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European cooperation in legal metrology

Guidance for the Verification of Drained Weight, Drained Washed Weight and Deglazed Weight and Extent of Filling of Rigid Food Containers



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PREFACE

In the absence of any harmonised Community procedure, the document provides guidance regarding the determination of drained net weights in order to comply with the requirements of Article 8.4 of Directive 2000/13/EC.

The Guidance sets out requirements, testing plans and procedures for the verification of drained weights, drained washed weights and drained deglazed weight which can be used by those involved in their monitoring and regulation. Additional guidance is provided for manufacturers who are obliged to control their filled weights in a manner which ensures the achievement of drained weight targets.

These guidance notes were produced with the involvement of industry, including the Campden & Chorleywood Food Research Association and the British Frozen Food Federation.

SCOPE

This Guidance covers all products in prepackages where there is a requirement to indicate the drained weight of solid foodstuffs, presented in a liquid medium within the meaning of Article 8.4 of Directive 2000/13/EC on the labelling, presentation and advertising of foodstuffs.

This guidance is also in compliance with the OIML Recommendation R87, where application of the definition of packing material considers the liquid of a drained weight product as packing material and the solids as product.

For products where it is unclear whether the liquid of a drained weight product is 'meant to be left over after use', the list of liquid media in Article 8.4 of Directive 2000/13/EC provides clarity.

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1. DEFINITIONS

1.1 Nominal weight

Quantity of product in a prepackage, including the liquid medium / glaze, declared on the label.

1.2 Nominal drained weight, nominal drained washed weight and nominal drained deglazed weight (A_n)

Quantity of product in a prepackage less the liquid medium / glaze (see 1.4).

1.3 Actual drained weight, actual drained washed weight and actual drained deglazed weight

Quantity of product in a prepackage after equilibrium of solution is established (where applicable, but not for deglazed weight) and the liquid medium has been drained according to the test methods in Section 3.

Note: Glazed seafood - pre-frozen seafood which is covered with a film of water so that the frozen film preserves the product quality - the actual weight of the seafood shall be exclusive of the glaze (see 1.4).

Note: In the whole document the measurand “weight” is used instead of “mass” because “drained weight” is an internationally recognised term. Besides in consequence of the uncertainty of this testing procedure there is no difference in the value of “weight” and “mass”.

1.4 Liquid medium (pouring liquid)

1.4.1 The following media, possibly in mixtures and also where frozen or quick frozen, provided that the liquid is merely an adjunct to the essential elements of that preparation (and is thus not a decisive factor for the purchase): water, aqueous solutions of salts, brine, aqueous solutions of food acids, vinegar, aqueous solutions of sugars, aqueous solutions of other sweetening substances, fruit or vegetable juices in the case of fruit or vegetables.

Note 1: The definition of the pouring liquids is in accordance with 2000/13/EC Article 8.4.

Note 2: The definition of the pouring liquid is equivalent to Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1-1991), last amendment 2001) Section 4.3.3.

Note 3: the application of the definition of ‘packing material’ of OIML R87 leads to the same conclusion.

1.4.2 For the purposes of voluntary declarations, the following media may be used individually or in combination with those listed in 1.4.1: aqueous suspensions of starches, milk and milk derivatives, fruit or vegetable purees, and edible oils and fats.

1.5 Capacity of a container (container volume)

1.5.1 The basis for the determination should be calculated on the weight of demineralised water at 20 °C which the closed container will hold when completely filled:

1.5.1.1 Open Top Cans

The determination to be carried out in accordance with EN 20090-1 : 1993 Light gauge metal containers. Definitions and determination methods for dimensions and capacities. Part 1 : Open top cans.

1.5.1.2 Glass Containers

The determination to be carried out in accordance with the method for brimful capacity detailed in: “Determination of Water Capacity of Containers” CAC/RM 46-1972 last amendment 2002. The basis for the determination should be calculated on the weight of demineralised water at 20 °C which the closed container will hold when completely filled less 20 ml.

1.6 Batch

The batch shall comprise all the prepackages of the same nominal quantity, the same type and the same production run, packed in the same place, which are to be inspected. The batch size shall be limited to the amounts laid down below. When prepackages are checked at the end of the packing line, the number in each batch shall be equal to the maximum hourly output of the packing line, without any restriction as to batch size. In other cases the batch size shall be limited to 10 000.

1.7 Tolerable Negative Error (TNE)

The figures used in Table 1 are the figures that have been established in the European Council Directive 76/211/EEC for making-up by weight of certain prepackaged products and represent that amount by which pre-packages may fall below the nominal drained weight or nominal drained washed weight or nominal drained deglazed weight, providing that the requirements of 2.1.1 to 2.1.3 are met.

Note: The figures of Table 1 are in accordance with OIML R87:2004 Annex C Section C.3.1

In the standards published by the Codex Alimentarius Commission (CAC), which is an intergovernmental body jointly sponsored by the Food and Agriculture Organisation (FAO) and the World Health Organisation ((WHO), there are no requirements for tolerances except in the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1-1991), last amendment 2001) Section 4.3.3. there is a requirement that: “The declaration of drained weight is subject to enforcement by reference to an average system of quantity control.”

2.

REQUIRE

MENTS AND TESTING PLAN

- 2.1 Requirements for drained weight or drained washed weight or drained deglazed weight**
- 2.1.1 The actual drained weight or actual drained washed weight or actual drained deglazed weight of the pre-packages in a batch shall not be less, on average, than the nominal drained weight or nominal drained washed weight or nominal drained deglazed weight (subject to clause 2.2.2 of the testing plan).
- 2.1.2 Individual pre-packages having a negative error of the actual drained weight or actual drained washed weight or actual drained deglazed weight greater than the tolerable negative error laid down in Table 1 below, will be defined as defectives (subject to clause 2.2.3.1 and 2.2.3.2 of the testing plan).
- 2.1.3 Individual pre-packages having a negative error of the actual drained weight, actual drained washed weight or actual drained deglazed weight greater than **twice** the tolerable negative error laid down in Table 1 below, will be defined as non acceptable and may not be marketed (subject to clause 2.2.3.3 of the testing plan).

Table 1: Tolerable negative errors of the drained weight or drained washed weight or drained deglazed weight

Nominal drained weight or nominal drained washed weight or nominal drained deglazed weight A_n (g)	Tolerable Negative Error (TNE)	
	Percentage of A_n (%)	g
5 to 50	9	-
50 to 100	-	4.5
100 to 200	4.5	-
200 to 300	-	9
300 to 500	3	-
500 to 1,000	-	15
1,000 to 10,000	1.5	-

2.2 Testing plan (destructive test)

2.2.1 Sample size $n = 20$ pre-packages, drawn at random from the batch, shall be checked.

2.2.2 Average test

Estimate \bar{x} , the average drained weight or average drained washed weight or average drained deglazed weight of the individual pre-packages making up a batch.

A batch of pre-packages shall be considered acceptable for the purpose of this check if the mean value ($\bar{x} =$ the sum of the actual drained weights of this sample of pre-packages divided by 20) is greater than or equal to:

$$A_n - \frac{s \cdot t}{\sqrt{n}} = A_n - 0.64 \cdot s$$

In this formula:

A_n = the nominal drained weight, nominal drained washed weight or nominal drained deglazed weight of the pre-package

s = the estimated standard deviation of the actual contents of the batch*

t = 2.86 (0.995 confidence level of a Student distribution with 19 degrees of freedom)

*) the value of the estimated standard deviation s is calculated using the following expression:

$$\sqrt{\frac{(x_1 - \bar{x})^2 + (x_2 - \bar{x})^2 + (x_3 - \bar{x})^2 + \dots + (x_{20} - \bar{x})^2}{19}}$$

Thus the criteria for acceptance or rejection of the average \bar{x} of a batch of pre-packages are¹

Number in batch	Number in sample	Criteria	
		Acceptance	Rejection
100 or more	20	$\bar{x} \geq A_n - 0.640s$	$\bar{x} < A_n - 0.640s$

2.2.3 Checking the minimum acceptable quantity

Testing for the number of defectives or non acceptable units in the batch shall be carried out in accordance with the single sampling plan below.

2.2.3.1 If the number of defective units found in the sample is equal to or smaller than 1, then the batch shall be considered to be acceptable (see also 2.1.2).²

2.2.3.2 If the number of defective units found in the sample is equal to or greater than 2, then the batch shall be rejected (see also 2.1.2).²

2.2.3.3 If the number of non acceptable units found in the sample is equal to or greater than 1, then the batch shall be rejected (see also 2.1.3).

¹) see 76/211/EEC Annex II 2.3.3.2

²) see 76/211/EEC Annex II 2.2.2

Note: If the batch fails to satisfy the requirements of the Testing Plan then the batch will require rectification. Where appropriate, batches may be blended together or sorted, in order for the requirements of the Guidance to be met. If this is not appropriate, then the batch must be disposed of through a controlled secondary outlet and labelled with the revised nominal drained weight, clearly indicating that the figure declared does not conform to the Guidance.

3. PROCEDURES FOR DETERMINATION OF DRAINED WEIGHT AND DRAINED WASHED WEIGHT AND DRAINED DEGLAZED WEIGHT

3.1 General

3.1.1 *Scope and field of application*

This procedure is used when checking drained weight, drained washed weight or drained deglazed weight of pre-packed foodstuffs in the range 5 g to 10 kg.

3.1.2 *Location of sampling and testing*

Sampling and testing of a batch shall preferably be performed at the packer's premises. If this is not possible then, for imported products, sampling may be performed at the location of import.

3.1.3 *Conditions for testing*

Sampling can be performed anytime.

However the test shall be performed when, according to the manufacturer, the product is ready to be consumed.

Unless otherwise stated in the table below, The drained weight, drained washed weight shall be determined at least 14 days or more after packing; except by agreement with the persons having title to the product.

The recommended period of time for checking the drained weight of the specific products as examples are as follows:³

Product	Period of Time for Checking	
	From	To
Fruit, vegetable and other vegetable foodstuffs (except for strawberries, raspberries, blackberries, kiwifruit, loganberries)	30 days after sterilization	Tenability
Strawberries, raspberries, blackberries, kiwifruit, loganberries	30 days after sterilization	2 years after sterilization
Products out of salted fish, anchovies, marinades, stewed fish goods, preserved fish; mussels, shrimps and suchlike.	Immediately after pouring on	14 days after pouring on
Marinades of fried fish	48 hours after pouring on	14 days after pouring on
Small sausages and other meat products	5 days after sterilization	Tenability
Other Products	14 days after pouring on	Tenability

³) see OIML R87:2004 Annex C.6

Note: Concentrations vary due to differences between the sugar content in fruit and the pouring liquid, which leads to an exchange process. For that reason it is necessary to indicate times in the table representing the point of equilibrium.

The samples that are drawn shall be kept within the temperature range $20\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$ for a period of 12 hours before the determination of drained weight, drained washed weight is undertaken.

For glazed products: Samples should be stored in a freezer kept at a temperature of $-18\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ prior to testing.

3.2 Apparatus

3.2.1 Sieve

3.2.1.1 Drained weight or drained washed weight

Flat sieve⁴ with a square mesh of 2.5 mm (nominal wire thickness 1.0 mm).

Note: For tomatoes see alternative square meshes in Table 2.

The diameter of this sieve shall be 200 mm in the case of containers with a capacity of 850 ml or less, and 300 mm in the case of containers with a capacity over 850 ml.

NB. If the nominal weight of the pre-package is 2.5 kg or more the contents should, after pre weighing or pre-taring the sieves, be divided evenly among two or more sieves of the same dimensions.

3.2.1.2 Drained deglazed weight

Flat sieve with a square mesh of 2.5 mm (nominal wire thickness 1.0 mm).

Glazed seafood:

Use a 200 mm diameter sieve for prepackages with drained deglazed quantities up to 900 g and use a 300 mm diameter sieve for prepackages greater than 900 g.

Exclusively for frozen shrimp and crabmeat:

Use a 200 mm diameter sieve for prepackages with drained quantities up to 450 g and use a 300 mm diameter sieve for prepackages greater than 450 g.

NB. If the drained weight is 2.5 kg or more the solids should, after pre weighing or pre-taring the sieves, be divided evenly among two or more sieves of the same dimensions.

⁴ ISO 3310 – 1 (1990.07). Test sieves; Technical requirements and testing; Part 1: Test sieves of metal wire cloth.

3.2.2 *Weighing instrument*

The expanded uncertainties at the 95 % confidence level associated with measuring instruments and test methods used for determining quantities shall not exceed 0.2 TNE – see Table 1. Examples of the source of uncertainty include the maximum permissible error and repeatability in weighing and measuring instruments, variations in packing materials, and fluctuations in density determinations caused by the differing amounts of solids in the liquid or temperature changes.

3.3 **Preparation of the sample**

3.3.1 *Tare weight*

Choose a sieve with the characteristics detailed in section 3.2.1.

Weigh or establish a tare for the clean sieve (weight Pe_1).

Note:

A subsequent weighing of the same sieve should ensure that it is clean and free of product debris. The sieve does not have to be dry as long as it is weighed accurately before being used.

3.3.2 Washing and Draining (refer to Table 2 for the appropriate method for each product) and Deglazing

The sample shall have attained the appropriate temperature in accordance with the sampling criteria set out in 3.1.3 above.

3.3.2.1 *Removal of Container Contents – Drained Weight*

Open the prepackage and pour the product and liquid medium across the sieve. Distribute the product and liquid medium over the surface of the sieve but do not shake the material on the sieve. Carefully invert by hand all solid product, or parts thereof, which have hollows or cavities if they fall on the sieve with the hollows or cavities facing upwards. Drain the hollows or cavities in soft products (e.g. apricot caps) by tilting the sieve.

If the washing step for Drained Washed Weight is not required proceed to 3.3.2.4.

3.3.2.2 *Removal of Container Contents – Drained Washed Weight*

Open the package or container and pour the contents carefully across the mesh of the sieve(s), distributing them over the surface of the sieve, avoiding product damage. For more viscous materials it may be necessary to remove the contents with a spoon and spread them carefully across the mesh of the sieve(s) but this must be accomplished without product damage.

Remove any residual solid material from the container by rinsing with water at $20\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$ and add these rinsings to the sieve.

Wash the contents of the sieve(s) in a gentle stream of water at $20\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$ with minimal disturbance to the product until visible traces of liquor have been removed. Larger items, e.g. sardines, fish fillets, should be turned over, avoiding product damage, to facilitate this process. Proceed to 3.3.2.4.

Note: Drained washed weight is different from drained weight. For practical reasons it is included in this document although it is not mandatory to declare the “drained washed weight”. It applies to cases where the sauce for example is intended for consumption.

3.3.2.3 *Removal of Container Contents – Deglazed Weight*

Note:

If there are specialized methods of the Codex Alimentarius Commission for particular products these Codex standards should be preferred (see list in No.1 of “Additional Information’s” at the end of this guidance).

Vessel with water: Temperature $27\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. The amount of water should be equal to at least 8 times the weight of sample taken on the sieve.

Open the package and pour the contents carefully across the mesh of the sieve(s), distributing them over the surface of the sieve, avoiding product damage. If the product contains cups or cavities, carefully invert by hand all parts which fall onto the sieve(s) with the cups or cavities facing upwards. Any solid material adhering to the container’s internal surfaces may be removed carefully with a spoon or similar implement and added to the contents of the sieve. Do not shake the material on the sieve.

Immerse sieve and test sample in vessel containing the specified quantity of water until the end-point of glaze determination is reached i.e. all of the added glaze has been removed and the still-frozen product core remains. It is important that product is not left in the warm water beyond this point to avoid any thawing of the core product with attendant ‘drip loss’.

After all glaze that can be seen or felt is removed (i.e. when the external surface of the sample changes from ‘smooth’ or ‘slippery’ to ‘rough’) and the sample separates easily, remove sieve with sample.

Note: If there are significant clumps of product frozen together, this may well indicate that the product has not been properly stored, and has been subject to varying temperatures. Such temperature abuse can lead to water migration from the product and changes in the apparent glaze level. Samples showing such ‘clumping’ should not be accepted for analysis.

3.3.2.4 *Draining*

Tilt the sieve(s) to an angle of 17° – 20° from the horizontal to facilitate draining.

Allow to drain for 2 minutes from the time at which all the product is on the sieve or for washed and deglazed products 2 minutes from the time the washing or deglazing ceases.

3.3.3 *Weighing*

Reweigh the sieve plus contents (weight Pe_2). Calculate the drained quantity, the drained washed quantity or the deglazed quantity as follows:

$$P = Pe_2 - Pe_1$$

where P is the quantity of the product
 Pe_1 is the tare weight of the clean sieve
 Pe_2 is the weight of sieve plus product after draining

Take into account the note in 3.3.1.

4. PRODUCTION CONTROL

4.1 The control of filled weight of the foodstuff or parts thereof, without the covering liquid, shall be undertaken in accordance with the rules generally accepted for weight control by statistical sampling.

4.2 In addition to the monitoring of the filled weight, monitoring of the drained weight, drained washed weight or drained deglazed weight shall subsequently be carried out on a set of samples of known filled weight (E), using the procedure detailed in section 3.3. A sample of 20 units shall be taken throughout the batch and the average drained weight (A) calculated. From these figures, $f = E/A$ can be determined and documented. Due consideration shall be given to variability caused by variety, maturity, seasonal, climatic conditions etc.

4.3 Once established, the figure f_m may be used in subsequent production runs to calculate the filled weight of foodstuff or parts thereof required to achieve the nominal drained weight.

$$E_c = f_m \times A_n$$

where E_c is the filled weight of the foodstuff (calculated)
 f_m is the average figure of the f 's established for that type of operation
 A_n is the nominal drained weight

4.4 Estimates of f_m shall be re-established at appropriate intervals to ensure the validity of this factor.

5. EXTENT OF FILLING AND MANNER OF MARKING CONTAINERS

- 5.1** In respect of Article 2 of Directive 2000/13/EC, methods used for the labelling, presentation (including packaging) and advertising of pre-packaged foodstuffs for sale to the ultimate customer should not mislead the consumer to a material degree as to, amongst other things, the quantity of product.
- 5.2** Under Annex II of Directive 94/62/EEC on packaging and packaging waste, packaging shall be so manufactured that the packaging volume and weight be limited to the minimum adequate amount to maintain the necessary level of safety, hygiene and acceptance for the packed product and for the consumer.
- 5.3** In order to meet the labelling objective, the nominal drained weight (which includes, if applicable, the deglazed weight) or the nominal drained washed weight shall be indicated on the container label, and shall be described as 'drained weight'. The indication shall be expressed in grams (g) or in kilograms (kg) and shall be in the same proximity and the same font and point size as the nominal weight declaration on the container.
- 5.4** In order to meet the presentational and minimum packaging objectives, the drained weight indicated on the container (nominal drained weight or nominal drained washed weight) shall comply, on average with one of the percentages provided in Table 2 of the Guidance, which are expressed as a percentage of the container capacity (see Sections 1.5 'Container capacities' and 2.1.2 'Tolerable negative errors').

Note: See "Sources of Information" at the end of Table 2.

Table 2:
Minimum Nominal Drained Weights (expressed as a percentage of the capacity of the container – glass jars minus 20 ml)

Product	Container Capacity ml	Drained Weight %	Source	Method	Sieve mesh mm
Fruit					
Apricots Whole	All	46	OEITFL	Drained	2.5
Apricot Halves – Heavy Syrup	All	54	CODEX	Drained	2.5
Apricot Halves – Light Syrup	All	55	CODEX	Drained	2.5
Bilberries	All	37	OEITFL	Drained	2.5
Blackberries	All	37	OEITFL	Drained	2.5
Blackcurrants	All	37	OEITFL	Drained	2.5
Broken Mandarin Segments	All	58	CODEX	Drained	2.5
Chestnuts	>=300	60	CODEX	Drained	2.5
Chestnuts	<300	55	CODEX	Drained	2.5
Cranberries	All	37	OEITFL	Drained	2.5
Fruit Cocktail	All	60	CODEX	Drained	2.5
Fruit Salad	All	56	OEITFL	Drained	2.5
Fruits of the Forest	All	40	GMP	Drained	2.5
Gooseberries	All	52	OEITFL	Drained	2.5
Grapefruit Segments	All	50	CODEX	Drained	2.5
Grapes	All	40	OEITFL	Drained	2.5
Loganberries	All	35	OEITFL	Drained	2.5
Mandarin Oranges	All	55	CODEX	Drained	2.5
Mangoes	All	55	CODEX	Drained	2.5
Morello Cherries with Stones	All	52	OEITFL	Drained	2.5
Morello Cherries without Stones	All	50	OEITFL	Drained	2.5
Peach Halves/Slices – Heavy Syrup	All	57	CODEX	Drained	2.5
Peach Halves/Slices – Light syrup	All	59	CODEX	Drained	2.5
Pears Whole	All	50	CODEX	Drained	2.5
Pears Other variants	All	53	CODEX	Drained	2.5
Pears Diced	All	60	CODEX	Drained	2.5
Pineapple Crushed	All	63	CODEX	Drained	2.5
Pineapple Other variants	All	58	CODEX	Drained	2.5
Plums Whole	All	50	CODEX	Drained	2.5
Plums Halves	All	55	CODEX	Drained	2.5
Prunes	All	55	OEITFL	Drained	2.5
Raspberries	All	37	CODEX	Drained	2.5
Redcurrants	All	37	OEITFL	Drained	2.5
Rhubarb in Syrup	All	42	OEITFL	Drained	2.5
Strawberries	All	35	CODEX	Drained	2.5
Sweet Cherries with Stones	All	55	OEITFL	Drained	2.5
Sweet Cherries without Stones	All	52	OEITFL	Drained	2.5
Tomatoes Whole	All	50	CODEX	Drained	11.2
Tomatoes Chopped	All	50	CODEX	Drained	4.75
Tropical Fruit Salad	All	50	CODEX	Drained	2.5
Two Fruits (fruit macedoine)	All	56	OEITFL	Drained	2.5

Product	Container Capacity ml	Drained Weight %	Source	Method	Sieve mesh mm
White Heart Cherries with Stones	All	56	OEITFL	Drained	2.5
White Heart Cherries without Stones	All	55	OEITFL	Drained	2.5
White currants	All	37	OEITFL	Drained	2.5
Vegetables, Cereals and Pulses					
Adzuki Beans	All	55	GMP	Drained	2.5
Asparagus Long Shoots Peeled	All	60	CODEX	Drained	2.5
Asparagus Shoots Unpeeled	All	58	CODEX	Drained	2.5
Asparagus Other Styles Peeled	All	57	CODEX	Drained	2.5
Asparagus Other Styles Unpeeled	All	55	CODEX	Drained	2.5
Beetroot Whole	All	56.5	OEITFL	Drained	2.5
Beetroot Sliced	All	56.5	OEITFL	Drained	2.5
Beetroot Diced	All	56.5	OEITFL	Drained	2.5
Blackeye Beans	All	55	GMP	Drained	2.5
Borlotti Beans	All	55	GMP	Drained	2.5
Broad Beans	All	62.5	OEITFL	Drained	2.5
Brown Lentils	All	62.5	OEITFL	Drained	2.5
Butter Beans	All	55	GMP	Drained	2.5
Cannelini Beans	All	55	GMP	Drained	2.5
Carrot and Turnip Dices	All	52	GMP	Drained	2.5
Carrots Baby	All	56.5	OEITFL	Drained	2.5
Carrots Diced	All	56.5	OEITFL	Drained	2.5
Carrots Sliced	All	56.5	OEITFL	Drained	2.5
Carrots Whole	All	56.5	OEITFL	Drained	2.5
Celery Cut	All	59	OEITFL	Drained	2.5
Celery Hearts	All	62.5	OEITFL	Drained	2.5
Celery Stalks	All	62.5	OEITFL	Drained	2.5
Celery Shredded	All	52	OEITFL	Drained	2.5
Chick Peas	All	57	GMP	Drained	2.5
Dark Red Kidney Beans	All	57	GMP	Drained	2.5
Flageolet Beans	All	55	GMP	Drained	2.5
Garden Peas	All	59	OEITFL	Drained	2.5
Gherkins Whole (fresh pack)	All	53	CODEX	Drained	2.5
Gherkins Whole (cured)	All	55	CODEX	Drained	2.5
Gherkins Sliced (fresh pack)	All	55	CODEX	Drained	2.5
Gherkins Sliced (cured)	All	57	CODEX	Drained	2.5
Green Lentils	All	62.5	OEITFL	Drained	2.5
Green / Wax Beans Whole	All	50	CODEX	Drained	2.5
Green / Wax Beans Sliced	All	46.5	OEITFL	Drained	2.5
Green / Wax Beans Cut	All	48	OEITFL	Drained	2.5
Haricot Beans < 15 mm	All	62.5	OEITFL	Drained	2.5
Haricot Beans 15 mm to 25 mm	All	59	OEITFL	Drained	2.5
Haricot Beans > 25 mm	All	54	OEITFL	Drained	2.5
Haricot Beans with Vegetables	All	55	GMP	Drained	2.5
Lentils and Vegetables	All	55	GMP	Drained	2.5
Lentils	All	62.5	OEITFL	Drained	2.5

Product	Container Capacity ml	Drained Weight %	Source	Method	Sieve mesh mm
Marrowfat Peas	All	56.5	GMP	Drained	2.5
Mixed Diced Vegetables	All	62.5	GMP	Drained	2.5
Mixed Pickles	All	50	GMP	Drained	2.5
Mixed Pickles in Sauce	All	50	GMP	Washed	2.5
Mushrooms Whole	All	53	CODEX	Drained	2.5
Mushrooms Sliced	All	53	CODEX	Drained	2.5
Mushrooms Chopped	All	53	CODEX	Drained	2.5
Mushrooms in Sauce	All	27.5	CODEX	Washed	2.5
Onions Chopped	All	55	GMP	Drained	2.5
Onions (pickled)	All	50	GMP	Drained	2.5
Peas and Carrots	All	60	GMP	Drained	2.5
Peas and Sweetcorn	All	60	GMP	Drained	2.5
Pinto Beans	All	55	GMP	Drained	2.5
Potatoes Whole	All	59.5	OEITFL	Drained	2.5
Potatoes Cut	All	59.5	OEITFL	Drained	2.5
Processed Peas	All	60	CODEX*	Drained	2.5
Processed Peas and Vegetables	All	55	GMP	Drained	2.5
Soya Beans	All	55	GMP	Drained	2.5
Red Cabbage (pickled)	All	45	GMP	Drained	2.5
Silverskin Onions (pickled)	All	52	OEITFL	Drained	2.5
Spinach Leaf	All	59.5	OEITFL	Drained	2.5
Sweet Corn	All	61	CODEX	Drained	2.5
Yellow Peas and Vegetables	All	55	GMP	Drained	2.5
Yellow Split Peas	All	62.5	OEITFL	Drained	2.5
Fish, Meat and Others					
Crab in Brine	All	63	GMP	Drained	2.5
Crabmeat in Brine	All	63	GMP	Drained	2.5
Hot Dog Sausages	All	46	GMP	Drained	2.5
Mackerel in Oil	All	70	GMP	Drained	2.5
Mackerel in Tomato Sauce	All	70	GMP	Washed	2.5
Mackerel in Brine or Water	All	70	GMP	Drained	2.5
Pickled Eggs	All	52.5	GMP	Drained	2.5
Sardines in Oil	All	70	EU STD	Drained	2.5
Sardines in Brine or Water	All	70	EU STD	Drained	2.5
Sardines in Tomato Sauce	All	65	EU STD	Washed	2.5
Shrimps in Brine	All	63	GMP	Drained	2.5
Tuna Steak in Oil	All	65	EEC STD	Drained	2.5
Tuna Steak in Brine or Water	All	70	EEC STD	Drained	2.5
Tuna Chunks in Oil	All	65	EEC STD	Drained	2.5
Tuna Chunks in Brine or Water	All	70	EEC STD	Drained	2.5
Tuna Flake in Oil	All	65	EEC STD	Drained	2.5
Tuna Flake in Brine or Water	All	70	EEC STD	Drained	2.5

*) This CODEX value is quoted as an alternative to the total solids content of the product (not less than 19.5 % of the weight of demineralised water which the sealed container will hold when completely filled) which is the reference method.

Sources of Information

The sources of the minimum nominal drained weight values quoted in Table 2 have been selected in the following order of precedence (unless specific national derogations to CODEX figures have been established through OEITFL).

1. Codex Alimentarius Standards (CODEX)
2. Association of European Fruit and Vegetable Processing Industries (OEITFL) Standards
3. Council Regulation (EEC) 2136/89 of 21/6/1989 laying down common marketing standards for preserved sardines
4. Council Regulation (EEC) 1536/92 of 9/6/1992 laying down common marketing standards for preserved Tuna and Bonito
5. Commission Regulation (EC) No 1010/2001 laying down minimum quality requirements for mixed fruit and CAC Codices for fruits and vegetables (e.g. for canned apricots Codex Stan 129-1981)
6. Recommended values which are considered to represent good manufacturing practices (GMP)

Additional Information's

Codex standards that include consideration of glaze determination (section 7.3.2 in each case):

- Codex Standard for Quick Frozen Shrimps or Prawns - Codex Stan 092-1981, Rev. 1- 1995
- Codex Standard for Quick Frozen Lobsters - Codex Stan 95-1981, Rev 1 - 1995
- Codex General Standard for Quick Frozen Fish Fillets - Codex Stan 190 - 1995
- Codex Standard for Quick Frozen Blocks of Fish Fillet, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh - Codex Stan 165-1989, Rev. 1 - 1995

This document has been prepared by using Guideline No.24 “Guidelines for the Verification of Drained Net Weight and Drained Washed Net Weight in Rigid Food Containers” of Campden & Chorleywood Food Research Association which is based itself in parts on the former WELMEC WG6 Draft of 1997 “Checking drained weight: requirements and determination”