WEIGHTS AND MEASURES


Guidance on Regulation

March 2012

Version 1
Summary

This guidance covers all gravimetric filling instruments in use for trade. Part 1 of this document covers automatic gravimetric filling instruments covered by the Measuring Instruments Directive (MID) i.e. those put on the market on or after 1st October 2006. Parts 2 and 3 cover respectively automatic gravimetric filling instruments and filling machines under national control i.e. before the MID came into force and during the transitional period.

Nothing in this guidance should be construed as overriding, amending or deferring safety regulations and requirements issued by the Health and Safety Executive (in Northern Ireland the Health and Safety Executive for Northern Ireland), in connection with the conduct of persons and the condition and use of machinery and equipment on any premises.

The guidance is addressed to organisations that are required to comply with weights and measures law. Following the guidance is not in itself obligatory but, if you do follow it, this should help your organisation to meet its legal obligations.

Ultimately, only the courts can provide a definitive interpretation of the law. However, for further guidance on how to comply with the law, you can contact your local authority trading standards department, who provide this service free of charge: http://www.tradingstandards.gov.uk/advice/index.cfm - simply type in your postcode and press “go”.

This guidance complies with the Government Code of Practice on Guidance and will be reviewed in October 2016
# Revision History

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<th>Version number and date of change</th>
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| Version 1                        | First issued March 2012  
Updates existing guidance on 2006 MID Regulations (now Part 1) to comply with the BRE “Code of Practice on Guidance on Regulation”. Has been expanded to cover the guidance on:  

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1.1 Foreword


1.1.2 Eleven new measuring instrument regulations have been made to implement the Directive. Ten of these have been written so that the types of instrument and their field of application mirror the scope of regulations made previously under the Weights and Measures Act 1985 and the Weights and Measures (Northern Ireland) Order 1981. A separate regulation relates to instruments covered by the Directive, but not regulated within the UK. These are referred to as “non-prescribed instruments” and the regulation governing them provides a means by which UK manufacturers can be permitted to undertake conformity assessment procedures on these instruments. This will allow them to export to other Member States where the particular instruments are regulated.

1.1.3 There is also a distinction between measures relating to measuring instruments when they are first placed on the market (which are governed by the Directive) and the in-service provisions which are derived from existing national provisions. The Regulations therefore apply both at the point at which the instrument is placed on the market and in-service testing and subsequent repair and re-qualification.

1.1.4 This guidance covers the above Regulations.

1.1.5 The Regulations came into force on 30 October 2006 after which date new designs of automatic gravimetric filling instruments placed on the market must comply with their provisions. This guidance is intended to assist manufacturers, notified bodies and enforcement authorities in meeting the requirements of the Regulations.

1.1.6 A similar system of approval and verification of instruments has been operating successfully for several years for non-automatic weighing instruments (NAWIs) and manufacturers have benefited enormously from its introduction, through savings in costs on both approvals and verification, and through the widening of an easily accessible market. This should also be the case with the Regulations.

1.1.7 There is significant input from WELMEC, the European Co-operation in Legal Metrology, to the understanding and interpretation of the Directive. WELMEC has already convened a number of working groups for this purpose. WELMEC is considering questions of application and implementation, particularly in areas of technical uncertainty and acts as a forum for seeking advice from the European Commission on common issues. Information regarding WELMEC and its decisions can be found at www.welmec.org.

1.2 Background

1.2.1 The Directive is a “New Approach” Directive and was adopted by the EC Council of Ministers in April 2004. It consists of 27 Articles, 14 annexes and 10 instrument specific annexes. Member States were required to implement the provisions of the Directive into their
national law by 30 April 2006 and to apply the new legislation with effect from 30 October 2006.

1.2.2 The Directive extends to all measuring instruments listed in Article 1 and provides that Member States may prescribe use of them for measuring tasks for reasons of public interest, public health, public safety, public order, protection of the environment, protection of consumers, levying of taxes and duties and fair trading where they consider it justified. Following a public consultation it was decided that the UK implementation should apply to areas covered by existing weights and measures Regulations only.

1.2.3 The Directive is the second "New Approach" Directive adopted in respect of measuring instruments. The first was Directive 90/384/EEC (the NAWI Directive) and relates to non-automatic weighing instruments and came fully into force in January 2003.

1.2.4 The Commission has issued guidance on “New Approach” directives in “Guidance on the implementation of directives based on the New and Global Approach” which can be found at: http://ec.europa.eu/enterprise/policies/single-market-goods/files/blue-guide/guidepublic_en.pdf

1.2.5 The principals of the Regulations are set out in the Commission Guidance as follows:

- Harmonisation is limited to essential requirements.
- Only products fulfilling the essential requirements may be placed on the market and put into service.
- Harmonised standards, the reference numbers of which have been published in the Official Journal and which have been transposed into national standards, are presumed to conform to the corresponding essential requirements.
- Application of harmonised standards or other technical specifications remain voluntary, and manufacturers are free to choose any technical solution that provides compliance with the essential requirements.
- Manufacturers may choose between different conformity assessment procedures provided for in the applicable directive.

1.2.6 The "New Approach" to Technical Harmonisation is an important part of the process for achieving the single market. It is intended to remove the technical barriers to trade caused by differing national laws. Directives agreed under the New Approach allow for the free movement (placing on the market and putting into service) in the Community of goods that conform to the essential and other requirements of those Directives. Such products carry the “CE marking” and no Member State is allowed to refuse complying products access to its market. In this case all compliant automatic measuring instruments covered by the Directive have free movement throughout the Community.

1.2.7 In the Regulations it is important to distinguish between when instruments are first placed on the market or put into service and requirements that relate to in-service provisions. The first are requirements of the Directive. The second are national provisions and will therefore apply only to Great Britain.

1.2.8 The Directive provides an ‘optionality clause’. This means that Member States may prescribe the category and range of applications for measuring instruments they wish to control. This will lead to a variation between Member States which will mean that for the same use, instruments in some Member States will be regulated, whereas in other Member States they will not.

1.3 PART I - Preliminary
1.3.1 The Regulations have been made using powers under the European Communities Act 1972 and, in relation to Part III, the Weights and Measures Act 1985. The Regulations also extend to Northern Ireland except for Part III. Separate in-service regulations for Northern Ireland are covered by the Measuring Instruments (Automatic Gravimetric Filling Instruments) (Use for Trade) Regulations (Northern Ireland) 2007 (SR 2007/384).

Citation and commencement

Regulation 1

1.3.2 This gives the title of the Regulations and states the coming into force dates of 30 May 2006 for the regulations listed in 1(2) (essentially relating to the designation of notified bodies) and 30 October 2006 for the remaining regulations.

Interpretation

Regulation 2

1.3.3 The following definitions are important to an understanding of the Regulations.

Manufacturer – This term means a person responsible for the conformity of an automatic gravimetric filling instrument with these Regulations with a view to either placing it on the market under his own name or putting it into use for his own purposes, or both.

Authorised representative - The manufacturer may appoint any natural or legal person to act on his behalf as an authorised representative. The authorised representative must be established in a Member State. The authorised representative must be authorised by the manufacturer, in writing, to act on his behalf, and he may be addressed by the UK authorities instead of the manufacturer with regard to the latter’s obligations under the Regulations. The manufacturer remains generally responsible for actions carried out by an authorised representative on his behalf.

Approved verifier - This is a term used in Regulation 23 and means a person approved pursuant to section 11(A) of the Weights and Measures Act 1985 (in Northern Ireland Article 9(3B) of the Weights and Measures (NI) Order 1981).

Inspector – This is the term used in Regulation 22, and means an inspector of weights and measures appointed under section 72(1) of the Weights and Measures Act 1985 (in Northern Ireland Article 40 of the Weights and Measures (NI) Order 1981).

Importer/person responsible for placing on the market - An importer (a person responsible for placing on the market), for the purposes of the Directive, is any natural or legal person established in the Community who places a product from a third country on the Community market. The importer must ensure that he is able to provide the market surveillance authority with the necessary information regarding the product, where the manufacturer is not established in the Community, and has no authorised representative in the Community. In line with Schedule 1 of the Interpretation Act 1978 a person includes a body of persons corporate or unincorporated in that it applies to both a natural or a legal person.

Notified Body - This means
(a) the Secretary of State i.e. National Measurement Office (NMO) Services; or
(b) a United Kingdom notified body namely a person designated under Regulation 7); and
(c) for the purposes of regulations 4(1)(c), 20(1)(b), 22(1)(c) and 25(6), a person designated by another Member State who has been notified to the Commission and the other Member States pursuant to Article 11.1 of the Directive.

Installer - The installer and assembler of a product, which is already placed on the market, should take necessary measures to ensure that it still complies with the essential requirements at the moment of first use within the Community.

Application

Regulation 3(1)

1.3.4 The Regulations apply to automatic gravimetric filling instruments for use for trade as defined in section 7 of the Weights and Measures Act 1985 (in Northern Ireland Article 5 of the Weights and Measures (NI) Order 1981) that have been first placed on the market or put into use on or after the 30 October 2006. The Regulations have similar in-service provisions to those included in the existing Regulations insofar as they are consistent with the Directive.

Regulation 3(2)

1.3.5 The Regulations do not apply to an automatic gravimetric filling instrument that has been first passed as fit for use for trade under the following regulations in respect of which a certificate of approval was granted before 30 October 2006 and is still in force and which is first passed as fit for use for trade and stamped under the:

- Weights and Measures Regulations 1963

1.3.6 A certificate of approval referred to in Regulation 3(2) will remain valid until the date on which it expires but no later than 29 October 2016 and may be modified up to the date of expiry. Thus an automatic gravimetric filling instrument may continue to be used indefinitely provided it complies with the expired certificate.

1.3.7 Instruments to which the 1986 Regulations apply, in accordance with Regulation 4(1) of the 2000 Regulations, with a valid type approval certificate issued under the 1986 regulations may continue to be passed as fit for use for trade until 16 July 2010. After that date only instruments to which the 2000 Regulations apply can be passed as fit for use for trade for the further period up to 29 October 2016. In cases where an instrument does not bear the mark of conformity and a valid type approval certificate remains in force, the Regulations should be interpreted to say that the earlier regulations apply.

1.3.8 The Regulations apply to automatic gravimetric filling instruments used in making up pre-packages under The Weights and Measures (Packaged Goods) Regulations 2006 (“the 2006 Regulations”) (in Northern Ireland currently the Weights and Measures (Packaged Goods) Regulations (NI) 1990 but these are likely to be replaced in 2007). The instrument must be suitable for the filling operation undertaken. For an automatic gravimetric filling instrument this will mean that the instrument meets the requirements paragraph 6 of Schedule 1 to the 2006 Regulations.
Regulation 3(3)

1.3.9 Instruments not in conformity with the Regulations may be displayed or presented at a trade fair, exhibition or demonstration if they are clearly marked to indicate that they are not compliant with the essential requirements of the Regulations and cannot be acquired or used until they have been made to comply by the manufacturer.

1.4 PART II – Placing on the market and putting into use

Requirements for placing on the market and putting into use

Regulation 4(1)

1.4.1 This regulation makes it an offence to place on the market or put into use an automatic gravimetric filling instrument to which the Regulations apply unless it
   a) meets the essential requirements,
   b) has demonstrated conformity with the essential requirements and
   c) carries the CE marking, M marking and identification number of the notified body which carried out the conformity assessment.

1.4.2 In Regulation 4(b) “its” refers to “the instrument’s”.

1.4.3 The terms placing on the market and putting into use are defined in the Regulations and originate from the Directive. The requirements of Regulation 4(1) apply only to when automatic gravimetric filling instruments are first placed on the market or put into use. Any subsequent re-qualification is addressed by Part IV of the regulations. It should be remembered that it is intended these regulations apply only when automatic gravimetric filling instruments are being used for trade as defined in Section 7 of the Weights and Measures Act 1985 (in Northern Ireland Article 5 of the Weights and Measures (NI) Order 1981). This applies to instruments when they are first placed on the market or re-qualified.

Compliance with the essential requirements

Regulation 5(1)

1.4.4 Manufacturers can use more than one method to demonstrate compliance with the essential requirements. These methods are identified as:-
   
   (a) using any technical solution that complies with the essential requirements;
   (b) correctly applying solutions set out in the relevant national standard; or
   (c) correctly applying solutions set out in the relevant normative document,

and selecting and following one of the conformity assessment procedures referred to in regulation 6.

Regulation 5(2)

1.4.5 This includes the presumption that instruments which conform fully or in part to relevant national standards or normative documents will be presumed to conform fully or in part to the essential requirements. Relevant national standards and normative documents for this purpose will be published by the Secretary of State, or the competent authority in another Member State. Normative documents for automatic gravimetric filling instruments identified by the Commission are published on the NMO website and can be found at:
The appropriate OIML Recommendation for automatic gravimetric filling instruments is Recommendation R61 (Edition 2004) which can be found on the OIML website at: [http://www.oiml.org](http://www.oiml.org).

Where conformity is only in part to relevant national standards or normative documents then either alternative, where available, should be used to give full conformity or other technical solutions provided. Other technical solutions could include the use of European standards which are not harmonised standards and international standards such as OIML Recommendations which are not normative documents.

**Regulation 5(4)**

Provides for devices which do not meet the essential requirements and which are not in use for trade. These can be connected to an automatic gravimetric filling instrument without affecting the conformity of the instrument to the essential requirements. This could for example be printers or data storage devices for management purposes only. These devices are likely to carry their own CE marking under directives other than 2004/22/EC.

**Conformity assessment procedures**

**Regulation 6(1)**

The different conformity assessment procedures available to manufacturers are set out as modules in the annexes of the Directive. These are numbered A to H1. The options available to manufacturers for automatic gravimetric filling instruments are as follows:

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<th>D1</th>
<th>F1</th>
<th>B+D</th>
<th>B+E</th>
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<td>AWIs - Mechanical</td>
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The options above represent:
- Declaration of conformity by the manufacturer based on quality assurance of the production process (including test and final inspection) but without the need for type examination (Module D1)
- 3rd Party verification but without the need for type examination (Module F1)
- Type examination followed by declaration of conformity by the manufacturer based on formal quality assurance of the production process (including test and final inspection) as two separate processes (Modules B + D)
- Type examination followed by declaration of conformity by the manufacturer based on formal quality assurance of product testing and final inspection only (Modules B + E)
- Type examination followed by 3rd Party verification (Modules B + F)
- 3rd Party verification for one off ‘bespoke’ instruments which would otherwise need type examination (Module G)
- Design examination together with declaration of conformity by the manufacturer based on full formal quality assurance of the design and production process
1.4.10 For further information on conformity assessment procedures and other aspects regarding the interpretation of the Directive reference should be made to the “Guide to the implementation of directives based on the New Approach and the Global Approach”. This document can be found at the following website:


1.4.11 For Modules F/F1 under 6.1 and 7.2 of these Regulations the recommended tests to be carried out for initial and subsequent verification should be identified together with the standards necessary to ensure traceability of measurement.

1.4.12 The EU Commission in relation to the Directive has published a list of references to normative documents in the Official Journal (2011/C 33/01 and 2006/C 269/01) which in part gives presumption of conformity to the essential requirements. This includes details on automatic gravimetric filling instruments (MI-006, Chapter III) in relation to OIML Recommendation R61 (Edition 2004). This information is available on the NMO web-site or by reference to the EU website under the following two links:


1.4.13 The normative references address all the relevant provisions of the Directive i.e. both the general and instrument specific requirements, in tabular form, in relation to the corresponding paragraphs of the respective OIML Recommendation and makes comment, in general terms only, of any differences.

1.4.14 WELMEC documents, -published on the WELMEC website, set out as guidance full versions of these simplified tables with background information and comment for interested parties. Automatic gravimetric filling instruments are covered by document WELMEC 8.16-2.

1.4.15 It will be for the manufacturer and/or Notified Body to decide how to interpret the guidance.

**Regulation 6(2)**

1.4.16 Schedule 3 of the regulations outlines the nature of the technical documentation that a manufacturer or his authorised representative must maintain. This information must be provided to a notified body to enable them to carry out the relevant assessment. This documentation must be provided in the language of the notified body or any other language acceptable to it in compliance with paragraph 10(1)(a) of Part II of Schedule 2.

1.4.17 The 2006 Regulations do not provide for manufacturers that ‘self verify’ to notify the Chief Inspector of Weights and Measures of details such as the location, certificate number and date of installation of an automatic gravimetric filling instrument. However, should the manufacturer wish to do so in the interests of openness, there is nothing to prevent this from happening.

**Designation of United Kingdom notified bodies**
Regulation 7(1)

1.4.18 Under Article 11 of the Directive notified bodies are required for the tasks relating to the conformity assessment of modules A to H1 (see paragraph 1.4.9 of this guidance for those relevant to automatic gravimetric filling instruments). The criteria for designation of these bodies in accordance with Article 12 are included in Schedule 2 Part 1 of the Regulations.

Regulation 7(2)

1.4.19 If an organisation meets the requirements of Schedule 2 Part I the Regulations permit the Secretary of State to designate a person, whether that is a person resident or incorporated or carrying on a business in the United Kingdom or any other type of person e.g. a local weights and measures authority, to be a UK notified body. The definition of a notified body includes a person although it would appear unlikely that an individual person would be appointed. Where the designation is in respect of a particular description of an automatic gravimetric filling instrument the Secretary of State must be satisfied that the applicant meets the criteria as respects that instrument. As with the definition of an importer and, in line with Schedule 1 of the Interpretation Act 1978, a person includes both a natural or a legal person. The application form for bodies applying to be designated as a United Kingdom notified body under Regulation 7 can be found on the NMO website at: www.bis.gov.uk/nmo.

Regulation 7(3)

1.4.20 If a person applying to be a notified body operates an approved quality system under a relevant harmonised standard e.g. EN 17025/17020 and EN45011/45012 he shall be presumed to meet the criteria of the Directive only to the extent that the standard corresponds with the criteria of the Directive. The application form for persons applying to be designated as a notified body under Article 11 and bodies wishing to extend their current status to include conformity assessment tasks in the Directive can be found on the NMO website at: www.bis.gov.uk/nmo/regulation.

Regulation 7(4)

1.4.21 Designations under the Regulations must be in writing which may be either in electronic or hard copy format. They may include conditions such as the scope of the designation.

Regulations 7(5) and 8

1.4.22 In addition to the criteria in Schedule 2 Part I of the Regulations the Secretary of State may consider any matter appearing to him to be relevant prior to designating a person to be a UK notified body under Regulation 7. The functions of a notified body in Regulation 8 are set out in Part 2 of Schedule 2 to the Regulations.

Provisions supplemental to Regulation 7

1.4.23 The provisions of Regulation 9 deal with the publication of lists of notified bodies and the inspection of notified bodies. The Secretary of State will periodically carry out an inspection of UK notified bodies. The purpose of that inspection shall be to verify whether the notified body meets the notified body criteria and complies with any designation to which it is subject and complies with the Regulations. It is important to remember that although such an inspection may result in a visit to a manufacturer, it is the notified body that will be being
inspected, not the manufacturer.

**Regulation 9(1)**

1.4.24 The Secretary of State will publish a list which specifies for which instruments the notified body is designated and any conditions to which it is subject. These details will be available on the NMO website at [http://www.bis.gov.uk/nmo/regulation](http://www.bis.gov.uk/nmo/regulation).

1.4.25 The European Commission also publishes a list of notified body numbers which gives details of the notified body and the instruments on the New Approach Notified and Designated Organisations (NANDO) website. For the MID click on: [http://ec.europa.eu/enterprise/newapproach/nando/](http://ec.europa.eu/enterprise/newapproach/nando/).

1.4.26 Search by Annex for the relevant declaration of conformity and then by instrument type. Search by country and then by notified body number to give name and for the MID the instruments for which it has been notified and the applicable procedures/annexes.

1.4.27 This site will enable you to find the European notified bodies as well as third country bodies designated under formal agreements - Mutual Recognition Agreements (MRAs), Protocols to the Europe Agreements on Conformity Assessment and Acceptance of Industrial Products (PECAs) and European Economic Area (EEA) - responsible for carrying out the conformity assessment procedures referred to in the application.

**Fees**

**Regulation 11**

1.4.28 This Regulation permits notified bodies (which includes the Secretary of State) to charge such fees in connection with or incidental to the carrying out of conformity assessments or specific tasks as it may determine.

1.4.29 Section 56 of the Finance Act 1973 requires the Secretary of State to define by statute the fees he charges for certain tasks to be carried out in relation to EU commitments/obligations.

1.4.30 The Regulations do not govern the fees that may be charged by other notified bodies other than identifying broad parameters in which all notified body fees should be set. The Regulations do not govern other duties undertaken by local authorities relative to the Regulations i.e. in service inspection, subsequent re-qualification and market surveillance.

**Regulation 11(4)**

1.4.31 Provides that, in cases where fees (charged after work is completed or payment of fees has been requested in writing) have not been paid within a period of 28 days, the notified body may give 14 days' notice in writing that the certificates or notification appropriate to the conformity assessment will be suspended until the fees have been paid.

**Marking and identification requirements**

**Regulation 12**

1.4.32 Annex 1 to this guidance describes the CE marking, supplementary metrology (M) marking and the identification number of the notified body concerned with the conformity assessment which must be affixed to each instrument so as to be visible and legible. The
M mark denotes that the instrument is regulated by one of the metrology directives.

1.4.33 It should be noted the supplementary markings are different from those in the NAWI Directive 90/384/EEC. For the purposes of the Directive the M marking does not have to be on a green background as it does under the NAWI Directive but it must be accompanied by the last two digits of the year in which it is affixed. See drawings in Annex 1 to this guidance.

Conformity with other directives

Regulation 13

1.4.34 Where an automatic gravimetric filling instrument falls within the scope of other directives which provide for the affixing of the CE marking the CE marking affixed to the automatic gravimetric filling instruments shall, in addition to conformity with the Directive, indicate conformity with those other directives. Other directives of which manufacturers should be aware include the following

- 89/336/EEC (amended by 91/263/EEC, 92/31/EEC and 2004/108/EC) on electro-magnetic compatibility, as implemented by The Electromagnetic Compatibility Regulations 2005 (as amended);
- 89/392/EEC (amended by 91/368/EEC, 93/44/EEC and 93/68/EEC) on machinery safety (for some but not all industrial products), as implemented by the Supply of Machinery (Safety) Regulations 1992 (as amended); and

This list is not exhaustive.

1.5 PART III – Use for trade

1.5.1 This part only applies to automatic gravimetric filling instruments in use for trade once they have been placed on the market and put into use in Great Britain (paragraph 1.7.2 regarding Northern Ireland). It applies irrespective of whether the instrument was attested under the Regulations or the corresponding regulations issued by another Member State.

1.5.2 This part of the Regulations is made under section 15 of the Weights and Measures Act 1985. This part of the Regulations prescribes the requirements for use for trade of the instrument and for the avoidance of doubt prescribes the instrument for the purposes of section 11(1) of the Act once put into use. The enforcement provisions of Part IV of the Regulations make reference to Regulation 14 in Part III by providing the inspector or approved verifier the criteria under which a disqualification or re-qualification sticker may be applied to an instrument. Only the inspector of weights and measures can apply a disqualification mark to a measure. The activities of an approved verifier are controlled by an approval issued by the Secretary of State under section 11A of the Weights and Measures Act 1985. Approved verifiers must apply to the Secretary of State to have any automatic gravimetric filling instrument covered by the Regulations that they propose to re-qualify added to the appendix which accompanies their approval.

Requirements for use for trade

Regulation 14

1.5.3 This Regulation requires instruments to continue to meet the essential requirements in-service. There are separate in-service values for maximum permissible errors (MPEs).
Annex 2 to this guidance describes the requirements for use for trade with respect to accuracy classes (including the meaning of waste and radioactive waste, referred to in Schedule 5, Part 1 of the Regulations) and maximum permissible errors.

Manner of use

Regulation 15

1.5.4 Where an automatic gravimetric filling instrument is marked with a temperature range it shall not be used for trade in temperatures outside that range.

1.5.5 Schedule 1 paragraph 16 requires the manufacturer to specify the accuracy class for the automatic gravimetric filling instrument. Table 1 in Part 1 of Schedule 5 specifies the accuracy classes required to be used for certain specified products. The reference value for accuracy class must be stated on the certificate of approval for the instrument and shall be equal to the best accuracy class for the highest level of precision for which the instrument may be tested and passed as fit for use for trade. The instrument may not be used for measurements outside the stated limits.

1.5.6 The Regulations specify requirements that apply only when the automatic gravimetric filling instrument is in use for trade.

Automatic gravimetric filling instruments to be set to zero

Regulation 16

1.5.7 Unless designed so as not to be balanced when unloaded automatic gravimetric filling instruments must be balanced and set to zero immediately prior to use for trade.

Manner of erection and installation

Regulation 17

1.5.8 Every automatic gravimetric filling instrument shall be positioned to facilitate cleaning and testing. If any special equipment that may be needed to permit the control of measuring tasks after the instrument has been placed on the market is not a permanent fixture of the instrument, it shall be kept in the vicinity of the instrument.

1.6   PART IV - Enforcement

Enforcement authority

Regulation 18

1.6.1 All enforcement of these regulations will be under the European Communities Act. The powers of the Weights and Measures Act (in Northern Ireland the Weights and Measures (NI) Order 1981) do not extend to enforcement for these Regulations.

1.6.2 This regulation imposes a duty on every local weights and measures authority in Great Britain to enforce the Regulations within its area. (In Northern Ireland the enforcement authority is the Department of Enterprise, Trade and Investment). It also authorises to the Secretary of State to enforce Part II of the Regulations and for that purpose gives him the power to appoint any persons to act on his behalf. The power of the Secretary of State is
independent of a weights and measures authority and is to ensure the Secretary of State is able to fulfil his obligations to conduct market surveillance. Those authorised by this regulation are referred to as “enforcement authorities”.

**Compliance notice procedure**

**Regulation 19**

1.6.3 In cases where the enforcement authority has established that the CE marking and/or M mark have been inappropriately affixed for an instrument that has been placed on the market or put into use it may serve a notice on the manufacturer or his authorised representative requiring him to end the infringement. It must be noted that this power rests with an enforcement authority, not with an officer of that authority. It therefore does not limit the issuing of these notices to inspectors.

1.6.4 It should also be remembered that the application of the CE and the M marking confirm compliance with the essential requirements in Schedule 1 of the Regulations when the instrument was placed on the market or put into use. This will include selecting and following one of the conformity assessment routes. Any contravention that falls outside of these definitions is not caught by the compliance notice procedure.

**Immediate enforcement action**

**Regulation 20**

1.6.5 An enforcement authority has powers to take action pursuant to this Regulation where it has reasonable grounds for considering that either:
(a) the requirements of a compliance notice procedure have not been complied with; or
(b) an automatic gravimetric filling instrument which has been placed on the market or put into use, does not bear one or more of the CE marking, the M marking and the identification number of the notified body which carried out the conformity assessment procedure in respect of that instrument; or
(c) an automatic gravimetric filling instrument bearing the CE marking and the M marking does not meet all the essential requirements when placed on the market, or properly installed and put into use in accordance with the manufacturer’s instructions.

1.6.6 The Secretary of State will publish particulars of any notice issued withdrawing a certificate or notification. It is expected that this will take the form of advice to trading standards officers/interested parties and be published on the NMO website (www.bis.gov.uk/nmo).

**Disqualification**

**Regulation 22**

1.6.7 In cases where an instrument has been altered and the inspector has been notified in writing of the alterations a disqualification sticker will be required in all cases where the instrument no longer meets the essential requirements.

1.6.8 It should be noted that the maximum permissible errors for instruments (mpes) in use for trade are those in Table 1 of Part 2 of Schedule 5 of the Regulations not those in Schedule 1 paragraph 3.

**Re-qualification**
Regulation 23

1.6.9 It is important to contrast this process with that initially placing a measure on the market for the first time which requires the involvement of a notified body. Re-qualification may be by an inspector of weights and measures or by an approved verifier, e.g. the manufacturer or a repairer.

1.6.10 Re-qualification is the process by which either an inspector or an approved verifier assesses compliance of the instrument after it has, or could have, been disqualified and returned to conformity with the essential requirements. This means that the mpes will be those applicable to first placing the instrument on the market.

Testing of automatic gravimetric filling instruments

Regulation 24

1.6.11 The Regulations do not stipulate a test procedure for conformity assessment or verification. They only stipulate that an instrument must comply with the essential requirements. The use of a harmonised standard or normative document will demonstrate compliance with the essential requirements. The reference for normative documents covering automatic gravimetric filling instruments is given in paragraph 1.4.5 above.

1.6.12 Where third party testing is carried out in accordance with Module F/F1 the testing requirement is specified in the harmonised standard or normative document or equivalent tests. In the absence of these documents the Notified Body is responsible for specifying the appropriate tests to be used for the purposes of Sections 6.1 and 7.2 of Annex F1 to the Directive.

1.6.13 The reference value for accuracy class shall be stated in the certificate of approval and shall be equal to the best accuracy class, that is to say the class of the highest level of precision, for which that instrument may be tested and passed as fit for use for trade.

1.6.14 The reference value is the best accuracy class that has been established for the instrument at the time of type approval or design approval. An instrument can be declared as meeting the requirements even if subsequent testing with “material” indicates a better accuracy class.

1.6.15 This regulation, being part of Part IV (Enforcement), relates only to the testing carried out by the inspector in relation to his duties as an enforcement officer when he makes an in-service inspection of the measuring system. It does not apply to testing for conformity assessment or re-qualification.

Regulation 24(1)

1.6.16 Requires the person in control of the equipment to provide such assistance as necessary to enable the inspector to carry out his duties. In most cases, this normally means allowing access to the equipment and co-operation of site staff so that inspection of the equipment can take place. However, the regulation gives the inspector the power to require reasonable assistance in a number of specific and non-specific ways. This helps to ensure the inspector cannot be prevented from carrying out his duties without very good reason.

Unauthorised application of authorised marks
Regulation 25

1.6.17 Any automatic gravimetric filling instrument in use for trade but not marked with the notified body number, CE mark and M mark and put in use after on or after 30 October 2006 may be disqualified unless it can be demonstrated that the instrument is not subject to the Regulations.

Powers of entry and inspection

Regulation 26(1)

1.6.18 It is important to consider the definition of Enforcement Officer. It is either an inspector as defined in the Weights and Measures Act 1985 (in Northern Ireland the Weights and Measures (NI) Order 1981), or a person appointed by the Secretary of State to act on his behalf to enforce Part II of the Regulations.

1.6.19 It should be noted that this Regulation gives an enforcement officer the authority to inspect and test an automatic gravimetric filling instrument, but it is only an inspector of weights and measures that may reject the instrument if it is found not to comply with the regulations. The enforcement authority does have the power to issue a compliance notice (regulation 19) or take immediate enforcement action (regulation 20) if the requirements of those regulations are not met.

1.6.20 The powers under regulation 26(1) should be contrasted with those existing in relation to the NAWI Regulations 2000 (SI 2000/3236) – “the NAWI Regulations”. These give an authorised officer an extra power to inspect relevant quality systems. A similar power has not been included in these regulations. This means that an enforcement officer will not have the power to look at the quality systems that a manufacturer or approved verifier may be using when engaging in conformity assessment procedures of their own instruments. Where this becomes a necessity such action may be authorised as part of a market surveillance exercise.

1.6.21 It should be noted that there is no provision in these regulations which allows a person to refuse to give information if it may incriminate them. This should be contrasted with the NAWI regulations which do contain such a provision.

Penalties for offences

1.6.22 The enforcement provisions for these Regulations have been made under the European Communities Act the maximum penalty is a fine not exceeding level 5 on the standard scale levied on summary conviction. The scale has 5 levels, each corresponding to a certain amount. This means that the level of fines can be updated by changing the value of each level, without the need to amend the legislation relating to each separate offence. The current values of the standard scale are section 37 of the Criminal Justice Act 1982 provides as follows:

<table>
<thead>
<tr>
<th>Level on the scale</th>
<th>Amount of fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>£200</td>
</tr>
<tr>
<td>2</td>
<td>£500</td>
</tr>
<tr>
<td>3</td>
<td>£1,000</td>
</tr>
<tr>
<td>4</td>
<td>£2,500</td>
</tr>
<tr>
<td>5</td>
<td>£5,000</td>
</tr>
</tbody>
</table>

1.6.23 This penalty avoids the threat of imprisonment previously applicable to offences.
made under the Weights and Measures Act 1985.

1.7 PART V - Miscellaneous and supplemental

The Electromagnetic Compatibility Regulations 2005

Regulation 33

1.7.1 The Electromagnetic Compatibility Directive was implemented in the UK by the Electromagnetic Compatibility Regulations 2005 (S.I. 2005 No 281) and applies to all instruments. The MID specifically provides immunity requirements in relation to instruments within its scope and therefore these implementing regulations have been disapplied for all MID instruments by Regulation 33 of these regulations. The EMC Regulations 2005 remain in force for all automatic gravimetric filling instruments not subject to these regulations i.e. all those instruments that are not regulated whether because the instrument type is not regulated in the UK or is a regulated instrument that is not in use for trade. The EMC Regulations continue to apply to emissions.

Adaptation for Northern Ireland

1.7.2 The Regulations apply to Northern Ireland subject to Schedule 6. This means that these Regulations apply the requirements relating to placing on the market and putting into use to the whole of the UK. However the in-service provisions relate to Great Britain only. Northern Ireland will make in-service provisions for automatic gravimetric filling instruments.
Annex 1

MARKING AND INSCRIPTIONS

Regulation 12(3)

Supply of Stickers

The Secretary of State has decided that it is necessary to provide a long-term, professional solution to resolve the difficulties that have arisen in securing a consistent good quality source for the supply of the metrology stickers that local authorities and others require to fulfil their statutory obligations for both initial verification, disqualification and subsequent re-qualification activities.

A new solution has been identified which will enable NMO to produce printed versions of the stickers described below on demand. The system has the capability to incorporate the specific identification data required in thermal printed form. This solution will replace the current stop-gap solution introduced in 2006 to allow for the changes to the marking requirements in the MID which meant that, when re-qualifying an instrument, an inspector has to apply both his number and the year of re-qualification in manuscript on a modified NAWI sticker using a “permanent” marker. It has become clear that these marks were not sufficiently permanent so as to withstand the harsh cleaning requirements in some conditions of use particularly in the food preparation sector.

The new stickers have been tested and performed well in a harsh cleaning environment and have been found to meet the requirements applicable in the food industry.

It is the opinion of the Secretary of State that the following stickers should be required to be used for the statutory marks. The new stickers are 12.7 mm x 11.1 mm.

It is not envisaged that the Weights and Measures (Prescribed Stamp) Regulations 1968 (SI. 1968/1615) will need to be amended as re-qualification is carried out under the provisions of these regulations.

The M metrology mark, and the CE mark for initial verification which are the responsibility of the instrument manufacturer will not be supplied centrally.

The new stickers will also be relevant to local authorities who are notified bodies and to approved verifiers under the regulations. Commercial organisations which need to obtain supplies are invited to contact stickers@nmo.gov.uk to discuss availability and prices.

The Secretary of State has determined that there will be benefits arising from a change of process with the stickers produced centrally and supplied by NMO directly to local authorities. To that end the decision has been made to supply a limited quantity of stickers free of charge to all inspectors. The stickers used for re-qualification of NAWI and MID instruments will be supplied overprinted with the inspector’s number and on an annual basis with the year also overprinted. Stickers can also be overprinted with the relevant Notified Body/Approved Verifier numbers on request.

If you have a requirement for a larger quantity, or you are not a local authority, please contact stickers@nmo.gov.uk. It will be possible to agree terms under which larger numbers/other stickers can be provided (at a cost).

STICKER 1 – RE-QUALIFICATION
**Inspector or**

**INS/0704/08**

This is all white label printed on which with the prescribed crown and the information for Inspector’s number will be overprinted using thermal printing technology for use for NAWI and MID instruments.

**Approved Verifier**

**AV/0704/08**

This is all white label printed on which with the prescribed crown and the information for Approved Verifier number will be overprinted using thermal printing technology.

**STICKER 2 – DISQUALIFICATION**

This is a plain white label bearing the prescribed crown mark which has been printed with the disqualification mark No overprinting is required.
STICKER 3 - NOTIFIED BODY IDENTIFICATION NUMBER FOR INITIAL VERIFICATION

NB 0126

This is a plain white label in which the Notified Body number has been overprinted using a thermal printer. It is not a requirement for the number to be pre-fixed by NB.

Other marks and requirements for MID Instruments

1. The CE marking consists of the symbol “CE” according to the design laid down in paragraph 1.B(d) of the Annex to Decision 93/465/EEC. The CE marking shall be at least 5 mm high.
2. The M marking consists of the capital letter “M” and the last two digits of the year of its affixing, surrounded by a rectangle. The height of the rectangle shall be equal to the height of the CE marking. The M marking shall immediately follow the CE marking.
3. The identification number of the notified body concerned shall follow the CE marking and the M Marking.
4. The CE marking and the M marking shall be indelible. The identification number of the notified body concerned shall be indelible or self destructive upon removal. All markings shall be clearly visible or easily accessible.

Directive 2004/22/EC does not itself contain diagrams for any of these marks although the CE mark is prescribed by reference to paragraph 1.B(d) of the Annex to Decision 93/465/EEC.
The CE mark must not be less than 5mm in its vertical height, and the proportions maintained. It is generally shown on a grid in the guidance booklets, as below (the grid does not form part of the marking and is for information only):

This mark looks the same as some previous marks, but there are subtle changes, and it should be studied closely. It should be noted, for example, that the C and E are not formed by perfect semicircles, i.e. the top and bottom arms extend one square beyond the semicircles, and the middle arm of the E stops one square short.

The graphic is not made available for download from any official sources, but can be obtained in a wide variety of file formats from commercial organisations, sometimes freely available for download.

As far as the M mark is concerned the manufacturer applying the mark has freedom over the design provided that the M marking meets the criteria set down in Paragraph 2 of Article 17 of Directive 2004/22/EC, as to being surrounded by a rectangle also containing the last two digits of the year of affixing, and is placed immediately after the CE mark.
Similarly the Notified Body must place its mark, or authorise the manufacturer to do so on its behalf, so that it follows the CE and M markings.

The identification number of the notified body concerned shall follow the CE marking and M marking.

When an automatic gravimetric filling instrument consists of a set of devices operating together, the markings shall be affixed on the instrument's main device.

The CE marking and the M marking must be indelible. The identification number of the notified body concerned must be indelible or self-destructive upon removal. All markings shall be clearly visible or easily accessible.

The Directive does not specify in detail the form and appearance of all the various markings. It has therefore been necessary to decide on the details that will apply under the Regulations as indicated in the examples statutory marks above.
Annex 2

REQUIREMENTS FOR USE FOR TRADE

Part 1 - Accuracy classes for automatic gravimetric filling instruments

In manufacturing an instrument, the manufacturer will usually intend it to meet a particular accuracy class. The classes for particular uses in the UK are specified in Table 1. Manufacturers should consult the legislation of other Member States who may have different requirements for specified uses.

When the instrument is submitted for type approval it will undergo static testing during influence quantity testing, and the results of this will indicate that the instrument belongs to a particular reference value for accuracy class. This class is the best class for which the instrument may be verified for use, although it may transpire that given a particular installation, or particular materials with which it may be used, it is not able to meet this accuracy class, but must be designated finally to a lower class. The tests for type approval include a representative material test, but at the verification of the instrument a material test is carried out using the actual products to be weighed. The instrument's operational accuracy class may also be affected by the conditions, such as environmental ones, in which it will be operating.

The Regulations do not define "minimum capacity" in a way in which it can be easily quantified in respect of any particular value for an instrument. In identifying the minimum capacity for a particular instrument, the manufacturer will need to take account of the temperature effect on the no-load indication test (R 61 part 1 clause A.6.2.2). Other values that will be interrelated with the value of the minimum capacity are the value of the significant fault, the value of the error for the warm-up tests and the error derived from the span stability test.

For the purposes of the relevant accuracy classes the definition of waste relates to Section 75 of the Environmental Protection Act 1990 which says:

“(2) "Waste" includes—
(a) any substance which constitutes a scrap material or an effluent or other unwanted surplus substance arising from the application of any process; and
(b) any substance or article which requires to be disposed of as being broken, worn out, contaminated or otherwise spoiled;
but does not include a substance which is an explosive within the meaning of the [1875 c. 17] Explosives Act 1875.

(3) Any thing which is discarded or otherwise dealt with as if it were waste shall be presumed to be waste unless the contrary is proved.

(4) "Controlled waste" means household, industrial and commercial waste or any such waste.

(5) Subject to subsection (8) below, "household waste" means waste from— 2
(a) domestic property, that is to say, a building or self-contained part of a building which is used wholly for the purposes of living accommodation;
(b) a caravan (as defined in section 29(1) of the [1960 c. 62.] Caravan Sites and Control of Development Act 1960) which usually and for the time being is situated on a caravan site (within the meaning of that Act);
(c) a residential home;
(d) premises forming part of a university or school or other
educational establishment;
(e) premises forming part of a hospital or nursing home.

(6) Subject to subsection (8) below, “industrial waste” means waste from any of the following premises—
(a) any factory (within the meaning of the [1961 c. 34.] Factories Act 1961);
(b) any premises used for the purposes of, or in connection with, the provision to
the public of transport services by land, water or air;
(c) any premises used for the purposes of, or in connection with, the supply to
the public of gas, water or electricity or the provision of sewerage services; or
(d) any premises used for the purposes of, or in connection with, the provision to
the public of postal or telecommunications services.

(7) Subject to subsection (8) below, “commercial waste” means waste from premises
used wholly or mainly for the purposes of a trade or business or the purposes of sport,
recreation or entertainment excluding—
(a) household waste;
(b) industrial waste;
(c) waste from any mine or quarry and waste from premises used for agriculture
within the meaning of the [1947 c. 48.] Agriculture Act 1947 or, in Scotland, the [1948
c. 45.] Agriculture (Scotland) Act 1948; and
(d) waste of any other description prescribed by regulations made by the
Secretary of State for the purposes of this paragraph.”

Radioactive Substances Act 1993

Section 2
In this Act “radioactive waste” means waste which consists wholly or partly of -
(a) a substance or article which, if it were not waste, would be radioactive material, or
(b) a substance or article which has been contaminated in the course of the production,
keeping or use of radioactive material, or by contact with or proximity to other waste
falling within paragraph (a) or this paragraph.

Part 2 - Maximum permissible error value for automatic gravimetric filling instruments
in use for trade

Table 2 gives the maximum permissible errors for instruments in use for trade. These
comprise the maximum permissible deviation from fill multiplied by the class designation
factor (x) in section 2.

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   • Introduction
   • Scope and Application
   • Transitional Exclusion
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   • Changes made by the 2000 Regulations
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Annex 1 Extracts from Acts relating to the definition of ‘waste’ referred to in Schedule 3 to the 2000 Regulations

Annex 2 Extracts from OIML R 61 which are referenced in the 2000 Regulations but not reproduced there, or which are required for testing for passing as fit for use for trade

2.1 Foreword

2.1.1 The Weighing Equipment (Automatic Gravimetric Filling Instruments) Regulations 2000, SI 2000/388, hereafter referred to as “the 2000 Regulations”, implement International Recommendation R 61 of the Organisation Internationale de Métrologie Légale (OIML) into our law, that is to say the law of Great Britain. As members of OIML, we have a moral obligation to do this. This Recommendation covers automatic gravimetric filling instruments, such an instrument being defined as an “instrument which fills containers with predetermined and virtually constant mass of product from bulk by automatic weighing, and which comprises essentially an automatic feeding device or devices associated with one or more weighing units and the appropriate control and discharge devices” (R 61 T.1.3). The Regulations came into force on 17 July 2000.

2.1.2 The 2000 Regulations set out requirements for the type approval of filling instruments, the manner in which they should be erected and installed, their verification and the need for them to meet with certain requirements if they are to be used for trade.

2.1.3 The weights and measures legislation in Northern Ireland is expected to be brought into line in due course.

2.2 Part 1 - General

Introduction

2.2.1 This guidance has been prepared to help explain the Weighing Equipment (Automatic Gravimetric Filling Instruments) Regulations 2000, (“the 2000 Regulations”), which implement OIML R 61 (“R 61”). The 2000 Regulations apply to automatic gravimetric filling instruments that are used for trade. The guidance is for all who are concerned with observing or applying the controls required by the Regulations. This includes the weighing instrument manufacturing industry, inspectors of weights and measures (Trading Standards Officers - TSOs), users and owners of these filling instruments.

2.2.2 This guidance is not and does not purport to be an authoritative interpretation of the law. The law can only be interpreted by the Courts, although the Secretary of State does have certain powers to adjudicate when differences arise on interpretation of the 2000 Regulations as described in section 15(4) of the Weights and Measures Act 1985 (see Annex 1). Where examples are given throughout this guidance they represent an opinion and do not form an authoritative interpretation. In case of any doubt, users of this guidance are advised to seek their own independent, including legal, advice.

2.2.3 The 2000 Regulations provide for:
(a) the principles of the construction and marking of automatic gravimetric filling instruments;
(b) the manner of their erection, installation and use;
(c) their testing, passing as fit for use for trade, stamping, and obliteration of stamps;
(d) their prescribed limits of error; and
(e) require an accuracy class to be assigned and require that where these instruments are used for certain purposes that instruments of a certain accuracy class must be used.

2.2.4 The 2000 Regulations also made a change that did not derive from R 61, but reflected pre-existing policy on weighing and measuring instruments, which was to permit these instruments to be imported from another State of the European Economic Area (EEA) without the need for further testing within Great Britain, provided that have already been
tested on the same basis as that required by the 2000 Regulations. The 2000 Regulations will help to reduce barriers to trade as they play a part in harmonising requirements for these instruments throughout the EEA. The 2000 Regulations also contain enforcement provisions.

Scope and Application
2.2.5 The 2000 Regulations do not apply to filling instruments which were in use for trade before the 2000 Regulations came into force: however, these may have been prescribed under national legislation by the Weighing Equipment (Filling and Discontinuous Totalising Automatic Weighing Machines) Regulations 1986, SI 1986/1320, as amended (the "1986 Regulations"). Modification of an instrument that was already in use before the 2000 Regulations came into force will not make any difference to the applicability, or not, of the 2000 Regulations.

Transitional exclusion
2.2.6 The 2000 Regulations allow, at regulation 4, a transitional period during which filling instruments, which fall within the scope of the 2000 Regulations, may nevertheless continue to be first passed as fit for use for trade under the 1986 Regulations up until and including 16 July 2010 - thereby allowing manufacturers of these instruments to make the most of type approvals that have already been granted. During this transitional period either the 2000 Regulations or the 1986 Regulations may be applied. At the end of the transitional period the 2000 Regulations will replace the 1986 Regulations to the extent that they apply to the same filling instruments (although any instruments that were passed as fit for use for trade under the 1986 Regulations before the end of the transitional period can remain in use). Filling instruments which do not fall within the scope of the 2000 Regulations may continue to be passed as fit for use for trade under the 1986 Regulations.

OIML and removal of barriers to trade
2.2.7 All of the EC member States, and many other countries, are members of OIML. The OIML is an intergovernmental body which is dedicated to harmonising the national metrology regulations of its members. Harmonisation not only provides an important basis for measurement credibility, but also serves to promote international trade through the elimination of technical barriers. Members of OIML have an obligation to implement its Recommendations into their national law, in order to effect this.

2.2.8 In line with this, the 2000 Regulations help to remove barriers to trade by harmonising our national legislative requirements for filling instruments with the requirements of OIML Recommendation R 61. Manufacturers only need to meet the requirements of this Recommendation, if they are manufacturing filling instruments for any of the OIML member countries which have implemented this Recommendation, although this is not a direct consequence of the 2000 Regulations which have effect in Great Britain only.

Changes made by the 2000 Regulations
2.2.9. In implementing the requirements of R 61, the 2000 Regulations make the following changes of substance from the 1986 Regulations:
(a) the 2000 Regulations will apply only to those automatic filling instruments which determine mass by using the action of gravity on the material (others will still be subject to the 1986 Regulations);
(b) they introduce a system of accuracy classes of instruments which may be used for trade;
(c) they make new requirements for the marking of instruments, including for instruments to bear the marking “R 61” (this latter requirement does not derive from R 61 itself, but is intended to eliminate doubt as to which set of Regulations apply to an instrument);
(d) they make new requirements for the erection and installation of instruments, and relating to their use;
(e) a person in possession of an instrument which requires testing may be required to provide a control instrument for the inspector’s use; and
(f) the tests that will be applied to instruments and the error limits to be applied derive
directly from R 61. Acceptable error limits, called ‘maximum permissible deviation’ by R 61,
may now be either in excess or in deficiency.

2.2.10. The 2000 Regulations also go further than the 1986 Regulations in providing for the
testing of instruments to be carried out at a place other than the place of use, where the
inspector is satisfied that any subsequent dismantling, re-assembly or transportation to the
intended place of use will not affect the accuracy or function of an instrument.

Note on the second column of the table in Schedule 3
2.2.11. Queries have been raised in connection with the second column of the table in
Schedule 3 to the 2000 Regulations, which is currently headed ‘Maximum capacity of filling
instrument’. These queries have led NMO to conclude that the heading to the column should
be amended to read ‘Maximum value of the fill’ instead. Entries below the heading should
also refer to a fill value rather than a capacity. These amendments are necessary because
the accuracy class should relate to the weight of the fill, not to the maximum capacity of the
filling instrument. These changes to the 2000 Regulations cannot be made currently, but
would be included when other amendments to Regulations are being made.

2.3 Part 2 - Guidance for Manufacturers

2.3.1. This part is intended to provide advice for manufacturers. Manufacturers will wish to
check first whether legislation (including the 2000 Regulations) applies to their instrument,
and if so, which legislation applies (regulations 3 and 4). It is possible for manufacturers to
opt to continue to have instruments to which the 2000 Regulations could apply, passed as fit
for use for trade under the 1986 Regulations, up until and including 16 July 2010. It has also
been possible, from the coming into force of the 2000 Regulations, for manufacturers to
have instruments passed as fit for use for trade under those Regulations. Under certain
circumstances, it is also possible that neither set of Regulations will apply, and the Scope
and Application section above at paragraphs 2.2.5 and 2.2.6 gives guidance on this.

2.3.2. The ‘test’ for the potential applicability of the 2000 Regulations, would be that the
following statements all apply:

- The instrument is a filling instrument, meaning that it sub-divides loads from bulk into
  predetermined and virtually constant separate loads and discharges them;
- The instrument is automatic, meaning that it follows a predetermined programme of
  automatic (weighing) processes without an operator intervening and that the feed of the
  material and determination of the weight of the load is automated;
- The instrument is gravimetric, meaning that the mass of a load is determined by
  using the action of gravity;
- The instrument is (or will be) in use for trade, meaning that the material being weighed
  will form part of a transaction for money or money’s worth, or relates to the payment of a
toll or duty, and the instrument will be the final arbiter of the weight of that material (it is
not to be checkweighed on another instrument for the purposes of such a transaction); and
- The instrument has not already been verified and brought into use under the 1986
  Regulations.

Semi-automatic Instruments
2.3.3. Weights and measures legislation does not use the term ‘semi-automatic’; instruments
are considered to be either automatic or non-automatic. NMO considers that an instrument is
considered to be automatic if the feed of the material and determination of the weight of the
load is done automatically by the instrument. It does not make any difference to this if the
packaging is placed on to the instrument manually and removed manually; such an
instrument would still be considered to be automatic. Contrast this with a non-automatic weighing instrument, which does not actually determine how much goes into the package, but is simply used for a static weighing operation. (This approach is consistent with that adopted in the case of automatic weighing instruments in paragraph 2(3) of Schedule 4 to the Weights and Measures (Packaged Goods) Regulations 1986, which refers to the container being placed manually in position.) A further factor which will determine whether or not an instrument can be described as automatic relates to how the top-up facility works. If the top-up facility is non-automatic, i.e. it is not generated automatically by the instrument; then the instrument as a whole would be considered to be non-automatic.

Obtaining Type Approval

2.3.4. In order for an instrument to be passed as fit for use for trade, a type approval certificate must have been issued by the Secretary of State under national legislation (regulation 6(a) and definition of “certificate of approval”) which is in force when the instrument is so passed. This means that the design of the instrument must be examined and tested to ensure that it meets certain legal, technical and accuracy requirements. Note that the 2000 Regulations do not actually make provision for type approval, other than that it must have been carried out (by reference to that certificate) – subject to compliance with that certificate, the 2000 Regulations take effect from the point at which the instrument is submitted for initial verification, which is subsequent to type approval. However, in practice, those carrying out type approval will be bearing in mind the requirements of the 2000 Regulations. R 61 itself makes provision for type approvals.

Class of instrument

2.3.5. In manufacturing an instrument, the manufacturer will usually intend it to meet a particular accuracy class. When the instrument is submitted for type approval it will undergo static testing during influence quantity testing, and the results of this will indicate that the instrument belongs to a particular reference value for accuracy class. This class is the best class for which the instrument may be verified for use, although it may transpire that given a particular installation, or particular materials with which it may be used, it is not able to meet this accuracy class, but must be designated finally to a lower class. The tests for type approval include a representative material test, but the Inspector (also known as a Trading Standards Officer) or the approved verifier who carries out the verification of the instrument has responsibility for carrying out a material test as a part of that verification. The instrument’s final class may also be affected by the conditions, such as environmental ones, in which it will be operating.

2.3.6. The 2000 Regulations do not define “minimum capacity” in a way in which it can be easily quantified in respect of any particular value for an instrument. In identifying the minimum capacity for a particular instrument, the manufacturer will need to take account of the temperature effect on the no-load indication test (R 61 part 1 clause A.6.2.2). Other values that will be interrelated with the value of the minimum capacity are the value of the significant fault, the value of the error for the warm-up tests and the error derived from the span stability test.

Limits of error

2.3.7. In preparing the 2000 Regulations, some consideration was given to assigning appropriate limits of error to instruments which are used for certain purposes, much as Schedule 3 to the 1986 Regulations had done previously. This led to similar accuracy class requirements being made in Schedule 3 to the 2000 Regulations. These were chosen with the objective of keeping the limits or error in relation to certain uses as near as possible to those which were required by the 1986 Regulations. Schedule 5 to the 2000 Regulations contains the actual prescribed limits of error, and also details the maximum permissible preset value error. It is considered that ‘preset value’ means the target weight which the instrument is set to achieve, on completion of the filling operation. Testing of the ‘error’ of the
preset value is determined by the offset of the average of the fills from the ‘preset value’.

Testing and Stamping

2.3.8. Regulation 6 specifies the requirements to be satisfied for an instrument to be passed as fit for use for trade, and regulation 7 makes supplementary requirements. The testing and examination for passing as fit for use for trade will normally be carried out at the place at which the instrument will be installed.

2.3.9. However, where the testing has been carried out elsewhere, regulation 7(4) provides that instruments which have been dismantled, transported and re-assembled, need not necessarily be tested again; if the inspector is satisfied that the requirements for accuracy and functioning are still met by the instrument.

2.3.10. Manufacturers are often uncertain as to whether their instrument must be tested in-situ, or whether it is transportable. As a guide, it should be considered whether the instrument needs to be taken apart in order to transport it, and if so, whether the detachment and re-attachment of even peripheral parts could have an effect on the instrument's accuracy and functioning. Imported or transported instruments that do not need to undergo full re-testing in-situ may nevertheless need to undergo the tilt test in-situ – see clause 2.5.3 of R 61 and paragraph 2.3.13 below.

2.3.11. Under regulation 7(2), manufacturers requiring an inspector to pass an instrument as fit for use for trade must provide suitable material for the inspector to use in testing the instrument and must make available for the inspector's use a control instrument; which is an instrument which will be used to carry out an independent test of the weight of the test material.

2.3.12. Regulation 8 and 9(2) will be relevant for manufacturers importing from another EEA State. In that event and if the relevant tests have been carried out in that other EEA State, no further tests will be required provided the instrument is also accompanied by the “requisite documentation”, see regulation 8(2), which in practice means a copy of section 7 of R 61 part 2, completed for that instrument. Further, the relevant test results presented must relate to testing with the same material with which the current instrument will be used. However, in each case, it will be for the inspector to decide whether re-testing is necessary if he is not satisfied as regards the authenticity of the test report or results or the effect of any dismantling of the instrument after such tests (see regulation 8(4)).

2.3.13. When the inspector is satisfied that the instrument may be passed as fit for use for trade the instrument will be stamped on the verification mark support – see regulation 10(1).

2.3.14. The manufacturer will need to determine whether the filling instrument is going to be permanently fixed or mobile. An instrument that has been type approved only for a fixed installation would be illegal for mobile use. If an instrument is to be used as a mobile unit it will need to have undergone tilt testing at the type approval stage. Where an instrument which has a type approval for a fixed installation is subsequently used as a mobile unit, it will also need to undergo the tilt test, which may have an effect on the reference accuracy class. This change of use (and class) must be included in the type approval certificate.

Obliteration of the Stamp

2.3.15. See regulation 12 - manufacturers would need to be aware, on behalf of their customers, that the instrument may be subject to obliteration of the stamp if it does not maintain its characteristics. The stamp might also be obliterated in cases in which the instrument is used to measure materials for which it is deemed to be unsuitable.

2.3.16. Regulations 13 and 14 draw a distinction between cases in which an inspector shall
obliterate the stamp and cases where the inspector may obliterate the stamp. The distinction is that where alterations or additions etc. have been made to an instrument that might affect its accuracy and function, and the local chief inspector of weights and measures was informed about it beforehand, the inspector then has the discretion not to obliterate the stamp. However, if the inspector comes across such an instrument and has not been informed about the alteration or addition etc. beforehand, then the stamp must be obliterated. This provision is intended to encourage users of instruments to inform their local inspector of alterations that they intend to make to an instrument. It is suggested that, where packers are proposing to make alterations to an instrument that may affect its accuracy or function, they should send written details to their local chief inspector of weights and measures, in order to minimise the likelihood that the stamp on the instrument will be obliterated.

**Use of supplementary indications**

2.3.17. The Weights and Measures (Metrication Amendments) Regulations 2001 amended the 2000 Regulations to include a provision at regulation 6A permitting instruments to provide a supplementary indication of the quantity of material weighed, as well as the metric indication. This means that imperial measurements of the quantity may be indicated by the instrument as a supplementary indication.

**2.4 Part 3 - Verification by Approved Verifiers under Section 11A of the Weights and Measures Act 1985**

2.4.1 The Weights and Measures Act 1985, as amended, can be found at: [http://www.legislation.gov.uk/](http://www.legislation.gov.uk/)

2.4.2 The Deregulation (Weights and Measures) Order 1999 (SI 1999/503) introduced new provisions into the Weights and Measures Act 1985 which permit self-verification of weighing and measuring equipment intended for use for trade.

2.4.3 Amongst other things, the Order introduced section 11A to the 1985 Act which permits the Secretary of State to approve persons (manufacturers, installers or repairers of equipment to which section 11 applies) to conduct the testing, passing as fit for use for trade and stamping with the prescribed stamp (verification) of equipment to which section 11 applies.

2.4.4 This provision is underpinned by a requirement that the approved verifier must possess an acceptable documented quality system which will be expected to conform with the relevant clauses of ISO 9001: 2000 and which must also fully encompass the requirements of Schedule 3A of the Weights and Measures Act 1985.

2.4.5 Among other things the approved verifier’s quality system documentation shall include:-

- Details of the organisational structure;
- procedures for the testing of the equipment for which an approval is sought;
- procedures for ensuring that only automatic gravimetric filling instruments complying with the Weighing Equipment (Automatic Gravimetric Filling Instruments) Regulations 2000 and with a certificate of type approval are passed as fit for use for trade;
- procedures for ensuring that staff involved in verification activities are competent and for their training to be kept up to date;
- procedures for the identification and control of measuring and test equipment used to perform verification testing;
- procedures for the control of documents and records;
• procedures for undertaking internal reviews and audits of his quality system;
• and procedures to notify NMO of any changes to the quality system which might have an influence on the businesses’ verification activities.

2.4.6 Normally, an applicant becoming an approved verifier will have had their quality system certified by an acceptable Accredited Certification Body which will have undertaken its assessment of the applicant’s quality system in accordance with requirements which have been issued by NMO. Alternatively NMO is able to conduct its own assessment of an applicant’s quality system.

2.4.7 Approved verifiers will also be subjected to audits to confirm that their verification activities continue to be conducted to the requirements of the approval. In the case of approved verifiers possessing an acceptable certified quality system these audits will generally form part of the normal surveillance and audits conducted by the certification body. Approved verifiers not in possession of an acceptable certified quality system will be subject to similar audit by NMO. (However, the Secretary of State may require additional audits and may issue directions to the approved verifier in respect of matters specified in its approval.)

2.4.8 NMO will conduct additional inspection visits upon approved verifiers as it sees necessary.

2.5 Part 4 – Guidance for Inspectors (Trading Standards Officers)

Stamping
2.5.1 Inspectors will need to determine first whether an instrument with which they have been presented falls within the scope of the 2000 Regulations – see paragraphs 2.2.5, 2.2.6 and 2.3.1 above.

2.5.2 Inspectors who are presented with an instrument for passing as fit for use for trade should be able to obtain the type approval details from the TSI website which may be accessed from “tslinkonline.co.uk” or from a hard copy version, available from the manufacturer or NMO. For imported instruments, the inspector would also need to ensure that type approval had been granted in this country. The inspector may take account of the results of the material tests, associated with the certificate of conformity, set out in the format followed in section 7 of R 61 part 2.

2.5.3 Inspectors who are asked to carry out the initial verification of an instrument should be aware that the type approval documentation for the instrument may have resulted from the testing of the prototype with different products or materials from those with which the instrument currently before the inspector will be used. The type approval only indicates that the instrument was able to operate accurately with the particular product with which it was tested. The inspector will need to be satisfied that the instrument will function correctly within the appropriate accuracy class with the product that is now proposed. Where the instrument which is being presented is made up of modules which have been type approved, provided that the type approval is valid for the system as a whole the verification may be carried out without the need for the inspector to contact NMO.

2.5.4 Inspectors will wish to take account of all of the provisions of the 2000 Regulations in passing instruments as fit for use for trade, but especially those at regulations 6 and 9. Regulation 6 refers to clause 5.3 of R 61 part 1, which is headed ‘Initial verification’. This sets out the examinations and tests that the inspector will need to carry out. Note that 5.3.1 refers to clause 2 excluding 2.2.1 and 2.5, but 2.4 is not applicable either, as it relates to the tests at 2.5. Although the second paragraph of clause 5.3.1 stipulates that the tests must be carried out in-situ, this requirement has necessarily been relaxed, to take account of
arrangements for the mutual recognition of test results with our EEA partners – see regulation 7(4). Clause 5.3 as a whole cross-refers to various other clauses of R 61, to which the inspector would need to refer. Completion of the relevant material test in Annex 4 below will establish the final accuracy class of the filling instrument. If the integral verification method is being followed (as described at clause 7.2 of R 61 part 2) clause 6.5.2 should be referred to.

2.5.5 The equipment and test material that the inspector will need in order to carry out testing of an instrument should be provided by the person or organisation in ownership of the instrument (see regulation 7(2) and paragraphs 2.3.10 above and 2.5.9 below). However, it would be advisable for the inspector to discuss in advance the material that will be needed, in particular the total number of tests to be carried out and whether it would be practicable to attempt to recycle the same material for each individual test. The submitter or manufacturer of the equipment may be able to provide testing equipment that the inspector can use, provided that it is traceable (section 5(2)(a) of the Weights and Measures Act 1985 refers).

2.5.6 In the case of an instrument provided with a means of giving a visual indication and/or printout of the value of the measurement made of individual weighments, the inspector will need to provide:
- weights or masses to load the instrument to its maximum capacity; and
- change point weights equivalent to one-tenth of the scale interval, to cover at least one scale interval. The inspector will also need to have available protective clothing and stationery as required.

2.5.7 In connection with regulation 9(1), inspectors will need to know whether an instrument has been approved as a fixed or mobile installation, and if the instrument is intended to be mobile they will need to ensure that the type approval permits this (testing to ensure compliance with clause 2.5.3 of R 61 part 1 will need to have taken place as a part of type approval).

**Prescribed Limits of Error**

2.5.8 Using the relative errors in Table 1 of R 61 (which is reproduced in Schedule 5 to the 2000 Regulations), the values determined may run to several decimal places. It is the opinion of NMO that it would be appropriate to round the maximum permissible deviation to the nearest scale interval.

**Reference particle mass**

2.5.9 In relation to in-service testing, the text below Table 1 which is reproduced in Schedule 5 of the 2000 Regulations describes how the maximum permissible deviation (mpd) in that Table may be recalculated under circumstances in which the reference particle mass exceeds one-tenth of the maximum permissible in-service deviation. In such cases, the mpd shall be increased by 1.5 times the value of the reference particle mass. However, the maximum value of the maximum permissible deviation shall not exceed \((x) \times 9\%\). Here follows two examples:

**Example 1**

Instrument: Class X(1)  
Value of the mass of the fill: 500 g  
Reference particle mass (Ref): 5 g

Maximum permissible deviation of the fill from the average (mpd) = 15 g

\[0.1 \times \text{mpd} = 0.1 \times 15 = 1.5 \text{ g}\]

Ref (5 g) is greater than 0.1 mpd (1.5 g), so a new mpd must be calculated:
mpd = mpd + 1.5 \times \text{Ref} = 15 \text{ g} + 1.5 \times 5 \text{ g} = 22.5 \text{ g}

However, there is an upper limit on the mpd of:

(x) \times 9\% = 500 \times 1 \times 9\% = 45 \text{ g}.

The calculated mpd of 22.5 g is less than the upper limit of 45 g.

\therefore \text{the value of the mpd for a 500 g fill with a Ref of 5 g is 22.5 g.}

**Example 2**

**Instrument:** Class X(0.5)

**Value of the mass of the fill:** 10,000 g

**Reference particle mass (Ref):** 300 g

Maximum permissible deviation of the fill from the average (mpd) = 75 g

\therefore 0.1 \times \text{mpd} = 0.1 \times 75 = 7.5 \text{ g}

Ref (300 g) is greater than 0.1 mpd (7.5 g), so a new mpd must be calculated:

mpd = mpd + 1.5 \times \text{Ref} = 75 \text{ g} + 1.5 \times 300 \text{ g} = 525 \text{ g}

However, there is an upper limit on the mpd of:

(x) \times 9\% = 10,000 \times 0.5 \times 9\% = 450 \text{ g}.

The calculated mpd of 525 g is greater than the upper limit of 450 g.

\therefore \text{the value of the mpd for a 10,000 g fill with a Ref of 300 g shall be limited to 450 g.}

**Obliteration of the Stamp**

2.5.10 The inspector is required to obliterate the stamp on any instrument which does not meet with the requirements of the 2000 Regulations. This might be because it does not meet with the limits of error requirements, or it has been altered or adjusted such that its accuracy or function have been effected and the local chief inspector was not forewarned of the alteration in advance – see regulations 12 to 14. Other reasons for obliterating of the stamp include: that the loads the instrument is being used to measure are outside of the minimum to maximum capacity range; that the instrument is being subjected to extraordinary operating conditions; or that it is being used for an unsuitable purpose. See also paragraph 2.3.16 above on guidance to regulations 13 and 14.

**2.6 Part 5 - Guidance for Owners and Users**

**Testing**

2.6.1 When submitting a filling instrument to an inspector for testing and stamping, the owner or user of the instrument would normally need to arrange for material for test loads to be available (regulation 7(2)); access to and use of a control instrument (likely to be a non-automatic weighing instrument); and facilities to transport the material between the filling instrument and the control instrument.

**Manner of Erection and Installation**

2.6.2 Schedule 1 to the 2000 Regulations makes requirements in relation to the manner of erection and installation of instruments. When an instrument is permanently installed, it should be level. This may necessitate alignment with a spirit level when it is being installed.
2.6.3 Moveable instruments should have undergone tilt testing at the type approval stage and ideally should be fitted with one or more integral level indicating devices which should be used to set it into its reference position. When the instrument is (temporarily) installed, the integral level indicating device should be utilised or a spirit level with the appropriate degree of sensitivity should be used.

2.6.4 Filling instruments are often installed in hostile environments where the materials being processed could be at least partially responsible for the detrimental conditions. Unless given periodic attention, deposits of material may settle on or penetrate parts such that the metrological integrity of the equipment is affected. Regulation 14(c) of the Regulations makes provision for the obliteration of the stamp on a filling instrument where environmental or operating conditions adversely affect the operation or metrological characteristics of a filling instrument and requirements relating to the use of instruments are made at Schedule 2 to the 2000 Regulations.

Variation of products
2.6.5 Where it is proposed that the instrument be used to weigh a different product from that with which it was initially verified, it will be necessary to seek the inspector’s advice as to whether the instrument needs to be verified again in relation to the new product. It may be that the new product will be sufficiently similar to the original product and further testing may not be necessary. The inspector will need to consider product density, particle size, flow rate and viscosity and the owner or user may need to demonstrate to the inspector that consistent fill weights can be achieved before a decision may be made as to whether a full re-verification or re-designation is necessary. Note that a change in the product may affect the ‘maximum rate of operation’ (this is one of the required markings listed in Schedule 4). The inspector should be able to advise as to whether a change to this marking is required. It would be hoped that in most cases the products described in the type approval certificate would cover an appropriate range so that constant checking with the local inspector would not be necessary.

Variations to the instrument
2.6.6 If the owner or user of the instrument discovers that they will need to change some of the parts of the instrument in order to use it for a different purpose, they will need to refer to the type approval certificate in order to ensure that any changes that are made to the instrument are compatible with the certificate. If the change may be incompatible, a variation to the type approval certificate which was issued to the manufacturer will be needed. Owners and users should also be aware that changes made to an instrument could result in the obliteration of the stamp on that instrument under regulation 13 or 14, thereby taking the instrument out of use - see paragraphs 2.3.16 and 2.5.9 above.

Packaged Goods Regulations
2.6.7 Whilst similar instruments might be used under the 2000 Regulations or under the requirements of the Weights and Measures (Packaged Goods) Regulations 1986; these two sets of Regulations in fact describe two entirely separate sets of requirements.

2.6.8 The 2000 Regulations do not make any specific provisions for arrangements under which feedback from a checkweigher influences the operation of an automatic gravimetric filling instrument.
ANNEX 1

EXTRACTS FROM ACTS RELATING TO THE DEFINITION OF ‘WASTE’ REFERRED TO AT SCHEDULE 3 OF THE 2000 REGULATIONS

Environmental Protection Act 1990

Section 75

(1) The following provisions apply for the interpretation of this Part.

(2) “Waste” includes -
(a) any substance which constitutes a scrap material or an effluent or other unwanted surplus substances arising from the application of any process; and
(b) any substance or article which requires to be disposed of as being broken, worn out, contaminated or otherwise spoiled; but does not include a substance which is an explosive within the meaning of the Explosives Act 1875.

(3) Any thing which is discarded or otherwise dealt with as if it were waste shall be presumed to be waste unless the contrary is proved.

(4) “Controlled waste” means household, industrial and commercial waste or any such waste.

(5) Subject to subsection (8) below, “household waste” means waste from -
(a) domestic property, that is to say, a building or self-contained part of a building which is used wholly for the purposes of living accommodation;
(b) a caravan (as defined in section 29(1) of the Caravan Sites and Control of Development Act 1960) which usually and for the time being is situated on a caravan site (within the meaning of that Act);
(c) a residential home;
(d) premises forming part of a university or school or other educational establishment;
(e) premises forming part of a hospital or nursing home.

(6) Subject to subsection (8) below, “industrial waste” means waste from any of the following premises -
(a) any factory (within the meaning of the Factories Act 1961);
(b) any premises used for the purposes of, or in connection with, the provision to the public of transport services by land, water or air;
(c) any premises used for the purposes of, or in connection with, the supply to the public of gas, water or electricity or the provision of sewerage services; or
(d) any premises used for the purposes of, or in connection with the provision to the public of postal or telecommunications services.

(7) Subject to subsection (8) below, “commercial waste” means waste from premises used wholly or mainly for the purposes of a trade or business or the purposes of sport, recreation or entertainment excluding -
(a) household waste;
(b) industrial waste;
(c) waste from any mine or quarry and waste from premises used for agriculture within the meaning of the Agriculture Act 1947 or, in Scotland, the Agriculture (Scotland) Act 1948; and
(d) waste of any other description prescribed by regulations made by the Secretary of State for the purposes of this paragraph.
(8) Regulations made by the Secretary of State may provide that waste of a description prescribed in the regulations shall be treated for the purposes of provisions of this Part prescribed in the regulations as being or not being household waste or industrial waste or commercial waste; but no regulations shall be made in respect of such waste as in mentioned in subsection (7)(c) above and references to waste in subsection (7) above and this subsection do not include sewage (including matter in or from a privy) except so far as the regulations provide otherwise.

(9) “Special waste” means controlled waste as respects which regulations are in force under section 62 above.

Radioactive Substances Act 1993

Section 2

In this Act “radioactive waste” means waste which consists wholly or partly of -
(a) a substance or article which, if it were not waste, would be radioactive material, or
(b) a substance or article which has been contaminated in the course of the production, keeping or use of radioactive material, or by contact with or proximity to other waste falling within paragraph (a) or this paragraph.
### ANNEX 2

EXTRACTS FROM R 61 WHICH ARE REFERENCED IN THE 2000 REGULATIONS BUT NOT REPRODUCED THERE, OR WHICH ARE REQUIRED FOR TESTING FOR PASSING AS FIT FOR USE FOR TRADE

<table>
<thead>
<tr>
<th>Clause in R61</th>
<th>Where in Regulations (if referred to)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3 Maximum permissible preset value error (setting error)</td>
<td></td>
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<tr>
<td>For instruments where it is possible to preset a fill weight the maximum</td>
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<tr>
<td>difference between the preset value and the average mass of the fills shall</td>
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<tr>
<td>not exceed 0.25 of the maximum permissible deviation of each fill from the</td>
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<tr>
<td>average, as specified for in-service verification in 2.2.2. This limit will</td>
<td></td>
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<tr>
<td>apply for initial verification and for in-service testing.</td>
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<tr>
<td>[note: to calculate the setting error reference will also need to be made to</td>
<td></td>
</tr>
<tr>
<td>A.8.2.3 &amp; A.8.2.4 which are reproduced below, and Table 1 which is reproduced</td>
<td></td>
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<tr>
<td>at Schedule 5 of the 2000 Regulations]</td>
<td></td>
</tr>
<tr>
<td>5.3 Initial verification</td>
<td></td>
</tr>
<tr>
<td>5.3.1 General requirements</td>
<td>6(c); 8(2)(a)(i); 9(2)(a)</td>
</tr>
<tr>
<td>Instruments shall be examined for conformity with the approved pattern where</td>
<td></td>
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<tr>
<td>applicable and shall be tested for compliance with clause 2 (excluding 2.2.1</td>
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<tr>
<td>and 2.5) for the intended products and corresponding accuracy classes under</td>
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<td>normal conditions of use. Tests shall be carried out by the appropriate</td>
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<tr>
<td>metrological authority, in-situ, with the instrument fully assembled and</td>
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<td>fixed in the position in which it is intended to be used. The installation of</td>
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<td>an instrument shall be so designed that an automatic weighing operation will</td>
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<tr>
<td>be the same whether for the purposes of testing or for use for a transaction.</td>
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<tr>
<td>5.3.2 Material tests</td>
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<tr>
<td>Material tests shall be carried out in compliance with 5.1.2 using the test</td>
<td></td>
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<tr>
<td>methods in 6.</td>
<td></td>
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<tr>
<td>5.3.3 Conduct of the tests</td>
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<tr>
<td>The appropriate metrological authority:</td>
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<tr>
<td>• shall conduct the tests in a manner which prevents an unnecessary</td>
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<td>commitment of resources,</td>
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<tr>
<td>• may, where appropriate and to avoid duplicating tests previously done on</td>
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<td>the instrument for pattern evaluation under 5.2.3.1, use the results of</td>
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<td>observed tests to assess for initial verification.</td>
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<tr>
<td>5.3.4 Determination of accuracy class</td>
<td></td>
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<tr>
<td>The appropriate metrological authority shall:</td>
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<tr>
<td>• determine the accuracy class for the materials used in the tests in</td>
<td></td>
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<tr>
<td>accordance with 5.2.5 by reference to the material test results and the</td>
<td></td>
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<tr>
<td>limits of error specified in 2.2.2 and 2.3 for initial verification,</td>
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<tr>
<td>• verify that accuracy classes marked in accordance with 3.10 are equal to</td>
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<tr>
<td>or greater than the accuracy classes determined as above.</td>
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<tr>
<td>5.4 In-service verification</td>
<td>12(1)(a)</td>
</tr>
<tr>
<td>In-service verification shall be as specified in 5.3.1 and 5.3.2. The</td>
<td></td>
</tr>
</tbody>
</table>
**Clause in R61** | **Where in Regulations (if referred to)**
---|---
maximum permissible errors shall be as specified in 2.2.2 for in-service verification. The appropriate metrological authority shall conduct the tests in a manner which prevents an unnecessary commitment of resources. |  

<table>
<thead>
<tr>
<th>A.8.2.3 Procedure for metrological material tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Set up the instrument in accordance with 6.2 (d) and 6.2.1.</td>
</tr>
<tr>
<td>(2) Select a preset value for the fill and set the load value if different from the fill, in accordance with 6.2. Record the indicated preset value.</td>
</tr>
<tr>
<td>(3) Run the instrument to produce a number of fills as specified in 6.3.</td>
</tr>
<tr>
<td>(4) Weigh all the fills by one of the methods in 6.5.1 or 6.5.2.</td>
</tr>
<tr>
<td>(5) Calculate the average value of all the fills in the test and the preset value error (2.3).</td>
</tr>
<tr>
<td>(6) Calculate the deviation of each fill from the average (2.2).</td>
</tr>
<tr>
<td>(7) Repeat stages (2) to (6) for other loads as specified in 6.2.</td>
</tr>
</tbody>
</table>

Concerning 6.7: The result of weighing the test fill on the control instrument shall be considered as the conventional true value of the test fill.

Concerning 6.8: The deviation for automatic weighing used to determine compliance of each fill with the maximum permissible deviation for automatic weighing (2.2) shall be the difference between the conventional true value of the mass of the test fill as defined in 6.7 and the average value of all the fills in the test.

Concerning 6.9: The preset value error for automatic weighing used to determine compliance with 2.3 shall be the difference between the average value of the conventional true value of the mass of the test fills, as defined in 6.7 and the preset value for the fills.

A.8.2.4 Determination of accuracy class (5.2.5)

| (1) For each preset value of the test fill, determine the preset value error (i.e. the setting error, se) and the maximum permissible preset value error for class X(1), mpse_{(1)}. |
| Then calculate $\frac{se}{mpse_{(1)}}$ for each preset value of the test fill. |
| (2) For each preset value of the test fill determine the maximum actual deviation from the average (md) and the maximum permissible deviation from the average for class X(1), mpd_{(1)}. |
| Then calculate $\frac{md}{mpd_{(1)}}$ for each preset value of the test fill. |
| (3) From (1) determine the maximum value of $\left[\frac{se}{mpse_{(1)}}\right]$, $\left[\frac{se}{mpse_{(1)}}\right]_{\text{max}}$. |
### Clause in R61

<table>
<thead>
<tr>
<th>Where in Regulations (if referred to)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4) From (2) determine the maximum value of ( \frac{m_d}{m_{pd(1)}} ), ( [\frac{m_d}{m_{pd(1)}}]_{max} )</td>
</tr>
<tr>
<td>(5) Determine the accuracy class ( (x) ) such that</td>
</tr>
</tbody>
</table>

\[
(x) \geq \left[ \frac{se}{mpse_{(1)}} \right]_{max} \\
\text{and} \quad (x) \geq \left[ \frac{md}{mpd_{(1)}} \right]_{max} \\
\text{and} \quad (x) = 1 \times 10^k, 2 \times 10^k, \text{or} 5 \times 10^k, \\
\text{the index} \ k \text{ being a positive or negative whole number or zero.} 
\]

[Note: see note under 2.3 which is above in this table.]
Contents

3.1 Background to the Regulations
3.2 Status and purpose
3.3 Scope of the Regulations
3.4 Materials, principles of construction and marking
3.5 Manner of erection and use for trade
3.6 Equipment needed for testing
3.7 General comments on testing
3.8 Testing
3.9 Stamping
3.10 Presentation of descriptive markings
3.11 Acceptance of test results

Annex 1 Checklist for passing as fit for trade use
Annex 2 Exemptions (by reference to date) from the requirements of the Regulations
3.1 BACKGROUND TO THE REGULATIONS

3.1.1 These Regulations are aimed at formalising the requirements and test procedures specifically for filling machines (and discontinuous totalisers) in use for trade. They identify such machines as classes of equipment within the general group referred to as automatic weighing machines.

3.1.2 Since pattern examination has been a requirement under UK weights and measures legislation a fair number of approvals have been granted for automatic weighing machines. Among the earliest certificates of approval granted by the then Board of Trade was one for a filling machine used to pack sugar, dated February 1906.

3.1.3 Inspectors of weights and measures were advised as early as 1906 of the need to verify filling machines by “twenty continuous weighings”. It was further recommended that the test loads should be reweighed over another weighing instrument.

3.1.4 Filling machines were previously prescribed by the Weights and Measures Regulations 1963, SI 1963/1710, where they were deemed to comply with the description of an automatic weighing machine in Regulation 140(1). Their removal from the 1963/1710 Regulations is therefore a prerequisite of the Automatic Weighing Machines Regulations 1986. [Regulation 3(3)].

3.1.5 Regulations mentioned in this document have been made by the Department, under the powers conferred by the Weights and Measures Act 1985 (1985 c.72). The Weights and Measures Act 1985, as amended, can be found at: http://www.legislation.gov.uk/.

3.2 STATUS AND PURPOSE

3.2.1 This guidance has been prepared for all those who are concerned with observing or applying the new controls. This includes equipment manufacturers, inspectors of weights and measures, users and owners of those’ filling machines which are in use for trade, as defined in section 7 of the Weight and Measures Act 1985.

3.2.2 There follow comments on the Regulations, part by part as appropriate, to advise on interpretation. As a further aid:

Annex 1 is a checklist of requirements for passing as fit for trade use, in Regulation number order;

Annex 2 is a tabulation of those automatic weighing machines which qualify for exemption from certain requirements of the Regulations by reference to date of testing.

3.3 SCOPE OF THE REGULATIONS

3.3.1 The Regulations apply to automatic weighing machines of the filling and discontinuous totalising types which are used for trade. [Regulation 3(1)].

3.3.2 Excluded from the Regulations are any automatic weighing machines for use only for making up packages under the “average system” in accordance with section 49(1)(b) of the Weights and Measures Act 1985. [Regulation 3(2)].
3.4 MATERIALS, PRINCIPLES OF CONSTRUCTION AND MARKING
(Parts II, III and IV of the Regulations)

3.4.1 These Parts of the Regulations reiterate many established principles applicable to all groups of weighing equipment. The following are relevant to automatic weighing machines.

3.4.2 The requirement that any zero setting device shall have a total range not exceeding 4% of maximum capacity, to compensate for wear and tear of ordinary use for trade, is not confined to purely mechanical equipment; it is also intended to include compensation for the drift in any electronic equipment. [Regulation 8].

3.4.3 The requirement that filling machines which are movable, i.e. not permanently installed in the position at which they are to be used, shall be provided with one or more level indicating devices, Regulation 14(2), also applies to machines which are to be permanently installed if they are tested, passed as fit for use for trade and stamped before being transported to the site at which they are to be used. [Regulation 22(2)].

3.4.4 There is no requirement for filling machines to be provided with a means of giving a visual indication of the value of the measurement made of individual quantities of material. However, should such an indication be present on a machine it must be provided with the means of being tested for linearity and, as far as practicable, otherwise tested as a non-automatic weighing machine of the same capacity. [Regulation 9].

3.4.5 Filling machines must be provided with an indication of the predetermined weight being dispensed. Such an indication may be the position of a poise on a graduated setting bar, the markings on counterpoises or weights, the position of an index on an analogue scale, or by a digital indicator. The indication shall be of the exact quantity of material purported to be weighed at the time of use. [Regulation 16].

3.5 MANNER OF ERECTION AND USE FOR TRADE
(Parts III and IV of the Regulations)

3.5.1 These Parts of the Regulations are intended to ensure that the equipment is properly installed with facilities to enable ease of testing on site. It is noteworthy that breach of the requirements in Regulations 19-21 and 26-30 could constitute a prosecutable offence under section 15(3) of the Weights and Measures Act 1985, rather than lead to obliteration of the stamp.

3.5.2 The provision of a weight printing device with a filling machine, to produce a printout of the values of the individual quantities of material weighed is permitted; the scale interval of the printout must be the same as the visual indication of the quantities, when provided. [Regulation 31].

3.6 EQUIPMENT NEEDED FOR TESTING

3.6.1 When an installation is submitted for testing and stamping, the owner or user of the equipment would normally need to arrange for:

(i) the availability of material for the test loads, [Regulations 22(3) and 31(3)]
(ii) access to and use of a non-automatic weighing machine, see paragraphs 3.5.5 and 3.5.6 above; and
(iii) transportation facilities for the movement of the material between the equipment and the weighing machine.
3.6.2 In the case of equipment provided with a means of giving a visual indication and/or printout of the value of the measurement made of individual weighments, the inspector will need, in addition to stationery and protective clothing, to provide:

(i) the weights or masses to load the equipment to its maximum capacity;
(ii) sufficient change point weights, each equivalent to one-tenth of the scale interval, to cover at least one scale interval, if the machine is not provided with the facilities described in Regulation 24.

3.7 GENERAL COMMENTS ON TESTING

3.7.1 Most filling machines may be considered to be an integral and permanent part of a processing system; therefore, the requirement that the testing and stamping is only to be done on site forbids the transfer of the weighing units of such equipment to any other machines and also ensures that mobile machines remain dedicated to a particular purpose. This requirement usually makes it practicable for systems to be tested by using the same type of material which they would normally process when in use for trade. [Regulation 22(2)].

3.7.2 Filling machines are often installed in hostile environments where the materials being processed could be at least partially responsible for the detrimental conditions. Unless given periodic attention, deposits of material may settle on or penetrate parts which can affect the metrological integrity of such equipment. [Regulation 22(1)].

3.7.3 The responsibility for supplying material for the test loads rests with either the person in control of equipment which is in use for trade, or the person submitting such equipment for testing, as appropriate. It would be advisable for these requirements to be discussed in advance to determine the total number of tests to be made and whether it is practicable and advantageous to attempt to recycle the same material for each individual test, [Regulation 22(3)].

3.7.4 The test requirements are so arranged that for filling machines, the test procedure is described in Schedule 1 [Regulation 23(1)], while the test results must be within the limits of error set out in Table 1 of Schedule 3. [Regulations 33(1) and 34(b)].

3.8 TESTING

3.8.1 The test requirements, dependent on the construction of the equipment, can be divided into:

(i) non-material testing, for automatic weighing equipment provided with a means of giving a visual indication of the value of individual weighments [Regulation 9], and
(ii) material testing of all automatic equipment, using a separate non-automatic weighing machine to checkweigh the test loads, (or
(iii) the optional alternative testing of discontinuous totalisers, using an internal non-automatic weighing facility if the machine is constructed in accordance with Regulation 24).

3.8.2 Where non-material testing is applicable, a statement to that effect will be appended to the certificate of approval or notice of examination in respect of the pattern and details given under the heading of Recommended Tests. [Regulations 23(2) and 32(2)].

3.8.2.1 There is no prescribed order of testing but if non-material testing is required then it is probably quicker and requires less manpower to complete it first. Also if the initial
results are not satisfactory, then if desired, the material testing can be postponed to enable any servicing and final adjustment to be made.

3.8.3 For the material testing of filling machines, the selection of the 20 consecutive test loads may take place after the machine has packed 4/5 loads to ensure that the system is running smoothly. However, no more than 20 consecutively packed loads shall be selected as a group to be checkweighed for determining the fitness for use for trade.

3.8.3.1 Only one group of 20 test loads is required where a machine is designed to pack only one value of purported load. [Schedule 1 paragraph 3(1)].

3.8.3.2 Where a range of purported loads may be packed, two groups of 20 test loads are required to be checkweighed. The group of test loads with a purported load value equal to, or as nearly as possible equal to, the minimum load for the equipment will be the most crucial in respect of the limits of error. The other group may have a purported load value equal to the maximum capacity or as nearly as practicable to it dependent on the availability of suitable containers, but in no case should the purported load be less than the largest load normally packed by the machine. [Schedule I paragraph 3(4)].

3.8.3.3 When test A (3.8.3.1) is carried out with large particulate material, ie material where the weight of one particle could exceed the error allowance, if the checked weight of any test load does exceed the appropriate limit of error then the further test B shall be applied. The piece or item of material removed should be the largest visible since the intention is to demonstrate that the equipment is capable of packing the material to the nearest piece or item in excess of the purported load. Upon reweighing any adjusted test load, the weight so determined shall not exceed the appropriate limit of error in excess but may be less than the purported load value. [Schedule 1 paragraph 4].

3.9 STAMPING

3.9.1 Many recently approved patterns are described as having an “EEC type stamping plate” which means a stamping plate that:

(i) conforms with one of the two patterns shown on the drawing attached to 10.15.2.2.1 of EEC Council Directive 73/360/EEC as amended, relating to non-automatic weighing machines;
(ii) is constructed as described in the second, third and fourth paragraphs of 10.15.2.2.1 of the Directive; and
(iii) is affixed as described in 10.15.2.2.2 of the Directive, but having a date stamp applied to the lead caps on the fixing screws.

3.10 PRESENTATION OF DESCRIPTIVE MARKINGS

3.10.1 The descriptive markings must:

(i) be indelible and of a size, form and clarity which allows for easy reading under normal conditions of use of the machine;

(ii) be grouped together in an easily visible location on the machine itself or on a plate attached to the machine.

3.10.2 If the markings are on a plate, it must be possible to seal the plate unless it cannot be removed without being destroyed, as described in 10.14.3 of EEC Council Directive
73/360/EEC as amended, but having a date stamp in place of the EEC partial verification mark, where appropriate.

3.11 ACCEPTANCE OF TEST RESULTS

3.11.1 For the purposes of pattern approval required by Regulation 10, tests performed in other Member States of the European Community by bodies recognised in those States need not be repeated in the United Kingdom, if such tests are equivalent to those performed on weighing equipment in the United Kingdom and if the results of such tests are, or may at their request be made available to the UK Authorities.
ANNEX 1

CHECKLIST FOR PASSING AS FIT FOR USE FOR TRADE AND RELATED REQUIREMENTS (in Regulation order)

<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Regulations do not apply to machines for making up packages to the ‘average weight’ system</td>
<td>3(2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MATERIAL, PRINCIPLES OF CONSTRUCTION AND MARKING</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The removal of removable parts does not affect accuracy</td>
<td>6(1)</td>
</tr>
<tr>
<td>The interchange or reversal of parts does not affect accuracy</td>
<td>6(2)</td>
</tr>
<tr>
<td>The constituent parts will withstand wear and tear</td>
<td>7</td>
</tr>
<tr>
<td>Limit of adjustment of any zero setting device</td>
<td>8</td>
</tr>
<tr>
<td>Provision of facilities for testing as a non-automatic machine</td>
<td>9</td>
</tr>
<tr>
<td>The machine is made in accordance with a pattern as approved under section 12 of the Weights and Measures Act 1985</td>
<td>10</td>
</tr>
<tr>
<td>The automatic weighing machine is appropriately marked</td>
<td>11</td>
</tr>
<tr>
<td>The units of measurement are correctly marked</td>
<td>12</td>
</tr>
<tr>
<td>Provision of a stamping plug and sealing arrangements</td>
<td>13</td>
</tr>
<tr>
<td>Provision of a tare device for filling machines without load receptors</td>
<td>14(1)</td>
</tr>
<tr>
<td>Provision of level indication on movable filling machines</td>
<td>14(2)</td>
</tr>
<tr>
<td>Inhibition of manual discharge during automatic operation of filling machines</td>
<td>15</td>
</tr>
<tr>
<td>Provision of indication of purported weight</td>
<td>16</td>
</tr>
<tr>
<td>Prohibition of devices for interpolation of indication</td>
<td>17</td>
</tr>
<tr>
<td>Additional markings appropriate to filling machines</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FILLING MACHINES - MANNER OF ERECTION AND USE FOR TRADE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine positioned with access for cleaning and testing</td>
<td>19(1)</td>
</tr>
<tr>
<td>Movable machine set to reference position by level indicating device</td>
<td>19(2)</td>
</tr>
<tr>
<td>Prohibition of use in temperatures outside any marked range</td>
<td>20</td>
</tr>
<tr>
<td>Provision and use of a weight printing device</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FILLING MACHINES - TESTING</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The filling machine is in a clean condition</td>
<td>22(1)</td>
</tr>
<tr>
<td>The filling machine is completely erected and installed on site</td>
<td>22(2)</td>
</tr>
<tr>
<td>Provision of sufficient suitable material for testing</td>
<td>22(3)</td>
</tr>
<tr>
<td>Whether additional or alternative tests are required</td>
<td>23(2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUPPLEMENTARY PROVISIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The test results satisfy all requirements</td>
<td>34(b)</td>
</tr>
<tr>
<td>No automatic weighing machine bears any mark or stamp which might be mistaken for the prescribed stamp</td>
<td>35(2)</td>
</tr>
</tbody>
</table>
ANNEX 2

EXEMPTIONS (BY REFERENCE TO DATE) FROM THE REQUIREMENTS OF THE REGULATIONS

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Regulation exempted</th>
</tr>
</thead>
<tbody>
<tr>
<td>All automatic weighing machines first passed as fit for use for trade before 1 December 1980</td>
<td>12(1)(a)</td>
</tr>
<tr>
<td></td>
<td>Partial restriction of marking of units of measurement [see 12(1)(b)]</td>
</tr>
<tr>
<td>Filling machines first passed as fit for use for trade before 1 September 1986</td>
<td>11 and 18</td>
</tr>
<tr>
<td></td>
<td>The markings detailed are not obligatory</td>
</tr>
</tbody>
</table>