STATUTORY INSTRUMENTS

1980 No. 1070

WEIGHTS AND MEASURES

The Units of Measurement Regulations 1980

Made - - - -	*25th July* 1980
Laid before Parliament	*6th August* 1980
Coming into Operation:	
All Regulations except Regulations 1(3)(*b*) *and* 3 to 7 *and Schedules* 1 *and* 2	*1st September* 1980
Regulations 1(3)(*b*) *and* 3 to 7 *and Schedules* 1 *and* 2	*1st October* 1981

The Secretary of State, being a Minister designated**(a)** for the purposes of section 2(2) of the European Communities Act 1972**(b)** in relation to units of measurement to be used for economic, health, safety or administrative purposes, in exercise of powers conferred by that section, hereby makes the following Regulations:—

PART I

GENERAL

1.—(1) These Regulations may be cited as the Units of Measurement Regulations 1980.

(2) These Regulations shall come into operation as follows:—

(*a*) all Regulations except Regulations 1(3)(*b*) and 3 to 7 and Schedules 1 and 2, on 1st September 1980; and

(*b*) Regulations 1(3)(*b*) and 3 to 7 and Schedules 1 and 2, on 1st October 1981.

(3) (*a*) Regulation 7(2) to (5) and Schedule 3 to the Units of Measurement Regulations 1976**(c)** are hereby revoked; and

(*b*) the Units of Measurement Regulations 1976**(c)** (other than Regulation 7(2) to (5) and Schedule 3) are revoked on 1st October 1981.

2. In these Regulations:—

"the Act of 1963" means the Weights and Measures Act 1963**(d)**;

"the Act of 1967" means the Weights and Measures Act (Northern Ireland) 1967**(e)**;

"the operative date" means 1st September 1980, in relation to a unit of measurement specified in Part I of Schedule 3 hereto, and 1st January 1986, in relation to a unit of measurement specified in Part II of that Schedule;

"specified circumstances" means the circumstances specified in Article 2(*a*) of Council Directive No. 80/181/EEC**(f)** as limited by the provisions of Article 2(*b*) of that Directive;

(a) S.I. 1976/897. **(b)** 1972 c. 68. **(c)** S.I. 1976/1674.

(d) 1963 c. 31, as amended by the Weights and Measures &c. Act 1976 (c. 77), the Weights and Measures Act 1979 (c. 45) and S.I. 1970/1709, S.I. 1976/1674 and S.I. 1978/484.

(e) 1967 c. 6 (N.I.), as amended by the Weights and Measures &c. Act 1976, the Weights and Measures Act 1979 and S.I. 1978/484.

(f) O.J. No. L39, 15.2.80, p.40.

"use for trade" has the same meaning as it has in section 9 of the Act of 1963 or in section 3 of the Act of 1967 as the case may require;

"weighing or measuring equipment" has the same meaning as it has in section 58(1) of the Act of 1963 or in section 41(1) of the Act of 1967 as the case may require.

PART II

AUTHORISED UNITS

3. The units of measurement specified in Schedule 1 hereto are authorised for use in the specified circumstances.

4. When in the specified circumstances a quantity is expressed by reference to the name or symbol of a unit of measurement specified in Schedule 1 hereto that reference is a reference to that unit of measurement as defined in, or expressed in terms of other units in, or having a value expressed in, that Schedule, as the case may be.

5. The prefixes and their symbols set out in Schedule 2 hereto may be used in the specified circumstances in conjunction—

(*a*) with a name or symbol of a unit of measurement specified in paragraph 1, 2, 4 or 5 of Schedule 1 hereto;

(*b*) in the case of prefixes, with the name "grade" or "gon" and, in the case of symbols, with the symbol "gon",

to indicate the multiple or submultiple as set out in Schedule 2 hereto of that unit of measurement.

6. Notes in Schedules 1 and 2 shall apply for the interpretation or explanation thereof.

7.—(1) Subject to paragraph (2) below and to Part IV of these Regulations, nothing in this Part of these Regulations shall be taken as adding to or subtracting from or otherwise affecting the units of measurement or the symbols therefor that are lawful for use for trade by or under the Act of 1963 or by or under the Act of 1967.

(2) For the purposes of the Act of 1963—

(*a*) the metre, the kilogram and the ampere shall have the meanings respectively assigned to them in paragraph 1(1) of Schedule 1 hereto; and

(*b*) the ohm, the volt and the watt are the quantities (expressed in Schedule 4 hereto in words) represented by the respective algebraic expressions set out in column 5 of the Table in paragraph 2(3) of Schedule 1 hereto.

PART III

UNITS NO LONGER AUTHORISED

8. Subject to Regulations 9 to 11 below, the units of measurement and their symbols specified in Schedule 3 hereto are not authorised for use in the specified circumstances on or after the operative date.

9.—(1) Notwithstanding anything in this Part or in Part IV of these Regulations or in the Units of Measurement Regulations 1978**(a)**, supplementary indications may continue to be used for trade.

(a) S.I. 1978/484.

(2) (*a*) In the case of a conflict between an indication of quantity expressed in an authorised unit and a supplementary indication the latter shall be disregarded; and

(*b*) any characters employed in any marking of quantity in relation to a supplementary indication shall not be larger than those employed in the marking of quantity expressed in the authorised unit.

(3) In this Regulation, "an authorised unit" means a unit of measurement specified in Schedule 1 to the Units of Measurement Regulations 1976 up to 30th September 1981 and thereafter in Schedule 1 hereto, and a supplementary indication means one or more indications of quantity expressed in a unit of measurement, other than an authorised unit, which is used in conjunction with an indication of quantity expressed in an authorised unit.

10.—(1) Nothing in this Part or in Part IV of these Regulations or in the Units of Measurement Regulations 1978 shall prevent any units of measurement being used for products and equipment (other than weighing or measuring equipment (including weights)) placed on the market or used before 1st December 1980.

(2) Weighing equipment (including weights) which weighs wholly or partly in grains, stones, quarters, hundredweights or tons may continue to be used for trade on or after 1st December 1980 if, in the case of equipment prescribed for the purposes of section 11 of the Act of 1963 or, as the case may be, section 5 of the Act of 1967, it was first passed as fit for use for trade and where necessary stamped in accordance with those Acts before that date, or if, in the case of such equipment not so prescribed, it was placed on the market and used before that date.

(3) Measuring equipment measuring in square inches, cubic inches or cubic feet may continue to be used for trade on and after 1st December 1980 if it was placed on the market and used before that date.

(4) Nothing in paragraph (2) above shall be taken as authorising the continued use for trade of the grain, stone, quarter, hundredweight or ton except insofar as the weight of the goods in those units or partly in those units is treated as having been made known to a prospective buyer by virtue of section 33(2)(*a*) and (4) of the Act of 1963 or, as the case may be, section 26(2)(*a*) and (4) of the Act of 1967.

11. Nothing in this Part or in Part IV of these Regulations or in the Units of Measurement Regulations 1978 shall prevent any units of measurement being used for components and parts of products and of equipment necessary to supplement or replace components or parts of products and equipment referred to in Regulation 10(1) to (3) above.

12. Without prejudice to Regulation 10 above, every pattern of weighing equipment—

(*a*) the certificate of approval in respect of which has been issued or is deemed to have been granted under section 12 of the Act of 1963 or, as the case may be, section 6 of the Act of 1967, and is in force immediately before 1st December 1980; and

(*b*) which provides for weighing to be made wholly or partly in grains, stones, quarters, hundredweights or tons,

(including a pattern modified in accordance with an authorisation of the Secretary of State or the Department of Commerce for Northern Ireland granted or deemed to have been granted under the said section 12 or, as the case may be, the said section 6 before 4th April 1979 and for the time being in

force) shall be deemed to be modified to the extent necessary to require equipment of that pattern—

(i) to weigh in pounds with scale intervals in the form 1×10^n, 2×10^n or 5×10^n pounds, the index n being a positive or negative whole number or zero, in substitution for stones, quarters, hundredweights or tons or fractions thereof and to have its capacity expressed in pounds; and

(ii) to weigh in multiples or fractions of an ounce troy in substitution for grains or fractions thereof and to have its capacity expressed in ounces troy.

PART IV

CONSEQUENTIAL AMENDMENTS

13.—(1) For Schedules 1, 1A and 3 to the Act of 1963 there shall be substituted respectively the Schedules of those numbers set out in Schedule 4 hereto.

(2) For Schedules 1A and 1 to the Act of 1967 there shall be substituted respectively as Schedules of those numbers Schedules 1A and 3 set out in Schedule 4 hereto.

(3) Nothing in the definition of "gallon" or "litre" in the said Schedule 1 to the Act of 1963 affects any contract or agreement entered into before 1st November 1976, notwithstanding that it relates to the delivery of goods on or after that date.

14. The enactments and instruments specified in Schedule 5 hereto shall be amended in the manner specified in that Schedule.

15. Where a contract entered into before the operative date falls to be performed or to be performed partly on or after that date, and the contract refers to a unit of measurement named in Schedule 3 hereto, that reference shall on and after the operative date be deemed to be a reference to the value set out in the appropriate column of that Schedule in relation to that unit; and accordingly any calculation that has under the contract to be made by reference to that unit shall instead be made by reference to that value.

Sally Oppenheim,
Minister of State,
Department of Trade.

25th July 1980.

(Regulation 3)

SCHEDULE 1

INTERNATIONAL SYSTEM (SI) UNITS

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

The metre is the length equal to 1 650 763.73 wavelengths in vacuum of the radiation corresponding to the transition between the levels $2p_{10}$ and $5d_5$ of the krypton 86 atom.

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 1 metre apart in a vacuum, would produce between these conductors a force equal to 2×10^{-7} newton per metre of length.

Unit of thermodynamic temperature

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

Unit of amount of substance

The mole is the amount of substance of a system which contains as many elementary entities as there are atoms in 0.012 kilogram of carbon 12.

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.

(2) Special name and symbol of the SI unit of temperature for expressing Celsius temperature.

Quantity	Unit	
	Name	Symbol
Celsius temperature	degree Celsius	°C

Celsius temperature t is defined as the difference $t = T - T_0$ between the two thermodynamic temperatures T and T_0 where $T_0 = 273.15$ kelvins. An interval of or difference in temperature may be expressed either in kelvins or in degrees Celsius. The unit of "degree Celsius" is equal to the unit "kelvin".

2. Other SI units.

(1) Supplementary SI units.

Quantity	Unit	
	Name	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Definitions of supplementary SI units

Plane angle unit

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

Solid angle unit

The steradian is the solid angle which has its apex at the centre of a sphere and which describes on the surface of the sphere an area equal to that of a square having as its side the radius of the sphere.

(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.

(3) Derived SI units having special 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 (1), 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 imparted, kerma, absorbed dose index	gray	Gy	$J \cdot kg^{-1}$	$m^{2} \cdot s^{-2}$
Dose equivalent	sievert	Sv	$J \cdot kg^{-1}$	$m^{2} \cdot s^{-2}$

Notes:

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

(1) Special names for the unit of power: the name volt-ampere (symbol "VA") when it is used to express the apparent power of alternating electric current, and var (symbol "var") when it is used to express reactive electric power.

(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)	1 l=1 $dm^3=10^{-3}$ m^3
Mass	tonne	t	1 t=1 Mg=10^3 kg
Pressure, stress	bar	bar (2)	1 bar=10^5 Pa

Notes:
(1) The two symbols 'l' and 'L' may be used for the litre unit.
(2) Unit listed in the International Bureau of Weights and Measures booklet(a) as among the units to be permitted temporarily.

3. 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)		1 revolution = 2 π rad
	grade or gon	gon	1 gon = $\frac{\pi}{200}$ rad
	degree	°	1° = $\frac{\pi}{180}$ rad
	minute of angle	′	1′ = $\frac{\pi}{10\,800}$ rad
	second of angle	″	1″ = $\frac{\pi}{648\,000}$ rad
Time	minute	min	1 min = 60 s
	hour	h	1 h = 3 600 s
	day	d	1 d = 86 400 s

Note: (1) No international symbol exists.

4. Units defined independently of the seven SI base units.

The unified atomic mass unit is 1/12 of the mass of an atom of the nuclide ^{12}C.

The electronvolt is the kinetic energy acquired by an electron passing in a vacuum from one point to another whose potential is 1 volt higher.

Quantity	Unit		
	Name	Symbol	Value
Mass	unified atomic mass unit	u	1 u≈1.660 565 5 × 10^{-27} kg
Energy	electronvolt	eV	1 eV≈1.602 189 2 × 10^{-19} J

Note: The value of these units, expressed in SI units, is not known exactly. The above values are taken from CODATA Bulletin No. 11 of December 1973 of the International Council of Scientific Unions.

(a) The International System of Units HMSO (3rd Edition 1977).

5. Units and names of units permitted in specialised fields only.

Quantity	Unit	
	Name	Value
Vergency of optical systems	dioptre	1 dioptre = 1 m^{-1}
Mass of precious stones	metric carat	1 metric carat = 2×10^{-4} kg

Quantity	Unit		
	Name	Symbol	Value
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} kg· m^{-1}

6. Compound units

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

(Regulation 5)

SCHEDULE 2

PREFIXES AND THEIR SYMBOLS USED TO DESIGNATE CERTAIN DECIMAL MULTIPLES AND SUBMULTIPLES

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

Notes:

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.

SCHEDULE 3 *(Regulation 8)*

UNITS OF MEASUREMENT WHICH ARE NOT AUTHORISED IN THE SPECIFIED CIRCUMSTANCES

PART I (Units which are not authorised for use in the specified circumstances as from the coming into operation of these Regulations)

1. IMPERIAL UNITS

Quantities, names of units, symbols and approximate values:

(1) Length	
Hand	1 hand = 0.1016 m
(2) Area	
Square inch	1 sq in = 6.452×10^{-4} m^2
Square mile	1 sq mile = 2.59×10^{6} m^2
(3) Volume	
Cubic inch	1 cu in = 16.39×10^{-6} m^3
Cubic foot	1 cu ft = 0.0283 m^3
Cran	1 cran = 170.5×10^{-3} m^3
(4) Mass	
Grain	1 gr = 0.0648×10^{-3} kg
Stone	1 st = 6.35 kg
Quarter	1 qr = 12.70 kg
Hundredweight	1 cwt = 50.80 kg
Ton	1 ton = 1016 kg
(5) Force	
Pound-force	1 lbf = 4.448 N
(6) Energy	
British Thermal Unit	1 Btu = 1055.06 J
Foot Pound-force	1 ft lbf = 1.356 J
(7) Power	
Horsepower	1 hp = 745.7 W
(8) Temperature	
Degree Fahrenheit	$1°F = \left(\frac{5}{9}\right)K$

2. CGS UNITS

Quantities, names of units, symbols and values.

Quantity	Unit		
	Name	Symbol	Value
Force	dyne	dyn	1 dyn = 10^{-5} N
Energy	erg	erg	1 erg = 10^{-7} J
Acceleration of free fall	gal	Gal	1 Gal = 10^{-2} $m{\cdot}s^{-2}$

3. OTHER UNITS

Quantities, names of units, symbols and values.

Quantity	Unit		
	Name	Symbol	Value
Wavelength, atomic distances	ångström	Å	1 Å = 10^{-10} m
Effective cross-sectional area	barn	barn	1 b = 10^{-28} m^2
Mass	quintal(a)		1 quintal = 10^2 kg
Pressure	standard atmosphere	atm	1 atm = 101 325 Pa
Volume (forestry and timber trade)	stere	st	1 st = 1 m^3

(a) No international symbol exists.

PART II (Units which are not authorised for use in the specified circumstances as from 1st January 1986)

Quantities, names of units, symbols and values.

Quantity	Unit		
	Name	Symbol	Value
Blood pressure	millimetre of mercury	mm Hg	1 mm Hg=133.322 Pa
Plane angle		g (1)	1 g=$\frac{\pi}{200}$ rad
Activity (of a radionuclide)	curie	Ci	1 Ci=3.7×10^{10} Bq
Absorbed dose	rad	rad(2)	1 rad=10^{-2} Gy
Equivalent dose	rem	rem	1 rem=10^{-2} Sv
Exposure (X and gamma rays)	röntgen	R	1 R=$2.58\cdot10^{-4}$C·kg^{-1}
Dynamic viscosity	poise	P	1 P=10^{-1} Pa·s
Kinematic viscosity	stokes	St	1 St=10^{-4} $m^2\cdot s^{-1}$

(1) Symbol for "grade".
(2) When there is risk of confusion with the symbol for radian, rd may be used as symbol for rad.

Notes:

The prefixes and their symbols listed in Schedule 2 may be used in conjunction with the units and symbols contained in this Part of this Schedule with the exception of millimetre of mercury and its symbol and the symbol 'g'.

Until 31st December 1985, the units listed in this Part of this Schedule may be combined with each other or with those in Schedule 1 to form compound units.

SCHEDULE 4 *(Regulation 13)*

SUBSTITUTED SCHEDULE 1, SCHEDULE 1A AND SCHEDULE 3 TO THE ACT OF 1963
SUBSTITUTED SCHEDULES 1A AND 3 AS SCHEDULES 1A AND 1 TO THE ACT OF 1967

"SCHEDULE 1
DEFINITIONS OF UNITS OF MEASUREMENT

PART I
Measurement of length

Imperial units

1.	Mile	=1760 yards
	YARD	=0.9144 metre
	Foot	=1/3 yard
	Inch	=1/36 yard

Metric units

2.	Kilometre	=1000 metres
	METRE	is the length equal to 1 650 763.73 wavelengths in vacuum of the radiation corresponding to the transition between the levels $2p_{10}$ and $5d_5$ of the krypton 86 atom
	Decimetre	=1/10 metre
	Centimetre	=1/100 metre
	Millimetre	=1/1000 metre

PART II
Measurement of area

Imperial units

1.	Acre	=4840 square yards
	SQUARE YARD	=a superficial area equal to that of a square each side of which measures one yard
	Square foot	=1/9 square yard

Metric units

2.	Hectare	=100 ares
	Decare	=10 ares
	Are	=100 square metres
	SQUARE METRE	=a superficial area equal to that of a square each side of which measures one metre
	Square decimetre	=1/100 square metre
	Square centimetre	=1/100 square decimetre
	Square millimetre	=1/100 square centimetre

PART III
Measurement of volume

Metric units

CUBIC METRE	=a volume equal to that of a cube each edge of which measures one metre
Cubic decimetre	=1/1000 cubic metre
Cubic centimetre	=1/1000 cubic decimetre
Hectolitre	=100 litres
LITRE	=a cubic decimetre
Decilitre	=1/10 litre
Centilitre	=1/100 litre
Millilitre	=1/1000 litre

PART IV

Measurement of capacity

Imperial units

1.	GALLON	=4.546 09 cubic decimetres
	Quart	=1/4 gallon
	Pint	=1/2 quart
	Gill	=1/4 pint
	Fluid ounce	=1/20 pint

Metric units

Hectolitre	=100 litres
LITRE	=a cubic decimetre
Decilitre	=1/10 litre
Centilitre	=1/100 litre
Millilitre	=1/1000 litre

PART V

Measurement of mass or weight

Imperial units

1.	POUND	=0.453 592 37 kilogramme
	Ounce	=1/16 pound
2.	Ounce troy	=12/175 pound

Metric units

Tonne, metric tonne	=1000 kilogrammes
KILOGRAMME	is the unit of mass; it is equal to the mass of the international prototype of the kilogramme
Hectogramme	=1/10 kilogramme
Gramme	=1/1000 kilogramme
Carat (metric)	=1/5 gramme
Milligramme	=1/1000 gramme

PART VA

Definitions of units which may not be used for trade

Measurement of Length

Furlong	=220 yards
Chain	=22 yards

Measurement of Area

Square mile	=640 acres
Rood	=1210 square yards
Square inch	=1/144 square foot

Measurement of Volume

Cubic yard	=a volume equal to that of a cube each edge of which measures one yard
Cubic foot	=1/27 cubic yard
Cubic inch	=1/1728 cubic foot

Measurement of Capacity

Bushel	=8 gallons
Peck	=2 gallons
Fluid drachm	=1/8 fluid ounce
Minim	=1/60 fluid drachm

Measurement of mass or weight

Ton	=2240 pounds
Hundredweight	=112 pounds
Cental	=100 pounds
Quarter	=28 pounds
Stone	=14 pounds
Dram	=1/16 ounce
Grain	=1/7000 pound
Pennyweight	=24 grains
Ounce apothecaries	=480 grains
Drachm	=1/8 ounce apothecaries
Scruple	=1/3 drachm
Metric ton	=1000 kilogrammes
Quintal	=100 kilogrammes

PART VI

Measurement of electricity

1.	(*a*) AMPERE	is that constant current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section and placed 1 metre apart in a vacuum, would produce between these conductors a force equal to 2×10^{-7} newton per metre of length.
	(*b*) OHM	is the electric resistance between two points of a conductor when a constant potential difference of 1 volt, applied between the two points, produces in the conductor a current of 1 ampere, the conductor not being the seat of any electromotive force.
	(*c*) VOLT	is the difference of electric potential between two points of a conducting wire carrying a constant current of 1 ampere when the power dissipated between these points is equal to 1 watt.
	(*d*) WATT	is the power which in one second gives rise to energy of 1 joule.
2.	Kilowatt	=1000 watts.
	Megawatt	=one million watts."

"SCHEDULE 1A

UNITS OF MEASUREMENT LAWFUL FOR USE FOR TRADE

PART I

MEASUREMENT OF LENGTH

Imperial units	*Metric units*
Mile	Kilometre
Yard	Metre
Foot	Decimetre
Inch	Centimetre
	Millimetre

PART II

MEASUREMENT OF AREA

Imperial units	*Metric units*
Acre	Hectare
Square Yard	Decare
Square Foot	Are
	Square metre
	Square decimetre
	Square centimetre
	Square millimetre

PART III

MEASUREMENT OF VOLUME

	Metric units
	Cubic metre
	Cubic decimetre
	Cubic centimetre
	Hectolitre
	Litre
	Decilitre
	Centilitre
	Millilitre

PART IV

MEASUREMENT OF CAPACITY

Imperial units	*Metric units*
Gallon	Hectolitre
Quart	Litre
Pint	Decilitre
Gill	Centilitre
Fluid ounce	Millilitre

PART V

MEASUREMENT OF MASS OR WEIGHT

Imperial units	*Metric units*
Pound	Tonne
Ounce	Metric tonne
Ounce troy	Kilogramme
	Hectogramme
	Gramme
	Carat (metric)
	Milligramme

PART VI

SPECIAL RESTRICTIONS ON USE FOR TRADE

1. No person shall use the ounce troy for trade except for the purposes of transactions in, or in articles made from, gold, silver or other precious metals, including transactions in gold or silver thread, lace or fringe.

2. No person shall use the carat (metric) for trade except for the purposes of transactions in precious stones or pearls."

"SCHEDULE 3

MEASURES AND WEIGHTS LAWFUL FOR USE FOR TRADE

PART I

LINEAR MEASURES

Imperial system

1. Measures of—

100 feet	5 feet
66 feet	4 feet
50 feet	1 yard
33 feet	2 feet
20 feet	1 foot
10 feet	6 inches
8 feet	1 inch
6 feet	

Metric system

2. 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

PART II

SQUARE MEASURES

Imperial system

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

Metric system

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

PART III

CUBIC MEASURES

Metric system

1. Measures of, or any multiple of, 0.1 cubic metre.

2. Measures of—

any multiple of 10 litres	
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

PART IV

CAPACITY MEASURES

Imperial system

1. Measures of—

any multiple of 1 gallon	1 gill
1 gallon	4 fluid ounces
½ gallon	½ gill
1 quart	⅖ gill
1 pint	⅓ gill
½ pint	¼ gill
8 fluid ounces	⅕ gill
⅓ pint	⅙ gill
6 fluid ounces	

Metric system

2. Measures of—

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

PART V

WEIGHTS

Imperial system

1. Weights of—

56 pounds	any of the following multiples or fractions of 1/7000 pound that is to say:—
50 pounds	
28 pounds	
20 pounds	100
14 pounds	50
10 pounds	30
7 pounds	20
5 pounds	10
4 pounds	5
2 pounds	3
1 pound	2
8 ounces	1
4 ounces	0.5
2 ounces	0.3
1 ounce	0.2
$\frac{1}{2}$ ounce	0.1
$\frac{1}{4}$ ounce	0.05
$\frac{1}{8}$ ounce	0.03
$\frac{1}{16}$ ounce	0.02
$\frac{1}{32}$ ounce	0.01

2. Weights of—

500 ounces troy	0.4 ounce troy
400 ounces troy	0.3 ounce troy
300 ounces troy	0.2 ounce troy
200 ounces troy	0.1 ounce troy
100 ounces troy	0.05 ounce troy
50 ounces troy	0.04 ounce troy
40 ounces troy	0.03 ounce troy
30 ounces troy	0.025 ounce troy
20 ounces troy	0.02 ounce troy
10 ounces troy	0.01 ounce troy
5 ounces troy	0.005 ounce troy
4 ounces troy	0.004 ounce troy
3 ounces troy	0.003 ounce troy
2 ounces troy	0.002 ounce troy
1 ounce troy	0.001 ounce troy
0.5 ounce troy	

Metric system

3. Weights of—

25 kilogrammes	3 grammes
20 kilogrammes	2 grammes
10 kilogrammes	1 gramme
5 kilogrammes	500 milligrammes
2 kilogrammes	400 milligrammes
1 kilogramme	300 milligrammes
500 grammes	200 milligrammes
200 grammes	150 milligrammes
100 grammes	100 milligrammes
50 grammes	50 milligrammes
20 grammes	20 milligrammes
15 grammes	10 milligrammes
10 grammes	5 milligrammes
5 grammes	2 milligrammes
4 grammes	1 milligramme

4. 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)

PART VI

SPECIAL RESTRICTIONS ON USE FOR TRADE

1. No person shall use the ounce troy for trade except for the purposes of transactions in, or in articles made from, gold, silver or other precious metals, including transactions in gold or silver thread, lace or fringe.

2. No person shall use the carat (metric) for trade except for the purposes of transactions in precious stones or pearls."

SCHEDULE 5 *(Regulation 14)*

ENACTMENTS AND INSTRUMENTS AMENDED

A ENACTMENT	AMENDMENT
The Weights and Measures Act 1963 (other than Schedules 1, 1A and 3)	(*a*) In section 23(4)(*a*)(i) for "two hundredweight" substitute "224 pounds". (*b*) In Schedule 5, in paragraph 3(*a*) for "one ton" substitute "2240 pounds" and in paragraph 11 for "two tons" substitute "4480 pounds". (*c*) In Schedule 6, in paragraph 2(3), for "half a cubic yard" in both cases that it occurs, substitute "0.2 cubic metre", in paragraph 3(1), for "1 hundredweight", "1¼ hundredweight" and "Any multiple of 1 hundredweight" substitute respectively "112 pounds", "140 pounds" and "Any multiple of 112 pounds", in paragraph 3(B)(1) for "1¼ cwt" substitute "140 pounds", in paragraph 5(1), 11(1) and 12 for "two hundredweight" substitute "224 pounds" and in paragraph 20(1) for "one hundred thousand tons" substitute "224 million pounds". (*d*) In Schedule 7, in Part III, paragraph 2(3) for "hundredweight" substitute "112 pounds" and in Part IV, paragraph 3 for "half a ton" substitute "1120 pounds".

ENACTMENT	AMENDMENT
The Weights and Measures Act (Northern Ireland) 1967 (other than Schedules 1A and 1)	(*a*) In section 17(6)(*a*)(i), for "three and three-quarters hundredweight" substitute "420 pounds". (*b*) In Schedule 3, in paragraph 2 delete "0.5 cubic yard or" and in paragraph 3(*a*) for "one ton" substitute "2240 pounds". (*c*) In Schedule 4, in paragraphs 3(1)(*a*) and 3(2) for "one hundredweight" and "one and a quarter hundredweight" substitute respectively "112 pounds" and "140 pounds", in paragraph 5(1), for "three and three-quarters hundredweight" substitute "420 pounds" and in paragraph 12(2) for "two and a half hundredweight" substitute "280 pounds". (*d*) In Schedule 5, in Part II, paragraph 2 delete "a multiple of 0.25 cubic yard or" and in Part III, paragraph 2(3) for "hundredweight" substitute "112 pounds" and in Part IV, paragraph 2 for "half a ton" substitute "1120 pounds".

B

INSTRUMENT	AMENDMENT
The Weights and Measures Regulations 1963(a)	After Regulation 63 insert the following:— "63A. Weighing instruments which weigh in imperial units, except where they are of a pattern in respect of which a certificate of approval granted or deemed to have been granted under section 12 of the Weights and Measures Act 1963 is in force, shall, before being first submitted to an inspector on or after 1st December 1980 for testing with a view to their being passed as fit for use for trade and stamped, have scale intervals and their capacity expressed in one of the following forms:—

scale interval	expression of capacity
(i) proper fractions of an ounce or a pound	in ounces or pounds or pounds and ounces
(ii) ounces troy or proper fractions of an ounce troy	in ounces troy
(iii) 1×10^n, 2×10^n or 5×10^n pounds, the index n being a positive whole number or zero	in pounds."

In Regulation 72(*c*), for "2 hundredweight" substitute "224 lb";

In Regulation 87, for "1 cwt", whenever it occurs, substitute "112 lb";

In Regulation 113, for "1 cwt" substitute "112 lb";

In Regulation 119, for "1 ton" or "ton", whenever it occurs, substitute "2240 lb";

In Regulation 137, for "one hundredweight", whenever it occurs, substitute "112 lb";

In Part XI of Schedule 2, for "2 hundredweight" substitute "224 lb", and for "one hundredweight" substitute "112 lb";

For Parts II to X of Schedule 2, substitute the following:—

(a) S.I. 1963/1710; relevant amending Instruments are S.I. 1972/767, S.I. 1977/1932 and S.I. 1978/484.

"PART II

BEAM SCALES AND BALANCES

1 Beam Scales marked "Class B"

Capacity of instrument	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps
1 ounce	13 mg	39 mg	13 mg	26 mg
8 ounces	65 mg	195 mg	65 mg	130 mg
1 pound	65 mg	195 mg	65 mg	130 mg
2 pounds	98 mg	300 mg	130 mg	260 mg
4 pounds	195 mg	590 mg	260 mg	520 mg
7 pounds	260 mg	780 mg	390 mg	780 mg
10 pounds	390 mg	1.17 g	590 mg	1.17 g
14 pounds	520 mg	1.56 g	780 mg	1.56 g
28 pounds	980 mg	3 g	1.43 g	2.9 g
56 pounds	1.62 g	4.9 g	2.6 g	5.2 g
112 pounds	$\frac{3}{32}$ ounce	$\frac{9}{32}$ ounce	$\frac{5}{32}$ ounce	$\frac{5}{16}$ ounce
224 pounds	$\frac{5}{32}$ ounce	$\frac{15}{32}$ ounce	$\frac{7}{32}$ ounce	$\frac{7}{16}$ ounce
Above 224 pounds ..	add $\frac{1}{32}$ ounce for each 112 lb of capacity	add $\frac{3}{32}$ ounce for each 112 lb of capacity	add $\frac{1}{16}$ ounce for each 112 lb of capacity	add $\frac{1}{8}$ ounce for each 112 lb of capacity

2 Beam scales marked "Class C"

Capacity of instrument	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps
1 ounce	39 mg	78 mg	39 mg	78 mg
8 ounces	195 mg	390 mg	195 mg	390 mg
1 pound	195 mg	390 mg	195 mg	390 mg
2 pounds	300 mg	590 mg	390 mg	780 mg
4 pounds	590 mg	1.17 g	780 mg	1.56 g
7 pounds	780 mg	1.56 g	1.17 g	2.4 g
10 pounds	1.17 g	2.4 g	1.75 g	3.5 g
14 pounds	1.56 g	3.2 g	2.4 g	4.7 g
28 pounds	3 g	5.9 g	4.3 g	8.6 g
56 pounds	4.9 g	9.8 g	7.8 g	15.6 g
112 pounds	$\frac{9}{32}$ ounce	$\frac{9}{16}$ ounce	$\frac{15}{32}$ ounce	$\frac{15}{16}$ ounce
224 pounds	$\frac{15}{32}$ ounce	$\frac{15}{16}$ ounce	$\frac{21}{32}$ ounce	1 $\frac{5}{16}$ ounce
Above 224 pounds ..	add $\frac{3}{32}$ ounce for each 112 lb of capacity	add $\frac{3}{16}$ ounce for each 112 lb of capacity	add $\frac{3}{16}$ ounce for each 112 lb of capacity	add $\frac{3}{8}$ ounce for each 112 lb of capacity

3 Balances

Capacity of instrument	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps
1 ounce	3.3 mg	9.8 mg	6.5 mg	13 mg
1 pound	6.5 mg	20 mg	13 mg	26 mg
7 pounds	33 mg	98 mg	65 mg	130 mg
56 pounds	98 mg	300 mg	130 mg	260 mg

PART III

COUNTER MACHINES

Capacity of machine	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps
1 pound	1.3 g	3.9 g	1.95 g	3.9 g
2 pounds	1.82 g	5.5 g	2.7 g	5.4 g
4 pounds	2.6 g	7.8 g	3.6 g	7.1 g
7 pounds	$\frac{1}{8}$ ounce	$\frac{3}{8}$ ounce	$\frac{3}{16}$ ounce	$\frac{3}{8}$ ounce
10 pounds	$\frac{5}{32}$ ounce	$\frac{15}{32}$ ounce	$\frac{7}{32}$ ounce	$\frac{7}{16}$ ounce
14 pounds	$\frac{3}{16}$ ounce	$\frac{9}{16}$ ounce	$\frac{9}{32}$ ounce	$\frac{9}{16}$ ounce
28 pounds	$\frac{1}{4}$ ounce	$\frac{3}{4}$ ounce	$\frac{3}{8}$ ounce	$\frac{3}{4}$ ounce
56 pounds	$\frac{3}{8}$ ounce	$1\frac{1}{8}$ ounces	$\frac{9}{16}$ ounce	$1\frac{1}{8}$ ounces
112 pounds	$\frac{1}{2}$ ounce	$1\frac{1}{2}$ ounces	1 ounce	2 ounces

PART IV

SPRING BALANCES

Capacity of spring balance	Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps
1 pound	1.95 g	3.9 g
2 pounds	$\frac{3}{32}$ ounce	$\frac{3}{16}$ ounce
3 ,, ...	$\frac{3}{32}$,,	$\frac{3}{16}$,,
4 ,, ...	$\frac{1}{8}$,,	$\frac{1}{4}$,,
5 ,, ...	$\frac{5}{32}$,,	$\frac{5}{16}$,,
6 ,, ...	$\frac{5}{32}$,,	$\frac{5}{16}$,,
7 ,, ...	$\frac{3}{16}$,,	$\frac{3}{8}$,,
10 ,, ...	$\frac{7}{32}$,,	$\frac{7}{16}$,,
11 ,, ...	$\frac{7}{32}$,,	$\frac{7}{16}$,,
12 ,, ...	$\frac{1}{4}$,,	$\frac{1}{2}$,,
13 ,, ...	$\frac{1}{4}$,,	$\frac{1}{2}$,,
14 ,, ...	$\frac{9}{32}$,,	$\frac{9}{16}$,,
15 ,, ...	$\frac{9}{32}$,,	$\frac{9}{16}$,,
20 ,, ...	$\frac{5}{16}$,,	$\frac{5}{8}$,,
21 ,, ...	$\frac{5}{16}$,,	$\frac{5}{8}$,,
22 ,, ...	$\frac{5}{16}$,,	$\frac{5}{8}$,,
23 ,, ...	$\frac{11}{32}$,,	$\frac{11}{16}$,,
24 ,, ...	$\frac{11}{32}$,,	$\frac{11}{16}$,,
25 ,, ...	$\frac{11}{32}$,,	$\frac{11}{16}$,,
26 ,, ...	$\frac{11}{32}$,,	$\frac{11}{16}$,,
27 ,, ...	$\frac{3}{8}$,,	$\frac{3}{4}$,,
28 ,, ...	$\frac{3}{8}$,,	$\frac{3}{4}$,,
29 ,, ...	$\frac{3}{8}$,,	$\frac{3}{4}$,,
30 ,, ...	$\frac{3}{8}$,,	$\frac{3}{4}$,,
40 pounds and above	The weight corresponding to $\frac{1}{4}$ of the interval between consecutive graduations	The weight corresponding to $\frac{1}{2}$ of the interval between consecutive graduations

PART V

STEELYARDS

Capacity of steelyard	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps
56 pounds	$\frac{3}{4}$ ounce	$2\frac{3}{8}$ ounces	$1\frac{1}{8}$ ounces	$2\frac{1}{4}$ ounces
112 ,, ..	1 ,,	3 ,,	2 ,,	4 ,,
3×112 ,, ..	2 ounces	6 ,,	4 ,,	8 ,,
5×112 ,, ..	3 ,,	9 ,,	6 ,,	12 ,,
7×112 ,, ..	4 ,,	12 ,,	8 ,,	16 ,,
10×112 ,, ..	6 ,,	18 ,,	12 ,,	24 ,,
20×112 ,, ..	10 ,,	30 ,,	20 ,,	40 ,,
30×112 ,, ..	13 ,,	39 ,,	26 ,,	52 ,,
40×112 ,, ..	16 ,,	48 ,,	32 ,,	64 ,,
50×112 ,, ..	20 ,,	60 ,,	40 ,,	80 ,,

PART VI

DEAD-WEIGHT MACHINES

Capacity of machine	Vibrating weighing instruments				Accelerating weighing instruments		
	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded		Error in excess or in deficiency when fully loaded		Weight required to bring back the beam from position of greatest displacement when fully loaded
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade
112 pounds ..	½ ounce	1½ ounces	1 ounce	2 ounces	1 ounce	2 ounces	2 ounces
3×112 „ ..	1 „	3 „	2 ounces	4 „	2 ounces	4 „	4 „
5×112 „ ..	1½ ounces	4½ „	3 „	6 „	3 „	6 „	6 „
7×112 „ ..	2 „	6 „	4 „	8 „	4 „	8 „	8 „
10×112 „ ..	3 „	9 „	6 „	12 „	6 „	12 „	12 „
20×112 „ ..	5 „	15 „	10 „	20 „	10 „	20 „	20 „
30×112 „ ..	6½ „	19½ „	13 „	26 „	13 „	26 „	26 „
40×112 „ ..	8 „	24 „	16 „	32 „	16 „	32 „	32 „
50×112 „ ..	10 „	30 „	20 „	40 „	20 „	40 „	40 „

PART VII

PLATFORM WEIGHING MACHINES

Capacity of machine	Vibrating weighing instruments				Accelerating weighing instruments			Machines with dials	
	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded		Error in excess or in deficiency when fully loaded		Weight required to bring back the steelyard indicator from position of greatest displacement when fully loaded must not exceed—	Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	Upon passing as fit for use for trade	In relation to the obliteration of stamps
112 pounds ..	½ ounce	1½ ounces	1 ounce	2 ounces	1 ounce	2 ounces	2 ounces	2 ounces	4 ounces
3×112 „ ..	1 „	3 „	2 ounces	4 „	2 ounces	4 „	4 „	4 „	8 „
5×112 „ ..	1½ ounces	4½ „	3 „	6 „	3 „	6 „	6 „	6 „	12 „
7×112 „ ..	2 „	6 „	4 „	8 „	4 „	8 „	8 „	8 „	16 „
10×112 „ ..	3 „	9 „	6 „	12 „	6 „	12 „	12 „	12 „	24 „
20×112 „ ..	5 „	15 „	10 „	20 „	10 „	20 „	20 „	20 „	40 „
30×112 „ ..	6½ „	19½ „	13 „	26 „	13 „	26 „	26 „	26 „	52 „
40×112 „ ..	8 „	24 „	16 „	32 „	16 „	32 „	32 „	32 „	64 „
50×112 „ ..	10 „	30 „	20 „	40 „	20 „	40 „	40 „	40 „	80 „

PART VIII

SELF-INDICATING PIT-BANK WEIGHING MACHINES

Capacity of machine	Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps
112 pounds ..	6 ounces	12 ounces
2 × 112 „	9 „	1 pound 2 „
3 × 112 „	12 „	1 „ 8 „
4 × 112 „	15 „	1 „ 14 „
5 × 112 „	1 pound 2 „	2 pounds 4 „
7 × 112 „	1 „ 8 „	3 „ 0 „
10 × 112 „	2 pounds 4 „	4 „ 8 „
12 × 112 „	2 „ 9 „	5 „ 2 „
15 × 112 „	3 „ 0 „	6 „ 0 „
20 × 112 „	3 „ 12 „	7 „ 8 „
30 × 112 „	4 „ 14 „	9 „ 12 „
40 × 112 „	6 „ 0 „	12 „ 0 „
50 × 112 „	7 „ 8 „	15 „ 0 „

PART IX

WEIGHBRIDGES

Capacity of instrument	Vibrating weighing instruments without dials				Accelerating weighing instruments without dials			Instruments with dials	
	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded		Error in excess or in deficiency when fully loaded		Weight required to bring back the steelyard indicator from position of greatest displacement when fully loaded must not exceed—	Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fito for use for trade	Upon passing as fit for use for trade	In relation to the obliteration of stamps
2240 pounds ..	1½ pounds	4½ pounds	1½ pounds	3 pounds	1½ pounds	3 pounds	4 pounds	3 pounds	6 pounds
2×2240 „ ..	2 „	6 „	2 „	4 „	2 „	4 „	5 „	4 „	8 „
5×2240 „ ..	3½ „	10½ „	4 „	8 „	4 „	8 „	10 „	8 „	16 „
10×2240 „ ..	5 „	15 „	6 „	12 „	6 „	12 „	15 „	12 „	24 „
20×2240 „ ..	7 „	21 „	10 „	20 „	10 „	20 „	25 „	20 „	40 „
25×2240 „ ..	8 „	24 „	12 „	24 „	12 „	24 „	30 „	24 „	48 „
30×2240 „ ..	8½ „	25½ „	13½ „	27 „	13½ „	27 „	34 „	27 „	54 „
35×2240 „ ..	9 „	27 „	15 „	30 „	15 „	30 „	37 „	30 „	60 „
40×2240 „ ..	9½ „	28½ „	16 „	32 „	16 „	32 „	40 „	32 „	64 „
50×2240 „ ..	10 „	30 „	18 „	36 „	18 „	36 „	45 „	36 „	72 „
75×2240 „ ..	12 „	36 „	23 „	46 „	23 „	46 „	58 „	46 „	92 „
100×2240 „ ..	14 „	42 „	28 „	56 „	28 „	56 „	70 „	56 „	112 „
200×2240 „ ..	18 „	54 „	42 „	84 „	42 „	84 „	105 „	84 „	168 „

PART X

CRANE WEIGHING MACHINES

1. *Crane weighing machines constructed upon other than the hydraulic principle*

Capacity of machine	Machines with steelyard indicators				Machines with dials	
	Weight to be added to test sensitiveness when fully loaded		Error in excess or in deficiency when fully loaded		Error in excess or in deficiency when fully loaded	
	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps	Upon passing as fit for use for trade	In relation to the obliteration of stamps
112 pounds	½ ounce	1½ ounces	1 ounce	2 ounces	2 ounces	4 ounces
5× 112 „	1½ ounces	4½ „	3 ounces	6 „	6 „	12 „
10× 112 „	3 „	9 „	6 „	12 „	12 „	1½ pounds
2240 „	1½ pounds	4½ pounds	1½ pounds	3 pounds	3 pounds	6 pounds
2×2240 „	2 „	6 „	2 „	4 „	4 „	8 „
5×2240 „	3½ „	10½ „	4 „	8 „	8 „	16 „
10×2240 „	5 „	15 „	6 „	12 „	12 „	24 „
20×2240 „	7 „	21 „	10 „	20 „	20 „	40 „
25×2240 „	8 „	24 „	12 „	24 „	24 „	48 „
30×2240 „	8½ „	25½ „	13½ „	27 „	27 „	54 „
35×2240 „	9 „	27 „	15 „	30 „	30 „	60 „
40×2240 „	9½ „	28½ „	16 „	32 „	32 „	64 „
50×2240 „	10 „	30 „	18 „	36 „	36 „	72 „
75×2240 „	12 „	36 „	23 „	46 „	46 „	92 „
100×2240 „	14 „	42 „	28 „	56 „	56 „	112 „
200×2240 „	18 „	54 „	42 „	84 „	84 „	168 „

2. *Crane weighing machines constructed upon the hydraulic principle*

An amount equal to one-half of the weight represented by the interval between consecutive graduations."

INSTRUMENT	AMENDMENT
The Weights and Measures (Person Weighing Machines) Regulations 1965**(a)**	In Regulation 10(2)(*b*) delete "stones". After Regulation 10(3) insert the following:— "(4) Nothing in paragraph 2(*b*) of this Regulation shall prevent any person weighing machine again being passed as fit for use for trade, which is conspicuously, legibly and durably marked with the capacity of the machine in stones and was first passed as fit for use for trade before 1st December 1980."
Weights and Measures (Person Weighing Machines) Regulations (Northern Ireland) 1967**(b)**	In Regulation 12(2)(*b*) delete "stones". After Regulation 12(3) insert the following:— "(4) Nothing in paragraph 2(*b*) shall prevent any person weighing machine again being passed as fit for use for trade, which is conspicuously, legibly and durably marked with the capacity of the machine in stones and was first passed as fit for use for trade before 1st December 1980."

(a) S.I. 1965/123.
(b) S.R. & O. (N.I.) 1967 No. 238.

INSTRUMENT	AMENDMENT
Weights and Measures Regulations (Northern Ireland) 1967**(a)**	In Regulation 2 for "one hundredweight" substitute "112 lb"; In Regulation 24(3) delete "ctl", "cwt", "qr", "dr" and "gr". After Regulation 25 insert the following:— "25A. Weighing instruments which weigh in imperial units, except where they are of a pattern in respect of which a certificate of approval granted or deemed to have been granted under section 6 of the Act is in force, shall, before being first submitted to an inspector on or after 1st December 1980 for testing with a view to their being passed as fit for use for trade and stamped, have scale intervals and their capacity expressed in one of the following forms:—

scale interval	expression of capacity
(i) proper fractions of an ounce or a pound	in ounces or pounds or pounds and ounces
(ii) ounces troy or proper fractions of an ounce troy	in ounces troy
(iii) 1×10^n, 2×10^n or 5×10^n pounds, the index n being a positive whole number or zero	in pounds."

In Regulation 27(1)(*c*), for "2 hundredweight" substitute "224 lb";

In Regulation 35(2) for "1 cwt" whenever it occurs, substitute "112 lb";

In Regulation 35(3), in the Table, for "2 dr", "4 dr" and "8 dr" substitute "$\frac{1}{8}$ oz", "$\frac{1}{4}$ oz" and "$\frac{1}{2}$ oz" respectively;

In Regulation 47(6), for "1 cwt" substitute "112 lb";

In Regulation 48(2), for "1 ton" or "ton", whenever it occurs, substitute "2240 lb";

In Regulation 56, for "one hundredweight", whenever it occurs, substitute "112 lb";

In Table X of Schedule 3, for "1 hundredweight" and "2 hundredweight" substitute "112 lb" and "224 lb";

Retitle Parts II to X of Schedule 2 to the Weights and Measures Regulations, 1963 set out above as Tables I to IX respectively and substitute these Tables for Tables I to IX in Schedule 3.

(a) S.R. & O. (N.I.) 1967 No. 237, relevant amending Regulations are S.R. & O. (N.I.) 1972 No. 278 and S.R. 1979 No. 436.

INSTRUMENT	AMENDMENT
The Weights Regulations 1970(a) Weights and Measures (Weights) Regulations (Northern Ireland) 1971(b)	In Regulation 5(1), in paragraph 3 of the Table for the words in brackets substitute "(other than weights in paragraphs 4 and 5 of this Table)" and for paragraph 4 substitute the following:— "4. *Weights of any multiple or fraction of* 1/7000 *lb* Flat or wire type | All such weights"

For paragraph 2 of Schedule 3 substitute the following:—

"2 Imperial weights

(*a*) *Avoirdupois weights*

Purported mass of the weight	Permitted error
56 lb	3.3 g
50 lb	2.6 g
28 lb	1.95 g
20 lb or 14 lb	1.3 g
10 lb	1.04 g
7 lb, 5 lb or 4 lb	650 mg
2 lb	390 mg
1 lb, 8 oz or 4 oz	260 mg
2 oz or 1 oz	65 mg
less than 1 oz	33 mg

(*b*) *Weights expressed as multiples or fractions of 1/7000 pound*

Purported mass of the weight	Permitted error expressed as fractions of 1/7000 pound
more than 10	0.05
not more than 10 but more than 0.3	0.03
0.3	0.02
0.2	0.01
0.1	0.005
0.05 or 0.03	0.003
0.02	0.002
0.01	0.001

(a) S.I. 1970/1370 to which there are amendments not relevant to these Regulations.
(b) S.R. & O. (N.I.) 1971 No. 342.

(*c*) *Troy weights*

Purported mass of the weight	Permitted error expressed as multiples or fractions of 1/7000 pound
500, 400 or 300 oz tr	4
200 or 100 oz tr	3
50 or 40 oz tr	2
30 or 20 oz tr	1
10 oz tr	0.5
5, 4 or 3 oz tr	0.3
2 or 1 oz tr	0.2
0.5, 0.4, 0.3 oz tr	0.1
not more than 0.2 oz tr but more than 0.03 oz tr	0.05
0.03 oz tr or less	0.03"

INSTRUMENT	AMENDMENT
The Weights and Measures (Local Standards: Limits of Error) Regulations 1970**(a)**	For the Table headed "WEIGHTS" in the Schedule substitute the following:—

"(*a*) *Avoirdupois weights*

Local standard of	Limit of error
56 lb	162 mg
50 lb	130 mg
28 lb	98 mg
20 lb or 14 lb	65 mg
10 lb	52 mg
7 lb, 5 lb or 4 lb	33 mg
2 lb	20 mg
1 lb, 8 oz or 4 oz	13 mg
2 oz or 1 oz	6.5 mg
½ oz	3.3 mg

(a) S.I. 1970/1710 to which there are amendments not relevant to these Regulations.

(*b*) *Weights expressed as multiples or fractions of* 1/7000 *pound*

Local standard of	Limit of error expressed as fractions of 1/7000 pound
20 or more	0.01
10, 5, 3, 2, 1 or 0.5	0.006
0.3	0.004
0.2	0.002
0.1	0.001
0.05 or 0.03	0.0006
0.02 or 0.01	0.0005

(*c*) *Troy weights*

Local standard of ounces troy	Limit of error expressed as fractions of 1/7000 pound
300 or more	0.8
200 or 100	0.6
50 or 40	0.4
30 or 20	0.2
10	0.1
5, 4 or 3	0.06
2 or 1	0.04
0.5, 0.4 or 0.3	0.02
0.2, 0.1, 0.05 or 0.04	0.01
0.03 or less	0.006"

INSTRUMENT	AMENDMENT
The Working Standards and Testing Equipment (Testing and Adjustment) Regulations 1970**(a)**	In Regulation 10(2), for "0.75 grains" and "0.25 grains" substitute "49 mg" and "17 mg" respectively; in the Schedule, delete "grain" and "gr"; For Tables 2 and 4 to 7 in the Schedule, substitute the following:—

(a) S.I. 1970/1714 to which there are amendments not relevant to these Regulations.

"TABLE 2

WORKING STANDARD WEIGHTS

Imperial system

(*a*) *Avoirdupois weights*

Working standard of	Limit of error, in mg
56 lb	330
50 lb	260
28 lb	195
20 or 14 lb	130
10 lb	104
7, 5 or 4 lb	65
2 lb	39
1 lb, 8 or 4 oz	26
2 or 1 oz	13
½ oz	6.5

(*b*) *Weights expressed as multiples or fractions of 1/7000 pound*

Working standard of	Limit of error expressed as fractions of 1/7000 pound
20 or more	0.02
10, 5, 3, 2, 1 or 0.5	0.012
0.3	0.008
0.2	0.004
0.1	0.002
0.05 or 0.03	0.0012
0.02	0.001
0.01	0.0005

(*c*) *Troy weights*

Working standard of – ounces troy	Limit of error expressed as multiples or fractions of 1/7000 pound
300 or more	1.6
200 or 100	1.2
50 or 40	0.8
30 or 20	0.4
10	0.2
5, 4 or 3	0.12
2 or 1	0.08
0.5, 0.4 or 0.3	0.04
0.2, 0.1, 0.05 or 0.04	0.02
0.03 or less	0.012"

"TABLE 4

MINIMUM SENSITIVENESS OF BALANCES

Capacity of balance	Maximum weight value per division change of restpoint
(*a*) *Imperial*	
56 lb	52 mg
Less than 56 lb but not less than 7 lb	16 mg
„ „ 7 lb „ „ „ „ 1 lb	2.6 mg
„ „ 1 lb „ „ „ „ 1 oz	0.26 mg
„ „ 1 oz	0.026 mg
(*b*) *Metric*	
25 kg	15 mg
5 kg	4 mg
200 g	0.5 mg
20 g	0.025 mg

TABLE 5

MINIMUM SENSITIVENESS OF BEAMSCALES

Capacity of beamscale	Maximum weight value per division change of restpoint
(*a*) *Imperial*	
56 lb	520 mg
Less than 56 lb but not less than 20 lb	260 mg
„ „ 20 lb „ „ „ „ 14 lb	195 mg
„ „ 14 lb „ „ „ „ 7 lb	162 mg
„ „ 7 lb „ „ „ „ 4 lb	104 mg
„ „ 4 lb „ „ „ „ 2 lb	52 mg
„ „ 1 lb „ „ „ „ 8 oz	20 mg
„ „ 8 oz „ „ „ „ 4 oz	13 mg
„ „ 4 oz „ „ „ „ 2 oz	7.8 mg
„ „ 2 oz „ „ „ „ 1 oz	5.2 mg
„ „ 1 oz	2.6 mg
(*b*) *Metric*	
25 kg	500 mg
5 kg	150 mg
200 g	15 mg
20 g	2.5 mg

TABLE 6

PLATFORM MACHINES FOR TESTING TEST WEIGHTS

Capacity	Sensitiveness	Maximum variation
(*a*) *Imperial*		
2240 lb	1 oz	1 oz
1120 lb	½ oz	½ oz
560 lb	¼ oz	¼ oz
(*b*) *Metric*		
1000 kg	28 g	28 g
500 kg	14 g	14 g
250 kg	7 g	7 g

TABLE 7

TEST WEIGHTS

Weight	Limit of error	Weight	Limit of error
(*a*) *Imperial*		(*b*) *Metric*	
20×112 lb	3 oz*	1000 kg	75 g*
10 or 9×112 lb	2 oz*	500 kg	50 g*
5 or 4×112 lb	1 oz*	250 or 200 kg	25 g*
2×112 lb or 112 lb	½ oz*	100 or 50 kg	15 g*
56 lb	1.62 g	20 kg	1.5 g
50 lb	1.3 g	10 kg	1 g
28 lb	980 mg	5 kg	500 mg
20 or 14 lb	650 mg	2 kg	300 mg
10 lb	520 mg	1 kg	200 mg
7, 5 or 4 lb	330 mg	500 g	100 mg
2 lb	195 mg	200 g	50 mg
1 lb or less	130 mg	100 g	20 mg

*In excess only"

INSTRUMENT	AMENDMENT
The Weights and Measures (Marking of Goods and Abbreviations of Units) Regulations 1975**(a)**	In Regulation 5(2) add at the beginning "Subject to Regulation 5 of the Units of Measurement Regulations 1976 and 1980". In Schedule 1, Part I for the symbol relating to litre add "or L" after "l". In Schedule 1, Part II delete "square inch sq in" "cubic foot cu ft" "cubic inch cu in" "hundredweight cwt" "quarter qr" and "grain gr" In Schedule 2 delete "square inch" "cubic inch" "hundredweight" "quarter" and "grain"

(a) S.I. 1975/1319 to which there are amendments not relevant to these Regulations.

INSTRUMENT	AMENDMENT
Weights and Measures (Marking and Abbreviations) Regulations (Northern Ireland) 1976**(a)**	In Regulation 4(2) add at the beginning "Subject to Regulation 5 of the Units of Measurement Regulations 1976 and 1980". In Schedule 1, Part I for the symbol relating to litre add "or L" after "l" and in Part II delete "square inch sq in" "cubic yard cu yd" "cubic foot cu ft" "cubic inch cu in" "hundredweight cwt" "quarter qr" "dram dr" and "grain gr" In Schedule 2 delete "square inch" "cubic yard" "cubic inch" "hundredweight" "quarter" "dram" and "grain"

INSTRUMENT	AMENDMENT
The Weights and Measures (Testing and Adjustment Fees) Regulations 1979**(b)** Weights and Measures (Testing and Adjustment Fees) Regulations (Northern Ireland) 1980**(c)**	In the Schedule in paragraph G(2)(*a*) for "1 cwt", "1 ton" and "10 tons", whenever they occur, substitute "112 lb", "2240 lb" and "22 400 lb" respectively and in paragraph G(2)(*c*) for "2 cwt", "5 cwt", "1 ton", "5 tons" and "30 tons", whenever they occur, substitute "224 lb", "560 lb", "2240 lb", "11 200 lb" and "67 200 lb" respectively.
The Weights and Measures (Packaged Goods) Regulations 1979**(d)** Weights and Measures (Packaged Goods) Regulations (Northern Ireland) 1979**(e)**	In Table 1 of Schedule 4, for "2 grains", "5 grains" and "10 grains" substitute "1/3500 lb or 2 grains", "1/1400 lb or 5 grains" and "1/700 lb or 10 grains" respectively. In Tables 2 and 3 of Schedule 4, for "1 cwt", whenever it occurs, substitute "112 lb". In Table 4 of Schedule 4, for "1 cwt", "3 cwt", "5 cwt", "7 cwt" and "10 cwt", substitute "112 lb", "336 lb", "560 lb", "784 lb" and "1120 lb" respectively. In Table 5 of Schedule 4, for "1 cwt" and "3 cwt", substitute "112 lb" and "336 lb" respectively.

(a) S.R. 1976 No. 155. **(b)** S.I. 1979/1359. **(c)** S.R. 1980 No. 15.
(d) S.I. 1979/1613 to which there are amendments not relevant to these Regulations.
(e) S.R. 1979 No. 435.

EXPLANATORY NOTE

(This Note is not part of the Regulations.)

These Regulations implement Council Directive No. 71/354/EEC (O.J. No. L243, 29.10.1971, p. 29) as amended by Council Directive No. 76/770/EEC (O.J. No. L262, 27.9.1976, p. 204) in so far as it has not yet been implemented. They also implement Council Directive No. 80/181/EEC (O.J. No. L39, 15.2.1980, p. 40), which amends the former Directive and replaces it as from 1st October 1981. The Regulations replace the Units of Measurement Regulations 1976.

The Regulations define and authorise as from 1st October 1981, in the circumstances specified in Article 2 of Directive 80/181/EEC, the use of the units of measurement set out in Schedule 1 and the prefixes and symbols set out in Schedule 2 for such use in conjunction with those units. They also provide that certain units of measurement listed in Schedule 3 are not authorised for use in those circumstances from the operative date defined in Regulation 2 namely 1st September 1980 in relation to units specified in Part I of Schedule 3 and 1st January 1986 in relation to units specified in Part II of Schedule 3. The units that are not so authorised include the grain, stone, quarter, hundredweight and ton and the square inch, square mile, cubic inch and cubic foot.

The authorisation of units of measurement by these Regulations does not affect the units which may lawfully be used for trade by virtue of the Weights and Measures Act 1963 or the Weights and Measures Act (Northern Ireland) 1967 (Reg. 7(1)). Any indication of quantity expressed in a unit of measurement can be used to supplement units of measurement authorised to be used by the Units of Measurement Regulations 1976 or these Regulations, and in case of conflict these supplementary indications are disregarded (Reg. 9).

Any units of measurement may be used for products and equipment (other than weighing or measuring equipment (including weights)) placed on the market or used before 1st December 1980 (Reg. 10(1)).

Weighing equipment (including weights) weighing wholly or partly in grains, stones, quarters, hundredweights or tons may continue to be used for trade after 1st December 1980 if it was passed as fit for use for trade and stamped before then (Reg. 10(2)). Any units of measurement may also be used for spare parts for such products and equipment (Reg. 11).

There is a saving for contracts entered into before the operative date which refer to the units listed in Schedule 3 to these Regulations (Reg. 15).

Schedule 4 to the Regulations consolidates Schedules 1 (Definitions of Units of Measurement), 1A (Units of Measurement lawful for use for Trade) and 3 (Measures and Weights lawful for use for Trade) to the 1963 Act and the Schedules in the 1967 Act corresponding to Schedules 1A and 3 to the 1963 Act (Reg. 13(1) and (2)). Consequential amendments are made to other provisions of those Acts and to certain statutory instruments in the weights and measures field which refer to the units no longer authorised to be used by these Regulations (Reg. 14 and Schedule 5).