
STATUTORY INSTRUMENTS

1986 No. 1685

WEIGHTS AND MEASURES

The Weights and Measures (Local and Working Standard Weights and Testing Equipment) Regulations 1986

<i>Made - - - -</i>	<i>29th September 1986</i>
<i>Laid before Parliament</i>	<i>9th October 1986</i>
<i>Coming into Operation</i>	<i>1st November 1986</i>

The Secretary of State, in exercise of powers conferred on him by sections 4(5) and (6), 5(9), 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:—

Citation, commencement and revocation

1.—(1) These Regulations may be cited as the Weights and Measures (Local and Working Standard Weights and Testing Equipment) Regulations 1986 and shall come into operation on 1st November 1986.

(2) The Weights and Measures (Local and Working Standard Weights and Testing Equipment) Regulations 1983 (b) are hereby revoked.

Interpretation

2.—(1) In these Regulations—

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

“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 from one change point to the next change point, and in the case of testing equipment with an analogue indicator, the weight which produces a 1 millimetre apparent movement of the pointer;

“non-automatic weighing machine” means a machine which requires the intervention of an operator during the weighing process, especially to deposit loads on, or remove loads from, the part of the machine on which loads are placed for the purpose of their being weighed and to determine the result of the weighing process;

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

“95 per cent. confidence interval” means the range of values within which the true value may be expected to lie with a 0.95 level of probability.

(a) 1985 c.72.

(b) S.I. 1983/1653.

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

Testing

3.—(1) Working standard weights and test weights and egg grading machine test poises shall have been tested within twelve months before use and, where an inspector has reasonable cause to believe that any such weight or poise is not accurate within the relevant limit of error, he shall test it before use.

(2) Where a test reveals an error exceeding the relevant limit of error the weight or poise shall not be further used until it has been so adjusted that any error is within that limit.

4. Working standard weights shall be tested against local standard weights by the method of substitution.

5. Test weights and egg grading machine test poises shall be tested by either:

- (a) the method of substitution, or
- (b) the method of comparison against either:
 - (i) local standard weights; or
 - (ii) working standard weights or test weights,

provided that in the opinion of the inspector the necessary accuracy can be achieved.

6.—(1) Testing equipment consisting of weighing equipment shall have been tested for repeatability and for discrimination threshold within six months before use and shall not be used for testing working standard weights, test weights or egg grading machine test poises unless it complies with the requirements of Regulation 7 below.

(2) Where an inspector has reasonable cause to believe that any testing equipment referred to in this Regulation is not accurate within the relevant limit of error, he shall test it before use.

Testing Equipment

7. Testing equipment consisting of weighing equipment used for testing working standard weights, test weights and egg grading machine test poises shall comply with the following requirements:

- (a) the discrimination threshold of the testing equipment used shall not exceed one-fifth of the relevant amount specified in Tables 1 to 6 in Schedule 2 to these Regulations as the limit of error for the weight being tested, or, in the case of an egg grading machine test poise, 7 mg, and
- (b) the repeatability of the testing equipment shall be such that the 95 per cent. confidence interval of a single reading does not exceed one-fifth of the relevant amount specified in Tables 1 to 6 in Schedule 2 to these Regulations as the limit of error for the weight being tested, or, in the case of an egg grading machine test poise, 7 mg.

Prescribed limits of error

8.—(1) The prescribed limits of error relating to local and working standard weights and test weights shall be those set out in Tables 1 to 6 in Schedule 2 to these Regulations.

(2) The prescribed limit of error relating to egg grading machine test poises shall be 35 mg.

Period of validity of certificates of fitness of local standards

9. The period of five years is hereby prescribed in the case of a weight for the purpose of section 4(6) of the Act (which relates to periods of validity of certificates of fitness of local standards) running from the date of issue of the certificate.

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

29th September 1986.

SCHEDULE 1

Regulation 2

Symbols and abbreviations of units of weight
Imperial

pound lb
ounceoz

Metric

kilogram kg
gram g
milligrammg
carat (metric)C.M.

TABLE 1

IMPERIAL SYSTEM
Avoirdupois weights

Local or working standards of—	Limit of error in milligrams	
	Local standard	Working standard
56 lb	400	1250
28 lb	200	650
14 lb	100	320
7 lb	50	160
4 lb	30	90
2 lb	15	45
1 lb	7	20
8 oz	3	10
4 oz	2	6
2 oz	1	3
1 oz	0.8	2.5
$\frac{1}{2}$ oz	0.7	2
$\frac{1}{4}$ oz	0.5	1.5
$\frac{1}{8}$ oz	0.5	1.5
$\frac{1}{16}$ oz	0.4	1.2
$\frac{1}{32}$ oz	0.3	1
50 lb	350	1100
20 lb	150	450
10 lb	70	220
5 lb	35	110

TABLE 2

Weights expressed as multiples or fractions of 1/7000 lb

Local standard of—	Limit of error in milligrams
100	0.53
50	0.44
30	0.40
20	0.33
10	0.27
5	0.22
3	0.20
2	0.17
1	0.13
0.5	0.11
0.3	0.10
0.2	0.09
0.1	0.06
0.05	0.06
0.03	0.06
0.02	0.06
0.01	0.06

TABLE 3
Troy weights

Local standard of ounces troy—	Limit of error in milligrams
500	250
400	200
300	150
200	100
100	50
50	25
40	20
30	15
20	10
10	5
5	2.5
4	2.0
3	1.5
2	1.0
1	1.0
0.5	0.7
0.4	0.6
0.3	0.6
0.2	0.5
0.1	0.4
0.05	0.4
0.04	0.3
0.03	0.3
0.025	0.3
0.02	0.25
0.01	0.22
0.005	0.18
0.004	0.16
0.003	0.15
0.002	0.13
0.001	0.11

TABLE 4

METRIC SYSTEM
Metric weights other than carat (metric) weights

Local or working standards of—	Limit of error in milligrams	
	Local standard	Working standard
20 kg	300	1000
10 kg	150	500
5 kg	75	250
2 kg	30	100
1 kg	15	50
500 g	7.5	25
200 g	3.0	10
100 g	1.5	5
50 g	1.0	3
20 g	0.8	2.5
15 g	0.7	2.2
10 g	0.6	2.0
5 g	0.5	1.5
4 g	0.5	1.5
3 g	0.4	1.2
2 g	0.4	1.2
1 g	0.3	1.0
500 mg	0.25	0.8
400 mg	0.25	0.8
300 mg	0.25	0.8
200 mg	0.20	0.6
150 mg	0.20	0.6
100 mg	0.15	0.5
50 mg	0.12	0.4
20 mg	0.10	0.3
10 mg	0.08	0.25
5 mg	0.06	0.20
2 mg	0.06	0.20
1 mg	0.06	0.20

TABLE 5

Carat (metric) weights

Local standard of— C.M.	Limit of error in milligrams
500	1.5
200	0.93
100	0.80
50	0.60
20	0.47
10	0.40
5	0.30
2	0.23
1	0.20
0.5	0.15
0.25	0.12
0.20	0.11
0.10	0.10
0.05	0.08
0.02	0.06
0.01	0.06

TABLE 6
Test weights

Imperial weight	Limit of error	Metric weight	Limit of error
11200 lb	500 g		
4480 lb	200 g	5000 kg	500 g
2240 lb	100 g	2000 kg	200 g
1120 lb	50 g	1000 kg	100 g
1008 lb	50 g	500 kg	50 g
560 lb	20 g	250 kg	20 g
448 lb	20 g	200 kg	20 g
224 lb	10 g	100 kg	10 g
112 lb	5 g	50 kg	5 g

EXPLANATORY NOTE

(This Note is not part of the Regulations.)

These Regulations replace the Weights and Measures (Local and Working Standard Weights and Testing Equipment) Regulations 1983. They prescribe the methods of testing and adjusting, and the limits of error for, working standard weights and certain testing equipment used for weighing by inspectors of weights and measures. They also make provision for limits of error for local standard weights and for the period of validity of certificates of fitness of those local standards.

The Regulations make the following changes of substance:

- (a) test weights may be tested by either the method of substitution or the method of comparison (previously by substitution only) (Regulation 5);
- (b) testing equipment consisting of weighing machines shall be tested for repeatability and for discrimination threshold within six months before use (previously 12 months) (Regulation 6);
- (c) the requirements for testing equipment consisting of weighing machines have been changed so that the inspector has a wider choice, provided requirements as to repeatability and discrimination threshold are met (previously the minimum sensitiveness for balances, beamscales and platform machines was prescribed) (Regulation 7); and
- (d) the prescribed limits of error for test weights in excess of 56 lb or 20 kg are doubled (Regulation 8 and Schedule 2, Table 6).

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