

I assent.

(L.S.)

GUIDO DE MARCO
President

19th November, 2002

ACT No. XXV of 2002

AN ACT to repeal and replace the Weights and Measures Ordinance, Cap. 39.

BE IT ENACTED by the President by and with the advice and consent of the House of Representatives in the present Parliament assembled and by the authority of the same as follows:

**Part I
Preliminary**

Title and
commencement.

1. (1) The short title of this Act is the Metrology Act, 2002.

(2) This Act shall come into force on such date as the Minister responsible for industry may by notice in the Gazette appoint, and different dates may be so appointed for different purposes and for different provisions of this Act.

Interpretation.

2. In this Act unless the context otherwise requires -

Cap. 419.

"Authority" means the Malta Standards Authority established by the Malta Standards Authority Act;

"calibration" refers to all the operations for the purpose of determining the values of errors of a measuring instrument;

"container" means a container in which goods are exposed, packed, offered for sale or sold, including, in particular, a bag, case, carton, bottle, glass, box, can, envelope, net, sack or wrapper, whether or not such wrapper fully encloses its contents;

"conformity assessment procedures" has the meaning assigned to it by article 8;

"Court" means the Court of Magistrates sitting as a court of criminal judicature;

"Directorate" means the Metrology Directorate set up under article 3;

"functions" includes powers and duties;

"goods" means anything which may be the subject of trade or manufacture;

"Head" means the person appointed to the post of Head of the Metrology Directorate according to the provisions of article 3(17) of the Malta Standards Authority Act;

Cap. 419.

"inspector" means a person authorised or appointed under article 5 to be an inspector for the purposes of this Act;

"legal metrology" means that part of metrology which deals with units of measurement, methods of measurement and of measuring instruments in relation to the mandatory technical and legal requirements which have the object of ensuring the appropriate accuracy of measurements;

"mark" or "marking" includes any inscription, stamp or label signifying conformity or otherwise of a measuring instrument with this Act and regulations made thereunder whether applied by impressing, casting, engraving, etching, branding or otherwise;

"measurement standard" means a measuring instrument intended to define, to represent physically, to conserve or to reproduce the unit of measurement of a quantity, or a multiple or sub-multiple of that unit in order to transmit it to other measuring instruments by comparison;

"measuring" means the act or process of appraising, assessing, calculating, calibrating, computing, estimating, evaluating or gauging of length, volume, weight or magnitude, and "measurement" shall be construed accordingly;

"measuring instrument" means a device intended to be used to make measurements, alone or in conjunction with a supplementary device or devices;

"Metrology" is the field of knowledge concerned with

measurement, the principal fields of which are: units of measurement and their measurement standards, measurements and measuring instruments;

"Minister" means the Minister responsible for industry and includes, to the extent of the authority given, any person authorised by the Minister in that behalf for any purpose of this Act;

"ordinary measuring instrument" means a measuring instrument intended for ordinary use but not for the verification of other measuring instruments;

"periodical verification" means a verification of a measuring instrument, not being an initial verification, which is carried out periodically, at such intervals and according to such procedures as may be established by the Directorate;

"pre-package" means a product which has been placed in a container of whatever nature without the purchaser being present and where the quantity of the product contained in the package has a pre-determined value and cannot be altered without the package either being opened or undergoing a modification;

"prescribed" means prescribed by regulations made under this Act;

"prescribed purpose" refers to any of the purposes falling within the terms of article 7(1);

"sell" includes offer, expose, advertise or keep for sale, and to supply by way of or for the purpose of consumption, and similar or related words shall be construed accordingly;

"SI System" means the International System of Units, "SI", namely, the coherent system of units adopted and recommended by the 11th General Conference on Weights and Measures (*Conférence Générale des Poids et Mesures - CGPM*) in 1960, and as may be revised from time to time;

"stamp" means a device used to apply a mark under this Act to a measuring instrument to indicate that it conforms to the requirements of verification;

"stamping" includes any operation adopted for the purpose of applying to a measuring instrument the marks indicating that it conforms to the requirements of verification;

"type approval" means the examination, including testing in

accordance with international practices, and approval of a particular design or pattern of measuring instrument to show that it is suitable for use for a prescribed purpose and is capable of achieving the accuracies required;

"unit verification" means the examination of a measuring instrument, generally of a unique design and intended for a specific application, to establish that it satisfies legal metrological requirements;

"user" means the person or organisation responsible for the use of the measuring instrument for the purposes of this Act;

"verification" means all the operations carried out by the Directorate, or by verifiers on its behalf, having the object of ascertaining and confirming that the measuring instrument entirely satisfies the requirements of this Act in respect of verification;

"verification mark" means a mark applied to a measuring instrument certifying that the verification of the measuring instrument was carried out with satisfactory results;

"verifier" means a person authorised or appointed under article 5 to carry out verification within the meaning and for the purposes of this Act.

PART II Administration

3. (1) The Malta Standards Authority shall have a directorate, to be styled the Metrology Directorate, which shall have the functions as may be assigned to it by this Act, by the Malta Standards Authority Act or by any other law. The provisions of the Malta Standards Authority Act shall apply to the Directorate.

The Metrology
Directorate.

Cap. 419.

(2) The Head shall carry out such functions as are assigned to him by this Act or by regulations made thereunder or by any other law.

(3) The Head shall furnish to the Authority such information regarding the performance of his functions as the Authority may from time to time request.

(4) The Head and any other person as may be employed or otherwise appointed by the Authority to exercise functions under this Act shall not have any personal interest in the making, adjusting or selling of measuring instruments.

The Metrology
Advisory Board.

4. (1) There shall be established a Metrology Advisory Board, the functions of which shall be:

(a) to provide advice of a scientific and technical nature to the Head and to provide assistance on general matters of policy and organisation relating to the functions and activities of the Directorate; and

(b) to submit proposals and recommendations for new projects in the field of legal metrology.

(2) The number of members, manner of procedure of their appointment and their terms of office shall be determined by the Authority, provided that the members shall be appointed from among persons enjoying technical expertise in legal metrology.

(3) Administrative matters relating to the Metrology Advisory Board shall be conducted by the Head.

Appointment of
inspectors and
verifiers.

5. (1) The Authority may appoint any person being an officer of the Authority to be an inspector for the purposes of this Act.

(2) The Directorate may appoint any person, whether physical or otherwise, to be a verifier for the purposes of this Act.

(3) (a) The Directorate shall provide for the holding of examinations for the purpose of ascertaining whether persons possess sufficient skill and knowledge for the proper performance of the functions of inspectors and verifiers, and for the granting of certificates of qualification to persons who pass such examinations.

(b) The Directorate shall establish the standard of skill and knowledge, as well as other requirements, needed for a person to qualify as inspector or verifier.

(4) The Directorate shall ensure that the persons so appointed continue to meet the requirements laid down in accordance with subarticle (3).

(5) Every person appointed under subarticles (1) and (2) as an inspector or as a verifier shall be furnished with a certificate of his appointment by the Directorate. Such certificate shall be valid for such period and may include such conditions as the Head may consider appropriate.

(6) The Directorate may, if it deems fit, arrange with some other person to hold examinations for the purpose mentioned in subarticle (3).

(7) No certificate of qualification shall be issued to any person who has not yet attained the age of eighteen.

(8) There shall be charged, in respect of any examination which is held by the Directorate under this article, such fees as the Authority may from time to time determine.

(9) The Authority may, upon the recommendation of the Head, and under such conditions as may be prescribed, at any time revoke an appointment made under this article, and in such case, the person whose appointment is so revoked shall surrender to the Directorate the certificate furnished under this article.

(10) The Directorate shall monitor the activities of the verifiers appointed under this Act.

6. (1) An inspector duly appointed in terms of this Act, in the discharge of his duties, shall have the following powers: Powers of inspectors.

(a) to enter and search any industrial establishment or commercial premises or vehicles or vessels, where a measuring instrument which is meant to be used for any prescribed purpose, is installed or kept, or where there is reason to believe it is installed or kept;

(b) to enter any premises or any other place, including a vehicle or vessel, in which any activity in connection with the manufacturing, processing, supplying, distributing, importing or wholesale or retail selling of goods is carried on;

(c) to inspect such premises and examine and test any such measuring instruments or goods found thereon for the purposes of establishing conformity with the provisions of this Act;

(d) to apply non-conformity marks to the measuring instrument if, following any such inspection or testing, a measuring instrument is found not to be in conformity with the provisions of this Act;

(e) to remove from the premises for examination, testing and measuring any goods or measuring instrument to which a non-conformity mark has been applied;

(f) to require the owner, the person in charge or any employee in charge of or at the place entered to provide all reasonable assistance including personal assistance, and to produce books, records and written or electronic documents to

enable the inspector to carry out his functions under this Act;

(g) to inspect and copy or take extracts from any such books, records or other documents; and

(h) in the case of any vehicle or vessel referred to in paragraph (a), to request the owner or operator thereof to bring the vehicle or vessel for examination to a location as may be indicated to him by the inspector.

(2) An inspector who removes a measuring instrument or goods pursuant to subarticle (1)(e) shall notify forthwith, and issue a receipt to, the person from whose premises the measuring instrument or goods are taken, or that person's authorised representative, indicating that the measuring instrument or goods, as the case may be, are taken in pursuance of this Act.

(3) No entry and search shall be effected outside the normal business hours of the establishment concerned, unless the Head has cause to believe that delay could cause the loss or suppression of any evidence or may otherwise prejudice the outcome of the search.

(4) An inspector may seize and retain:

(a) any article, measuring instrument, stamp or goods which he believes to be in contravention of this Act; and

(b) any document relating to a measuring instrument or any document displayed with any goods offered or exposed for sale which relates to the price or quantity of the goods, and which the inspector believes may be required as evidence in any proceedings.

(5) Any person who -

(a) obstructs or impedes an inspector in the exercise of his functions, or does not comply with a requirement made by an inspector in carrying out any of his functions under this Act, or

(b) refuses or fails to give an inspector any assistance or information which the inspector may request in the performance of any of his functions under this Act, or

(c) makes an incorrect, false or misleading statement, either verbally or in writing, to an inspector who is engaged in carrying out any of his functions under this Act,

shall be guilty of an offence under this Act.

(6) Where it results to an inspector that a measuring instrument or a measurement standard fails to give the correct measurement which it purports to give or is otherwise faulty, the inspector may give the person responsible a written notice ordering him that, until such time as the said notice is withdrawn, the measuring instrument shall not be used and, where applicable, shall be removed. Any person who knowingly acts in contravention of such written notice shall be guilty of an offence under this Act.

(7) The Head may exercise any of the powers conferred on an inspector under this article.

(8) In the course of any entry and search under this article, the Head may request the assistance of the Police.

(9) In the exercise of any powers conferred by this article, the inspector shall, if so requested, provide evidence of his appointment.

(10) The inspector may be accompanied by such other persons and take with him such instruments as are necessary for the purpose of carrying out his functions.

PART III

Control Procedures of Measuring Instruments, Measurements, Product Quantities and Pre-packages

7. (1) Measuring instruments used or intended to be used for certain measurements, including:

Metrological
controls of
measuring
instruments.

(a) measuring instruments used for the verification of ordinary measuring instruments;

(b) measuring instruments used for transactions in goods and services, fiscal or postal transactions, or for analogous or similar purposes in pursuance of a trade or business;

(c) measuring instruments used in or for the enforcement of this Act or of any other law; and

(d) measuring instruments used in the field of public health, safety or environmental protection,

as may be prescribed shall be subject to metrological controls.

(2) Only measuring instruments that have successfully

undergone the controls listed under article 8(2) and such other controls as may be established by the Directorate may be used for any prescribed purpose.

(3) Persons importing, manufacturing, repairing, selling, hiring, using or otherwise dealing in measuring instruments within the meaning of subarticle (1), must inform the Directorate of their activity and become registered with it within such timeframes as the Directorate may establish by notice in the Gazette, and different timeframes may be established for different categories or classes of measuring instruments. For this purpose, the Directorate shall maintain a register of such persons, and it shall have the power to require any such person to furnish it with any information, documentation and undertakings as it may deem fit.

(4) Any person who fails or neglects to comply with the provisions of subarticles (1), (2) or (3) shall be guilty of an offence.

(5) Where, in the special circumstances of any particular case, it appears to the Directorate that it would be impracticable or unnecessary that a particular measuring instrument be subjected to metrological controls in terms of this article, the Directorate may, by an exemption in writing, dispense with such requirement. The Directorate may attach any conditions, including a time limit, to any such exemption and any person who contravenes any condition attached to an exemption shall be guilty of an offence.

(6) For the purposes of this article, "measuring instrument" shall include any measuring instruments used or offered for use by private or public undertakings.

Conformity
assessment
procedures.

8. (1) Measuring instruments intended for use for any prescribed purpose, including public weighing, shall be subject to such conformity assessment procedures as may be prescribed by the Directorate by notice published in the Gazette.

(2) The conformity assessment procedure may include such controls as may be prescribed by the Directorate, and may include:

- (a) type approval;
- (b) initial verification;
- (c) verification after repair or modification;
- (d) periodical verification;
- (e) supervision of the procedures effecting the use or

operation of measuring instruments.

(3) The Directorate shall certify whether or not the measuring instrument has successfully undergone the conformity assessment procedures adopted in its regard in terms of subarticle (2):

Provided that a certificate of conformity issued by an inspector or a verifier duly appointed in terms of article 5 shall be valid and effective as if issued by the Directorate.

9. (1) Measuring instruments which have been subject to the conformity assessment and inspection procedures and which have been found to conform to the relative requirement shall have affixed, stamped, marked or otherwise applied on them marks signifying their conformity to the relevant requirement or provided with corresponding certificates and shall accordingly qualify as a "legally controlled measuring instrument". These marks, their form, design, application or obliteration together with facilities for receiving such marks shall be prescribed by the Directorate which, for the purposes of this subarticle, may impose additional requirements in any matter related to the measuring instrument itself.

Marking of
measuring
instruments.

(2) A measuring instrument which has not undergone these controls successfully may be given a rejection mark and must be modified, repaired or withdrawn. These marks, their form, design, application or obliteration together with facilities for receiving such marks shall be prescribed by the Directorate.

(3) Only persons duly authorized by the Directorate may mark or stamp a measuring instrument with metrological control marks in terms of subarticles (1) and (2).

(4) In the event that any marks that should be applied in terms of this article present any difficulty, the Directorate may establish alternative forms or means of application.

(5) Stamps shall be made of such material as is determined by the Directorate.

(6) Any measuring instrument to which a rejection mark has been affixed, stamped, marked or otherwise applied in terms of this article shall not be used for any prescribed purpose.

(7) Any person keeping or using, for any transaction falling within any prescribed purpose, any false or inaccurate measuring instrument or any measuring instrument which does not bear a verification mark or which bears a rejection mark shall be guilty of an offence.

(8) For the purposes of this article:

(a) "legally controlled measuring instrument" means a measuring instrument which conforms to prescribed requirements, in particular legal metrological requirements; and

(b) "rejection mark" means a mark or seal applied to a measuring instrument in a conspicuous manner to indicate that the measuring instrument does not comply with the statutory requirements and obliterating any previously applied verification mark.

Sealing and
securing
measuring
instruments.

10. (1) The calibration device on a measuring instrument shall be secured in such a manner as to enable an adjustment to be detected whether on verification or otherwise.

(2) The means by which a calibration device shall be secured shall be provided by the manufacturer, supplier or user of the measuring instrument.

(3) The Directorate may, from time to time, prescribe specific requirements on the sealing or securing of measuring instruments.

Adjusting of
measuring
instruments.

11. (1) In circumstances as may be determined by the Directorate, any measuring instrument or particular type of measuring instrument may be adjusted by an inspector.

(2) Where, on examination by an inspector, a measuring instrument is found to be inaccurate, and adjustment of the measuring instrument is necessary in order to render it metrologically accurate, the inspector shall:

(a) notify the owner of the measuring instrument or the owner's authorised representative accordingly, detailing the results of the examination; and

(b) request the owner or his representative either to have the work carried out by a third party or to empower the inspector to undertake the necessary adjustment.

(3) The owner or his representative shall bear any costs arising from any adjustment as is referred to in subarticles (1) and (2).

Liability of
certain
measurements
to metrological
controls.

12. (1) Any measurements that may result from the use of any prescribed purpose may be subject to metrological controls.

(2) The Minister, acting on the advice of the Authority, may define the measurements that are subject to such controls.

(3) The Directorate may establish the methods and procedures for the undertaking of such controls as it may deem appropriate.

13. (1) Where a transaction may involve the delivery of a definite quantity of a product or an offer for sale involving the indication or labelling of a definite quantity of the product, these product quantities may be subject to metrological controls.

Metrological control of product quantities and pre-packages delivered or exposed for sale.

(2) The Directorate may, from time to time, establish requirements relating to the control methods and the metrological conditions with which quantities of products and pre-packages must comply, and may define permissible tolerances or variations on quantities.

(3) Any person who, for the purposes of trade or business, sells, buys or offers to buy, delivers or causes to be delivered, any goods by weight, by quantity, by number of items or by any other measure, which does not satisfy the requirements established under this article or any other provision of this Act, shall be guilty of an offence.

PART IV

Authorised Units and Measurement Standards

14. (1) The units of measurement which are authorised for the purposes of this Act and for any other purposes of law shall be those listed in the First Schedule. Such units shall be used for all transactions which directly or indirectly involve a measurement.

Legal units of measurement.

(2) The only lawfully permissible linear, capacity and weight standard measures that may be used for any prescribed purpose shall be those set out in the Second Schedule.

(3) For all purposes of law, the conversion of a unit of measurement listed in the First Schedule to another unit of measurement not so listed shall be calculated on the basis of the tables of equivalence laid down in the Third Schedule.

(4) The Fourth Schedule shall be used in the interpretation and application of the provisions of the First Schedule.

15. (1) No person shall hold or have in his possession for any prescribed purpose any linear, capacity or weight standard measure which is not of a denomination shown in the Second Schedule.

Denominations of measurement standard.

(2) Any person who contravenes the provisions of subarticle (1) shall be guilty of an offence.

Measurement
standards.

16. (1) The Authority shall provide, maintain or cause to be maintained such measurement standards including facilities, equipment and reference materials as are considered necessary from time to time to facilitate the realisation and dissemination of the SI System of Units of measurement, and to make funding available for such purposes.

(2) For the purpose of subarticle (1), the Authority may, upon the recommendation of the Head, designate and delegate other organisations to be responsible bodies in specialised fields of measurement.

(3) The Head may prescribe the measurement standards maintained under subarticles (1) or (2) and the conditions of their maintenance, including traceability, custody and the intervals within which the values of measurement standards shall be determined.

(4) Where any doubt arises as to the continued conformity of a measurement standard with the appropriate permissible limits of error, the measurement standard shall not be used until its value has been redetermined or it has been replaced by a measurement standard conforming to the appropriate permissible limits of error. An up-to-date certificate of traceability shall be maintained in respect of every measurement standard or set of measurement standards maintained by the Directorate or any organisation designated under subarticle (2).

(5) For the purposes of this article:

(a) "reference material" means a material one or more of whose properties are sufficiently homogeneous to be used for the calibration of an apparatus, the assessment of a measurement method or the assignment of values to materials; and

(b) "traceability" means the property of the result of a measurement which is related, through an unbroken chain of comparisons, to international measurement standards.

PART V

General provisions

Public weighers.

17. (1) No person shall act as a public weigher unless authorised by the Directorate.

(2) No authorisation shall be granted to any person in terms of subarticle (1) unless -

(a) he has attained the age of eighteen years;

(b) he has been found guilty of fraud or of an offence affecting public trust; and

(c) he has passed a qualifying examination set by the Directorate.

(3) Any person acting as a public weigher without the necessary authorisation from the Directorate shall be guilty of an offence.

(4) The Directorate may, from time to time, issue requirements and guidelines for persons undertaking the activity of public weighers.

18. The officers of the Directorate shall be deemed to be public officers for all purposes of the Criminal Code. Public officers.
Cap. 9.

19. (1) The Minister may, on the advice of the Authority, make regulations - Regulations.

(a) imposing requirements in relation to any matter related to the pre-packaging of goods, measuring containers, quantities and capacities permitted for pre-packaged products, the make-up by weight or volume of pre-packaged goods, the make-up by volume of pre-packaged liquids and measuring instruments; and

(b) adopting and implementing any commitments and obligations relating to metrology arising out of or under any treaty, convention or other international agreement, whether bilateral, regional or multilateral, to which Malta is a party.

(2) The Minister may, on the advice of the Authority, amend any of the schedules annexed to this Act; and any such amendments may contain such transitional or other incidental provisions as may be prescribed.

20. The Authority may, by virtue of this Act and under the powers conferred by article 5 of the Malta Standards Authority Act, levy fees and other charges for type approval, verification, inspection, certification and for any authorisation and registration, or in respect of any other matter arising under this Act, and different fees or charges may be levied for different classes of cases or for different circumstances, and provision may also be made for the imposition of additional charges in the event of delay or failure to pay such fees. Fees.
Cap. 419.

21. (1) The Schedules and regulations made under any provision of this Act may be drawn up in the English language only. Language of
Schedules and
regulations.

(2) In the event of conflict or incompatibility between the Maltese and English texts of any Schedules and regulations made under this Act, the English language version shall prevail.

PART VI

Offences and Penalties

Forgery and
false marking.

22. Any person who -

(a) forges or counterfeits any mark of a type used on any measuring instrument used or intended to be used for any prescribed purpose;

(b) applies to any measuring instrument a mark which is forged or counterfeit, or which is false or incorrect; or

(c) uses, sells, utters or disposes of any measuring instrument with such forged, counterfeit, false or incorrect mark thereon, or any mark liable to be confused with marks authorised under the provisions of this Act,

shall be guilty of an offence.

Tampering with
marks and
measuring
instruments.

23. Any person who -

(a) by any means renders a measuring instrument false or inaccurate;

(b) for any prescribed purpose, uses, supplies, sells, utters or disposes of a false or inaccurate measuring instrument; or

(c) not being an inspector or verifier authorised under this Act, attaches, affixes inscribes, inserts or otherwise applies any mark or plate intended for marking, or removes, defaces, obliterates or otherwise changes any such mark or plate from a measuring instrument, or attaches, affixes, inscribes or inserts such mark or plate into a measuring instrument other than the measuring instrument on which the mark was lawfully inscribed in terms of this Act,

shall be guilty of an offence.

Removing or
breaking of tags,
seals and
devices.

24. Any person who unlawfully removes, defaces, obliterates, breaks or otherwise changes any tag, seal or device that has been placed, affixed or attached by an inspector or by a verifier to a measuring instrument that is or is intended to be used for any prescribed purpose shall be guilty of an offence.

25. Any person who -

Short measure
on sale.

(a) sells any product by weight, measure or number where the weight, measure or number of the goods sold is less than that purported to be sold or is less than corresponds with the price charged;

(b) in connection with a measuring instrument, makes a false record of any measuring; or

(c) commits any other fraud in connection with any measuring by means of a measuring instrument,

shall be guilty of an offence.

26. (1) The Head may assist and participate in the prosecution of offences under this Act.

Prosecution of
offences.

(2) Proceedings for an offence under this Act may be instituted within twelve months from the commission of the offence.

27. (1) A person found guilty of an offence under articles 9(7), 22, 23, 24 and 25 shall, on conviction, be liable to a fine (*multa*) of not less than five hundred liri and not exceeding five thousand liri, or to imprisonment for a term not exceeding two years, or to both such fine and imprisonment.

Penalties.

(2) A person found guilty of an offence under this Act, other than an offence listed in subarticle (1), shall, on conviction, be liable to a fine (*multa*) of not less than fifty liri and not exceeding one thousand liri, or to imprisonment for a term not exceeding six months, or to both such fine and imprisonment.

(3) Without prejudice to the provisions of the Criminal Code, in any judgement given in proceedings instituted under this Act, the Court may order the forfeiture, destruction or other method of disposal of the goods or measuring instruments to which any of the offences relates, as it may consider appropriate at the expense of the person found guilty of the offence.

Cap. 9.

(4) Where it is satisfied that the circumstances so warrant, the Court may, upon conviction for any offence committed under this Act, additionally order the suspension or cancellation of any license or licenses issued in favour of the person charged or in respect of the premises involved in the proceedings.

(5) Any person convicted in relation to an offence under article 6(6) shall be liable to an additional fine (*multa*) of not more

than two hundred liri for each day that the notice has not been complied with.

(6) Where a person has been convicted of an offence under this Act, the Court shall order that person to reimburse to the Authority, within such period as the Court shall stipulate, any costs incurred in connection with the proceedings instituted against him. Such costs shall include expenses incurred in the seizure, lifting, detention, testing, analysis, inspection and examination of measuring instruments and measurement standards involved in the said proceedings.

(7) The Attorney General shall have the right to appeal from any judgement given in proceedings instituted under this Act or in connection with regulations made thereunder.

PART VII

Repeals and Savings

Repeal of
previous
legislation.
Cap. 39.

28. (1) The Weights and Measures Ordinance is hereby repealed and any references in any other law to that Ordinance shall be construed as being references to this Act; provided that any registrations, licences, authorisations, orders, regulations or other action whatsoever made or issued by virtue of the said Ordinance shall continue in force as if made or issued under this Act in so far as applicable.

(2) Unless the context otherwise requires, any reference in any other law, contract or other act in force at the commencement of this Act to standard weights or measures in use in Malta shall be deemed to be references to the respective equivalents ascertained in terms of the First and Third Schedules to this Act.

(3) Verifications issued under the Weights and Measures Ordinance which are valid immediately before the coming into force of article 8 shall continue to be valid on or after that date for such period as may be prescribed by the Directorate by notice published in the Gazette.

FIRST SCHEDULE

(Article 14)

LEGAL UNITS OF MEASUREMENT

1. SI UNITS AND THEIR DECIMAL MULTIPLES AND SUBMULTIPLES

1.1. SI base units

Quantity	Unit	
	Name	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Amount of substance	mole	mol
Luminous intensity	candela	cd

Definitions of SI base units:

Unit of length

A metre is the length of the path travelled in a vacuum by light during $1/299\,792\,458$ seconds.

Unit of mass

The kilogram is the unit of mass; it is equal to the mass of the international prototype of the kilogram.

Unit of time

The second is the duration of $9\,192\,631\,770$ periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium 133 atom.

Unit of electric current

The ampere is that constant current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section and placed one metre apart in a vacuum, would produce between the conductors a force equal to 2×10^{-7} newton per metre of length.

Unit of thermodynamic temperature

The kelvin, unit of thermodynamic, is the fraction $1/273.16$ of the thermodynamic temperature of the triple point of water.

Unit of amount of substance

1. The mole is the amount of substance of a system which contains as many elementary entities as there are atoms in 0.012 kg of carbon 12.
2. When the mole is used, the elementary entities must be specified and may be atoms, molecules, ions, electrons, other particles or specified groups of such particles.

Unit of luminous intensity

The candela is the luminous intensity, in a given direction, of a source which emits monochromatic rays with a frequency of 540×10^{12} hertz and whose energy intensity in that direction is 1/683 watt per steradian.

1.1.1 Special name and symbol of the SI unit of temperature for expressing Celsius temperature

Quantity	Unit	
	Name	Symbol
Celsius temperature	degree Celsius	$^{\circ}\text{C}$

Celsius temperature t is defined as the difference $t = T - T_0$ between the two thermodynamic temperatures T and T_0 where $T_0 = 273,15$ K. An interval or difference of temperature may be expressed either in kelvins or in degrees Celsius. The unit of "degrees Celsius" is equal to the unit "kelvin".

1.2 Other SI units

1.2.1 Supplementary SI units

Quantity	Unit	
	Name	Symbol
Plane angle	Radian	rad
Solid angle	Steradian	sr

Definitions of supplementary SI units:

Unit of plane angle

The radian is the angle between two radii of a circle cut off on the circumference of an arc equal in length to the radius.

Unit of solid angle

The steradian is the solid angle of a cone which, having its vertex in the centre of a sphere, cuts off on the surface of the sphere an area equal to that of a square with sides of length equal to the radius of the sphere.

1.2.2.* Derived SI units

Units derived coherently from SI base units and supplementary SI units are given as algebraic expressions in the form of products of powers of the SI base units and/or supplementary SI units with a numerical factor equal to 1.

1.2.3. Derived SI units having names and symbols

Quantity	Unit		Expression	
	Name	Symbol	In other SI units	In terms of base or supplementary SI units
Frequency	hertz	Hz		s^{-1}
Force	newton	N		$m \cdot kg \cdot s^{-2}$
Pressure, stress	pascal	Pa	$N \cdot m^{-2}$	$m^{-1} \cdot kg \cdot s^{-2}$
Energy, work; quantity of heat	joule	J	$N \cdot m$	$m^2 \cdot kg \cdot s^{-2}$
Power, radiant flux	watt	W	$J \cdot s^{-1}$	$m^2 \cdot kg \cdot s^{-3}$
Quantity of electricity, electric charge	coulomb	C		$s \cdot A$
Electric potential, potential difference, electromotive force	volt	V	$W \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-1}$
Electric resistance	ohm	Ω	$V \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-2}$
Conductance	siemens	S	$A \cdot V^{-1}$	$m^{-2} \cdot kg^{-1} \cdot s^3 \cdot A^2$
Capacitance	farad	F	$C \cdot V^{-1}$	$m^{-2} \cdot kg^{-1} \cdot s^4 \cdot A^2$
Magnetic flux	weber	Wb	$V \cdot s$	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-1}$
Magnetic flux density	tesla	T	$Wb \cdot m^{-2}$	$kg \cdot s^{-2} \cdot A^{-1}$
Inductance	henry	H	$Wb \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-2}$
Luminous flux	lumen	lm		$cd \cdot sr$
Illuminance	lux	lx	$lm \cdot m^{-2}$	$m^{-2} \cdot cd \cdot sr$
Activity (of a radionuclide)	becquerel	Bq		s^{-1}
Absorbed dose, specific energy imported, kerma, absorbed dose index	gray	Gy	$J \cdot Kg^{-1}$	$m^2 \cdot s^{-2}$
Dose equivalent	sievert	Sv	$J \cdot Kg^{-1}$	$m^2 \cdot s^{-2}$

Units derived from SI base units or supplementary units may be expressed in terms of the units listed in this Schedule.

In particular, derived SI units may be expressed by the special names and symbols given in the above table; for example, the SI unit of dynamic viscosity may be

, expressed as $\text{m}^{-1} \cdot \text{kg} \cdot \text{s}^{-1}$ or $\text{N} \cdot \text{s} \cdot \text{m}^{-2}$ or $\text{Pa} \cdot \text{s}$.

1.3 Prefixes and their symbols used to designate certain decimal multiples and submultiples

Factor	Prefix	Symbol	Factor	Prefix	Symbol
10^{24}	yotta	Y	10^{-1}	deci	d
10^{21}	zetta	Z	10^{-2}	centi	c
10^{18}	exa	E	10^{-3}	milli	m
10^{15}	peta	P	10^{-6}	micro	μ
10^{12}	tera	T	10^{-9}	nano	n
10^9	giga	G	10^{-12}	pico	p
10^6	mega	M	10^{-15}	femto	f
10^3	kilo	k	10^{-18}	atto	a
10^2	hecto	h	10^{-21}	zepto	z
10^1	deca	da	10^{-24}	yocto	y

The names and symbols of the decimal multiples and submultiples of the unit of mass are formed by attaching prefixes to the word 'gram' and their symbols to the symbol 'g'.

Where a derived unit is expressed as a fraction, its decimal multiples and submultiples may be designated by attaching a prefix to units in the numerator or the denominator, or in both these parts.

Compound prefixes, that is to say prefixes formed by the juxtaposition of several of the above prefixes, may not be used.

1.4 Special authorised names and symbols of decimal multiples and submultiples of SI units

Quantity	Unit		
	Name	Symbol	Value
Volume	litre	l or L	$1 \text{ l} = 1 \text{ dm}^3 = 10^{-3} \text{ m}^3$
Mass	tonne	t	$1 \text{ t} = 1 \text{ Mg} = 10^3 \text{ kg}$
Pressure, stress	bar	bar	$1 \text{ bar} = 10^5 \text{ Pa}$

Note: The prefixes and their symbols listed in 1.3 may be used in conjunction with the units and symbols contained in Table 1.4.

2. UNITS WHICH ARE DEFINED ON THE BASIS OF SI UNITS BUT ARE NOT DECIMAL MULTIPLES OR SUBMULTIPLES THEREOF

Quantity	Unit		
	Name	Symbol	Value
Plane angle	revolution		1 revolution = 2π rad
	grade or gon	gon	1 gon = $\pi/200$ rad
	degree	$^{\circ}$	$1^{\circ} = \pi/180$ rad
	minute of angle	'	$1' = \pi/10800$ rad
	second of angle	"	$1'' = \pi/648000$ rad
Time	minute	min	1 min = 60 s
	hour	h	1 h = 3600 s
	day	d	1 d = 86400 s

Note: The prefixes listed in 1.3 may only be used in conjunction with the names 'grade' or 'gon' and the symbol 'gon'.

3. UNITS USED WITH THE SI, WHOSE VALUES IN SI ARE OBTAINED EXPERIMENTALLY

Quantity	Unit		
	Name	Symbol	Definition
Energy	Electronvolt	eV	The electron volt is the kinetic energy acquired by an electron in passing through a potential difference of 1 volt in vacuum
Energy	Unified atomic mass unit	u	The unified atomic mass unit is equal to 1/12 of the mass of an atom of the nuclide ^{12}C .

Note: The prefixes and their symbols listed in 1.3 may be used in conjunction with these two units and with their symbols.

4. UNITS AND NAMES OF UNITS PERMITTED IN SPECIALISED FIELDS ONLY

Quantity	Unit		
	Name	Symbol	Value
Vergency of optical systems	diopetre		1 diopetre = 1 m^{-1}
Mass of precious stones	metric carat		1 metric carat = $2 \times 10^{-4}\text{ kg}$
Area of farmland and building land	are	a	1 a = 10^2 m^2
Mass per unit length of textile yarns and threads	tex	tex	1 tex = $10^{-6}\text{ kg} \cdot \text{m}^{-1}$
Blood pressure and pressure of other body fluids	Millimetre of mercury	mm Hg	1 mm Hg = 133.322 Pa
Effective cross-sectional area	Barn	b	1 b = 10^{-28} m^2

A 2152

Note: The prefixes and their symbols listed in 1.3 may only be used in conjunction with the above units and symbols, with the exception of the millimetre of mercury and its symbol. The multiple 10^2 a is, however, called a 'hectare'.

5. COMPOUND UNITS

Combination of the units listed in this Schedule to this Act form compound units.

SECOND SCHEDULE

(Article 14)

**MEASURES AND WEIGHTS LAWFUL FOR USE FOR THE PURPOSE OF
TRADE IN MALTA****LINEAR MEASURES**

Table I: Measures of -

50 metres	2 metres
30 metres	1.5 metres
20 metres	1 metre
10 metres	0.5 metre
5 metres	1 decimetre
3 metres	1 centimetre

SQUARE MEASURES

Measures of, or of any multiple of, 1 square decimetre.

CUBIC MEASURES

1. Measures of, or any multiple of, 0.1 cubic metre.
2. Measures of any multiple of 10 litres.
3. Table II: Measures of -

10 litres	100 millilitres
5 litres	50 millilitres
2.5 litres	25 millilitres
2 litres	20 millilitres
1 litre	10 millilitres
500 millilitres	5 millilitres
250 millilitres	2 millilitres
200 millilitres	1 millilitre

CAPACITY MEASURES

1. Measures of any multiple of 10 litres

2. Table III: Measures of -

10 litres	125 millilitres
5 litres	100 millilitres
2.5 litres	50 millilitres
2 litres	25 millilitres
1 litre	20 millilitres
500 millilitres	10 millilitres
250 millilitres	5 millilitres
200 millilitres	2 millilitres
175 millilitres	1 millilitre
150 millilitres	

WEIGHTS

1. Table IV: Weights of -

25 kilograms	3 grams
20 kilograms	2 grams
10 kilograms	1 grams
5 kilograms	500 milligrams
2 kilograms	400 milligrams
1 kilogram	300 milligrams
500 grams	200 milligrams
200 grams	150 milligrams
100 grams	100 milligrams
50 grams	50 milligrams
20 grams	20 milligrams
15 grams	10 milligrams
10 grams	5 milligrams
5 grams	2 milligrams
4 grams	1 milligram

2. Table V: Weights of -

500 carats (metric)	1 carat (metric)
200 carats (metric)	0.5 carat (metric)
100 carats (metric)	0.25 carat (metric)
50 carats (metric)	0.2 carat (metric)
20 carats (metric)	0.1 carat (metric)
10 carats (metric)	0.05 carat (metric)
5 carats (metric)	0.02 carat (metric)
2 carats (metric)	0.01 carat (metric)

THIRD SCHEDULE

(Article 14)

GENERAL INFORMATION ON METRIC EQUIVALENTS

TABLE

(a) of the values of the principal denominations of measures and weights on the metric system expressed by means of denominations of Maltese and Imperial measures and weights; and

(b) of the values of the principal denominations of measures and weights of the Maltese and Imperial systems expressed by means of metric weights and measures.

(a)

MEASURES OF LENGTH

Metric Measures	Equivalents in Imperial Measures					Equivalents in Maltese Measures		
	Miles	Yards	Feet	Inches	Decimals	Qasab	Xbar	Decimals
1 Kilometre	-	1093	1	10	113	477	1	70792
1 Hectometre	-	109	1	1	0113	47	5	770792
1 Decametre	-	10	2	9	70113	4	6	1770792
1 Metre	-	-	3	3	370113	-	3	81770792
1 Decimetre	-	-	-	3	9370113	-	-	38177079
1 Centimetre	-	-	-	-	39370113	-	-	038177079
1 Millimetre	-	-	-	-	039370113	-	-	0038177079

MEASURES OF SURFACES

Metric Measures	Equivalents in Imperial Measures	Equivalents in Maltese Measures
1 Hectare	2.47106 Acres	.555988 <i>ta' Modd</i>
1 Are	119.60 Square yards	.53375 <i>ta' Siegh</i>
1 Square Metre	1.1960 Square yards	.053375 <i>ta' Kejla</i> or .22773 <i>ta' Qasba Kwadra</i>
1 Square decimetre	15.5 Square inches	.14575 <i>ta' Xiber kwadru</i>
1 Square centimetre	.15500 Square inches	.0014575 <i>ta' Xiber kwadru</i>

MEASURES OF CAPACITY FOR LIQUIDS – No. 1

For Beer, Wine and Spirits

Metric Measures	Equivalents in Imperial Measures				Equivalents in Maltese Measures				
	Gallons	Quarts	Pints	Decimals	<i>Bramel</i>	<i>Garar</i>	<i>Kwarti</i>	<i>Krateċ</i>	Decimals
1 Kilolitre	219	3	1	80	23	0	1	1	15155504
1 Hectolitre	21	3	1	980	2	1	0	2	490155504
1 Decalitre	2	0	1	5980	-	-	1	4	0490155504
1 Litre	-	-	1	75980	-	-	-	-	879901555
1 Decilitre	-	-	-	175980	-	-	-	-	0879901555
1 centilitre	-	-	-	0175980	-	-	-	-	00879901555
1 Millilitre	-	-	-	00175980	-	-	-	-	000879901555

MEASURES OF CAPACITY FOR LIQUIDS – No. 2

For Oil and Milk

Metric Measures	Equivalents in Imperial Measures				Equivalents in Maltese Measures			
	Gallons	Quarts	Pints	Decimals	<i>Kaffisi</i>	<i>Kwarti</i>	<i>Krateċ</i>	Decimals
1 Kilolitre	219	3	1	80	48	3	2	1347152
1 Hectolitre	21	3	1	980	4	3	2	21347152
1 Decalitre	2	0	1	5980	-	1	3	821347152
1 Litre	-	-	1	75980	-	-	-	7821347152
1 Decilitre	-	-	-	175980	-	-	-	07821347152
1 Centilitre	-	-	-	0175980	-	-	-	007821347152
1 Millilitre	-	-	-	00175980	-	-	-	0007821347152

MEASURES OF CAPACITY FOR DRY GOODS

Metric Measures	Equivalents in Imperial Measures				Equivalents in Maltese Measures			
	Qrs.	Bushels	Gallons	Decimals	<i>Mdie</i>	<i>Tmim</i>	<i>Sieghan</i>	Decimals
1 Kilolitre	3	3	3	975	3	6	5	58
1 Hectolitre	-	2	5	9975	-	5	2	958
1 Decalitre	-	-	2	19975	-	-	3	29962464
1 Litre	-	-	-	219975	-	-	-	329962464
1 Decilitre	-	-	-	0219975	-	-	-	0329962464
1 Centilitre	-	-	-	00219975	-	-	-	00329962464
1 Millilitre	-	-	-	000219975	-	-	-	000329962464

CUBIC MEASURES

Metric Measures	Equivalents in Imperial Measures	Equivalents in Maltese Measures
1 Cubic metre	1.307954 Cubic yards	55.64278 <i>Xbar kubi</i> or .1086773 <i>ta' Qasba kuba</i>
1 Cubic decimetre	35.3148 Cubic feet 0353148 Cubic feet	.0556427 <i>ta' Xiber kubu</i> or .0001086773 <i>ta' Qasba kuba</i>
1 Cubic centimetre	.061024 Cubic inches	.0000556427 <i>ta' Xiber kubu</i>

WEIGHTS

Metric Weights	Equivalents in Imperial Weights				Equivalents in Maltese Weights			
	Cwts.	Qrs.	Lbs.	Decimals	<i>Qnatar</i>	<i>Irtal</i>	<i>Ewieq</i>	Decimals
100 Kilograms (1 quintal)	1	3	24	46223	1	25	29	3525
Kilogram	-	-	2	2046223	-	1	7	79352
1 Hectogram	-	-	-	22046223	-	-	3	77935
1 Decagram	-	-	-	022046223	-	-	-	377935
1 Gramme	-	-	-	0022046223	-	-	-	0377935
1 Decigram	-	-	-	00022046223	-	-	-	00377935
1 Centigram	-	-	-	000022046223	-	-	-	000377935
1 Milligram	-	-	-	0000022046223	-	-	-	0000377935

(b)

MEASURES OF LENGTH

Maltese Measures	Equivalents in Imperial Measures			Equivalents in Metric Measures	
	Feet	Inches	Decimals	Metres	Decimal
1 <i>Qasba</i> (8 <i>ixbar</i>)	6	10	50	2	09549817
1 <i>Xiber</i>	-	10	3125	-	26193727
1 <i>Pulzier</i>	-	-	859375	-	021828105
1 <i>Mil</i>	5280	equal to	yds. 1760	1609 or kilometres	334 1.6093

MEASURES OF SURFACE

Maltese Measures	Equivalents in Imperial Measures						Equivalents in metric Measures
	Acres	Roods	Poles	Sqr. Yards	Sqr. Feet	Decimals	
1 <i>Modd</i>	4	1	31	3	3	249	1.798599928 hectares
1 <i>Tomna</i>	-	1	4	13	3	9	11.2412495 acres
1 <i>Siegh</i>	-	-	7	12	2	916	187.35416 Sqr. Metres
1 <i>Kejla</i>	-	-	-	22	3	6	18.735416 Sqr. Metres
1 <i>Qasba kwadra</i>	-	-	-	5	2	265625	4.3911126 Sqr. Metres
1 <i>Xiber kwadru</i>	-	-	-	-	-	7385162	6.8611 Sqr. Decimetres

MEASURES OF CAPACITY FOR LIQUIDS – No. 1

For Beer, Wine and Spirits

Maltese Measures	Equivalents in Imperial Measures		Equivalents in metric Measures	
	Gallons	Decimals	Litres	Decimals
1 <i>Barmil</i> (4 <i>garar</i>)	9	50	43	18664945
1 <i>Garra</i> (2 <i>kwarti</i>)	2	375	10	7966623625
1 <i>Kwarta</i> ($\frac{3}{4}$ <i>Krateċ</i>)	1	1875	5	39833118125
1 <i>Kartoċċ</i> (2 <i>infas</i>)	-	2500	1	13649077500
1 <i>Nofs</i> (2 <i>terzi</i>)	-	1250	-	56824538750
1 <i>Terz</i> (2 <i>pinet</i>)	-	0625	-	28412269375
1 <i>Pinta</i>	-	03125	-	142061346875

MEASURES OF CAPACITY FOR LIQUIDS – No. 2

For Oil and Milk

Maltese Measures	Equivalents in Imperial Measures		Equivalents in metric Measures	
	Gallons	Decimals	Litres	Decimals
<i>1 Qafiz (4 kwarti)</i>	4	50	20	45683395
<i>1 Kwartu ($\frac{3}{4}$ Krateċ)</i>	1	125	5	1142084875
<i>1 Kartoċċ (2 infas)</i>	-	28125	1	278552121875
<i>1 Nofs (2 terzi)</i>	-	140625	-	6392760609375
<i>1 Terz (2x kejljet)</i>	-	0703125	-	31963803046875
<i>1 Kejla (4 kwartini)</i>	-	028125	-	1278552121875
<i>1 Kwartin</i>	-	00703125	-	031963803046875

MEASURES OF CAPACITY FOR DRY GOODS

Maltese Measures	Equivalents in Imperial Measures		Equivalents in Metric Measures	
	Quarters	Decimals	Hectolitres	Decimals.
<i>1 Modd (16-il tomna)</i>	1	-	2	90942
<i>1 Tomna (6 sieghan)</i>	-	0625	-	18183875
<i>1 Siegh (10 kejljet)</i>	-	010416	-	03030645
<i>1 Kejla (10 lumini)</i>	-	0010416	-	003030645
<i>1 Lumin</i>	-	00010416	-	0003030645

CUBIC MEASURES

Maltese Measures	Equivalents in Imperial Measures	Equivalents in Metric Measures
<i>1 Qasab kubu</i>	324.9511 Cubic feet	9.201556 Cubic metres
<i>1 Xiber kubu</i>	.63467 Cubic feet	17.9717 Cubic decimetres
<i>1 Pulzier kubu</i>	.63467 Cubic inches	10.4 Cubic centimetres

WEIGHTS

Maltese Measures	Equivalents in Imperial Measures		Equivalents in metric Measures	
	Lbs.	Decimals	Kilograms	Decimals
<i>1 Qantar or ċental (20 wiżna)</i>	175	-	79	37867525
<i>1 Wiżna (5 irtal)</i>	8	75	3	9689337625
<i>1 Ratal (30 Maltese uqija)</i>	1	75	-	7937867525
<i>1 Uqija (4 Kwarti)</i>	-	0583333	-	026459558416
<i>1 Kwart (2 ottavi)</i>	-	01458333	-	00661489604
<i>1 Ottav</i>	-	007291666	-	003307444802
<i>1 Peżata (3 qnatar)</i>	525	-	238	13602575
<i>1 Ton (weight) 1280 (ratal)</i>	2240	-	1016	-

FOURTH SCHEDULE

(Article 14)

NAMES AND SYMBOLS USED IN THE INTERNATIONAL SYSTEM OF UNITS "SI"

1. Definition

"SI" shall have the meaning assigned to it in article 2 of the Act.

2. SI unit symbols

SI unit symbols (and also many non-SI unit symbols) are written as follows:

2.1. Roman (upright) type is used for the unit symbols. In general, unit symbols are written in lower case, but, if the name of the unit is derived from the proper name of a person, the first letter of the symbol is a capital. When the name of a unit is spelled out, it is always written in lower case, except when the name is the first word of a sentence or is the name "degree Celsius".

2.2. Unit symbols are unaltered in the plural.

2.3. Unit symbols are not followed by a full stop (period), except as normal punctuation at the end of a sentence.

3. Algebra of SI unit symbols

In accord with the general principles adopted by ISO/TC 12 (ISO 31), the CIPM recommends that algebraic expressions involving SI unit symbols be expressed in standard forms.

3.1. Half-high dots or spaces are used to express a derived unit formed from two or more other units by multiplication.

Example: $N \cdot m$ or $N\ m$.

3.2. A solidus (oblique stroke, /), a horizontal line, or a negative exponent is used to express a derived unit formed from two other units by division.

Example: m/s or $m \cdot s^{-1}$ or $m \cdot s^{-1}$.

3.3. The solidus is not followed by a multiplication sign or by a division sign on the same line unless ambiguity is avoided by parentheses. In complicated cases, negative exponents or parentheses are used to avoid ambiguity.

Examples: m/s^2 or $m \cdot s^{-2}$ but not $m/s/s$

$\text{m} \cdot \text{kg}/(\text{s}^3 \cdot \text{A})$ or $\text{m} \cdot \text{kg} \cdot \text{s}^{-3} \cdot \text{A}^{-1}$ but neither $\text{m} \cdot \text{kg}/\text{s}^3 / \text{A}$
nor $\text{m} \cdot \text{kg}/\text{s}^3 \cdot \text{A}$.

4. Rules for using SI prefixes

In accord with the general principles adopted by the ISO (ISO 31), the CIPM recommends that the following rules be observed when using the SI prefixes:

4.1. Prefix symbols are printed in roman (upright) type with no space between the prefix symbol and the unit symbol.

4.2. The grouping formed by the prefix symbol attached to the unit symbol constitutes a new inseparable symbol (of a multiple or submultiple of the unit concerned) which can be raised to a positive or negative power and combined with other unit symbols to form compound unit symbols.

Examples:

$$1 \text{ c m}^3 = (10^{-2} \text{ m})^3 = 10^{-6} \text{ m}^3$$

$$1 \text{ } \mu \text{ s}^{-1} = (10^{-6} \text{ s})^{-1} = 10^6 \text{ s}^{-1}$$

$$1 \text{ V/cm} = (1 \text{ V}) / (10^{-2} \text{ m}) = 10^2 \text{ V / m}$$

$$1 \text{ cm}^{-1} = (10^{-2} \text{ m})^{-1} = 10^2 \text{ m}^{-1}.$$

4.3. Compound prefixes, i.e. prefixes formed by the juxtaposition of two or more SI prefixes, are not used.

Example: 1 nm but not 1 m μ m.

4.4. A prefix is never used in isolation.

Example: $10^6 / \text{m}^3$ but not M/ m^3 .

A 2163

Passed by the House of Representatives at Sitting No. 814 of the 13th
November, 2002.

ANTON TABONE
Speaker

RICHARD J. CAUCHI
Clerk to the House of Representatives