



Office for Product
Safety & Standards

Weights and Measures (Packaged Goods) Regulations 2006

As they apply to products being supplied in or into Great Britain

Guidance v3

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Guidance

1. Introduction

This Guide is designed to help you comply with The Weights and Measures (Packaged Goods) Regulations 2006 (“the 2006 Regulations”), as amended by Schedule 11 of the Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019.

2. Background

The 2006 Regulations establish an ‘average system’ to regulate the quantity of goods sold in packages to provide confidence in measurement to consumers and businesses.

The implementation of the Weights and Measures (Food) (Amendment) Regulations 2014 (“the Food Regulations 2014”) implemented Regulation (EU) No 1169/2011 on the provision of food information to consumers (“FIC”) on 13 December 2014. This resulted in changes to the scope of the quantity labelling requirements of the 2006 Regulations as amended. FIC is now retained EU law as it has been brought into UK law by virtue of the Withdrawal Act 2018. References to FIC should be read as references to the UK retained law.

Non E-marked pre-packed foods are no longer required to meet the labelling requirements under the 2006 Regulations (with the exception that Regulation 8(1) continues to apply where provided for by trade practice), but instead are subject to FIC quantity labelling requirements as retained EU law with amendments. E-marked packages continue to be subject to the quantity labelling requirements under the 2006 Regulations. The 2006 Regulations still apply in full for non-food products.

Annex A of this guidance contains a commentary on each of the Regulations, Annex B sets out further advice on the suitability of measuring or checking equipment, Annex C provides advice on quantity control systems and gives an example of setting up a sampling quantity control system, and Annex D sets out the application of different quantity labelling regimes.

3. What the average system does

The average system applies to most goods which are pre-packed in pre-determined quantities by weight or volume, including most foodstuffs and non-foodstuffs. Its aim is to provide regulatory framework for the automatic filling of packages. A degree of variation in the content of the packages is inherent in all such processes: the aim of the average system is to define acceptable tolerances for that variation, so that the purchaser may buy with the confidence that is protected against short weight or measure, while businesses are protected against unfair competition. As its name suggests, the average system allows a proportion of packages to fall below their stated quantity within a specified tolerance (see Packers’ Rules below).

4. What constitutes a package under the 2006 Regulations?

For the purposes of the 2006 Regulations a “package” is defined as the combination of a product and the individual package in which it is packed when:

- it is placed in a package of whatever nature without the purchaser being present and;
- the quantity cannot be altered without the package either being opened or undergoing a perceptible modification (except in the case of knitting yarn).

The 2006 Regulations apply this system to all packages intended for sale in constant nominal quantities which are between 5 g or 5 ml and 25 kg or 25 L, inclusive.

The 2006 Regulations also cover packages that contain two or more items, at least one of which is itself a “package” within the meaning of the 2006 Regulations. The enclosing packaging is in such a case defined as an “outer container”. Where outer containers are intended for sale to consumers, or would be regarded as appropriate for such sales, the outer container has to reproduce the quantity indications that are required on any packages which it may contain and must indicate the number of packages contained (unless this information can be ascertained through transparent packaging).

From 13 December 2014, foods subject to FIC that are sold in a liquid medium must indicate drained net weight in addition to the net weight in line with Annex IX of FIC. Liquid medium, as defined in FIC are frozen, quick-frozen or mixtures of the following: 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. There is no mandatory requirement to mark the drained net weight on solid foods in an oil medium, any such marking will be voluntary.

5. The Packers’ Rules

There are three rules that packers must comply:

1. The actual contents of the packages should not be less, on average, than the nominal quantity.
2. The proportion of packages which are short of the stated quantity by a defined amount (the “tolerable negative error” or TNE) should be less than a specified level.
3. No package should be short by more than twice the TNE.

Also prescribed is a specific test procedure (the reference test), which enforcement authorities will use at the premises of packers and importers when it is necessary to establish whether a particular batch of packages comply with the first two rules.

Packers have a duty to ensure that each batch of packaged goods complies with the three packers’ rules. Packers may use whatever quantity control and checking procedures they find convenient, so long as these are sufficiently rigorous to ensure compliance with the Packers’ Rules.

The packers and importers checks need to be ‘sufficiently rigorous’ to ensure that the packages are packed to meet the Packers’ Rules.

In the design of the system, attention is recommended to the following issues:

- for processes controlled by sampling, that the sampling plan is specified and that the target quantity and control limits are appropriately set
- for packing lines controlled by checkweighers, that the set points are appropriate,
- that checking or measuring equipment is properly maintained and checked
- that the system should be formalised and reviewed regularly for its appropriateness, and include corrective actions and records that must be made; and

- that the system should specify the training for staff to ensure that the system is adequately implemented.

Further advice on designing and setting up quantity control systems is contained in Appendices C and D of the Packers' Code.

All products are required to meet the Packers' Rules at the time of packing. For desiccating products, that may lose weight after packing, the onus is on the packer to prove that any subsequent failure was due entirely to the desiccation of the product contained in the packages after they were made up.

6. Tolerable negative error

The TNE is the amount set out in the table below in relation to the nominal quantity on the package:

Nominal quantity in grams and millilitres	Tolerable negative error	
	As a percentage of nominal quantity	g or ml
5 to 50	9	-
from 50 to 100	-	4.5
from 100 to 200	4.5	-
from 200 to 300	-	9
from 300 to 500	3	-
from 500 to 1,000	-	15
from 1,000 to 10,000	1.5	-
from 10,000 to 15,000	-	150
above 15,000	1	-

Where the TNE is calculated as a percentage of the nominal quantity, the amount must be rounded up to the nearest one tenth of a gram or millilitre.

7. Duties as to checking, documentation and suitable equipment

In order to demonstrate compliance with the Packers' Rules, packers are under a duty to either measure the content of each package, or to check the contents by sampling. Where packers choose to measure each package, there is no requirement under the Regulations for records to be made. However, if records are not made, compliance with the Packers' Rules can be assured only by checking that each package contains at least the stated quantity (that is, by packing to the minimum system). This method of packing is likely to be best suited for small batches of packages but may be a helpful option for small-volume packers.

Where packers do not measure the contents of each package but choose to rely on sample checking to demonstrate compliance, the 2006 Regulations require records to be made of the results of these checks that must include any corrections and adjustments made to the packing system. Records must be kept for a period of at least one year from the date that the packages leave the packer's premises or until the date, if any, marked on the package which indicates by when the product should be consumed, whichever is shorter. The system of sampling used must be sufficiently rigorous to ensure that the packages are packed in accordance with the Packers' Rules.

From 1 October 2015, bakers of unwrapped and open packed bread are no longer required to keep records of their weight checks. However, they are required to meet the remaining requirements in the 2006 Regulations.

All measurements and checks are required to be performed with equipment that is suitable for the purpose. The 2006 Regulations do not prescribe the characteristics of the permitted equipment. Equipment used should comply with current legislation regulating that class or type of equipment. Annex B provides further information on suitability of equipment and relevant legislation.

8. Responsibilities of Packers and Importers in the Marking of Packages

Packers and importers must ensure that packages are marked in such a way as to be indelible, easily legible and visible on the package in normal conditions of presentation (on the outside or inside if the packaging is transparent) with the following:

- The nominal quantity must be expressed in litres, centilitres or millilitres for liquids or in kilograms or grams for other products.
- The nominal quantity must be shown in figures followed by the name or the symbol for the measurement unit involved.
- The size of the nominal quantity and measurement unit should comply with the following table.

Nominal quantity in g or ml	Minimum height of figures
<50	2 mm
≥50-200	3 mm
≥200-1000	4 mm
≥1000-10000	6 mm

- The nominal quantity must include any additional quantity to which any statement on the package refers. If the package states that a quantity or percentage is provided "free" the nominal quantity must refer to the total quantity contained in the package including the "free" amount.
- It is recommended that the nominal quantity figure and words (or symbols) are the same point size to ensure legibility.
- The name and address of the packer or importer or of the person who arranged for the packer to make up the package in the UK must be shown, or a mark which enables the name and address of any of the foregoing to be identified.

If a product with a package or outer container is imported from an EEA state to the UK, the UK importer will not be required to label or amend a label in order to provide their specified contact information on the package or outer container if the following two conditions are met:

- the package or outer container already has the specified contact information of the organisation or individual in an EEA State who packed or imported into that EEA state or arranged the packing or import of the package or outer container into that EEA state; and
- the UK importer imports the package or outer container from an EEA State before 31 December 2027¹.

Pre-packed food that is not E-marked and is subject only to the quantity labelling requirements under FIC may still be marked with the larger font heights as detailed in the table above and may still include the name and address of the packer or importer in line with the 2006 Regulations' requirements. However, there are more specific requirements for name and address labelling that apply separately under FIC.

If, when a package is made up or imported it is not marked with an indication of nominal quantity, the packer or the importer must decide what nominal quantity he proposes to mark on the package and keep a record of this until such time as the nominal quantity is marked on the package.

Where a package contains liquid, its nominal quantity must be indicated by the volume at 20°C. Where it contains a product other than liquid, including a mixture of liquid and solids, its nominal quantity must be indicated by weight. As a general guide, a liquid is normally considered to be a product that, at 20°C, will easily pour and can be measured in a measuring cylinder. The time taken for this operation is likely to be less than a minute, with the amount left in the container likely to be less than 1% of the nominal quantity. Where doubt exists over whether a product is liquid within the meaning of the regulations it should be marked by weight unless normal trade practice provides otherwise (e.g. ice cream).

9. Exceptions to the Nominal Quantity Declaration

The requirement for a declaration of the nominal quantity in the units of measurement shown above does not apply to milk sold or supplied to a consumer in a returnable container. A supplementary indication of the nominal quantity in non-metric units is allowed if it conforms to section 8(5A) of the Weights and Measures Act 1985. This means it must

¹ The following legislative amendments and Government announcements apply:

- The Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019 were amended by the Product Safety and Metrology etc. (Amendment to Extent and Meaning of Market) (EU Exit) Regulations 2020 to apply to Great Britain only, and not to Northern Ireland, in support of implementing The Protocol of Ireland and Northern Ireland ("The Northern Ireland Protocol") and now the Windsor Framework.
- The Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019 were further amended by the Product Safety and Metrology etc. (Amendment etc.) (UK(NI) Indication) (EU Exit) Regulations 2020 to provide for a 24 month transition period for importer labelling (for goods from the EEA), amongst other provisions.
- On 20 June 2022, the Government announced the provisions for importer labelling would be extended until 31 December 2025. On 14 November the Government announced it would be extending the provisions for importer labelling until 31 December 2027. The Product Safety and Metrology (Amendment and Transitional Provisions) Regulations 2022 (SI 2022/1393) give effect to this.

accompany the normal declaration of quantity expressed in metric units and may not be larger or more prominent.

Supplementary indications may be expressed in any non-metric units (including US units), and may include other indications of quantity, for example weight including immediate wrappers.

10. The E-mark

The E-mark, when placed on a package, is a declaration by the packer that the contents comply with the average system. There is no requirement for packages to be labelled with the E-mark. The Regulations prohibit its use on packages that do not meet certain criteria.

Where used, the E-mark must be at least 3 mm high and applied to packages in the same field of vision as the indication of the nominal quantity. The technical specifications of the E-mark are shown in Schedule 4 of the 2006 Regulations.

In order to qualify for E-marking the package must:

- have been packed in conformity with the three packers' rules, and
- have a nominal quantity between 5 g or ml and 10 kg or L (inclusive).

The previous requirement to provide the relevant local authority trading standards department with a notice identifying the premises where packages were being packed for export no longer applies and has been revoked.

11. Units of measurement

The Regulations import certain provisions of the Weights and Measures (Quantity Marking and Abbreviation of Units) Regulations 1987 (SI No 1987/1538), so far as these are applicable to packaged goods. Packages subject to the 2006 Regulations are no longer subject to the Weights and Measures (Quantity Marking and Abbreviation of Units) Regulations 1987. This relocation is only for the convenience of those affected by the 2006 Regulations and does not alter the relevant requirements.

12. Marking requirements

The 2006 Regulations require the above markings to be easily legible and visible in normal conditions of presentation. It will be a matter of fact whether the markings are:

- easily legible; and
- visible in normal conditions of presentation.

FIC requires that the quantity indication must be placed in the same field of vision as the name of the food and the alcoholic content (if applicable).

13. Enforcement

Local authorities through their trading standards teams have a duty to enforce the Regulations. The powers to enforce the Regulations are contained in Schedule 5 to the Consumer Rights Act.

14. Legal Instruments

Copies of the legislation referred to in this guidance can be viewed at:

www.legislation.gov.uk or obtained from The Stationery Office Ltd bookshops (tel : (0)333 202 5070).

Annex A: Guide to each Regulation

Regulation 1: Citation, commencement, revocation and extent

Regulation 1 sets out the date that the 2006 Regulations came into force and gives effect to Schedule 1, which repeals Part V and Schedule 8 of the Weights and Measures Act 1985 and revokes the Weights and Measures (Packaged Goods) Regulations 1986 and its three amending orders.

The commencement date is 6th April 2006. This date fits in with the Government policy of commencing new legislation so far as possible on one of two implementation dates (6th April and 1st October) to reduce the burdens on business of legislation taking effect at different dates throughout the year.

The Regulations do not apply to Northern Ireland, which has its own weights and measures legislation.

Regulation 2: Interpretation

This Regulation provides interpretation of the terms used in the Regulations. The definitions of “importer”, “nominal quantity”, “outer container” and “package” are of particular importance for an understanding of the Regulations. The definition of Member State has been omitted.

Regulation 3: Scope of application

This Regulation sets out what is caught by the 2006 Regulations and also those cases where the Regulations do not apply.

The 2006 Regulations apply to all packages of whatever product that have been made up in a weight or volume of between 5 g or ml and 25 kg or L (inclusive) where all the packages are intended to contain the same nominal quantity which has been determined by the packer in advance.

They also apply to outer containers, which are containers which contain packages to which the 2006 Regulations apply and which were placed in the outer container without the purchaser being present, can't be altered without the package being opened or undergoing a perceptible modification, and where the container is intended to be sold, or would normally be regarded as appropriate for sale, to a consumer.

It also applies the 2006 Regulations to bread in the form of single loaves, made up in a predetermined constant quantity between 300 g and 10 kg, which is unwrapped or made up in open packs. Regulation 3(3) gives effect to Schedule 5 which sets out modifications in the application of these Regulations to bread.

Regulation 3(4) provides that certain packages which are not E-marked are not caught by the 2006 Regulations. The packages to which the 2006 Regulations do not apply are non E-marked packages that are: intended for use in a trade or business process; or contain a product of a kind which would be sold to consumers in a quantity of less than 5 g or ml but where the packages are not intended or normally sold to consumers; or intended to be sent outside the UK; or intended to be used by the armed forces in the UK; or intended to be used as ships stores for a journey ending outside Great Britain; or contain sugar in a quantity less than 20 g. Regulation 3(4)(g) was substituted by the Weights and Measures (Food) (Amendment) Regulations 2014. This regulation also includes an exemption for single application cosmetic packs, thus aligning the 2006 Regulations with the Cosmetics Regulation 1223/2009.

Regulation 3(6) exempts pre-packed foods subject to FIC which are not labelled with the E-mark from the scope of the labelling requirements of the 2006 Regulations, except that Regulation 8(1) (which provides for liquid products to be marked with nominal quantity by weight and other products to be marked with nominal quantity by volume, where so provided for by trade practice) will continue to apply to foods subject to FIC. This is permitted under Article 42 of FIC.

Regulation 3(7) provides a transitional arrangement such that if a product with a package or outer container is imported from an EEA State to the UK, the UK importer is not required to label or amend a label in order to provide their specified contact information if two criteria are met. Firstly, where the package or outer container already has the specified contact information of the organisation or individual in the EEA state who imported into the EEA state or packed or arranged the import or packing. Secondly, where the UK importer has imported the package or outer container from an EEA State before 31 December 2027. In all other circumstances where packages or outer containers within scope of these Regulations are brought into the UK from an EEA State after the UK left the EU, then they must be labelled with the contact information of the importer responsible in the UK (see Regulation 5 below).

Regulation 4: Duty to comply with three packers' rules

This Regulation places a duty on packers and importers to ensure that their packages have been made up in line with the requirements of the three packers' rules.

Compliance with the three packers' rules will where necessary be determined by appropriate tests including the reference test, but the duty of packers or importers is to pack to or get sufficient evidence to show that the pre-packages meet the rules rather than to pass the test.

Regulation 5: Duty of packers and importers to mark packages

This Regulation places a duty on packers and importers to mark packages with specific information, comprising the nominal quantity of the packages and the name and address or identity mark of the packer, importer or person arranging for the packages to be made up or imported. This Regulation does not apply to non E-marked foods, by virtue of Regulation 3(6), as equivalent requirements are now provided for in FIC. FIC requires that any pre-packed foods above 5 g which are intended for sale or supply to consumers or mass caterers be labelled with net quantity, unless they are expressly exempt under FIC.

Regulation 5(1)(b) requires that packages bear the name and address of the packer or importer in the UK, or a mark that enables that person to be readily ascertainable. This is to ensure that the packer or importer can be identified by the enforcement authorities. Identification may, alternatively, be by means of a postcode if the full name of the packer or importer is on the package, or a website address if it would enable the packer or importer to be easily identified. See section 8 for details of transitional arrangements that will apply from 1 January 2021.

It should be noted that the nominal quantity to be marked on the packaging under Regulation 5(1)(a) is the total quantity contained. This does not prevent the marketing of packages as "quantity X for the price of quantity Y", but the declared contents must be the total contents.

It should be noted that the use of qualifying statements such as "when packed" and "approx" does not remove the duty to mark on the package its total nominal quantity.

Together with Regulation 8, the Regulation also specifies how that information, and the E-mark, where the package satisfies the requirements for E-marking and the packer or importer chooses to apply it, is to be displayed.

This Regulation does not apply to non E-marked packages containing milk sold in returnable containers, where such marking requirements would not be reasonable because of the nature of the container or to unwrapped bread.

The Regulation also includes an exemption from the name and address labelling for packages sold or supplied to a consumer from the packer or importer's own premises or vehicle.

Regulation 5(6) exempts packages from labelling requirements if they are contained within an outer container and they would not be intended or considered appropriate for sale to the final consumer. This includes inner packages which would not be sold to the final consumer as a separate item.

There is no longer an exemption from labelling for returnable containers first marked with embossed or fired on markings before 1st January 1980, as it is now considered to be obsolete.

The Regulation also disapplies the requirement to mark the name and address of a packer or importer in the UK from cosmetic products where there is a requirement to mark the name and address of a manufacturer or supplier established in another Member State under the Cosmetic Products (Safety) Regulations 2004 (SI 2152).

Regulation 6: Duty of packers and importers to mark outer containers

Regulation 6 sets out duties on packers and importers to mark outer containers. Broadly speaking, the information required to be marked on the packages must be reproduced on the outer container (unless the labels on the packages can be read through transparent packaging); and in addition, the number of packages contained must be identified. This Regulation does not apply to non E-marked foods, by virtue of Regulation 3(6), but separate requirements on labelling of multipacks are provided for in FIC.

Regulation 7: Liability for labelling packages and outer containers

Regulation 7 seeks to address the situation in which an indication of quantity placed on a package or outer container is subsequently replaced or supplemented. It applies all of the duties imposed by the 2006 Regulations to the person who marks the later indication, as if he were the original packer or importer.

A contract packer is responsible for ensuring that the labelling requirements are met regardless of whether the labels are supplied by the contractor.

Regulation 8: Specific requirements as to quantity marking

This Regulation sets out specific requirements relating to how the nominal quantity is displayed.

It also includes all the obligations on packers and importers of packages subject to the 2006 Regulations that are currently included in the Weights and Measures (Quantity Marking and Abbreviation of Units) Regulations 1987 (SI 1987/1538). It is relocated here for the better convenience of packers and importers, avoiding the need to refer to a separate set of regulations.

Packages subject to the 2006 Regulations are accordingly no longer subject to the Quantity Marking and Abbreviation of Units Regulations.

This Regulation sets out the requirement to mark drained net weight for food products presented in a liquid medium.

Regulation 9: Packers' and importers' duties as to equipment, checks and documentation

Regulation 9 sets out duties on packers and importers as to the equipment they may use and the measurements or checks they must make and documentation they must keep.

The 2006 Regulations require packers to measure or check their packages using equipment that is suitable for the operation for which is being used. Any equipment that is used must also comply with any separate legal requirements under measuring instrument legislation that apply to it.

Where every package is measured, there is no requirement to keep records (but see section 7, page 5). Where the packer chooses to check packages by sampling, the system of sampling and tests must be sufficiently rigorous to ensure that his packages are made up in line with the requirements of the three packers' rules. He must also make and keep records of the checks he has made for a year after the packages have left his possession, or for the shelf life of the product, whichever is the shorter. Records of checks on unwrapped bread need only be kept for as long as the wrapped equivalent loaves.

An importer may either check his packages using suitable equipment, and keep records of the checks, or he may obtain before the packages leave his possession sufficient evidence to give reasonable grounds for believing that the packages have been packed in accordance with the three packers' rules and keep the evidence he has obtained.

Regulation 10: Enforcement by local weights and measures authorities

Regulation 10 places a duty on local weights and measures authorities to enforce the Regulations. It also provides that only those authorities may bring prosecutions for offences under the Regulations (except for the disclosure of information offence).

Proceedings must be instituted within 12 months of the offence being committed.

The powers of investigation that may be used by Trading Standards in the enforcement of these Regulations are those set out in Schedule 5 to the Consumer Rights Act 2015.

Regulation 11: Notices to local Weights and Measures Authorities

This Regulation (with requirements about packages for export) has been revoked by Schedule 11 of the Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019. The associated offence at Regulation 15(2) is also revoked.

Regulation 12: Instructions by inspectors

Regulation 12 gives inspectors the power to issue a notice giving instructions to packers or importers, where they have reasonable grounds for believing that they have failed to comply with the three packers' rules. These instructions may require packers or importers to keep specified packages until the end of the next working day of the local weights and measures authority at a specified place and at the disposal of the inspector. Secondly, where an inspector believes that a person has failed to perform any duty in relation to measuring or checking his packages, the notice may also contain any instructions that the inspector believes are appropriate with the intention of ensuring that the person does not fail to perform that duty again.

Any notice of objection to instructions should be addressed to OPSS at:

The Office of Product Safety and Standards
Department for Business Energy and Industrial Strategy
Stanton Avenue
Teddington, TW11 0JZ

The 2006 Regulations also provide for an appeals procedure where a packer or importer objects to the instructions and make it an offence not to comply with a notice given under this Regulation.

This Regulation repeats provisions that were contained in section 63 of the 1985 Act.

Regulation 13: Offences relating to the making up and marking of packages and outer containers, and record keeping

This Regulation makes it an offence to fail to comply with any of the duties set out in Regulations 4, 5, 6, 7, or 9.

It also provides for offences in relation to both the alteration, with intent to deceive, of records or documents required under the Regulations or of making a false record or referring to a document known to be false.

Regulation 14: Offences relating to the sale of packages

This Regulation makes it an offence to sell any package that the seller knows or has reasonable grounds for believing has a negative tolerable error of more than twice the level permitted by Schedule 3.

There is also an offence of selling a package in circumstances in which the seller knows, or has reasonable ground to believe, that it comes from a batch that has failed the reference test unless he can show that corrective action has been taken or the actual quantity of the package exceeded the nominal quantity.

Regulation 15: Offences relating to E-marks

This Regulation creates an offence of marking a package with an E-mark other than permitted by the 2006 Regulations.

It is also an offence to mark a package with a similar mark, intending to deceive, or for a person who is not the packer or importer (nor someone acting on their behalf), to apply the E-mark.

Regulation 16: Disclosure of information

It is an offence for an inspector (or accompanying person) to disclose information relating to trade secrets or secret manufacturing processes that he has obtained by virtue of the Regulations unless the disclosure is made in the performance of his duty as an inspector.

This Regulation contains a provision permitting the disclosure of information where the person from whom it was obtained has consented to its disclosure or where it is disclosed more than 50 years after it was received. This represents current good practice on disclosure of information held by public bodies.

Regulation 17: Corporate offence provisions

Regulation 17 provides that where an offence has been committed by a body corporate, and it is proved that it was committed with the consent of or was attributable to neglect by any director, manager or similar officer of the body corporate, they shall also be guilty of the offence and be liable to prosecution.

Regulation 18: Penalties for offences

This Regulation sets out the penalties for offences under the 2006 Regulations. The penalty for all offences, with the exception of those listed below, is, subject to, on summary conviction, a fine not exceeding level 5 on the standard scale.

For the offences relating to the alteration, with intent to deceive, of records or documents or of making a false record or knowingly referring to a false document, the penalty on summary conviction is a fine not exceeding level 5 on the standard scale or imprisonment for a term not exceeding 3 months or both.

The penalty for disclosure of information by an inspector (or accompanying person) is a fine not exceeding the statutory maximum and on conviction on indictment, imprisonment for a term not exceeding 2 years or to a fine or to both.

Regulation 19: Defences

This regulation provides defences against certain offences in Regulations 13 and 14.

It is a defence to prove that a person charged with an offence under Regulation 13(1) or 14(2) took all reasonable precautions and exercised all due diligence to avoid committing the offence.

It is a defence for a person charged with failing to comply with the three packers' rules, to prove that the packages were tested when not in his possession and in relation to a nominal quantity that was not on the packages when they were in his possession.

It is also a defence for an importer to show that he obtained the required documents, took all reasonable steps to verify the information, had no reason to believe that the packages weren't packed in accordance with the three packers' rules and took all reasonable precautions to ensure that there was no reduction in their quantity while they were in his possession.

This Regulation also includes a defence for products subject to desiccation. It is a defence to show that the packages were packed in accordance with the three packers' rules and that any deficiency is entirely due to the desiccation of the product in the packages after they were packed.

Regulation 20: Trade Descriptions Act

This Regulation provides that an indication of nominal quantity is not a trade description under the meaning of the Trade Descriptions Act.

Regulation 21: Transitional provisions

This Regulation sets out transitional provisions. It provides that packages made up or imported before the 1986 Regulations were revoked shall continue to be subject to those Regulations and that the 2006 Regulations shall not apply to such packages.

It also provides that packages that were subject to Part IV of the 1985 Act before 6th April 2006 shall be permitted to comply with the packing and marking requirements of those provisions until 6th April 2007 and packages with a nominal quantity greater than 10 kg or L that were permitted to be E-marked prior to 6th April 2006 shall be permitted to be E-marked until 6th April 2007.

It also sets out transitional arrangements for notices and instructions issued by inspectors under Part V of the 1985 Act and for the treatment of trade secrets obtained by virtue of Part V.

Schedule 1: Repeals, revocations and consequential amendments

Schedule 1 sets out the repeals and consequential amendments to other legislation. Paragraphs (10) and (24) to (27) have been repealed by Section 2 of the CRA.

Schedule 2: The reference test

Schedule 2 sets out the reference test that is to be used for determining compliance with the three packers' rules.

The preliminary tests on measuring container bottles are no longer required. However, it is considered good practice to carry them out if a templet is available prior to performing a reference test.

It is recognised that the software used by Inspectors automatically randomly selects the items to be used for the test for average. In this situation there is no need for the 'marking' required by paragraph 2.9.

Schedule 3: Tolerable negative errors

Schedule 3 sets out the values of the tolerable negative errors specified in Regulation 4.

Schedule 4: The E-mark

Schedule 4 displays the mark that may be applied to certain packages or outer containers which meet the requirements of Regulation 5(3) and 6(3), respectively.

A copy of the E-mark in electronic form is available from: <http://welmechw6.org/>

Schedule 5: Application to bread: modifications of provisions and extension of scope

Schedule 5 modifies the average system in its application to unwrapped bread and bread made up in open packs. In particular it removes labelling requirements and places duties on the person baking or finishing the baking process rather than the packer in relation to the predetermined quantity to which the bread has been made up rather than to its nominal quantity. When loaves of bread are made up in quantities of, for example, 400g or multiples thereof, each batch is required to meet the three packers' rules when the bread has reached the ambient temperature. However, the baker may still carry out checks on hot loaves straight from the oven using enhanced target weights of 430g or 840g.

The Schedule also provides that retailers who finish the baking process for part-baked bread may, by giving written notice to their local weights and measures authority, choose not to have the bread treated under the average system. It would then be subject to the minimum rules under Part IV of the Weights and Measures Act 1985, which would require the quantity to be at least that stated, but it would not be subject to the specific record keeping requirements of the average system. Notification may be made either through the trading standards service acting as Primary Authority or a retailers local authority trading standards department.

In addition, bakers of unwrapped and open packed bread from 1 October 2015 are no longer required to keep records of weight checks as provided in Regulation 9(1)(b)(ii) (duty to keep records). Transitional provisions apply for those bakers who currently hold a "small bakers" exemption, whereby the exemption from Regulation 9(1)(b)(ii) continues to apply.

Schedule 6: Exemptions from quantity marking

This Schedule has been revoked by Regulation 38 of the Weights and Measures Food Regulations 2014 as it is incompatible with FIC. However, an exemption for sugar below 20 g has been retained.

Annex B: Suitability of measuring or checking equipment systems

All measurements and checks are required to be performed with equipment which is suitable for the purpose for which it is being used (i.e. measuring or checking that packages comply with the three packers' rules).

The determination of whether a particular instrument is suitable will depend on the circumstances of the case and the nominal quantity of the product packed. It will be essential for consideration to be taken of the scale interval which must be reasonable for the nominal quantity of the package filled. The size and capacity of the instrument must also bear a sensible relationship in respect of the scale interval to the quantity being measured.

As a general rule, equipment that enables the quantity to be determined to 0.2 TNE will be appropriate. Although the use of less sensitive equipment is not prohibited an allowance for the greater possible errors will require the quantity control system to have a higher target quantity or set point – this will result in requiring a giveaway to be made to ensure that the packages comply with the three packers' rules.

The 2006 Regulations require only that equipment used for checking or making up packages be suitable for the purpose to which it is being put. There may be other requirements under measuring instrument legislation that also apply. Types of equipment likely to be suitable for measuring or checking purposes may fall within the scope of the following legislation, but this list is not exhaustive:

- The Non-automatic Weighing Instruments Regulations 2016 (SI 2016 no 1152) as amended
- The Non-automatic Weighing Machines Regulations 2000 (SI 2000 no 932)
- The Weighing Equipment (Automatic Gravimetric Filling Instruments) Regulations 2000 (SI 2000 no 388) as amended
- The Weighing Equipment (Automatic Catchweighing Instruments) Regulations 2003 (SI 2003 no 2761) as amended
- Measuring Equipment (Capacity Measures and Testing Equipment) Regulations 1995 (S.I. 1995/735) as amended
- The Measuring Container Bottles (EEC Requirements) Regulations 1977 (SI 1977 no 932) as amended with an appropriate template
- The Measuring Instruments Regulations 2016 (SI 2016/1153) as amended

In order to clarify whether non-automatic weighing instruments (NAWI) being used for making up and checking packages are suitable it was agreed (at original publication date) by the Local Authority Coordinators of Regulatory Services and the National Weights and Measures Laboratory that:

- a) All new NAWI used for the first time for either making up or checking pre-packages, for the purposes of Regulation 9 of the Regulations, on or after 6th April 2006 must be verified before use.

- c) All equipment legally in use under the 1986 Regulations prior to 6th April 2006 for the purposes of making up or checking pre-packages for section 49 Weights and Measures Act 1985, can continue under the old regime. This permits unstamped NAWI to be used for checking pre-packages – but not for making up packages.
- d) Second-hand NAWI first used for making up or checking pre-packages after 6th April 2006 must be verified under NAWI regulations 2000 (SI 2006/3236).

Further advice on the use of checkweighers can be found in Appendix D to the Packers' Code. While the rules in Appendix D are no longer mandatory, they describe control procedures that may be helpful for packers in determining the suitability of check-weighing machines and the rigorousness of checking systems.

Templates used with measuring container bottles may be graduated in millilitres or millimetres. Where in the latter unit of measurement, the template must be used with a conversion chart and the record of checks must show the quantity in volume (not millimetres) in order for the packer or importer to show that they have complied with their duties. Templates complying with the recommendations in Appendix E of the Packers' Code will be suitable.

Annex C: Quality Control Systems

The Packers' Code provides advice and background material which may be helpful in designing or assessing quantity control systems. In particular, Annex C of the Code provides advice on control by sampling, and Annex D on control by measurement, Appendix F sets out an "off the peg" control system that can be adopted directly, and Appendix G provides a procedure for assessing an existing system. The advice and

Control by Sampling

Where the packing process variability (standard deviation) is always less than 0.5TNE of the product then the average requirement is the most critical packers' rule.

Where the variability exceeds 0.5 TNE then the target quantity always needs to exceed the nominal (labelled) quantity in order to meet all three packers' rules.

To take into account the variability of the process, the target quantity must be the greater of:

- the nominal quantity (Q_n),
- $Q_n - TNE + 2s$ (where s = standard deviation of process), or
- $Q_n - 2TNE + 3.72s$

Where the number of items sampled during a production period is less than 50, then a sampling allowance will need to be added to the target quantity in order to make the system as robust as the reference test in detecting deficiencies. A production period is taken as being the time taken to produce 10,000 packages, with a minimum of 1 hour and a maximum of 1 normal day or shift. The appropriate allowance can be found in Table C1 of the Packers' Code. An example on setting target quantities and action limits is provided below.

Other allowances may have to be made (e.g. to take into account volume changing with temperature). For further guidance on this issue see Appendix C of the Packers' Code

Checkweighers

Set points need to be set to ensure that all three packers' rules are complied with continuously and need to take into account the zone of indecision and variability of the weight of packaging (tare).

Where the zone of indecision (Z_{oi}) is greater than 0.25 TNE then the set point should be increased by $0.5Z_{oi} - 0.125TNE$.

Where the tare variability (standard deviation) exceeds 0.1 TNE then a simple way to address this is to add an allowance of $0.85s$ on to the set point.

For further information on determining the zone of indecision and establishing appropriate set points see Appendix D of the Packers' Code.

An example on setting target quantities and action limits

SCENARIO

A packer produces 200 g bags of sweets; the variation due to the packing process is dependent on the size of sweet. The process variation, stated as a standard deviation, is either 4 g, 5 g or 6 g.

The packing line produces 4,000 bags an hour and the packer monitors the average weight of the product by taking samples of five bags from the line every 30 minutes. The average of each sample is calculated and used to determine when action is needed.

What should be the lowest target quantity the packer should aim for, and what should the minimum action limit (1 in 1,000) for the sample mean be, for each of the three processes?

CALCULATION

1. Lowest Target Quantity

1.1. Process variation

1.1.1. The average range or standard deviation can be used to consider this parameter. The standard deviation (SD) is more robust, as it is based on all the data available. In either case, the following assumes that the distribution of the contents of the packages is 'normal'. If this assumption is incorrect the variation from normality also has to be considered.

1.1.2. In the scenario the variability of the filling process is given as a standard deviation. In order to ensure all three packers' rules are met, the highest of the following has to be used to address this variability:

$$Q_n \quad T1+2s \quad T2+3.72s$$

where

Q_n is the nominal (labelled) quantity

s is the standard deviation of the filling process,

$T1$ is $Q_n - 1 \text{ TNE}$

$T2$ is $Q_n - 2 \text{ TNE}$

TNE is the tolerable negative error for the nominal quantity¹.

WELMEC document 6.4² at paragraph E2.5 deals with this matter as above. It is treated differently in the Packers Code³ at paragraph C15, but the result is the same.

1 as stated in Schedule 3 of the Weights & Measures (Packaged Goods) Regulations 2006

2 WELMEC 6.5 Guidance on Controls by Competent Departments

For the various process variations the results are:

Process variation	Q_n	$T1+2s$	$T2+3.72s$	Largest
4	200	199	196.88	200
5	200	201	200.6	201
6	200	203	204.32	204.32

As can be seen from this table that which of the packers' rules is critical depends on the variability of the filling process. In this exercise the critical rule is:-

For $s=4 \text{ g}$ the first rule, ensuring the average is correct,

For $s=5$ g the second rule, ensuring that the number of packages having a greater negative error than the tolerable negative error is acceptable, and

For $s=6$ g the third rule, ensuring that there are no packages with a negative error greater than twice the tolerable negative error produced.

- 1.1.3. The above 'largest' quantities would be acceptable as a target quantity if there were no other issues that needed addressing. The scenario gave information about the sampling plan the packer is using and so the adequacy of this needs to be considered.

1.2. Sampling Allowance

- 1.2.1. Generally the packer's sampling plan is considered to be equivalent to the reference test if at least 50 items are sampled during the time that 10,000 packs are filled (with a minimum time of 1 hour and a maximum time of 1 day or shift). See the Packers Code, paragraph C22, or WELMEC 6.5, paragraph E.3

- 1.2.2. The scenario is that the packing line produces 4,000 bags an hour and the packer monitors the average weight of the product by taking samples of five bags from the line every 30 minutes. The average of each sample is calculated and used to determine when action is needed.

From this information, the time taken to fill 10,000 packs, referred to as the Production Period, is equal to $10,000/4,000 \text{ hr} = 2.5 \text{ hr}$.

The number of samples (of size 5, i.e. $n = 5$) taken during this period, sampling every half hour, is $k = 2.5/0.5 = 5$.

Therefore, the number of items sampled during the production period (time taken to produce 10,000 packs) is $kn = 5 \times 5 = 25$. As this is less than 50 a sampling allowance is needed to ensure that the packers' system is as efficient as the reference test in detecting non-compliance.

The Code of Practical Guidance for Packers and Importers (Issue No 1), Dec1979 as editorially updated.

- 1.2.3. The appropriate allowance, which is used to enhance the target quantities established in 1.1.2 above, is obtained by looking up the tables in the Packers Code, Table C1, or WELMEC 6.5, Table E.3. The allowances are based on 3 control system:-

- using Shewhart Control with Action Limit only (1 in 1,000),
- using Shewhart Control with Warning Limit (1 in 40) & Action Limit (1 in 1,000), and
- using Cusum control with $h=5$, $f=0.5$ (as per BS 5703)

The exercise indicates that only an Action Limit is used which is referred to as Procedure A in the tables.

- 1.2.4. Looking at $n=5$ and $k=5$ for procedure A gives a sampling allowance factor, $z = 0.20$. This factor is multiplied with the standard deviation of the packing process to produce an allowance, which is added to the targets determined in 1.1.2 above.

- 1.2.5. The minimum target quantity taking into account process variability and sampling becomes:

Process SD	Qn	T1+2s	T2+3.72s	Largest	zs=0.20s	Min Qt
4	200	199	196.88	200	0.8	200.8
5	200	201	200.6	201	1	202
6	200	203	204.32	204.32	1.2	205.52

1.3. Other Allowances

1.3.1. The scenario does not give any indications that other allowances are necessary but other issues that need to be considered include:-

- a 'wandering average',
- storage allowance, particularly for desiccating products,
- temperature, if the product is filled hot or cold and the volume changes when determined at 20°C.

These are considered in the Packers Code in paragraphs C21 to C25 and WELMEC 6.5 in paragraphs E.5.1 to E.5.4.

1.4 Action Limits

1.4.1 The scenario asks for the 'minimum action limit (1 in 1,000) for the sample mean'. The distribution of the sample mean (of samples of size n) is related to the distribution of the individual items (the process variability).

1.4.2 If the process variability (standard deviation) is s
and the number of items in a sample is n
then the standard deviation of the distribution of the means, sometimes referred to as the standard error of the means, is s/\sqrt{n}

1.4.3 The action limit, with a chance of 1 in 1,000 of exceeding, as with the normal distribution comes at three times the standard error away from the target quantity. Only the lower action limit is needed for legal metrology, although upper limits may be set, for example for safety reasons (aerosols), or economic reasons (duty on alcohol) – but the corresponding limit must be no nearer the target quantity than the lower one.

So for legal metrology the Action Limit should be no lower than $Q_t - 3 s/\sqrt{n}$ (If there was a warning limit of 1 in 40 being used this would be at 2 times the standard error.).

An example is given in the Packers' Code at paragraph C34, it is also covered in WELMEC 6.5 at paragraph E.7.2.

Using the data from the exercise this gives:

Process SD	Qn	T1+2s	T2+3.72s	Largest	zs=0.20s	Min Qt	3s/√n	Action limit
4	200.00	199.00	196.88	200.00	0.80	200.80	5.37	195.4
5	200.00	201.00	200.60	201.00	1.00	202.00	6.71	195.3
6	200.00	203.00	204.32	204.32	1.20	205.52	8.05	197.5

RESULTS		
Process Variation, s	Minimum Target Quantity (g)	Minimum Action Limit for the Mean (g)
4 g	200.8	195.4
5 g	202.0	195.3
6 g	205.5	197.5

[Note: The Packers' Code, at Paragraph C34, suggests using $1.38s_0$ to determine the Action Limit, this gives results about 0.2 g different to the above.]

Annex D: Table showing the application of different quantity marking regimes

To aid understanding of which legislative regime to apply to foods and non-foods since the implementation of FIC on 13 December 2014, please see the table below.

		Product Categories			
		Prepacked food within the scope of FIC (that is, any single item for presentation as such to the final consumer and to mass caterers, consisting of a food and the packaging into which it was put before being offered for sale, whether such packaging encloses the food completely or only partially, but in any event in such a way that the contents cannot be altered without opening or changing the packaging)	Prepacked food to which an e mark is applied	Non e marked food items made up for direct sale by way of retail and/or made up in advance in an open container, loose foods, or foods sold by way of relevant wholesale	Pre-packed non food items whether e marked or not
Applicable Requirements	Regulation (EU) No 1169/2011 on the provision of food information to consumers (FIC)	Must comply with FIC quantity labelling requirements	Must comply with FIC, but also subject to more specific rules on quantity labelling under PGR. Where there is a conflict PGR applies.	n/a	n/a
	Weights and Measures (Packaged Goods) Regulations 2006 as amended	Must comply with PGR requirements except the quantity labelling requirements.	Must comply with PGR requirements.	n/a	Must comply with PGR requirements.
	Weights and Measures (Miscellaneous Foods) Order 1988 as amended	Only in relation to pre-packed honey where it must be marked with net weight	n/a	Must comply with the requirements of the Miscellaneous Foods Order	n/a
	Weights and Measures Act 1963 (Cheese, Fish, Fresh Fruits and Vegetables, Meat and Poultry) Order 1984 as amended	n/a	n/a	Must comply with the Weights and Measures (Cheese, Fish, Fresh Fruits and Vegetables, Meat and Poultry) Order	n/a
	Weights and Measures (Intoxicating Liquor) Order 1988 as amended	Must comply with the requirements of the 1988 Order except the quantity labelling requirements in Article 6.	Must comply with the requirements of the 1988 Order.	Must comply with the requirements of the 1988 Order.	n/a

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