No: 2), 1 abstention, Did not respond: 25**

AUSTRALIA	Voted No on 2016-09-23 (With comments)
AUSTRIA	Voted No on 2016-09-12 (With comments)
BELGIUM	Voted Yes on 2016-06-23
BRAZIL	Voted Yes on 2016-09-05
CANADA	Voted Yes on 2016-09-19
CUBA	Voted Yes on 2016-08-01
CYPRUS	Voted Yes on 2016-09-19
CZECH REPUBLIC	Voted Yes on 2016-09-13
DENMARK	Voted Yes on 2016-09-15
EGYPT	Voted Yes on 2016-09-21
FRANCE	Voted Yes on 2016-09-23
GERMANY	Voted Yes on 2016-09-22 (With comments)
GREECE	Voted Yes on 2016-09-23
INDIA	Voted Yes on 2016-09-15
IRAN	Voted Yes on 2016-09-21
ISRAEL	Voted Yes on 2016-09-07
ITALY	Voted Yes on 2016-09-09
JAPAN	Voted Yes on 2016-09-20 (With comments)
KOREA (R.)	Voted Yes on 2016-09-23 (With comments)
MONACO	Voted Yes on 2016-06-24
NETHERLANDS	Voted Yes on 2016-09-21
NEW ZEALAND	Voted Yes on 2016-09-20
PAKISTAN	Voted Yes on 2016-08-25
ROMANIA	Voted Yes on 2016-09-23
RUSSIAN FEDERATION	Voted Yes on 2016-09-09
SAUDI ARABIA	Voted Yes on 2016-09-18
SLOVENIA	Voted Yes on 2016-09-09
SOUTH AFRICA	Voted Yes on 2016-07-18
SPAIN	Voted Yes on 2016-09-23
SWEDEN	Voted Yes on 2016-09-22
SWITZERLAND	Voted Yes on 2016-09-08
TANZANIA	Voted Yes on 2016-09-15
TURKEY	Voted Abstain on 2016-09-22 (With comments)
UNITED KINGDOM	Voted Yes on 2016-09-14 (With comments)
UNITED STATES	Voted Yes on 2016-06-23
VIET NAM	Voted Yes on 2016-09-22



Revision of R 87: Quantity of product in prepackages (2DR)			OIML TC 6/p 3
CIML Preliminary Online Ballot	Circulation date: 23 June 2016	Deadline for CIML ballot and comments: 23 September 2016	
Convener: ZA - Mr. Jaco Marneweck	Collated comments received including observations from the Convener.		

Country Code/ Organization	Part/ Clause/ Subclause	gen./ edit./ tech.	Comment	Proposed change	Priority	Observations of the Convener
AU	General	General/ Technical	<p>The recommendation makes reference to stepwise sampling plans (Annex H), which may be adopted in support of OIML R 87 based on a requirement from the authority in each member state/region.</p> <p>The technical nature of the inspection requirements detailed in the table and the introduction of “producer’s risk (PR)” and “consumer’s risk (CR)” is confusing and it is unclear how this would apply with reference to the probability of accepting the inspection lot.</p> <p>Consequently, there is the potential that the current wording may not eliminate technical barriers to trade, which is a key objective of OIML.</p>			<p>This is only an <b>informative</b> annexure which <b>may be</b> adopted by Member States which require a more practical sampling method that will enable officials to establish compliance with smaller sample sizes.</p> <p>Table H.1 correctly summarises the inspection criteria specified in OIML R 87 and refers to the specific relevant clauses in R 87.</p> <p>Although the terms “producer’s risk” and “consumer’s risk” are only introduced in this table, they were well known and understood by legal metrology officials serving on OIML TC 6 as well as the statistical experts serving on the OIML TC 6 Statistical Work Group. These risks are fundamentally based on the requirements as given in subclauses 4.2.1 a) and b), 4.3.1, 4.3.2 a) and b) and 4.3.3.</p> <p>Unfortunately Australia did not propose changes to the current wording to ensure that a TBT is not created.</p>

Country Code/ Organization	Part/ Clause/ Subclause	gen./ edit./ tech.	Comment	Proposed change	Priority	Observations of the Convener
Turkey		gen	Professional reasons for our vote are that the recommendations in certain requirements is beyond the provisions of our legislation (ie. European Directive), for example in determining the length, surface number and drained quantity weight in liquid medium. Also, the content of the recommendations on small-scale, for example sampling and the criteria of acceptability of small sizes below 100 products, is also regulated differently in our legislation.			Noted.
UK	1	edit.	It would help if the Annexes are listed against each bulletin.  The following informative Annexes are also included: <ul style="list-style-type: none"> <li>• an examination procedure outline where sampling is used;</li> <li>• procedures for determining average tare mass;</li> <li>• procedures for determining the drained quantity of products in liquid medium;</li> <li>• procedures for determining the actual quantity of frozen products;</li> <li>• requirements for prohibition of misleading prepackages;</li> <li>• basis for statistical sampling model used;</li> <li>• a schematic representation to explain the application of T1 and T2 errors;</li> <li>• an alternative sampling plan using a stepwise approach;</li> <li>• detailed sampling plans; and</li> <li>• references to documents mentioned.</li> </ul>	Rewrite as follows:  The following informative Annexes are also included: <ul style="list-style-type: none"> <li>• <b>Annex A</b> - an examination procedure outline where sampling is used;</li> <li>• <b>Annex B</b> - procedures for determining average tare mass;</li> <li>• <b>Annex C</b> - procedures for determining the drained quantity of products in liquid medium;</li> <li>• <b>Annex D</b> - procedures for determining the actual quantity of frozen products;</li> <li>• <b>Annex E</b> - requirements for prohibition of misleading prepackages;</li> <li>• <b>Annex F</b> - basis for statistical sampling model used;</li> <li>• <b>Annex G</b> - a schematic representation to explain the application of T1 and T2 errors;</li> <li>• <b>Annex H</b> - an alternative sampling plan using a stepwise approach;</li> <li>• <b>Annex I</b> -detailed sampling plans; and</li> <li>• <b>Annex J</b> -references to documents mentioned.</li> </ul>	Medium	Agree. Will list annexures against bullet points.
UK	2.1.2.2, 2.1.2.3, etc.	gen.	Additional clarification of $Q_{nom}$ would be helpful  calculated by $E_i = Q_i - Q_{nom}$ or by $e_i = q_i - Q_{nom}$	Expand as follows:  ... where $Q_{nom}$ is the nominal quantity	Medium	Agree. Clarified $Q_{nom}$ as proposed.

Country Code/ Organization	Part/ Clause/ Subclause	gen./ edit./ tech.	Comment	Proposed change	Priority	Observations of the Convener
UK	2.1.3	tech.	<p>inadequate prepackage prepackage containing an actual quantity (see 2.1.1) that is less than the nominal quantity (see 2.1.7) Note: An inadequate prepackage is sometimes also referred to as a non-conforming prepackage."</p> <p>Find this definition confusing; inadequate suggests an insufficient amount, whereas, in reality, in a batch which passes the average test almost half could be less than the average (as long as they are greater than T1), so would thus be defined as inadequate.</p> <p>Inadequate was used for packages which were less than T2. Non-conforming used to be used for those less than T1 and greater than T2.</p>	<p>2.1.15 defines tolerable deficiency; surely there should be a link to these two?</p> <p>Added to which, in acronyms, appears the definition: "T Tolerable deficiency defined by Table 1 in 3.4."</p>	Medium	<p>Noted.</p> <p>This definition describes when a single prepackage is inadequate. The document further adequately defines "error" and "tolerable deficiency". Also see Annex G, Figure 1 where a schematic representation to explain the application of acceptable variations and errors is given.</p>
KR	2.1.9, Note 1		<p>The expression of <u>random</u> nominal quantity seems not to be in contrast with <u>constant</u> nominal quantity. The word <u>random</u> may cause possible confusion to viewers. We suggest a different choice of word(ex - variable),which directly contrast with the word 'constant'</p>			<p>Agree. The definition of "prepackage" used in OIML R 87 is aligned with the definition used in OIML R 79.</p> <p>Both terms "random" and "constant" are used and well understood by stakeholders. The note merely draws the attention of the reader to the fact that the Recommendation only specifies requirements for constant nominal quantities and that "random" nominal quantities are excluded from the requirements. OIML R 79 defines both these terms adequately and therefore the definitions for "constant" and "random" will be included in this Recommendation.</p>
UK	2.1.13 Note 2	edit.	<p>Missing the word "Annex" in the following: See F.3 for the statistical background to SCF.</p>	See <b>Annex</b> F.3 for the statistical background to SCF.	Low	Agree. Included missing word.

Country Code/ Organization	Part/ Clause/ Subclause	gen./ edit./ tech.	Comment	Proposed change	Priority	Observations of the Convener
JP	2.2 Acronyms and symbols (AC)	Edit.	The variable 'AC' is not used in the entire draft.	Delete the definition of 'AC' in 2.2.		Agree. Deleted definition of "AC".
UK	2.2, Annex F.4	edit.	The arbitrary constant $K_1$ is not written in a consistent manner in the document. For example, $K_1$ is written as $K1$ in Annex F.4 and 2.2.	Harmonise the text " $k_1$ " in the document.	Medium	Agree. Harmonised text in Recommendation.
DE / PTB	4.2.1		The two requirements 4.2.1 a) and b) formulate a multiple test. Each test is designed to correctly reject a lot in 90% of the cases. Jointly however, the probability of correctly rejecting the lot in both tests is much smaller than 90%.	Please add a note, that clearly states the overall risk of accepting a non-compliant lot or apply a Bonferroni correction to reflect this double testing.		The requirements should not be considered a "multiple test" such that it would require an additional statistical correction. Bonferroni adjustment is an adjustment of type I (or alpha) probabilities not of power, which is what the 90% rejection rate of a bad lot is, and so does not apply as given in the comment. To address the multiple test issue, section F2, defines an "acceptable lot", one that satisfies both the average requirement (3.2) and the individual requirement (3.3). So employing an "acceptable lot" in F.4 takes care of the alpha requirement for both tests simultaneously. This makes any Bonferroni adjustment on alpha unnecessary."

Country Code/ Organization	Part/ Clause/ Subclause	gen./ edit./ tech.	Comment	Proposed change	Priority	Observations of the Convener
AT	4.4.2 4.4.3 4.5	gen.	Inspection lots of 100.000 as a default seems too high. In the directive 76/211/EEC as well as in Austrian national legislation in the mentioned cases inspection lots of 10.000 are assumed.	Please change the inspection lots to a maximum of 10.000. TC 6 and EU directive 76/211/EEC should work with the same maximum of inspection lots.		<p>The statistical model described in OIML R 87 adequately defines inspection lot sizes, sample sizes, prepackages allowed with <i>Tl</i> errors and SCF for inspection lot sizes from 40 to 100 000.</p> <p>This OIML Recommendation gives harmonised model regulations that establish metrological characteristics for the control of the quantity of product in prepackages. Member States shall implement these to the greatest possible extent.</p> <p>Harmonisation will not be possible if international standard-setting bodies such as the OIML must align model regulations with existing regional or national legislation.</p>

Country Code/ Organization	Part/ Clause/ Subclause	gen./ edit./ tech.	Comment	Proposed change	Priority	Observations of the Convener
JP	4.5 Sampling characterist ics (Notes under Table 2)	Edit.	The three functions, Round, NormsDist and NormsInv are already defined in 2.2. Duplicated definitions are not necessary in the two notes.	<p>We recommend the following revisions (underlined).</p> <p><b>Original:</b></p> <p><i>Note 1: The above table uses a rounding method where numbers larger than or equal to <math>[J-0.5]</math> and less than <math>[J+0.5]</math> are rounded to <math>J</math> as any integer number.</i></p> <p><i>Note 2: The above table was obtained using the procedure shown below to calculate numbers of prepackages (<math>N_{T1}</math>, <math>N_{T2}</math> and <math>N_{T1+T2}</math>) contained in the inspection lot. Where “round” means a normal rounding method explained in Note 1, “NormsDist” means normal cumulative distribution function and “NormsInv” means inverse normal cumulative distribution function.</i></p> <p><b>To be revised:</b></p> <p><i>Note 1: The above table uses <u>the normal rounding method, Round (x), which is explained in 2.2.</u></i></p> <p><i>Note 2: The above table was obtained using the procedure shown below to calculate numbers of prepackages (<math>N_{T1}</math>, <math>N_{T2}</math> and <math>N_{T1+T2}</math>) contained in the inspection lot. Where, <u>the functions, NormsDist (Z) and NormsInv (P) are explained in 2.2.</u></i></p> <p><i>(No changes in the equations)</i></p>		Agree. Revised as proposed.
KR	Annex (All)		There seems to exist both formula and explanations in one paragraphs (ex - A.2.8.2, Note 2). It is better for the formula and the explanations to be in a separate in order for better readability.			Noted. The formulas and explanations were separated as far as possible to give the reader a good understanding of the requirements. No further changes will be made to the Recommendation.
JP	A.2.8.1- A.2.8.3 in Annex A	Edit.	$E_{ave}$ in upper case is misused for an average in a sample ( $e_{ave}$ ).	Correct ‘ $E_{ave}$ ’ to ‘ $e_{ave}$ ’ in 6 places.		Agree. Corrected.
JP	F.2 in Annex F (Figure 1)	Edit.	‘Qn’ used in the abscissa of Figure 1 is not defined in 2.2. The abscissa practically indicates a Z-score defined in 2.2.	Correct ‘Qn’ to ‘Z’.		Agree. Changed to “Z”.



Country Code/ Organization	Part/ Clause/ Subclause	gen./ edit./ tech.	Comment	Proposed change	Priority	Observations of the Convener
DE / PTB	Annex F.3, page 31		The approximation made in line 4 of page 31 is only valid when $\sigma \approx s$ , i.e. when the variance $2/(n-1)$ of the $\chi^2$ -distribution of $(s/\sigma)^2$ is small. The approximation error seems negligible for the cases listed in table 2.	Please add a comment stating the conditions for the validity of the approximation in line 4 of page 31.		Agree. Additional wording in the form of a note added to Annex F.3.
JP	H.3.1.5 - H.3.1.9 and H.3.2 in Annex H	Edit.	The condition for rejection based on T2 Error (H.3.1.9) applies all steps from 1 to 4. This condition therefore should be declared in advance before Step 1 for better understanding by the inspectors.	<p>Move H.3.1.9 before Step 1 (H.3.1.5) and renumber the clauses H.3.1.5-H.3.1.8. In addition, correct cross references. All necessary changes are shown below with underlines and a deletion.</p> <p><i>H.3.1.4 Take 75 prepackages.....not to repeat measurements on the same item.</i></p> <p><i>H.3.1.5 In the procedures H.3.1.6 to H.3.1.9, the inspection lot shall be <b>rejected immediately</b> if there is one prepackage with <b>T2</b> error, or <b>four or more</b> prepackages with T1 errors.</i></p> <p><i>H.3.1.6 <b>STEP 1:</b> .....If there are one, two or three prepackages with T1 errors, go to procedures H.3.1.7, H.3.1.8 or H.3.1.9, respectively</i></p> <p><i>H.3.1.7 <b>STEP 2:</b> .....If there are two or three prepackages in total with T1 errors, go to procedures H.3.1.8 or H.3.1.9, respectively.</i></p> <p><i>H.3.1.8 <b>STEP 3:</b> .....If there are three prepackages in total with T1 errors, go to procedure H.3.1.9.</i></p> <p><i>H.3.1.9 <b>STEP 4:</b> .....</i></p> <p><i>H.3.1.9 In the procedures H.3.1.5 to H.3.1.8.....prepackages with T1 errors</i></p> <p><i>H.3.2 Test procedure for average requirement</i></p> <p><i>Only if the test for .....in the stepwise procedures from H.3.1.6 to H.3.1.9.</i></p>		Agree. Revised steps.

Country Code/ Organization	Part/ Clause/ Subclause	gen./ edit./ tech.	Comment	Proposed change	Priority	Observations of the Convener
KR	H.3.2		The formula is expressed in the excel form. We believe the use of mathematic formula to be more adequate for viewers. Should the excel formula remain, we recommend to add an example so as to give better understanding to viewers who may not be acquaint with such form of formula.			There is no need to include mathematical formula as H 3.2 directs the readers to calculate the SCF using the formula defined in 2.1.15. The Excel equation in H.1 is identical to the formula in 2.1.15.