

NOTIFICATION OF THE MINISTRY OF COMMERCE

RE: PRESCRIPTION OF TYPE OF WEIGHING INSTRUMENT, DETAILS OF THE MATERIAL USED  
FOR PRODUCING WEIGHING MACHINE, MAXIMUM PERMISSIBLE ERROR, PROHIBITION OF  
VERIFICATION AND VALIDITY OF VERIFICATION

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By virtue of section 5, section 16, section 26, section 32 and section 33 of the Weights and Measures Act B.E. 2542 amended by the Weights and Measures Act (No. 3) B.E. 2557, the Minister of Commerce, upon the recommendation of the Weights and Measures Committee hereby issues the Notification as follows:

**Clause 1.** This Notification shall come into force upon the expiration of ninety days from the date of its publication in the Government Gazette.

**Clause 2.** In this Notification:

“maximum permission error” means maximum permissible error permitted for each weighing instrument;

“repeatability” means ability of a weighing instrument to provide results that agree one with the other when the same object or load is deposited for several times by the same practitioner, means and conditions;

“discrimination” means ability of an instrument to react to small variations of load;

“zero setting” means a part using for adjusting a weighing instrument to the display of zero;

“display” means a part of weighing instrument which display the value of quantity of an object deposited;

“scale mark” means a line or other mark on an indicating component corresponding to a specified value of mass.

## TITLE 1

### TYPE OF WEIGHING INSTRUMENT

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**Clause 3.** There are 3 types of weighing instruments as follows:

(1) non-automatic weighing instrument is an instrument that requires the intervention of an operator during the weighing process:

(a) self-indicating weighing instrument is an instrument in which the position of equilibrium is obtained without the intervention of an operator;

(b) semi-self-indicating weighing instrument is an instrument with a self-indicating weighing range, in which the operator intervenes to alter the limits of this range;

(c) non self-indicating weighing instrument is an instrument in which the position of equilibrium is obtained entirely by the operator.

(2) Automatic weighing instrument means an instrument which weighs without intervention of an operator and followed a predetermined program of automatic process specified by the operator:

(a) belt weigher means an automatic weighing instrument for continuously weighing a bulk production a conveyor belt, without systematic subdivision of the mass and without interrupting the movement of the conveyor belt;

(b) hopper weigher means an automatic weighing instrument that weighs a bulk product by dividing it into discrete loads, determining the mass of each discrete load in sequence, summing the weighing results and delivering the discrete loads to bulk;

(3) weights means weight used for weighing

**Clause 4.** Belt weigher under clause 3 (2) (a) shall be divided into 2 types as follows:

(1) load receptor type are:

(a) weight table means a load receptor that includes only part of a conveyor;

(b) inclusive of conveyor means a load receptor that includes an entire conveyor.

(2) Belt speed control are:

(a) single speed belt weigher is a belt weigher that is installed with a conveyor belt designed to operate at a single speed and such speed is deemed to be the nominal speed;

(b) variable speed belt weigher is a belt weigher that is installed with a conveyor belt designed to operate at more than one speed.

## TITLE II

### CHARACTERISTICS, DETAILS OF THE OBJECTS USED FOR PRODUCTION AND MAXIMUM PERMISSIBLE ERROR

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#### CHAPTER I

#### GENERAL PROVISIONS

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**Clause 5.** All weighing instruments which are used in trade or exchanges of goods with other people or for weighing service or the use of weighing instrument is for the purpose of calculating remuneration, tax and fee, such instruments shall have the characteristics as prescribed in this Notification.

A weighing instrument which is different from what are prescribed under this Notification shall pass the inspection from the Central Bureau of Weights and Measures in the case any person wishes to product or import such weighing instrument. If it appears that the characteristics of such weighing instrument have different standard from what is prescribed under this Notification but the Minister has granted an approval, a competent official shall verify such weighing instrument.

**Clause 6.** All weighing instrument shall be permanent and shall not be easily to be a tool for fraud.

All weighing instruments shall be made of good materials, designed and produced in the form of when it is put to use under a normal circumstance it provides accuracy and the component of such instrument must be able to work continuously without damage or bend or different to the extent that it affects the accuracy of the instrument. In the case of

modifying a weighing instrument, the modified instrument and accuracy shall be maintained appropriately.

**Clause 7.** All weighing instruments shall display the following on its instrument and shall be made to be easily read, clear and indelible:

- (1) name or trademark of a producer, importer or seller;
- (2) model of the instrument;
- (3) serial number of the instrument specified by a competent official.

The provision in paragraph one shall not apply to weights or component separated from a weighing instrument which is necessary for weighing and shall not affect the accuracy of such weighing or weighing instrument which is by its condition is not able to display such details or upon displaying, it may damage such instrument.

**Clause 8.** Capacity of a weighing instrument or rate of weight shall be displayed clearly and indelible and it may be displayed in abbreviation.

Capacity and rate of weight under paragraph one shall displayed in Thai or Arabic number and in Thai letter or letters or symbols as prescribed by the Minister.

**Clause 9.** A weighing instrument and weights made especially under traditional rate shall display capacity and rate of weight in both metric and traditional system and shall display the metric first and followed by the traditional system in a bracket.

**Clause 10.** Accuracy of all weighing instruments shall be within the maximum permissible error as prescribed under this Notification.

Verification of a weighing instrument, accuracy of instrument shall be within the maximum permissible error not exceeding maximum permissible error for the first inspection except as otherwise prescribed in this Notification.

**Clause 11.** A weighing instrument shall have an appropriate part displaying the weight and is sufficient for usage.

**Clause 12.** Indicating part of a weighing instrument shall have the following characteristics:

(1) analog indicating part:

(a) scale mark and indicating part shall be designed appropriately and work in collaboration;

(b) scale mark, numbers, letters or symbols shall be easily read, clear and indelible;

(c) in the case where there are several indicating parts, every part shall be correct and the same;

(d) if there is a printing part, the printed value shall be the same as the displaying value;

(2) digital indicating part:

(a) regardless of whether numbers, letters or other symbols are used as component, it shall not create confusion while reading the value;

(b) in the case where there are several indicating parts, every part shall display the consistent value;

(c) if the indicating part is in both digital and analog, the digital indicating part shall be in accordance with the analog indicating part;

(d) if there is a printing part, the printed value shall be the same as the displaying value;

(3) indicating part of a weighing instrument which can calculate prices shall contain the amount of money which is consistent with the amount of displaying weight.

**Clause 13.** A mark of all the control, indicating part and other components including a switch of weighing instrument shall be easily read, clear and indelible.

**Clause 14.** A weighing instrument shall have a place for attachment to prevent subsequent modification after the verification which may amend, modify or repair such weighing instrument must destroy the attachment first.

## TITLE II

### WEIGHING INSTRUMENT

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#### PART 1

### NON-AUTOMATIC WEIGHING INSTRUMENT

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**Clause 15.** In this part:

“load receptor means part of the instrument intended to receive the load;

“load-transmitting device” means part of the instrument for transmitting the force produced by the load acting on the load receptor, to the load-measuring device;

“load measuring device” means part of the instrument for measuring the mass of the load by means of equilibrium device for balancing the force coming from the load transmitting device and may contain indicating or printing device;

“tare device” means device for setting the indication to zero when a load is on the load receptor: upon tare, it may affect the weighing range for net loads or reducing the weighing range for net loads;

“maximum capacity” means maximum weighing capacity not taking into account the additive tare capacity;

“minimum capacity” means value of the load below which the weighing results may be subject to excessive relative error;

“weighing range” means range between the minimum and maximum capacities;

“scale spacing” means distance between any two consecutive scale marks, measured along the scale base for instrument with analogue indication;

“scale interval” means the difference between the values corresponding to two consecutive scale marks, for analogue indication, or the difference between two consecutive indicated values, for digital indication;

“verification scale interval” means value, expressed in units of mass, used for the classification and verification of an instrument and for the calculation of maximum permissible error. This unit shall be displayed in unit of weight;

“number of verification scale intervals” means quotient of the maximum capacity and the verification scale interval;

“multi-interval instrument” means Instrument having one weighing range which is divided into partial weighing ranges each with different scale intervals, with the weighing range determined automatically according to the load applied, both on increasing and decreasing loads;

“multiple range instrument” means instrument having two or more weighing ranges with different maximum capacities and different scale intervals for the same load receptor, each range extending from zero to its maximum capacity;



“sensitivity” means the quotient of the change of the observed variable and the corresponding change of the measured mass.

**Clause 16.** Self indicating or semi-self indicating instrument shall have the following characteristics except for spring instrument which shall have the characteristics as prescribed in clause 32:

- (1) numbering:
  - (a) numbering part must be displayed in the name or symbol of unit for weight;
  - (b) the scale mark shall be in the form  $1 \text{ u } 10^k$ ,  $2 \text{ u } 10^k$ ,  $5 \text{ u } 10^k$  units by which  $k$  being a positive or negative whole number or equal to zero;
- (2) analog indicating device:
  - (a) the width of scale mark shall not be larger than the scale spacing;
  - (b) the width of the indicating number shall be approximately the width of scale spacing;
  - (c) the space between the indicating number and the scale mark shall not exceed 0.2 mm.;
  - (d) the length of the shortest scale mark shall be at least equal to the scale spacing;
- (3) digital indicating device:
  - (a) it shall display at least the most right 1 decimal and shall have a decimal or comma between the full number and the number after the decimal. In displaying this value, it shall display the number on the left of the decimal for at least one position and shall display the most right number of the decimal in every decimal. In respect of the zero-setting, it may display the number zero for one decimal on the most right position without any symbol;
  - (b) In the case where a weighing instrument is able to change a scale mark automatically, the symbol shall be in the same position;

(4) in respect of the indication, it shall display the maximum capacity of not exceeding 9 times the verified scale mark;

(5) for an instrument with the approximate indication, the scale mark shall be more than 1 in 100 of the maximum capacity and shall not be less than 20 times the certified scale mark and it shall be deemed that the approximation indicating part of an instrument helps to indicate a value;

(6) printing part shall print accurately and clearly. The height of the letter and number shall not be less than 2 millimeter. The printing part shall print the value only when the indicating device is in equilibrium. The equilibrium position shall be considered from the indicating device displays a stable value or displaying two consecutive weights alternatively for over 5 seconds;

(7) the recording device shall only record when the indicating device is in equilibrium position and the equilibrium position shall be considered from (6);

(8) weighing instrument which has a tare device shall have the following characteristics:

(a) scale mark of the tare device shall equal the scale mark of an instrument at any weight;

(b) automatic or semi-automatic tare device shall alter the weight in the direction of reducing the weighing range for net loads but shall not exceed the maximum capacity of the tare device. In the case where an instrument automatically alters the weight, such device shall not alter until the loading is complete;

(c) the tare device shall only work when the instrument is in equilibrium;

(d) in the case where there are more than one tare device and they alter the weights at the same time, an instrument must display or print all the weights altered clearly;

(e) if the total weight, net weight or altered weight is printed more than one value, it shall be printed clearly to state the total weight, net weight or altered weight;

(9) preset tare device:

(a) the scale mark of the present tare device shall equal the scale mark of instrument and shall be automatically adjusted to be equal to the scale mark of the instrument;

(b) for an instrument with several weighing ranges, the tare value specified for one weighing range may be transmitted to another weighing range with higher verified scale mark only and it shall be able to adjust the scale mark of such tare value to be equal to the scale mark of new weighing range;

(c) for an instrument which can adjust the scale mark, the preset tare value shall not be more than the maximum capacity of the first sub weighing range ( $Max_1$ ) and the net weight calculated must be able to be adjusted to display or print in details to be equal to the instrument for the same net weight;

(d) in the case of preset tare device, such tare value shall not be able to be adjusted or terminated during the period when the tare device is operating;

(10) in the case where an instrument has a locking device, it shall display the position of the locking and weighing clearly and shall only load on the position for loading;

(11) an instrument shall be made in the manner which a relevant person can see the displaying value clearly;

(12) an instrument with price indicating shall display the weight value, price per unit and total price when the instrument indicate a stable weighing value. If such instrument has a printing device, such printing device shall be able to print the weighing value, price per unit and total price by which such printing for individual loading shall only be printed once;

(13) an instrument which can print the price shall have the characteristics as prescribed under (12) and shall be able to inspect the price per unit and preset weighing value during its operation;

(14) an instrument with electronic device shall have the characteristics as follows:

(a) in the case where there is an external disturbance, an electronic instrument shall be able to operate accurately or shall display that there is an error from such disturbance;

(b) in the case where an error occurs and affects the accuracy of the instrument, the instrument shall cease operating automatically or indicate an instrument user and shall display until the error is terminated;

(c) in the case where an instrument is used, indicating device shall display all symbols;

(d) a battery power supply instrument shall be able to operate continuously and accurately or does not display the weight whenever the voltage drops below the manufacturer's specified minimum value;

(e) to prevent the disturbance of electromagnetic wave and radio frequency, it shall not affect the accuracy of instrument, indicating device, recording device and printing device;

(f) if an instrument has a computing system or complementary device via external signal, computing system or such complementary shall not affect the result of the weighing and loading data and shall not be able to send order or data to an instrument rendering the instrument to print the value, calculate or record the value differently from the time when no device is connected to the instrument and shall attach such device connecting external signal.

**Clause 17.** Non automatic weighing instrument which cannot indicate value shall have the following characteristics:

(1) an instrument having the equivalent device shall have the characteristics using the 2 balancing indication. Such balancing indication shall have the same width and the distance shall not be more than the width of balancing indication except in the case where the

width of balancing indication is less 1 millimeter and the distance shall not be more than 1 millimeter;

(2) in the case where an instrument has a printing device, the printing device shall only print when the mechanism used for adjusting the weight to be in accordance with the full number of the scale mark;

(3) knife edge

(a) the knife edge shall be fitted to lever;

(b) the knife edge shall be sharp, solid and fitted all the way to such knife edge;

(c) knife edge support shall be sharp and solid at least the same as knife edge;

(d) knife edge and knife edge support shall be in the characteristic that upon loading an object onto the bearing device equals one half of the maximum capacity. When altering the knife edge or knife edge support it shall be in an appropriate direction and does not alter its accuracy;

(e) in the case where an instrument has a bar preventing the knife edge to move on the length, such bar which may touch the knife edge shall be smooth and shall be as solid as the knife edge and touch the knife edge the least;

(4) scale mark:

(a) scale mark on a beam shall be in lines or notches or both but the distance shall be the same and parallel, the notch shall be cut and the distance for each notch shall be the same and parallel. If there are both line and notch, the line should be in the same type as the notch to illustrate the rate clearly and accurately;

(b) scale mark and scale interval on a beam and on the indicating device shall be made clear, easily to be read and permanent;

(5) steelyard:

(a) steelyard with sliding poise on each scale mark shall indicate the weight;

(b) every steelyard shall have the bar to prevent the sliding poise to slide over the scale mark of zero;

(c) the device attached to the end of steelyard permanently;

(d) steelyard shall have the characteristics that when the steelyard slides to the end such steelyard shall be back to its previous position automatically;

(e) under the normal circumstance, the steelyard shall be in equilibrium and if it swings, it shall both swing proportionately;

(6) sliding poise:

(a) for sliding poise for using with the steelyard which the scale mark is notch, it shall be pivotal to the right position and attached tightly;

(b) for sliding poise hung, the part which touches the steelyard shall be sharp, solid and have the characteristics that makes a sliding poise swing easily;

(c) sliding poise shall be able to slide conveniently and shall not make scale marks and notches on the steelyard indelible or deteriorate;

(d) sliding poise must be able to be separated easily and shall not have a gap on top of the sliding poise;

(e) sliding poise must not be able to be separate from the steelyard easily;

(f) sliding poise and minor bar shall be on the steelyard securely;

(g) indicating the weight or the weight for on sliding poise shall be sharp and the indicator shall be parallel to the scale mark on the steelyard;

(7) balancing poise:

(a) a balancing poise used with any weighing instrument shall have a mark on the poise which shall illustrate that such poise is used with such instrument and such mark shall be indelible and such poise shall illustrate that which weight shall be replaced;

(b) a balancing poise shall be made in a different form from a normal poise;

(8) for sliding poise and balancing poise, if there is a hole for complementing an object for the poise to be accurate and such hole shall have only one hole. The material used for the accuracy in the sliding poise and balancing poise shall always be attached and close;

(9) any instrument which has a part to adjust the direction or reverse shall have the characteristics of adjusting or reversing which shall not affect the accuracy of such instrument;

(10) any instrument which has an attaching part such detaching shall not affect the accuracy of the instrument except for the instrument that if any device is detached it will not be able to use to weigh any object;

(11) for any instrument which has a device which makes the instrument accurate, such part shall be attached and shall not be able to be modified easily;

(12) equal arm beam:

(a) equal arm beam means a weighing instrument which has two planes of symmetry and loading receptor at the end of the beam;

(b) detachable line for this instrument shall be made from metal or other materials as inspected by the Central Bureau that it has the characteristics which can be replaced;

(13) Roberval and Béranger instruments:

(a) Roberval and Béranger instruments are instruments which have the load receptor is equal in both sides and the loading receptor or loading bar is above the steelyard;

(b) In the case of twin steelyard, there shall be at least two bars which are strong and the middle shall not be twisted or moved from the attachment, pivotal and round. For the part which touches other parts of the instrument, it shall be made of metal, stone or other materials inspected by the Central Bureau that it can the characteristic which can be replaced:

(c) in the case of an instrument which is made to equilibrium by using a balancing box, such balancing box shall be attached under the steelyard and having the capacity to load an object by which the accuracy does not exceed one percent of the maximum capacity of such instrument and may attach or not attach the instrument;

(d) beam or bar shall be made from metal, solid material or other materials inspected by the Central Bureau that it has the characteristic and can be replaced but the steelyard shall not be painted;

(14)steelyard instrument:

(a) steelyard instrument is an instrument whereby the fulcrum lays more on one side of the steelyard than the other side. The shorter steelyard accept the weight regardless of whether it is the tray and the length has scale mark and poise to indicate the weight. Upon using it shall be hung or attached with other object above the instrument which is not a part of such instrument;

(b) the steelyard shall be made from metal or other materials as inspected by the Central Bureau that it can the characteristic which can be replaced;

(c) the scale mark in lines or notches on the steelyard shall have the maximum capacity under or equal 100 kilograms and shall be perpendicular to the steelyard;

(d) the steelyard shall have the maximum capacity of 10 kilograms and beyond and shall have the scale mark which begins with zero;

(15)bar instrument:

(a) the bar instrument is an instrument which accept the load on the bar transmitting the weight;

(b) the steelyard of such instrument, except for the poise support, it shall not be able to be detached easily;

(c) in the case where other beams is to be replaced, such beam shall be the important part of the instrument and without it, the instrument shall not be accurate;

(16)nonautomatic instrument under clause shall apply for use and shall have the characteristics as prescribed.

**Clause 18.** An instrument with the attached steelyard which has the capacity of 20 metric tone and above shall have the indicating device in the manner that the relevant



persons shall be able to read the weight value at the same time. Without such indicating device, there shall be an additional indicating device for all the relevant persons to read the weight value at the same time.

**Clause 19.** Maximum permissible error for the first inspection and verification shall prescribe the accuracy class.

**Clause 20.** The accuracy classes shall be divided into 4 classes as follows:

- (1) class one symbol
- (2) class two symbol
- (3) class three symbol
- (4) class four symbol

**Clause 21.** The criteria for accuracy classes shall be as prescribed in the following table:

Accuracy class	Verified scale mark (e)	Number of verified scale marks (n=Max/e)		Minimum capacity
		Min	Max	
Class one	From 0.001 a. (0.001 a ≤ e)	50,000	-	100 e
Class two	From 0.001 to 0.05 a (0.001 a ≤ e ≤ 0.05 a) from 0.1 a. (0.1 a. ≤ e)	100	100,000	20 e
		5,000	100,000	50 e
Class three	From 0.1 a to 2	100	10,000	20e

	a (0.01 a ≤ e ≤ 2 a) from 5 a (5 a ≤ e )	500	10,000	20e
Class four	from 5 a (5 a ≤ e )	100	1,000	10 e

The minimum capacity for accuracy class two and class three of the instrument used for the purpose of fee calculation may be less than the table under paragraph one 5 e.

**Clause 22.** The verified scale mark of an instrument shall be as follows:

Instrument	Verified scale mark (e)
Indicating device/ no indicating device/ complementary part to read in details	Verified scale mark = verified scale mark of an instrument
Indicating device/ no indicating device/ complementary part to read in details	A producer shall specify the verified scale mark in accordance with clause 21 and clause 25 (2)
No indicating device	A producer shall specify the verified scale mark in accordance with clause 21

In the case of steelyard instrument which has the capacity of 20 metric tone and above regardless of the value of scale mark, the verified scale mark shall be 20 kilograms in every case.

The verified scale mark for verified instrument prior to the date this Notification comes into force shall be in accordance with the criteria as prescribed by the Minister in a Notification.

**Clause 23.** A multiple range instrument which each range shall have verified scale mark as  $e_1, e_2, \dots, e_r$  by which  $e_1 \leq e_2 \leq \dots \leq e_r$  (  $r$  is the range). The maximum capacity, minimum capacity and numbers of verified scale mark shall be in accordance with the criteria as prescribed in clause 21.

**Clause 24.** Partial weighing range shall have the additional characteristics as follows:

(1) partial weighing range:

(a) partial weighing range shall have the following characteristics:

- 1) certified scale mark  $e_i$  by which  $e_{i+1} > e_i$
- 2) maximum capacity  $Max_i$
- 3) minimum capacity  $Min_i = Max_{i+1}$  (for  $i=1$  minimum capacity  $Min_1 = Min$ )

(b) the number of certified scale mark for the partial weighing range ( $n_i$ ) for each range can be calculated from the formula

$$n_i = \frac{Max_i}{e_i}$$

$e_i$

By which  $i$  is the weighing range 1,2,...

(2) verified scale mark ( $e_i$ ), the number of verified scale mark ( $n_i$ ) and minimum capacity ( $Min_i$ ) which is the criteria for accuracy class of an instrument which can adjust scale marks and shall be in accordance with the criteria for accuracy class of an instrument as prescribed in clause 21;

(3) maximum capacity of partial weighing range shall be calculated as the ratio between the maximum capacity of any partial weighing range and verified scale mark for

next partial weighing range shall be in accordance with the accuracy class in this table except the last partial weighing range;

Accuracy class	Maximum capacity of the weighing range <hr/> Verified scale mark of the next partial weighing range (Max <sub>i</sub> / e <sub>i+1</sub> )
Class one	≥ 50,000
Class two	≥ 5,000
Class three	≥ 500
Class four	≥ 50

(4) for an instrument which can adjust the scale mark, after the tare of weight, the display of weighing range shall be under the following characteristics:

**Clause 25.** Complementary indicating device shall have the following characteristics:

(1) using the complementary indicating device for details in the instrument with class one or class two only but it should only be used when the reading of the number on the right of a decimal and it shall not be composed in the instrument which can change the scale mark. In this regard, complementary indicating device for detail reading may be a tool which has rider or a part assisting the weight indication between scale mark or a part assisting complementary weight or a part assisting the division of weighing value between scale marks;

(2) verified scale mark shall have more value than the scale mark of an instrument and shall not exceed 10 times of the scale mark of an instrument or  $d < e \leq 10d$  and shall have the value of  $10^k$  or  $e = 10^k$  Kilogram by which k is a full positive number, full negative number or zero;

(3) the minimum capacity of an instrument shall be calculated in accordance with the criteria as prescribed in clause 21 by which the last pillar of the table shall replace the verified scale mark with the scale mark of an instrument;

(4) in the case where an instrument is in class one and has the scale mark of less than 0.1 milligram, the verified scale mark may be less than 50,000.

**Clause 26.** Maximum permissible error for initial and subsequent verification shall be in accordance with the following table:

Maximum permissible error	Verified weight (m) displayed in the unit of verified scale mark (e)			
	Class one	Class two	Class three	Class four
0.5 e	From 0 to 50,000 ( $0 \leq m \leq 50,000$ )	From 0 to 5,000 ( $0 \leq m \leq 5,000$ )	From 0 to 500 ( $0 \leq m \leq 500$ )	From 0 to 50 ( $0 \leq m \leq 50$ )
1.0 e	50,000	Over 5,000 to 20,000 ( $5,000 \leq m \leq 20,000$ )	From 500 to 2,000 ( $500 \leq m \leq 2,000$ )	From 50 to 200 ( $50 \leq m \leq 200$ )
1.5 e	Over 200,000 ( $20,000 < m$ )	Over 20,000 to 100,000 ( $20,000 \leq m \leq 100,000$ )	From 2,000 to 10,000 ( $2,000 \leq m \leq 10,000$ )	From 200 to 1,000 ( $200 \leq m \leq 1,000$ )

**Clause 27.** In term of the sensitivity of a non-automatic instrument, an extra load equivalent to the absolute value of the maximum permissible error for the applied load shall be placed on the instrument at equilibrium and shall cause a permanent displacement of the indicating element of at least the followings:

- (1) 1 mm for an instrument of class one or class two;
- (2) 2 mm for an instrument of class three or class three with maximum capacity of 30 kg;
- (3) 5 mm for an instrument of class three or class four with the maximum capacity of more than 30 kg.

**Clause 28.** The responding rate of instrument in the discrimination test shall have the following characteristics:

- (1) In the case of an analog weighing instrument, when gently placed on or withdrawn from the instrument at equilibrium of the maximum permissible error of the tested weight, it shall cause a permanent displacement of the indicating element corresponding to not less than 0.7 times the extra load;

- (2) In the case of a digital weighing instrument, an additional load equal to 1.4 times the actual scale interval, when gently placed on or withdrawn from the instrument at equilibrium shall change the indication unambiguously

**Clause 29.** The difference of indicating of instrument in repeatability test shall have the value not exceeding the equilibrium of the maximum permissible error of the tested weight.

**Clause 30.** The differences between the indicating device of instrument in testing the repeatability shall have the equilibrium of no more than the maximum permissible error of the tested weight.

**Clause 31.** The indication of weights:

- (1) for an instrument with several indicating devices, the indicating devices shall display the difference of the weight not exceeding the equilibrium of the maximum permissible error of such weight;

- (2) for the digital indicating device, the value displayed shall be the same.

**Clause 32.** Spring instrument shall have the following characteristics:

- (1) display of the result of the weight:
  - (a) for the indicating device, it shall display name or symbol of the unit used for weighing;
  - (b) scale mark shall be displayed in  $1 \times 10^k$ ,  $2 \times 20^k$  or  $5 \times 10^k$  by which k is a whole positive or negative number or zero;
- (2) scale mark at the dial shall display clearly, the width of the scale mark shall not be larger than the distance between the scale mark and the distance between the scale mark shall not be less than 1 millimeter;
- (3) zero scale mark and scale mark displaying the maximum capacity shall not be less than 2 centimeter from one another and shall not have the interference with the knives.
- (4) the dial of the scale mark shall have two dials attaching to the instrument and both dials shall be in the opposite side except in the case where the spring instrument has a capacity of no more than 1 kilogram, it may have one dial attaching to the instrument;
- (5) there shall be lead attached with the instrument while one side goes through the dial for stamping the verification mark of the Central Bureau or branch;
- (6) the length of knives indicating shall be at the minimum scale mark with the width of approximately the width of the sale mark and is in the characteristics which can point to the scale mark clearly. The distance of the tip of the knives shall be no more than 5 millimeters;
- (7) weighing tray shall be made from metal or other materials as inspected by the Central Bureau that it has the qualification which can be replaced and shall not be painted;

(8) in the case where an instrument has the zero setting, such zero setting shall be able to adjust the knives indicating to deviate from zero for no more than 5 percent of the maximum permissible error of such instrument;

(9) a spring instrument shall have a space for attachment, stamp or display the verification mark to prevent modification, amendment, adjustment after the verification;

(10) spring instrument shall have the shields on both sides which have the characteristics to prevent an opening of the shields and shall use the wire to attach both shields with the spring instrument;

(11) a spring instrument with the shields on the top of the instrument with the zero setting device shall be permanently attached to the instrument and cannot be turned;

(12) the attachment for the knives shall be made with the knives for indicating the weight and shall be made in square shape while the attachment knot shall be attached to the knives indicating the weight to prevent it from being loose;

(13) in the case of spring balance hanging weighing scale, it shall have the load receptor under the dial and the receptor tray shall be distant from the instrument and shall not use a hook to hang the receptor load but if any instrument has a hook for receptor load, a receptor load cannot be used to hook again;

(14) a spring weighing scale shall have the maximum capacity of 60 kilograms;

(15) the maximum permissible error for the verification and inspection in accordance with the criteria of verified maximum capacity and scale marks as follows:

Capacity	Verified scale mark (e)	Minimum capacity (Min) no less than	Tested weight	Maximum permissible error for verification	Maximum permissible error for inspection
3 kg.	10 gram	100 grams	No less than 0.5 kg.	5 grams	8 grams
			More than 0.5	10 grams	15 grams



Capacity	Verified scale mark (e)	Minimum capacity (Min) no less than	Tested weight	Maximum permissible error for verification	Maximum permissible error for inspection
			kg.		
9 kg.	20 grams	200 grams	No less than 1 kg. More than 1 kg.	10 grams 10 grams	15 grams 15 grams
15 kg.	100 grams	500 grams	No more than 2.5 kilograms More than 2.5 kilograms	25 grams 50 grams	38 grams 75 grams
20 kg.	100 grams	500 grams	No more than 2.5 kilograms More than 2.5 kilograms	25 grams 50 grams	38 grams 75 grams
35 kg.	100 grams	1 kilogram	No more than 5 kilograms More than 5 kilograms	50 grams 100 grams	75 grams 150 grams
60 kg.	200 grams	2 kilograms	No more than 10 kilograms More than 10 kilograms	100 grams 200 grams	150 grams

A spring weighing scale which has the capacity of not exceeding 1 kilogram shall be deemed to be an instrument under the accuracy class IV.

**Clause 33.** An instrument for the ratio of flour in cassava root shall have the following characteristics:

(a) two steelyards attached solidly with the base of an instrument in the manner that it is difficult to detach consisting of:

1) for lower steelyard, it shall be used for finding weight and ratio (in percentage) of dirty objects by which on the upper side of the steelyard shall have the scale marks displaying the weight from 0 to 5 kilograms. The space between the scale marks shall be 3.5 centimeter and each displays the scale mark of 0.5 kilograms. On the lower side of the steelyard, it shall have scale marks displaying the ratio in percentage of dirty objects from 0 to 60 percent and the space between each scale mark shall be 3.5 millimeters and displaying the ratio of scale mark of 1 by which each scale mark shall display the ratio of 0 percent and shall be in accordance with the scale mark displaying the weight of 5 kilograms while the scale mark displaying 60 percent shall be in accordance with the scale mark displaying 2 kilograms;

2) for the upper steelyard, it shall be used for finding the weight of a cassava root and the ratio of starch of a cassava root. The upper of the steelyard shall have the scale mark displaying the weight from 0 gram to 750 grams and the gap between each scale mark shall be 1 centimeter and displaying the rate of 10 grams. Below the steelyard, it shall have the scale mark displaying the ratio, in percentage, of starch in cassava root from 10 percent to 34 percent. The distance between each scale mark shall be 1.95 millimeters and shall display the ratio, in percentage, of 0.1 for each scale mark. The scale mark displaying 10 percent shall be in accordance with the scale mark displaying the weight of 280 grams and the scale mark displaying the ratio of 30 percent shall be in accordance with the scale mark displaying weight of 670 grams;

(b) there shall be 2 load receptors which water can flow easily. The upper load receptor shall be for weighing a cassava root on the air while the lower load receptor in

water. Both load receptors shall be hung in the manner that it cannot be detached from one another;

(c) the zero setting shall be on the lower steelyard and towards the front of the steelyard;

(d) the maximum permissible error for the verification and inspection of a instrument to weigh the ratio of starch in a cassava root has both positive or negative as follows:

1)  $1/200$  of the tested weight in the case where the weight does not exceed one fifth of the maximum capacity;

2)  $1/500$  of the tested weight in the case where the weight exceeds one fifth of the maximum capacity;

(e) the provisions of clause 17(1), (2), (3), (4), (5), (6), (7), (8), (9), (10) and (11) shall apply to an instrument for weighing the ratio of starch in a cassava root mutatis mutandis;

(2) automatic indicating device shall have the following characteristics:

(a) the maximum capacity of 5,750 grams and the scale marks of an instrument does not exceed 10 grams;

(b) being able to display the ratio, in percentage, of starch in a cassava root from 10 percent to the ratio of 34 percent;

(c) the load receptor is in the manner that water can flow easily;

(d) the display of weight while weighing in the air and the ratio of dirty objects shall be as follows:

1) a weighing instrument shall display the weight of 0 gram to 750 grams and the scale marks shall not exceed 10 grams;

2) an instrument shall display the ratio of starch in a cassava root from 10 grams to 34 grams by which each scale mark, in ratio, for starch in a cassava root shall be 0.1;

3) the scale mark displaying the ratio, in percentage, of 10 percent shall be in accordance with the scale mark displaying the weight of 280 grams and the scale mark displaying the ratio, in percentage, of 30 percent shall be in accordance with the scale mark displaying the weight of 670 grams;

(e) the maximum permissible error for the verification and inspection of a weighing instrument for starch in a cassava root shall have both positive or negative as follows:

3)  $1/200$  of the tested weight in the case where the weight does not exceed one fifth of the maximum capacity;

4)  $1/500$  of the tested weight in the case where the weight exceeds one fifth of the maximum capacity;

(f) the provision of clause 16 shall apply to an instrument weighting the ratio of starch in a cassava root *mutatis mutandis*.

## PART II

### AUTOMATIC WEIGHING INSTRUMENT

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**Clause 34.** In this part:

“totalization indicating device” means the part of the instrument that indicates the sum of consecutive loads weighed and discharged to bulk through a belt conveyor or hopper instrument;

“principal totalization indicating device” means the part of the instrument that indicates the sum of all the loads weighed and discharged to bulk through a belt conveyor or hopper instrument;

“partial totalization indicating device” means the part of the instrument that indicates the sum of a limited number of consecutive loads delivered to bulk;

“supplementary totalization indicating device” means an indicating device with a scale interval greater than that of the principal totalization indicating device and indicating the sum of consecutive loads weighed over a fairly long period of time;

“totalization scale interval means the scale interval of a principal totalization indicating device”;

“maximum flow rate” means maximum flow rate of an object weighted when an instrument is at the maximum capacity with the highest speed of a belt conveyor;

“minimum flow rate” means minimum flow rate which an instrument provides the accurate result;

“minimum totalized load” means the value of the smallest bulk load that can be totalized without exceeding the maximum permissible error on a belt conveyor or hopper weighing scale;

“instruments with control indicating devices” means an indicating device that enables the use of the instrument as a control instrument to weigh discrete loads for control purposes;

“control scale interval” means the scale interval on a control indicating device;

“weighing cycle” means the sequence of weighing operations that includes one delivery of a load to the load receptor; a single weighing operation; the discharge to bulk of a single discrete load.

**Clause 35.** Automatic belt weigher shall have the following characteristics:

(1) belt weighers are divided into four accuracy classes as follows:

- (a) 0.5;
- (b) 1;
- (c) 2.

(2) Maximum permissible error:

(a) the maximum permissible errors for each accuracy class, positive or negative, are the applicable values in the table as follows:

Accuracy class	Percentage of the mass of the totalized load for	
	Initial verification	Inspection
0.5	0.25	0.5
1	0.5	1.0
2	1.0	2.0

(b) maximum permissible error under (a) shall apply to the case where the object weights is not less than the total weight and if the maximum permissible error is not the exact number under the total scale interval, it shall be rounded to the closet value to the total scale interval;

(3) any indicating device or printing which has the same scale interval shall display the same weight result;

(4) the minimum totalized load shall be not less than the largest of the following values:

- (a) 2 % of the load totalized in one hour at maximum flowrate;
- (b) the load obtained at maximum flowrate in one revolution of the belt;
- (c) the load corresponding to the appropriate number of totalization scale intervals in the following table:

Accuracy class	Number of totalization scale intervals
0.5	800
1	400
2	200

(5) Minimum flowrate:

(a) single speed belt weighers shall have the minimum flowrate equal to 20 % of the maximum flowrate in the case where the installation and test is made. The minimum flowrate shall not exceed 35 % of the maximum flowrate;

(b) variable and multi-speed belt weighers:

variable and multi-speed belt weighers may have a minimum flowrate less than 20 % of the maximum flowrate. The minimum instantaneous net load on the weighing module shall be at least 20 % of the maximum capacity;

(6) in the case where there are other factors which affect the accuracy of a belt weigher, such as, variation of stimulation speed, accuracy of zero setting, change in temperature and change in pressure, frequency of the electricity. The Central Bureau may prescribe additional testing means to find the deviation of the belt weigher which is caused by such factor;

(7) repeatability or the difference between the equilibrium of several continuous attempts of weighing under the same weighing circumstance by which the circumstance of the load receptor shall be the same and shall not exceed the equilibrium of the maximum permissible error as prescribed in (2);

(8) the maximum permissible error of the test of zero display when the belt weigher rotates for one cycle, the change of zero display when there is no weight on the belt

weigher shall not exceed the total weight at the highest flow within the period of testing period which can be calculated in percentage as follows:

- (a) 0.05 percent for a belt weigher under the accuracy class 0.5;
- (b) 0.1 percent for a belt weigher under the accuracy class 1;
- (c) 0.2 percent for a belt weigher under the accuracy class 2.

(9) discrimination for the indicating device for zero setting by conducting a test to roll a belt for the belt revolution and for 3 minutes. When placing the weight down or take the weight out of the load receptor of the belt weigher. The instrument must be able to indicate the difference in the zero setting when there is no weight. It shall equal the percentage of the maximum capacity as follows:

- (a) 0.05 percent for a belt weigher under the accuracy class 0.5;
- (b) 0.1 percent for a belt weigher under the accuracy class 1;
- (c) 0.2 percent for a belt weigher under the accuracy class 2.

(10) When the short term stability test is repeated in the case of zero setting, upon weighing without any weigh on the belt, the difference between the smallest and largest indications obtained in 5 continuous tests, each of 3 minute duration must not exceed the percentages of the load totalized in 1 hour at the maximum flowrate as follows:

- (a) 0.0018 percent for a belt weigher under the accuracy class 0.5;
- (b) 0.0035 percent for a belt weigher under the accuracy class 1;
- (c) 0.0070 percent for a belt weigher under the accuracy class 2.

(11) during the zero-load test under (8), the totalization indicator shall not vary from its initial indicated value by more than the following percentages of the load totalized at the maximum flowrate for the duration of the test when the minimum totalized load is equal to or less than 3 belt revolutions:

- (a) 0.18 percent for a belt weigher under the accuracy class 0.5;
- (b) 0.35 percent for a belt weigher under the accuracy class 1;
- (c) 0.7 percent for a belt weigher under the accuracy class 2.



(12) for work safety, the belt weigher shall have the following characteristics:

(a) during weighing, the totalization indicating device must not be able to be adjusted to zero setting;

(b) for other operating parts of the belt weigher upon being at rest, it shall not be able to be operated;

(c) remote indicating device, when the belt weigher weighs more than the scale mark under (14), the belt weigher must display the symbol or send the warning noise continuously;

(13) totalization indicating and printing device:

(a) the totalization weight displayed by the totalization indicating and printing device must display name or symbol of the unit used for weighing for easy understanding and being easy to be read;

(b) the scale mark shall be displayed in  $1 \times 10^k$ ,  $2 \times 10^k$  or  $5 \times 10^k$  by which  $k$  is a whole positive or negative number or zero;

(c) scale interval of a partial totalization indicating device shall be equal to the scale interval of the general totalization indicating device;

(d) the scale interval of a supplementary totalization indicating device shall be at least equal to 10 times the totalization scale interval;

(e) range of indication shall be capable of indicating a value equal to the quantity of product weighed in 10 hours of operation at the maximum flowrate;

(f) totalization indicating and printing devices shall be permanently engaged.

(14) the belt weigher shall display the continuous symbol to be seen or audible indication when the belt weigher is out-of-range indication as follows:

(a) the instantaneous load is above the maximum capacity of the weighing unit;

(b) the flowrate is above the maximum or below the minimum value;

(15) for zero-setting, the zero-setting range shall not exceed 4 percent of the maximum capacity;

(16) semi-automatic zero-setting device;

(a) the setting to zero takes place after a whole number of belt revolutions;

(b) the end of the zero-setting operation is indicated;

(c) the limits of adjustment are indicated;

(17) for automatic zero-setting device, in addition to the characteristics as prescribed in (16), it shall have the following characteristics:

(a) It shall be possible to disengage automatic zero-setting devices during testing as appropriate;

(b) a belt weigher may include an automatic zero-setting device only if it is provided with an interlock to prevent zero-setting while it is possible for material to feed onto the belt conveyor;

(18) the displacement transducer:

(a) the displacement transducer shall be designed so that there is no possibility of slip likely to affect the results whether the belt is loaded or not;

(b) measurement signals shall correspond with displacements of the belt equal to or less than the weigh length;

(c) It shall be possible to seal adjustable parts;

(19) for belt weighers inclusive of conveyor: the conveyor shall be constructed in a rigid manner and shall form a rigid assembly;

(20) the frame support of the conveyor is constructed in a rigid manner;

(21) speed of the belt weigher while weighing shall have the following characteristics:

(a) for single speed belt weighers, the speed of the belt during weighing shall not vary by more than 5 % of the nominal speed;

(b) for variable speed belt weighers having a speed setting control, the speed of the belt shall not vary by more than 5 % of the set speed;

(22) in the case where the length of range of weights can be adjusted, the adjustment device must be attached;

(23) there must be the preventative measure to ensure that the belt weigher does not weigh an object exceeding its maximum capacity;

(24) it must be able to prevent the magnetic signal, radio frequency from affecting the accuracy of the belt weigher, indicating, recording and printing devices;

(25) the belt weigher shall display the following details on the machine which is easily to be read, indelible;

- (a) accuracy class;
- (b) totalization of the scale mark;
- (c) maximum flowrate;
- (d) minimum flowrate;
- (e) minimum totalization weight;
- (f) maximum capacity;
- (g) range of weight for the belt weigher for the type of weighablel
- (h) specified speed and range of speed of the belt;

(26) the provisions of clause 16(14) shall apply to the belt weighers which have electronic component *mutatis mutandis*.

**Clause 36.** An automatic weighing instrument for the type of hopper shall have the following characteristics:

(1) accuracy class of the hopper instrument shall be divided into 4 classes as follows:

- (a) class 0.2;
- (b) class 0.5;

(c) class 1;

(d) class 2;

(2) maximum permissible error:

(a) the maximum permissible errors for each accuracy class, positive or negative shall be in accordance with the following table:

Accuracy class	Maximum permissible error		
	Initial verification	inspection and	For inspection
Class 0.2		0.10	0.2
Class 0.5		0.25	0.5
Class 1		0.5	1.0
Class 2		1.0	2.0

(b) maximum permissible error under (a) for the case where an object is not less than the totalization of weight and in the case where the maximum permissible error is not the whole number in accordance with the totalization of scale mark shall be rounded to the closet value with the totalization of scale mark;

(c) if an instrument can operate under a non-automatic function, it shall be tested for accuracy of an instrument by using the maximum permissible error as prescribed for a non-automatic weighing instrument;

(3) the provision of clause 35 (13)(a) and (b) for indicating device and scale mark of the totalization indicating and printing devices shall apply *mutatis mutandis*;

(4) totalization of scale interval shall be as follows:

(a) no less than 0.01 percent of the maximum capacity;

(b) no less than 0.2 percent of the maximum capacity;

(5) the minimum totalization shall not be less than the minimum capacity and the value under the following table:

Accuracy class	Minimum totalization weight
Class 0.2	$\geq 1000 \times$ totalization of scale interval
Class 0.5	$\geq 400 \times$ totalization of scale interval
Class 1	$\geq 200 \times$ totalization of scale interval
Class 2	$\geq 100 \times$ totalization of scale interval

(6) the difference between the result of weight of any indicating and printing devices which have the same scale interval at the same weight shall have the following values:

- (a) equal zero for the digital indicating or printing device;
- (b) less than the equilibrium of the maximum permissible error for the analog indicating or printing device;

(7) if there are other factors affecting the accuracy of an instrument, for instance, change of temperature and pressure or frequency of the electricity, the provisions of clause 35(6) shall apply mutatis mutandis;

(8) for work safety, an instrument shall have the following qualifications:

(a) if an automatic function of an instrument stop, the printing device must not be able to operate or must display a special symbol and shall send a warning sound if an instrument is under the following conditions:

1) if the weight placed is higher than the maximum capacity and 9 times of the control scale interval or;

2) the weight value placed and distributed is less than the minimum capacity except in the case of the last loading;

(b) the instrument shall not be able to be adjusted while the load receptor is in automatic operation except in the case of testing of the instrument;

(c) an object remaining in the load receptor after a particular belt revolution shall not have any effect on the following weighing result;

(d) if the weighing system has the dust elimination system, such dust elimination system shall not affect the accuracy of the instrument;

(9) for zero setting, in the case where the zero setting takes place after a whole number of belt revolutions, the zero setting shall be constructed in the manner that:

(a) the zero-setting must be able to be set up accurately with the positive and negative of not exceeding 0.25 times the smallest scale mark of the indicating device;

(b) the range shall not exceed 4 % of the maximum capacity;

(c) the automatic system of the instrument must stop immediately if the display of zero changes as follows:

1) from the totalization of scale mark in terms of an automatic zero setting;

2) from one half of the totalization of scale mark in terms of semi automatic or non-automatic zero setting

(10) controlled indicating device, the load receptor must have the balancing poise with scale mark for testing the instrument as follows:

Maximum capacity (Max)	Minimum weight of the scale mark balancing poise
Max ≤ 5 metric tons	Max
5 metric tons < max ≤ 25 metric tons	5 metric tons
25 metric tons < max ≤ 50 metric tons	20 percent of Max
50 metric tons < max	10 metric tons

(11) the totalization indicating and printing devices:

(a) it must have the totalization indicating device;

(b) in the case of printing device, the totalization indicating device must not be able to reset to zero if the printing device has not printed the totalization of the weight as latest displayed automatically;

(c) in the case where the instrument has the printing device, if the automatic part of the instrument stops, the printing device must print the totalization of the weight as latest displayed automatically;

(d) every scale interval of indicating device must display the equal value except for the additional device;

(e) the scale interval of the additional totalization indicating device shall have the value of at least 10 times the totalized value;

(12) an instrument must display the details as follows on the instrument and it must be easily read, clear and indelible:

- (a) accuracy class;
- (b) maximum capacity;
- (c) minimum capacity;
- (d) minimum totalization weight;
- (e) totalization scale interval;

(13) if an instrument which has an electronic part, the provisions of clause 16 (14) shall apply *mutatis mutandis*.

### PART III

#### BALANCING POISE

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**Clause 37.** A balancing poise shall be made of metal or metal mixed with other component which has the solidity no less than brass except:

(1) balancing poise which has the weight of less than 1 gram which may be made of aluminum;

(2) balancing poise which has the weight of less than 50 grams but it shall not be made of metal except for the non rustic metal.

**Clause 38.** A balancing poise shall have neat surface and it may be made in cylinder or square or sheet or wire or any other similar shapes.

The balancing pose shall be more than 1 gram and no sharp corner.

**Clause 39.** A balancing poise shall not be covered with the thick material, soft or fragile.

The balancing poise which is easy to be rusty shall be prevented from being rusty by coating, dipping or painting or any other means which can prevent it from being rusty.

**Clause 40.** A balancing poise shall have a hole for placing an object to adjust the weight to make such balancing poise in accordance with the rate and shall have only one hole and shall be constructed in the manner that it can be placed with an object to adjust the weight sufficiently or is not detached easily.

The object to adjust the weight under paragraph one shall be made of metal and shall not be over the equilibrium of the balancing poise.

**Clause 41.** For the balancing poise which has a hole, such hole shall not be detached from the balancing poise.

**Clause 42.** A balancing poise which has the weight of lower than 1 gram shall indicate the weight by a dot, line, number or any other means which are under the international standard.

**Clause 43.** The maximum permissible error for the initial inspection and verification of a balancing poise which is not weighing the jewel shall have the positive or negative as follows:



Weight rate	Maximum permissible error
50 kilograms	25 grams
20 kilograms	10 grams
10 kilograms	5 grams
5 kilograms	2.5 grams
2 kilograms	1 gram
1 kilogram	500 milligrams
500 grams	250 milligrams
200 grams	100 milligrams
100 grams	50 milligrams
50 grams	30 milligrams
20 grams	25 milligrams
5 grams	20 milligrams
2 grams	12 milligrams
1 gram	10 milligrams

**Clause 44.** The maximum permissible error for the initial inspection and verification of balancing poise under the jewel as follows:

Weight rate	Maximum permissible error
500 carat or 100 grams	30 milligrams
200 carat or 40 grams	25 milligrams
100 carat or 20 grams	15 milligrams
50 carat or 10 grams	10 milligrams
20 carat or 4 grams	6 milligrams
10 carat or 2 grams	3 milligrams
5 carat or 1 grams	2 milligrams
2 carat or 400 milligrams	1 milligram

Weight rate	Maximum permissible error
1 carat or 200 milligrams	1 milligram
5 dt or 100 milligrams	1 milligram
2 dt or 40 milligrams	0.5 milligram
1 dt or 20 milligrams	0.5 milligram
5 centikarat or 10 milligrams	0.5 milligram
2 centikarat or 4 milligrams	0.2 milligram
1 centikarat or 2 milligrams	0.2 milligram

**Clause 45.** The maximum permissible error for the testing of balancing poise shall be both positive and negative and shall be valued as prescribed for such type of balancing poise.

### TITLE III

#### VERIFICATION

**Clause 46.** Verification shall not be given to a weighing instrument whereby its capacity or serial number is modified or spring instrument.

**Clause 47.** The validity of a weighing instrument shall be in accordance with the following table:

Instrument	Validity of the verification (as from the date of verification)
1. non automatic instrument for which the load receptor is fixed and has the capacity of 20 metric ton and above	2 years

Instrument	Validity of the verification (as from the date of verification)
2. non automatic instrument for which the load receptor is for the wheel of a car	2 years
3. every kind of weighing instrument which is self-verified	60 days

Given on the 19<sup>th</sup> of June B.E. 2560

Mrs. Apiradee Tantraporn

Minister of Commerce