



R 76 DoMC-02 rev.1

Additional requirements from Canada

Endurance test for instruments with Max > 100 kg

Revision number	Date of Revision	Nature of the revision
Rev.0	29/09/2006	Initial document
Rev.1	25/08/2011	Add the requirement for endurance testing for devices over 1 000 kg

The R 76 CPR (Committee on Participation Review) has accepted additional endurance requirements requested by Canada for non-automatic weighing instruments with Max > 100 kg.

These additional requirements are defined below:

1. Application

This test is intended for any complete mechanical or electronic weighing devices and for any weighing elements tested separately. Devices are subjected to the repetitive loading and unloading of specific loads applied 100 000 times (capacities of up to 1 000 kg (2 000 lb)) or 300 times (capacities above 1 000 kg (2 000 lb)). **The endurance test is performed after all other tests.**

2. Settings

- AZT may be in operation during the tests. It must be set to the lowest value; if zero is the lowest selectable value, it will be set to zero. The amount that the AZT may track at once may not be set to a value larger than **0.6 e** which is the maximum value allowed by the Specifications.
- If a device is provided with an IZSM, the test will be performed only once with the IZSM set at the upper limit of its range.
- The weighing device must be leveled to its reference position, be adjusted as close as possible to zero error, and pre-loaded to the maximum capacity at least once.
- The device must be set for the maximum capacity and smallest verification scale interval for which the approval is sought.
- If so equipped, the "enhance resolution feature" of the device will be used during the test. If this feature is not available, use the small weight method to determine the device errors before rounding.
- This test is performed at ambient temperature ($\approx 20\text{ }^{\circ}\text{C}$); or at the mid point of the temperature range if significantly different from $20\text{ }^{\circ}\text{C}$.

3. Procedure (capacities of up to 1 000 kg (2 000 lb))

The following test load shall be used:

Devices with Max \leq 100 kg: a load equal to $\frac{1}{2}$ Max;

Devices with Max $>$ 100 kg: a load between $\frac{1}{4}$ and $\frac{1}{2}$ of Max without exceeding 250 kg.

- After having moved the device to the permanence testing bench, perform an increasing and decreasing test, an eccentricity test, a load discrimination or sensitivity test, to ascertain that the device measures as close to zero error as possible. Re-calibrate the DUT as necessary.
- Apply the test load 25 000 times; perform an increasing and decreasing load test and record the results.
- Apply the test load an additional 25 000 times; perform an increasing and decreasing load test and record the results.
- Apply the test load an additional 25 000 times; perform an increasing and decreasing load test and record the results.
- Apply the test load an additional 25 000 times.
- Perform a load discrimination test, an increasing and decreasing load test, an eccentricity test.
- Record the results.

Procedure (capacities above 1 000 kg (2 000 lb))

The following test load shall be used: **a load between $\frac{1}{4}$ and $\frac{1}{2}$ of Max**

- After having moved the device to the permanence testing area, perform an increasing and decreasing test to ascertain that the device measures as close to zero error as possible. Re-calibrate the DUT as necessary.
- Apply the test load 300 times.
- Perform a load discrimination test, an increasing and decreasing load test, an eccentricity test.
- Record the results.

4. Interpretation of results

The device meets the requirements if all the results remain within the applicable limits of error.