ORGANISATION INTERNATIONALE

DE MÉTROLOGIE LÉGALE

INTERNATIONAL RECOMMENDATION

Nonautomatic weighing instruments
Part 1: Metrological and technical requirements - Tests
Amendment 1

Instruments de pesage à fonctionnement non automatique
Partie 1: Exigences métrologiques et techniques - Essais
Amendement 1

OIML R 76-1
Edition 1992 (E)

AMENDMENT 1
1994 (E)

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OIML R 76-1 - Edition 1992(E)
NONAUTOMATIC WEIGHING INSTRUMENTS
Part 1: Metrological and technical requirements - Tests

AMENDMENT 1

Note: Modifications are in ***bold italic letters.***

1) 3.9.1.1 [Tilting, page 27]
The note is amended as follows:
Note: "Limiting value of tilting": displacement of 2 mm from a central position ***(regardless of the diameter of any ring used to indicate the center),*** lamp, or ***any*** other indication of the level indicator which shows that the maximum permissible tilt is being exceeded.

2) 3.10 [Pattern evaluation tests, page 29]
A second paragraph is added:
Peripheral devices that only perform digital functions, e.g. printers or additional displays, only need to be tested for correct functioning and submitted to the disturbance tests in B.3.

3) 4.1.2.4 [Securing (sealing) of components and pre-set controls, page 31]
A second acceptable solution is added:
Components and pre-set controls may be secured by passwords or similar software means provided that any access to the secured controls or functions becomes automatically evident, e.g. by automatically updating a code number the value of which at the time of the last verified set-up had been durably marked on the data plate.

4) 5.1.1(b) [General requirements (for electronic instruments), page 48]
This paragraph is amended as follows:
(b) significant faults are detected and acted upon. ***The indication of significant faults in the display should not be confusing with other messages that appear in the display.***

5) 7.1.2 [Descriptive markings (compulsory if applicable), pages 58-59]
The seventh hyphen is completed by a footnote:
- maximum substractive tare effect if different from Max in the form T = -... ***(*)***

(*) Max may be also interpreted as the actual range of indication, as per 4.2.3.

6) 8.2.1.2 [Descriptive documents for pattern approval, page 62]
The third hyphen is amended as follows:
- a short technical description including, if necessary, schematic diagrams of the method of operation, in particular for internal processing and exchange, via interface, of data and instructions. ***Adherence to requirements for which no test is available, such as software-based operations, may be demonstrated by a specific declaration of the manufacturer (e.g., for interfaces as per 5.3.6.1, and for password protected access to set-up and adjustment operations as per 4.1.2.4).***

7) 8.2.2 [Pattern evaluation, page 62]
The second paragraph is amended as follows:
Suitable spotchecks shall be performed to establish confidence that the functions are performed correctly in accordance with the submitted documents. ***Reactions to significant faults need not be triggered.***

8) 8.2.2 [Pattern evaluation, page 63]
A new paragraph is added after the fourth one:
Peripheral recipient devices need to be examined and tested only once while being connected to a weighing instrument, and may be declared as suitable for connection to any verified weighing instrument having an appropriate interface.

9) A.4.2.3.1 [Accuracy of nonautomatic and semi-automatic zero-setting, page 68]
The text is amended as follows:
The accuracy of the zero-setting device is tested by ***first loading the instrument to an indication as close as possible to a changeover point, and then by initiating the zero-setting device and*** determining the additional load at which the indication changes from zero to one scale interval above zero. The error at zero is calculated according to the description in A.4.4.3.

10) A.4.7 [Eccentricity tests, page 71]
A new paragraph is added after the second one:
The error at each measurement is determined according to A.4.4.3. The zero error E_0 used for the correction is the value determined prior to each measurement.

11) A.4.12 [Test for the stability of equilibrium, page 73]
This paragraph is amended as follows:
A.4.12 Test for the stability of equilibrium (4.4.2)
Load the instrument up to 50 % of Max ***or up to a load included in the range of operation of the relevant function.*** Manually disturb the equilibrium ***by one single action*** and initiate the command for printing, data storage, ***or other function,*** as soon as possible. ***In the case of printing or data storage,*** read the indicated value 5 seconds after printing. ***In the case of zero-setting or tare balancing, check the accuracy as per A.4.2.3/A.4.6.2.*** Perform the test 5 times.

12) A.5.2 [Warm-up time test, pages 74-75]
The following sentence is added at the end of the first paragraph:
... Every individual measurement performed after 5, 15, and 30 minutes, shall be corrected for the zero error at that time.

13) B.3 [Performance tests for disturbances, page 79]
The following two paragraphs are added under B.3:
Prior to any test, the rounding error shall be set as close as possible to zero.
If there are interfaces on the instrument, an appropriate peripheral device shall be connected to each different type of interface during the tests.

14) B.3.1 [Short time power reductions, page 79]
The third paragraph under "test procedures in brief" is amended as follows:
The test shall be performed with ***one small test load.***

15) B.3.2 [Bursts, page 79]
The last sentence on this page is amended as follows:
The test shall be performed with ***one small test load.***

16) B.3.3 [Electronic discharge, page 80]
The 11th and 12th lines are amended as follows:
The test shall be performed with ***one small test load.***

17) B.4 [Span stability test, page 82]
The paragraph "time between measurements" is amended as follows:
Between 1/2 and 10 days, ***with a fairly even distribution of the measurements over the total duration of the test.***

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