

COUNCIL DIRECTIVE

of 26 July 1971

on the approximation of the laws of the Member States relating to 5 to 50 kilogramme medium accuracy rectangular bar weights and 1 to 10 kilogramme medium accuracy cylindrical weights

(71/317/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament¹;

Having regard to the Opinion of the Economic and Social Committee²;

Whereas in the Member States the construction and methods of control of medium accuracy rectangular bar and cylindrical weights are subject to mandatory provisions which differ from one Member State to another and consequently hinder trade in such weights; whereas it is therefore necessary to approximate these provisions;

Whereas the Council Directive of 26 July 1971³ on the approximation of the laws of the Member States relating to provisions for both measuring instruments and methods of metrological control has laid down the EEC pattern approval and EEC initial verification procedures; whereas, in accordance with that Directive, the technical requirements for the design of medium accuracy rectangular bar and cylindrical weights should be laid down;

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive applies to medium accuracy weights of the following nominal values:

— rectangular bar weights of 5, 10, 20 and 50 kg;

— cylindrical weights of 1, 2, 5, 10, 20, 50, 100, 200 and 500 g and 1, 2, 5 and 10 kg.

Article 2

The weights which may bear the EEC marks and symbols are described and illustrated in Annexes I-IV. They shall not be subject to EEC pattern approval; they shall be subject to EEC initial verification.

Article 3

No Member State may refuse, prohibit or restrict the placing on the market or entry into service of medium accuracy rectangular bar or cylindrical weights bearing the EEC initial verification mark.

Article 4

1. Member States shall put into force the laws, regulations or administrative provisions needed in order to comply with this Directive within eighteen months of its notification, and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the texts of the main provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

Article 5

This Directive is addressed to the Member States.

Done at Brussels, 26 July 1971.

For the Council

The President

A. MORO

¹ OJ No 63, 3.4.1967, p. 982/67.

² OJ No 30, 22.2.1967, p. 480/67.

³ OJ No L 202, 6.9.1971, p. 1.

ANNEX I

RECTANGULAR BAR WEIGHTS

1. Shape, constituent material and method of manufacture

- 1.1. Parallelepiped shape with a rigid non-projecting handle for gripping.
- 1.2. Material used:
 - 1.2.1. Body of the weight: grey cast iron
 - 1.2.2. Type 1: handle of seamless steel tubing of standard diameter
Type 2: handle of cast iron, integral with the body of the weight.

2. Adjustment cavity*Type 1*

- 2.1. Internal cavity made up of the interior of the tubular gripping handle.
- 2.2. The cavity is closed by a screw-plug of drawn brass or by a brass plug in the form of a smooth disc. The screw-plug has a screwdriver slot and the smooth disc has a central lifting hole.
- 2.3. The plug is sealed by a lead pellet driven into an internal circular groove or into the thread of the tube.

Type 2

- 2.4. Internal cavity cast in one of the uprights of the weight and opening on the upper surface of this upright.
- 2.5. The cavity is closed by a small mild steel plate.
- 2.6. The plate is sealed by a lead pellet driven into a recess as shown in Annex II.

3. Adjustment

- 3.1. After adjustment of the new weight by means of lead shot, two thirds of the total volume of the cavity remains empty.

4. Positioning of the EEC initial verification mark

- 4.1. The final EEC verification mark is stamped on the lead seal of the adjustment cavity.

5. Markings and distinctive symbols

- 5.1. The indications stating the nominal value of the weight, and the manufacturer's identification mark, appear on the upper surface of the central part of the weight, either indented or in relief.
- 5.2. The nominal value of the weight is indicated in the form:
5 kg, 10 kg, 20 kg, 50 kg.

6. Dimensions and tolerances

- 6.1. The dimensions to be complied with for the different weights are laid down in Annex II (dimensions in millimetres).
- 6.2. The tolerances applicable to the various dimensions are the normal manufacturing tolerances.

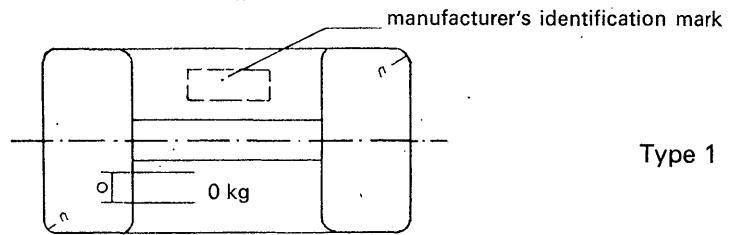
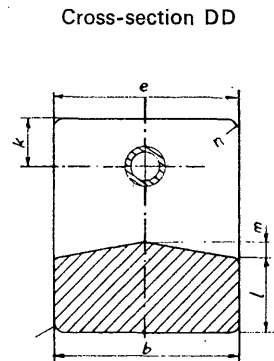
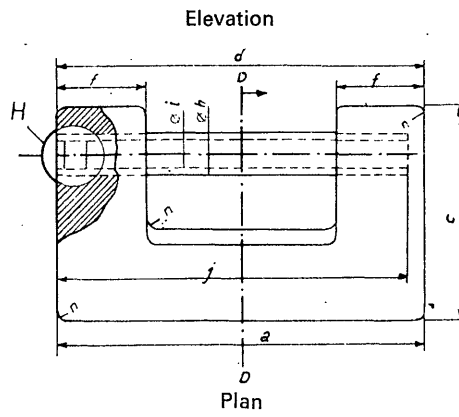
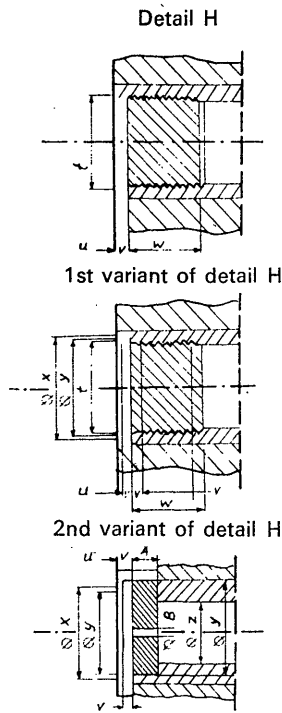
7. Maximum permissible errors

Nominal value	Maximum permissible errors in milligrammes on initial verification
5 kg	+ 800 — 0
10 kg	+ 1600 — 0
20 kg	+ 3200 — 0
50 kg	+ 8000 — 0

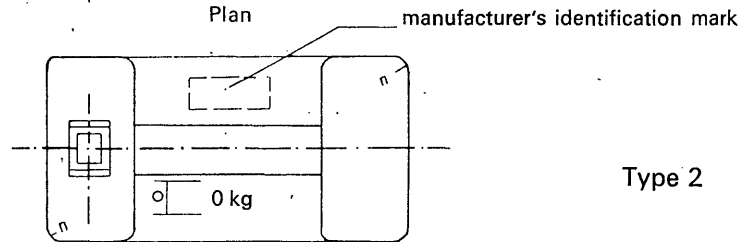
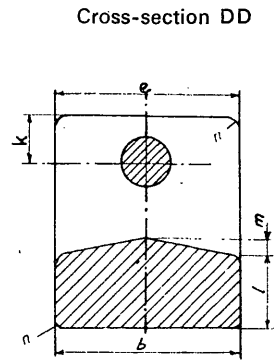
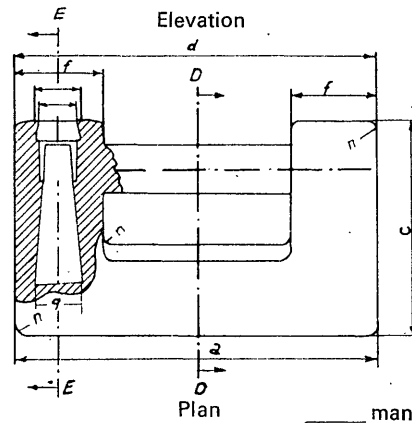
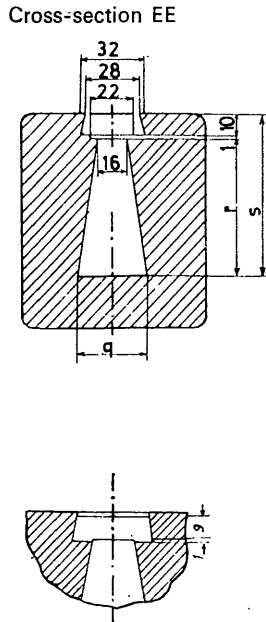
8. Surface finish

8.1. If necessary, weights are protected against corrosion by a suitable coating resistant to wear and impact.

ANNEX II
RECTANGULAR BAR WEIGHTS



Type 1



Type 2

Table of dimensions in millimetres, ISO/R 261 threads

nominal value	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	A	B
5 kg	150	75	84	152	77	36	13	20	12	145	18	30	6	5	12	19	16	55	66	M16×1.5	1	2	14	18	16.5	16	5	1.5
10 kg	190	95	109	193	97	46	25	20	12	185	25	38	8	6	16	25	35	70	81	M16×1.5	1	2	14	18	16.5	16	5	1.5
20 kg	230	115	139	234	117	61	30	32	24	220	30	52	12	8	20	29	50	95	106	M27×1.5	2	3	21	30	27.5	27	8	1.5
50 kg	310	155	192	314	157	83	40	32	24	300	40	74	16	10	25	40	70	143	159	M27×1.5	2	3	21	30	27.5	27	8	1.5

Dimensions a and d, and also b and e, may be reversed.

*ANNEX III***CYLINDRICAL WEIGHTS****1. Shape, constituent material and method of manufacture**

- 1.1. Cylindrical shape with a flat knob for gripping.
- 1.2. Material used: any material with a density of 7 to 9.5 g/cm³, of a hardness at least equal to that of cast brass, not less resistant to corrosion and not more friable than grey cast iron, and with a surface comparable to that of grey cast iron carefully cast in a mould of fine sand.
Grey cast iron may not be used for weights of a nominal value of less than 100 g.
- 1.3. The method of manufacture to be appropriate to the material chosen.

2. Adjusting cavity

- 2.1. Internal cylindrical cavity with a larger diameter in the top part of the cavity.
- 2.2. The cavity is closed by a screw plug of drawn brass or by a brass plug in the form of a smooth disc. The screw plug has a screwdriver slot and the smooth disc has a central lifting hole.
- 2.3. The plug is sealed by a lead cap driven into a circular groove cut out in the wider part of the cavity.
- 2.4. Weights of 1, 2, 5 and 10 g do not have an adjustment cavity.
- 2.5. An adjustment cavity is optional for those of 20 and 50 g.

3. Adjustment

- 3.1. After adjustment of the new weight by means of lead shot, two-thirds of the total volume of the cavity remains empty.

4. Positioning of the EEC initial verification mark

- 4.1. The final EEC verification mark is stamped on the lead seal of the adjustment cavity.
- 4.2. Weights without adjustment cavities are stamped on the base.

5. Markings and distinctive symbols

- 5.1. The indications stating the nominal value of the weight, as well as the manufacturer's identification mark, appear on the upper surface of the head of the weight, either indented or in relief.
- 5.2. The nominal value of the weight may be indicated on the body of weights of from 500 g to 10 kg.
- 5.3. The nominal value of the weight is indicated in the form:
1 g, 2 g, 5 g, 10 g, 20 g, 50 g, 100 g, 200 g, 500 g, 1 kg, 2 kg, 5 kg, 10 kg.

6. Dimensions and their tolerances

- 6.1. The dimensions to be complied with for the different weights are laid down in Annex IV (dimensions in millimetres).
- 6.2. The tolerances applicable to the various dimensions are the normal manufacturing tolerances.

7. Maximum permissible errors

Nominal value.	Maximum permissible errors in milligrammes on initial verification
1 g	+ 5 - 0
2 g	+ 5 - 0
5 g	+ 10 - 0
10 g	+ 20 - 0
20 g	+ 20 - 0
50 g	+ 30 - 0
100 g	+ 30 - 0
200 g	+ 50 - 0
500 g	+ 100 - 0
1 kg	+ 200 - 0
2 kg	+ 400 - 0
5 kg	+ 800 - 0
10 kg	+ 1600 - 0

8. Surface finish

8.1. If necessary, weights are protected against corrosion by a suitable coating resistant to wear and impact; they may be polished.

ANNEX IV
CYLINDRICAL WEIGHTS

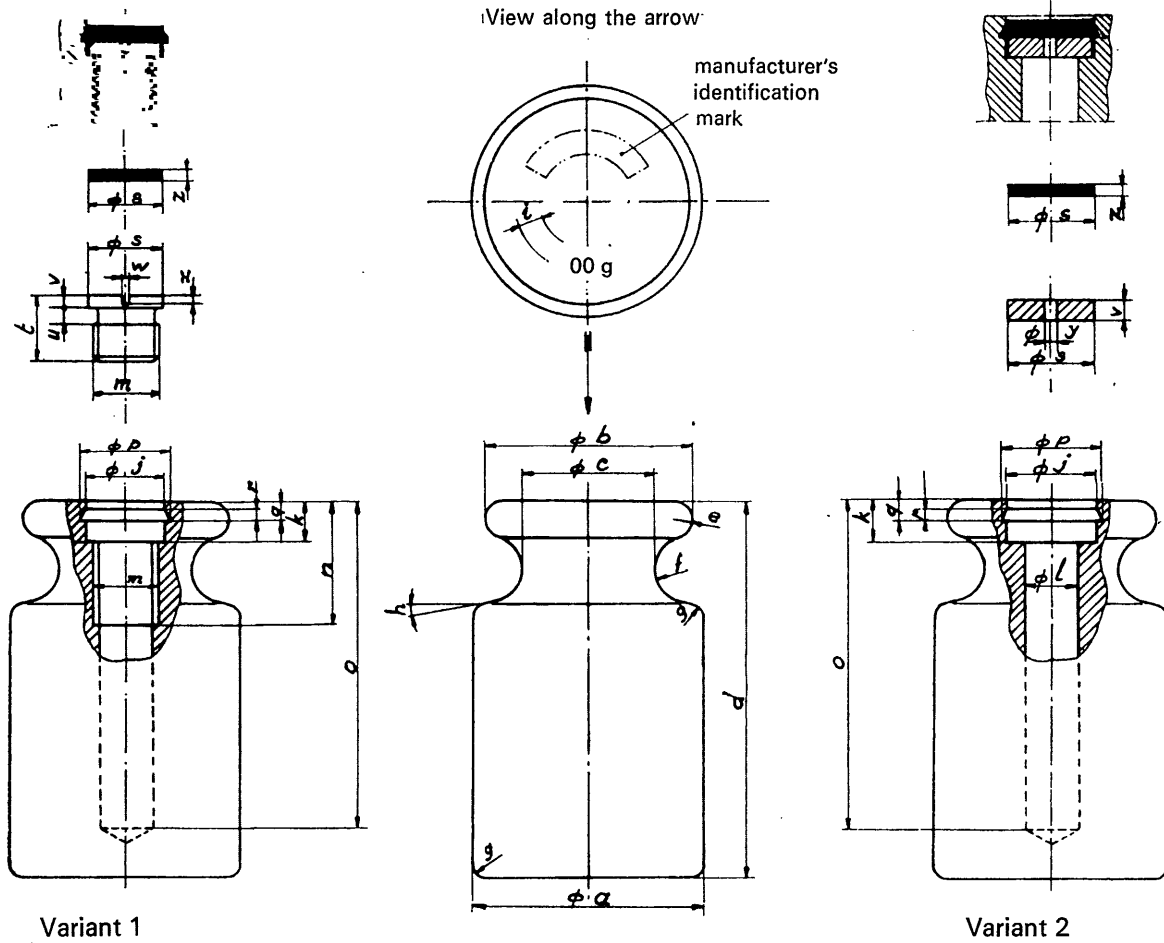


Table of dimensions in millimetres, ISO/R 261 threads

nominal value	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z		
1 g	6	5.5	3	According to material	0.5	0.9	0.5	—	1	}																		
2 g	6	5.5	3		0.5	0.9	0.5	—	1																			
5 g	8	7	4.5		0.7	1.25	0.5	—	1		without adjustment cavity																	
10 g	10	9	6		0.8	1.5	0.5	—	1																			
20 g	13	11.5	7.5	1	1.8	0.5	10°	1.5	5.5	2.5	3	M 4×0.5	9	18	6.5	1.5	1	5	5	1	1	0.5	0.5	1	1			
50 g	18	16	10	1.5	2.5	1	10°	2	without adjustment cavity																			
50 g	18	16	10	1.5	2.5	1	10°	2	7.5	3.5	4.5	M 6×0.5	10	25	9	2	1	7	5	1	1.5	0.75	0.75	1.5	1.5			
100 g	22	20	13	2	3.5	1	10°	2	7.5	3.5	4.5	M 6×0.5	10	30	9	2	1	7	5	1	1.5	0.75	0.75	1.5	1.5			
200 g	28	25	16	2.25	4	1.5	10°	3.2	10.5	4.5	7	M 8×1	15	40	12	2.5	1.5	10	8	2	2	0.75	1	1.5	2			
500 g	38	34	22	3	5.5	1.5	10°	3.2	10.5	4.5	7	M 8×1	15	50	12	2.5	1.5	10	8	2	2	0.75	1	1.5	2			
1 kg	48	43	27	4	7	2	10°	5	18.5	7	12	M 14×1.5	20	65	20	4	2.5	18	13	3	3	1	1.5	1.5	3			
2 kg	60	54	36	5	9	2	10°	5	18.5	7	12	M 14×1.5	20	80	20	4	2.5	18	13	3	3	1	1.5	1.5	3			
5 kg	80	72	46	6.5	12	2	10°	10	24.5	8	18	M 20×1.5	35	120	26.5	4	2.5	24	18	3	4	1.5	2	1.5	3			
10 kg	100	90	58	8.5	15	3	10°	10	24.5	8	18	M 20×1.5	35	160	26.5	4	2.5	24	18	3	4	1.5	2	1.5	3			