STATUTORY INSTRUMENTS

1986 No. 1683

WEIGHTS AND MEASURES

The Weights Regulations 1986

Made - - -	*29th September* 1986
Laid before Parliament	*9th October* 1986
Coming into Operation:	
All except Regulations 1(4) *and* 13	*1st November* 1986
Regulations 1(4) *and* 13	*1st September* 1988

The Secretary of State, in exercise of the powers conferred by sections 11(1) and (4), 15(1), 86(1) and 94(1) of the Weights and Measures Act 1985(**a**) (hereinafter referred to as "the Act") and of all other powers enabling him in that behalf, hereby makes the following Regulations:—

PART I

GENERAL

Citation, commencement and revocation

1.— (1) These Regulations may be cited as the Weights Regulations 1986 and, except Regulations 1(4) and 13, shall come into operation on 1st November 1986.

(2) Regulations 1(4) and 13 shall come into operation on 1st September 1988.

(3) The Regulations specified in Schedule 5 to these Regulations, with the exception of Regulation 12 of the Weights Regulations 1970(**b**), are hereby revoked:

Provided that Part II of, and Schedule 3 to, the Weights Regulations 1970 shall continue to have effect until 1st September 1988 in so far as they are necessary for the purposes of Regulation 12 of those Regulations.

(4) Regulation 12 of the Weights Regulations 1970 shall be revoked on 1st September 1988.

Interpretation

2.— (1) In these Regulations—

(**a**) 1985 c.72.
(**b**) S.I. 1970/1370, amended by S.I. 1971/40, 1976/1981, 1980/1070.

"analogue" means capable of assigning any value or position within a continuous range;

"appropriate local or working standard weights" means the local standards or working standards of weights specified in column 2 of the Table in Schedule 3 to these Regulations in the case of the weights specified in column 1;

"digital" means capable of assigning only certain discrete values or positions within a continuous range by a series of discontinuous steps;

"discrimination threshold" means, in the case of testing equipment with a digital indicator, the weight which produces a change of reading of one digit, and in the case of testing equipment with an analogue indicator, the weight which produces a 1 mm apparent movement of the pointer;

"prescribed limits of error" relating to weights has the meaning set out in Regulation 10 below;

"repeatability" means the ability of weighing equipment to indicate, under defined conditions of use, closely similar quantities on repeated weighings; and

"the stamp" means the prescribed stamp(a) and "stamped" and "stamping" shall be construed accordingly.

(2) The symbols for, and abbreviations of, units of weight and of measurement used in these Regulations refer to the relevant units as set out in Schedule 1 to these Regulations.

Application

3.— (1) Subject to paragraph (2) below, these Regulations shall apply to all weighing or measuring equipment for use for trade of the following class namely weights, and such weights are hereby prescribed for the purposes of section 11(1) of the Act.

(2) Nothing in these Regulations shall apply to—

(a) weights for use only for weighing coins or currency notes for the purpose of determining their number;

(b) proportional weights or proportional counterpoises used through a system of levers on graduated non-self-indicating weighing machines; or

(c) externally-controlled weights used through a system of levers and incorporated in two- or three-knife edge balances.

PART II

MATERIALS AND PRINCIPLES OF CONSTRUCTION AND MARKING OF WEIGHTS

Materials

4. Except to the extent that it may—

(a) *See* S.I. 1968/1615.

(a) contain lead in an adjusting hole, or

(b) be painted, coated or otherwise treated to inhibit corrosion,

a weight, other than a weight for use in connection with the manufacture of explosives, shall—

(i) if of the flat or wire type, be made of gold or platinum or aluminium or of an alloy of any of those metals or of a metal of a density of not less than 7000 nor more than 9500 kg/m^3; or

(ii) if of any other type, be made of a metal of such a density as aforesaid and of hardness at least equal to cast brass.

Shape

5.— (1) Except as provided by paragraph (2) of this Regulation, a weight shall only be of a type or form mentioned in the following Table in relation to a weight of its purported mass:—

Type or form	Weights which may be of that type or form
1. Metric weights (other than carat (metric) weights)	
(i) The irregular octahedronal form described in Schedule 2 to these Regulations.	Weights of 25 kg.
(ii) The rectangular form described in that Schedule.	Weights of 5 kg, 10 kg or 20 kg.
(iii) The cylindrical form described in that Schedule.	Weights of not more than 10 kg nor less than 20 g and of 10, 5, 2 and 1 g.
(iv) The hexagonal form described in that Schedule.	Weights of not more than 2 kg nor less than 100 g.
(v) The disc form described in that Schedule.	Weights of not more than 50 g nor less than 1 g.
(vi) Flat type.	Weights of not more than 1 g nor less than 10 mg.
(vii) Wire type.	Weights of 50 mg or less.
2. Carat (metric) weights	
(i) Cylindrical with a knob.	Weights of 5 C.M. or more.
(ii) Flat type.	Weights of not more than 20 C.M. nor less than 0.05 C.M.
(iii) Wire type.	Weights of 0.25 C.M. or less.
3. Imperial weights (other than weights in paragraphs 4 and 5 of this Table)	
(i) Bell, bar, flat-circular or ring type.	Any weight other than a weight of 50, 20, 10 or 5 lb.
(ii) Octagonal type.	Weights of 50, 20, 10 or 5 lb.

Continued

Type or form	Weights which may be of that type or form
4. Weights expressed as multiples or fractions of 1/7000 lb	
Flat or wire type.	All such weights.
5. Ounce troy weights	
(i) Cylindrical with a carrying handle or knob.	Weights of 1 oz tr or more.
(ii) Flat or wire type.	Weights of 0.5 oz tr or less.

(2) Nothing in paragraph (1) of this Regulation or Schedule 2 to these Regulations shall preclude any weight from being regarded as fit for use for trade by reason of the fact that one or more edges are chamfered or rounded.

Adjusting holes

6.— (1) No metric weight of less than 20 g and no imperial weight of less than 1 oz shall have an adjusting hole.

(2) No other weight shall have more than one adjusting hole.

(3) An adjusting hole shall be in the form of a cavity in a plane surface of the weight, and shall be

(a) empty;

(b) undercut and plugged with lead; or

(c) closed by a plug or disc made of brass or steel.

(4) Where an adjusting hole is closed with a plug or disc, the plug or disc shall, except in the case of a carat (metric) weight or an ounce troy weight, be secured by a lead pellet driven into an undercut recess or, if the cavity is threaded, into the thread so that it is not readily removable.

(5) No plug, disc or lead shall protrude from the surface of the weight.

Marking

7.— (1) All weights other than wire weights shall be marked with a durable and legible indication of their purported mass.

(2) The marking shall comprise figures indicating the number of units and words or an appropriate symbol or abbreviation mentioned in Schedule 1 to these Regulations to indicate the relevant unit.

(3) No weight shall bear any marking other than:—

(a) the markings hereinbefore mentioned;

(b) the name or mark of the maker;

(c) the name of the owner or an indication of his name;

(d) the stamp applied by an inspector of weights and measures; or

(e) in the case of a weight first passed as fit for use for trade and stamped before 27th April 1978, the word "dram" or the abbreviation "dr".

(4) Where a weight bears the name or mark of its maker or the name of its owner or an indication of the owner's name, the height of the mark or lettering shall not exceed one-half of the height of the figures employed to indicate its purported mass.

PART III

TESTING

8. Every weight submitted for testing or tested shall be in a clean condition.

9.— (1) An inspector shall test weights with a view to passing as fit for use for trade and, where appropriate, stamping against appropriate local or working standard weights by the method of substitution on testing equipment which has been tested in accordance with the relevant provisions of the Weights and Measures (Local and Working Standard Weights and Testing Equipment) Regulations 1986(**a**):

Provided that the repeatability and discrimination threshold of the testing equipment used shall not exceed one-fifth of the relevant amount specified in column 2 of the relevant Table in Schedule 4 to these Regulations as the prescribed limit of error on passing as fit for use for trade for the weight which is being tested.

(2) An inspector shall test weights with a view to the obliteration of the stamp, where appropriate, against appropriate local or working standard weights by the method of substitution or, if he considers it sufficient, by comparison, on testing equipment referred to in paragraph (1) above:

Provided that the repeatability and discrimination threshold of the testing equipment used shall not exceed one-half of the relevant amount specified in column 3 of the relevant Table in Schedule 4 to these Regulations as the prescribed limit of error in relation to the obliteration of the stamp for the weight which is being tested.

PART IV

SUPPLEMENTARY PROVISIONS

Prescribed limits of error

10. The prescribed limits of error relating to weights shall be those set out in the relevant Table in Schedule 4 to these Regulations.

Passing as fit for use for trade

11. A weight shall not be passed as fit for use for trade unless—

(**a**) S.I. 1986/1685.

(a) it complies with all the appropriate requirements of these Regulations; and

(b) on testing it falls within the prescribed limits of error in relation to passing as fit for use for trade in column 2 of the relevant Table in Schedule 4 to these Regulations.

Stamping

12. Weights shall be stamped—

(a) on the lead in the adjusting hole, or

(b) on the bottom of the adjusting hole if it contains no lead, or

(c) on the bottom of the weight if there is no adjusting hole, or

(d) on the lead pellet securing any plug or disc.

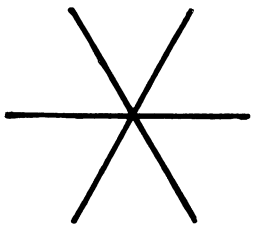
Obliteration of stamps

13.— (1) Where a weight bearing the stamp is found by an inspector to be heavier or lighter than its purported mass by more than the prescribed limit of error set out in column 3 of the relevant Table in Schedule 4 to these Regulations he shall either obliterate the stamp or serve upon the person in possession of the weight a notice requiring him to have it adjusted within 28 days.

(2) Where a notice is served as aforesaid and the weight is consequently retested after the expiration of that period and found to be outside the said prescribed limit of error, the inspector shall obliterate the stamp on it.

(3) Where a weight bearing the stamp is found by an inspector not to comply with any other appropriate requirement of Part II of these Regulations, he shall obliterate the stamp on it.

(4) The stamp shall be obliterated by an inspector, in accordance with the requirements of this Regulation, by impressing on it a design in the form of a six-pointed star as shown in the following illustration:



Michael Howard,
Parliamentary Under-Secretary of State,
Department of Trade and Industry.

29th September 1986.

SCHEDULE 1 Regulations 2(2) and 7(2)

SYMBOLS AND ABBREVIATIONS OF UNITS OF WEIGHT AND MEASUREMENT

Metric

kilogram	kg
gram	g
milligram	mg
carat (metric)	C.M. or CM
cubic metre	m^3
millimetre	mm

Imperial

pound	lb
ounce	oz
ounce troy	oz tr or oz troy
weights expressed as multiples or fractions of 1/7000 pound	gr

Regulation 5

SCHEDULE 2

FORM OF METRIC WEIGHTS

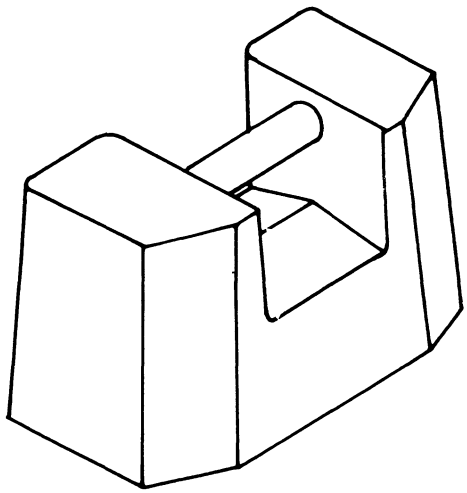
Irregular octahedronal

1. The form of irregular octahedronal weight referred to in paragraph 1(i) of the Table in Regulation 5(1) shall be as shown in the diagram below, being the rectangular form shown in paragraph 2 below cut away vertically on two corners of the same side. The cutaway sections shall be identical, and so proportioned that—

(i) the width of each end of the weight shall not be more than 80 per cent. of the full cross-sectional width; and

(ii) the length of the side thus formed shall not be more than 60 per cent. of the full cross-sectional length.

The length and the width of the weight may vary to the extent permitted for the rectangular weight in sub-paragraphs *(a)* and *(b)* of paragraph 2 below.



(Viewed obliquely and from above the level of the top surface)

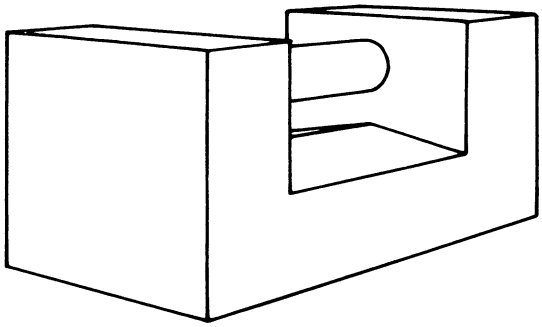
Rectangular

2. The form of rectangular weight referred to in paragraph 1(ii) of the said Table shall be as shown in diagrams (i), (ii) and (iii) below, except that—

(a) the length of the weight at the top and the length at the bottom may differ by an amount which does not exceed 5 per cent. of the smaller length; and

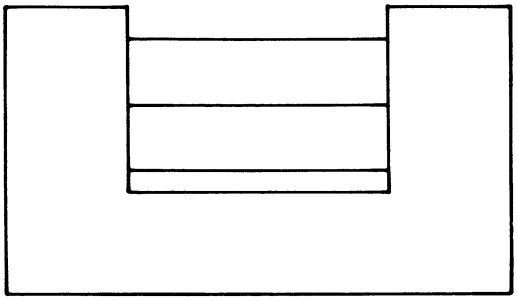
(b) the width of the upper surface and the width of the lower surface may differ by an amount which does not exceed 10 per cent. of the smaller width.

Diagram (i)



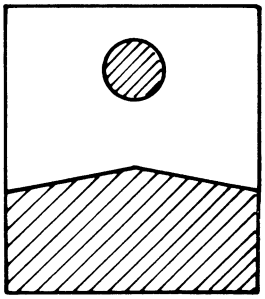
(Viewed obliquely and from above the level of the top surface)

Diagram (ii)



(Viewed from the side)

Diagram (iii)



(Viewed from the end)

Cylindrical

3. The form of cylindrical weight referred to in paragraph 1(iii) of the said Table shall be such that—

(a) any horizontal section is circular;

(b) the body of the weight is of constant diameter;

(c) a flat-topped knob is provided in such a manner that a neck is produced between the knob and the body;

(d) the neck is cylindrical, tapered or waisted and its height is such that it does not readily provide a lodging place for extraneous matter; and

(e) the maximum diameter of the knob is not greater than the diameter of the body, nor less than one-half of it.

Hexagonal

4. The form of hexagonal weight referred to in paragraph 1(iv) of the said Table shall be such that—

(a) any horizontal section is a regular hexagon;

(b) all the sides are flat;

(c) the shortest distance across the base is not less than 80 per cent. nor more than 120 per cent. of the shortest distance across the top; and

(d) the height is not less than 45 per cent. nor more than 55 per cent. of the shortest distance across the top or, if the base is smaller in area than the top, across the base.

Disc

5. The form of disc weight referred to in paragraph 1(v) of the said Table shall be a circular disc the thickness of which is not less than one-sixth nor more than one-third of the diameter.

SCHEDULE 3 Regulation 2(1)

APPROPRIATE LOCAL OR WORKING STANDARD WEIGHTS

Weight		Standard of weight to be used
1. METRIC EXCEPT CARAT (METRIC) WEIGHTS	Not less than 50 mg	Local standards or working standards
	Not more than 20 mg	Local standards or working standards which fall within the prescribed limits of error relating to the equivalent local standard weight
2. AVOIRDUPOIS EXCEPT WEIGHTS EXPRESSED AS MULTIPLES OR FRACTIONS OF 1/7000 lb.		Local standards or working standards
3. OUNCE TROY		Local standards or working standards which fall within the prescribed limits of error relating to the equivalent local standard weight
4. CARAT (METRIC)		,, ,,
5. WEIGHTS EXPRESSED AS MULTIPLES OR FRACTIONS OF 1/7000 lb.		,, ,,

Regulation 10

SCHEDULE 4

PRESCRIBED LIMITS OF ERROR

TABLE 1.

Metric except carat (metric) weights of not less than 50 mg.

1. Purported mass of the weight	2. Prescribed limits of error on passing as fit for use for trade (+ only)	3. Prescribed limits of error in relation to the obliteration of the stamp (±)
25 kg	4000 mg	4000 mg
20 kg	3200 mg	3200 mg
10 kg	1600 mg	1600 mg
5 kg	800 mg	800 mg
2 kg	400 mg	400 mg
1 kg	200 mg	200 mg
500 g	100 mg	100 mg
200 g	50 mg	50 mg
100 g	30 mg	30 mg
50 g	30 mg	30 mg
20 g	20 mg	20 mg
15 g	20 mg	20 mg
10 g	20 mg	20 mg
5 g	10 mg	10 mg
4 g	10 mg	10 mg
3 g	5 mg	5 mg
2 g	5 mg	5 mg
1 g	5 mg	5 mg
500 mg	2.5 mg	2.5 mg
400 mg	2.5 mg	2.5 mg
300 mg	2 mg	2 mg
200 mg	2 mg	2 mg
150 mg	2 mg	2 mg
100 mg	1.5 mg	1.5 mg
50 mg	1.2 mg	1.2 mg

TABLE 2.

Metric except carat (metric) weights of not more than 20 mg.

1. Purported mass of the weight	2. Prescribed limits of error on passing as fit for use for trade (±)	3. Prescribed limits of error in relation to the obliteration of the stamp (±)
20 mg	0.3 mg	0.6 mg
10 mg	0.25 mg	0.5 mg
5 mg	0.2 mg	0.4 mg
2 mg	0.2 mg	0.4 mg
1 mg	0.2 mg	0.4 mg

TABLE 3.

Carat (metric) weights.

1. Purported mass of the weight	2. Prescribed limits of error on passing as fit for use for trade (±)	3. Prescribed limits of error in relation to the obliteration of the stamp (±)
500 C.M.	5.0 mg	10.0 mg
200 C.M.	3.0 mg	6.0 mg
100 C.M.	2.5 mg	5.0 mg
50 C.M.	2.0 mg	4.0 mg
20 C.M.	1.5 mg	3.0 mg
10 C.M.	1.2 mg	2.4 mg
5 C.M.	1.0 mg	2.0 mg
2 C.M.	0.7 mg	1.4 mg
1 C.M.	0.6 mg	1.2 mg
0.5 C.M.	0.5 mg	1.0 mg
0.25 C.M.	0.4 mg	0.8 mg
0.2 C.M.	0.4 mg	0.8 mg
0.1 C.M.	0.3 mg	0.6 mg
0.05 C.M.	0.2 mg	0.4 mg
0.02 C.M.	0.2 mg	0.4 mg
0.01 C.M.	0.2 mg	0.4 mg

TABLE 4.

Avoirdupois weights

1. Purported mass of the weight	2. Prescribed limits of error on passing as fit for use for trade (+ only)	3. Prescribed limits of error in relation to the obliteration of the stamp (±)
56 lb	4000 mg	4000 mg
50 lb	3600 mg	3600 mg
28 lb	2000 mg	2000 mg
20 lb	1500 mg	1500 mg
14 lb	1000 mg	1000 mg
10 lb	750 mg	750 mg
7 lb	560 mg	560 mg
5 lb	450 mg	450 mg
4 lb	360 mg	360 mg
2 lb	180 mg	180 mg
1 lb	100 mg	100 mg
8 oz	60 mg	60 mg
4 oz	35 mg	35 mg
2 oz	30 mg	30 mg
1 oz	25 mg	25 mg
1/2 oz	20 mg	20 mg
1/4 oz	15 mg	15 mg
1/8 oz	10 mg	10 mg
1/16 oz	5 mg	5 mg
1/32 oz	5 mg	5 mg

TABLE 5.

Weights expressed as multiples or fractions of 1/7000 lb.

1. Purported mass of the weight	2. Prescribed limits of error on passing as fit for use for trade (±)	3. Prescribed limits of error in relation to the obliteration of the stamp (±)
100	1.65 mg	3.30 mg
50	1.32 mg	2.64 mg
30	1.20 mg	2.40 mg
20	1.06 mg	2.12 mg
10	0.86 mg	1.72 mg
5	0.68 mg	1.36 mg
3	0.60 mg	1.20 mg
2	0.53 mg	1.06 mg
1	0.43 mg	0.86 mg
0.5	0.34 mg	0.68 mg
0.3	0.30 mg	0.60 mg
0.2	0.27 mg	0.54 mg
0.1	0.21 mg	0.42 mg
0.05	0.20 mg	0.40 mg
0.03	0.20 mg	0.40 mg
0.02	0.20 mg	0.40 mg
0.01	0.20 mg	0.40 mg

TABLE 6.

Ounce troy weights.

1. Purported mass of the weight	2. Prescribed limits of error on passing as fit for use for trade (±)	3. Prescribed limits of error in relation to the obliteration of the stamp (±)
500 oz tr	780 mg	1560 mg
400 oz tr	620 mg	1240 mg
300 oz tr	465 mg	930 mg
200 oz tr	310 mg	620 mg
100 oz tr	155 mg	310 mg
50 oz tr	80 mg	160 mg
40 oz tr	60 mg	120 mg
30 oz tr	50 mg	100 mg
20 oz tr	30 mg	60 mg
10 oz tr	15 mg	30 mg
5 oz tr	8 mg	16 mg
4 oz tr	6 mg	12 mg
3 oz tr	5 mg	10 mg
2 oz tr	3.5 mg	7 mg
1 oz tr	2.7 mg	5.4 mg
0.5 oz tr	2.3 mg	4.6 mg
0.4 oz tr	2.1 mg	4.2 mg
0.3 oz tr	1.9 mg	3.8 mg
0.2 oz tr	1.6 mg	3.2 mg
0.1 oz tr	1.3 mg	2.6 mg
0.05 oz tr	1.1 mg	2.2 mg
0.04 oz tr	1.0 mg	2.0 mg
0.03 oz tr	1.0 mg	2.0 mg
0.025 oz tr	0.9 mg	1.8 mg
0.02 oz tr	0.8 mg	1.6 mg
0.01 oz tr	0.7 mg	1.4 mg
0.005 oz tr	0.6 mg	1.2 mg
0.004 oz tr	0.5 mg	1.0 mg
0.003 oz tr	0.5 mg	1.0 mg
0.002 oz tr	0.4 mg	0.8 mg
0.001 oz tr	0.3 mg	0.6 mg

Regulation 1(3)

SCHEDULE 5

REGULATIONS REVOKED

Column 1 Regulations revoked	Column 2 References
The Weights Regulations 1970	S.I. 1970/1370
The Weights (Amendment) Regulations 1971	S.I. 1971/40
The Weights (Amendment) Regulations 1976	S.I. 1976/1981

EXPLANATORY NOTE

(This Note is not part of the Regulations.)

These Regulations replace the Weights Regulations 1970 as amended. They apply to all weights for use for trade other than those used for weighing coins or currency notes or those used in connection with certain weighing equipment. They make provision as to the materials and principles of construction and marking of weights, testing, prescribed limits of error, stamping and obliteration of stamps. The Regulations prescribe weights for the purposes of section 11(1) of the Weights and Measures Act 1985 so that it is unlawful to use them for trade purposes unless they have been tested, passed as fit for such use and stamped by an inspector of weights and measures.

The Regulations make the following changes of substance:—

(a) metric weights of 50 g may now be of the disc form and troy weights of 1 oz tr or more may have a carrying handle as an alternative to a knob (Regulation 5(1));

(b) the adjusting hole may be empty and in the case of a carat (metric) or troy weight may be closed with a plug or disc flush with the surface of the weight instead of being secured by a lead pellet driven into an undercut recess or thread (Regulation 6(3) and (4));

(c) weights are to be tested with a view to passing as fit for use for trade by the method of substitution (instead of substitution or comparison), and testing may be carried out on other testing equipment besides balances or beamscales. Moreover weights of the following classes may be tested with appropriate working standard weights only if those standards fall within the prescribed limits of error relating to equivalent local standard weights:

(i) metric weights of not more than 20 mg nor less than 1 mg;

(ii) carat (metric) weights;

(iii) weights expressed as multiples or fractions of 1/7000 lb; and

(iv) ounce troy weights.

(Regulation 9 and Schedule 3);

(d) the permissible limits of error are amended (Regulation 10).

The Regulations come into operation on 1st November 1986 with the exception of Regulation 13 relating to the obliteration of the stamp, which comes into operation on 1st September 1988. This gives those persons affected by lower limits of error time to have their weights adjusted or replaced.

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