	Technical Specification for the Net Quantity of Prepackaged Products	S/N	CNMV 87
		Rev	1

1. This technical specification is prescribed pursuant to Paragraph 3 of Article 45 of the Weights and Measures Act.

2. The date of promulgation, document number, date of enforcement and content of amendment are listed as follows:

Rev.	Date of Promulgation	Document No. (Ching-Piao-Szu-Tsu)	Date of Enforcement	Content of Amendment
1	08.10.2004	No. 09340004400	01.01.2007	

3. This technical specification is formulated with reference to the following international specifications:
   1. OIML R87 Net Content In Package (1989)
   2. OIML R79 Labeling Requirements for Prepackaged Products (1997)

Date of Promulgation	Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs	Date of Enforcement
08.10.2004		01.01.2007

1. Scope: this specification applies to prepackaged products (With a net content expressed in units of mass) after having been designated and made known to the public by public notice.

2. Definitions of Terms:

2.1 Prepackaged Products:

Refers to the products already packaged before being offered for sale, the actual quantity of product cannot be altered without the packing material either being opened or undergoing a perceptible modification.

2.2 Net Quantity:

Refers to prepackaged products, (hereinafter referred to as "products") the actual mass of content is offered for sale, excluding all the packaging materials.

In this specification, the symbol "Qn" stands for the net quantity on the labeling of products. In this specification, "mass" refers to the net quantity of products. To determine net quantity of product is using standard masses disseminate to weighing instruments for testing, and it is different from "weight". (Weight is prone to affect by the environment and place of measurement).

2.3 Individual Prepackage Error:

Difference between the actual quantity of product in a prepackage and its labeled net quantity.

2.4 Tolerable Deficiency (T):

The maximum negative error in the net quantity of product permitted in a sampling plan.

2.5 Inspection Lot:

Refers to the aggregation of product units, from which samples are taken for inspection.

2.6 Inspection Lot Size:

Refers to the number of product units in an inspection lot.

2.7 Sample:

A product in the inspection lot, used to provide information about the production process.

2.8 Random Sampling:

Sampling products from an inspection lot, in which each product has the same probability of being sampled.

2.9 Tare Value:

The mass of all packaging materials and any other materials packaged together with a product after removing the content of the product.

2.10 Non-Conforming Prepackage:

Prepackage with a deficiency more than the prescribed tolerable deficiency.

3. Preparation for inspection:

3.1 Determination of Inspection Lot Size: the inspection lot size shall be determined according to the following provisions:

(1) When sampling at the site of manufacturing and packaging, the inspection lot size shall be the quantity of products packaged within one hour under the same production conditions.

(2) When sampling in a manufacturing warehouse, wholesale or retail site, the inspection lot size shall be the sum of the same products in the same sampling place.

(3) The upper limit of inspection lot size is 10000. A larger lot shall be separated.

3.2 Sampling Plan:

In the sampling of inspected products, the sample size shall be determined according to the inspection lot size in Table 1.

Table 1 Sampling Plans

Inspection Lot Size	Sample Size (n)	Sample Correction Factor (SCF)	Number of Non-conforming prepackages permitted in a sample
1	1	0	0
2	2	0	
3	3	0	
4	4	0	
5	5	0	
6	6	0	
7	7	0	
8	8	0	
9	9	0	
10	10	0	
11	11	0	
12	12	0	
13~40	12	0.750	
41~79	12	0.826	1
80~149	12	0.860	2
150~399	32	0.465	3
400~4000	32	0.483	4
Over 4000	80	0.295	6

3.3 Requirements on tolerable deficiency: the tolerable deficiency of labeled mass of product is as prescribed in Table 2.

Table 2 Tolerable Deficiency

Net Quantity Qn (g)	Tolerable Deficiency (T)	
	Percent of Qn	g
5~50	9	—
50~100	—	4.5
100~200	4.5	—
200~300	—	9
300~500	3	—
500~1,000	—	15
1,000~10,000	1.5	—

3.4 Requirements on testing instruments:

(1) For the measuring instruments used to test the net quantity of products, the expanded uncertainty shall be not more than 1/5 of the tolerable deficiency in the net quantity of the product under 95 % level of confidence level.

(2) The measuring instruments used during the process of inspection other than for directly measuring the net quantity shall conform to the requirements of measuring range and have passed the traceability and uncertainty assessment. The instruments may previously have passed verification and under a validity period which has not expired.

3.5 Requirements on measurement of tare value:

Randomly sample 10 packages, measure the tare value and calculate the average value. This applies to used or unused packages. The net quantity shall be calculated with the following formula:

Net quantity = Total mass — Average Tare Value

The average tare value is determined according to the following conditions:

(1) If the average is not more than 1/10 of the labeled net quantity, this average can be used as the average tare value to determine the net quantity.

(2) If the average is more than 1/10 of the labeled net quantity, sample 15 more packages and calculate the average value and standard deviation of the 25 packages. If the standard deviation is not more than 1/4 of the tolerable deficiency, the average of the 25 packages can be used as the average tare value to determine the net quantity.

(3) If the average is more than 1/10 of the labeled net quantity, sample 15 more packages and calculate the average value and standard deviation of the 25 packages. If the standard deviation is more than 1/4 of the tolerable deficiency, the mass of individual packages shall be used to determine the net quantity.

3.6 For prepackaged products subject to normal change of net quantity during the process of storage and selling, the dedicated authority in charge of weights and measures and its branches shall consider this factor in testing the average of net quantity and calculating the deviation of individual products.

4. Implementation of inspection: basic mass inspection of net quantity labeled products is as follows:

4.1 Scope of application: this inspection method is applicable to ordinary commodities with net quantity labeled in mass units.

4.2 Instrument for inspection: non-automatic weighing instrument (e.g., steelyard or balance) satisfying the requirements of Section 3.4.

4.3 Step of inspection:

(1) Determine the sample size according to Table 1 and then perform random sampling.
(2) Measure the total mass m_i of individual samples and record them.
(3) Measure the average tare value m_T according to the requirements of Section 3.5
(4) Use the following formulas to calculate the net quantity Q_i of individual product, average net quantity $\overline{Q}$, and standard deviation of samples, and record them.

$$Q_i = m_i - m_T$$

$$\overline{Q} = \frac{1}{n}\sum_{i=1}^{n} Q_i$$

$$s = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}\left(Q_i - \overline{Q}\right)^2}$$

(5) Ascertain the number of non-conforming prepackages Q_i < Qn—T and the actual net quantity of products Q_i < Qn—2T, and record them.

5. Determine the result: conformance of inspection result cannot be made unless the following three requirements are satisfied.

5.1 Judgment on Tolerable deficiency: the number of non-conforming prepackages (Q_i < Qn − T) should not be more than the allowable number of non-conforming prepackages given in Table 1.

5.2 Judgment on double tolerable deficiency: no actual net quantity of sampled product Q_i < Qn—2T.

5.3 Judgment on average value: to determine whether the products conform with the requirements of average value should base on the consideration of the standard deviation ***"s"*** of samples and the sample correction factor SCF given in Table 1. If the number of inspection lots is not less than 100, the requirements on average value can be deemed as satisfied provided that the following formula is satisfied:

$$\overline{Q} + s \cdot SCF \geq Qn$$