

## Unofficial Translation

### Notification of the Ministry of Commerce

Regarding Prescription of Type and Characteristic of Length Measures, Detail of Materials  
Used for Manufacture, Maximum Permissible Error

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By virtue of Section 5, paragraph two of Section 8, Section 16 and Section 26 of the Measurement Act, B.E. 2542 (1999), as amended by the Measurement Act (No.3), B.E. 2557 (2014), the Minister of Commerce, upon the recommendation of the Weights and Measures Committee, has therefore issued this Notification, as follows.

**Article 1.** This Notification shall come into force upon the expiration of ninety days from the date of its publication in the Government Gazette.<sup>1</sup>

**Article 2.** In this Notification:

“Maximum Permissible Error : MPE” means the value of the extreme deviation of the measure as permitted.

“Zero Setting Device” means the part which is used to set the measure to display the zero value;

“Indicating Device” means the part of the measure which is used to display the value of material volume as measured;

“Scale Mark” means the scale or other sign on the indicating device which is used to indicate the value of volume as measured;

“Scale Interval” means the distance between two consecutive scale marks by measuring along the middle of the smallest scale mark;

“Capacity” means the distance of length between the zero scale mark and the highest scale mark, not including the permissible scale mark;

“Permissible Scale Mark” means the scale mark which indicates the value next to the highest scale mark, but no longer than 40 centimeters.

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<sup>1</sup> Published in the Government Gazette, Volume 135, Special Part 271 d, Page 15, dated 29 October B.E. 2561 (2018).

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## Title 1

Measures under Measurement Act, B.E. 2542 (1999), as Amended by  
Measurement Act (No. 3), B.E. 2557 (2014)

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**Article 3.** The length measures which have the indicating devices both analog indication and digital indication shall be subject to the Measurement Act, B.E. 2542 (1999), as amended by the Measurement Act (No. 3), B.E. 2557 (2014), but not including the measures with high accuracy, e.g. gauge block, precision line measures, etc.

## Title 2

## Types of Measures

**Article 4.** The length measures are those which can see the distance of length of the measures at the time of operating.

There are 6 types of the measures as follows:

- (1) a straight line length measure,
- (2) a folding length measure,
- (3) an automatic rolling metal tape length measure,
- (4) a tape length measure made of fiberglass,
- (5) a metal tape length measure and a chain,
- (6) a metal tape length measure combined with a sinker,

## Title 3

Characteristic, Detail of Materials Used for Manufacture, Maximum Permissible Error

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## Chapter 1

## General Provisions

**Article 5.** The length measure which is used in purchasing – selling or exchanging goods with other persons, or providing the service of measurement or using the measures for the benefit of calculating considerations, taxes and fees, shall have the characteristic as specified in this Notification.

In the case of any person who wishes to produce or import the measure, the characteristic of which differs from that as specified in this Notification, the measure shall be examined by the Central Bureau. If the result of examination appears that the standard characteristic of the aforesaid measure does not differ that as specified in this Notification and the measure is approved by the Minister of Commerce, a competent official is required to give verification for the aforesaid measure.

**Article 6.** The length measure shall be produced permanently. In addition, it shall not be simply used as a tool of fraud.

The length measure shall be produced from good materials. In addition, it shall be designed and produced in a manner that when it is used as usual, it can always operate accurately. The components of the measure can operate continuously without defect, bend or deformation, which affects the accuracy of the measure. In the case of adjusting the measure, the adjusted measure is required to maintain the condition of accuracy appropriately.

In the case of necessity, the Central Bureau may test the prototype of the measure in accordance with rules, methods and conditions as stipulated by the Minister, upon the recommendation of the Committee.

**Article 7.** The length measure shall display the following details on the instrument. Such details shall be easily read, clearly and indelibly.

- (1) a name or a trademark of a producer, an importer or a seller,
- (2) a model which is specified the form of an instrument,
- (3) a series number of an instrument which is specified by a competent official.

The provision under paragraph one shall not be applied to the component which is separated from the measure and necessary to the measurement including not affecting the accuracy of the measurement, or the measure which cannot display the aforesaid details because of the state of the measure or because of the display being possible to damage the measure.

**Article 8.** The capacity of the length measure shall be displayed clearly and indelibly, provided that it may be displayed in the form of abbreviation.

The capacity under paragraph one shall be displayed in Thai or Arabic numbers and Thai alphabets or alphabets or symbols as specified by the Minister.

**Article 9.** The accuracy of the length measure shall be subject to the maximum permissible error as specified in this Notification.

The maximum permissible error for granting the initial verification shall be subject to the stipulation in Article 16.

The maximum permissible error for the subsequent verification shall be two times of the maximum permissible error for granting the initial verification.

The maximum permissible error for the examination of the used measure shall be two times of the maximum permissible error for granting the initial verification.

**Article 10.** The length measure shall have the indicating device for the measured volume in a satisfactory manner and in a sufficient number for operation.

**Article 11.** The display of value of the length measure shall have the following characteristics.

(1) Display of Value in Type of Analog Indication

(a) The scale mark and the indicating device shall be designed appropriately and operate connectively.

(b) The scale mark, numbers, alphabets or other symbols shall be clearly and easily read and indelibly.

(c) If there are many places of the indicating device, every place shall display the consistent value.

(d) If there is the printing device, the value of printing shall be consistent with the value of displaying.

(2) Display of Value in Type of Digital Indication

(a) The display of value, whether using numbers, alphabets or other symbols unitedly or not, shall not cause confusion in reading the value.

(b) If there are many places of the indicating device, every place shall display the same value.

(c) If there are the indicating devices in both digital and analog types, the display of value in the digital type shall be consistent with the display of value in the analog type.

(d) If there is the printing device, the value of printing shall be consistent with the value of displaying.

(3) In the case of displaying the value of the measure which can calculate the price, the amount of money shall be consistent with the quantity of the measurement as displayed.

**Article 12.** The inscriptions of all of the controllers for operation, the indicating device and other equipment, including the switch of the length measure shall be made to be easily read, clearly and indelibly.

**Article 13.** The length measure shall provide a space for sealing so as to prevent the modification after the examination and verification. The measure shall be modified or repaired after the sealing is destroyed.

**Article 14.** In the case where there is a software program to be used with the length measure, and the aforesaid program results in the accuracy of the measure,

(1) the program shall neither cause the accuracy of the measure to deviate exceeding the maximum permissible error, nor express, print, calculate or record the value of the measurement result to deviate exceeding the maximum permissible error after the examination and verification, and there shall be protection methods to prevent the modification or the adjustment of the program by means of a mechanical seal or an electronic seal, e.g. an audit trail, or both methods together,

(2) the business operator of the measure or the possessor is required to display a name, a model and a software identification relating to the program on the indicating device and/or the value recording device every time of closing or opening the measure, or such data can be seen when an operator or a relevant person requires,

(3) the business operator of the measure or the possessor is required to produce a complete guidebook to use the program in accordance with the use of the measure, and the guidebook shall always be presented to a competent official or the Weights and Measures Inspector for inspection.

## Chapter 2

### Length Measures

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**Article 15.** The length measure shall have the following characteristics.

(1) The length measure shall be made of metal, hardwood, fiber or other materials which have already been examined by the Central Bureau to be similarly qualified, by

(a) the expansion of the materials due to a temperature change of  $\pm 8$  Degree Celsius from the reference temperature or the temperature indicated on the measure plus all other errors shall not exceed the maximum permissible error as stipulated in Article 16,

(b) as for the measure which has to be used under the stipulation on a specified tension in each time of measurement, upon a variation of  $\pm 10\%$  of this tension, the expansion of the materials due to a tension change plus all other errors shall not exceed the maximum permissible error as stipulated in Article 16.

(2) As for the straight line length measure which is made of wood or other materials which have already been examined by the Central Bureau to be similarly qualified, if it has the length of 1 meter upward, both ends of the length measure shall be firmly worn by metal, whereby its hardness is not less than the hardness of brass and its thickness is not less than 1 millimeter.

(3) The straight line length measure shall be made to be flat, straight and unable to fold.

(4) The folding length measure shall be made in such a way that every part shall stop at the joint fitly when it is unfolded.

(5) Scale Mark

(a) The length of the big scale mark shall be seen clearly, read easily, permanent, and longer than the small scale mark.

(b) The width of scale mark shall not be wider than the half of the smallest scale interval and greater than 0.75 millimeter. If the scale interval is wider than 2 centimeters, the width of scale mark shall not be greater than 2 millimeters.

(c) All of the scale marks shall be perpendicular to the edge of the length measure.

(d) The principal scale mark shall have the value  $1 \times 10^k$  or  $2 \times 10^k$  or  $5 \times 10^k$  meters, by k being a positive or negative whole number or zero.

(6) The capacity of the length measure shall have the following values.

Length of Measure (Meters)	Capacity (Meters)
0.5 Meter to 15 Meters	$0.5 \times n$ (n = 1 to 30)
15 Meters to 100 Meters	$5.0 \times n$ (n = 3 to 20)
Greater than 100 Meters	$50 \times n$ (n = 2 to 4)

n being a positive whole number

(7) The automatic rolling metal tape length measure shall have the capacity according to (6) but not exceeding 15 meters.

(8) The straight line length measure shall have the capacity according to (6) but not exceeding 5 meters.

(9) The folding length measure shall have the capacity according to (6) but not exceeding 5 meters.

(10) The tape length measure made of fiberglass or other materials which have already been examined by the Central Bureau to be similarly qualified, without a case and a winding device, shall have the capacity according to (6) but not exceeding 5 meters, and be resistant to a tension up to 2 kilograms.

(11) The tape length measure made of fiberglass or other materials which have already been examined by the Central Bureau to be similarly qualified, with a case and a winding device, shall have the capacity according to (6) but not exceeding 100 meters, and be resistant to a tension up to 2 kilograms.

(12) The metal tape length measure and a chain shall have the capacity according to (6) by starting from 5 meters and not exceeding 200 meters, and be resistant to a tension up to 5 kilograms.

(13) The metal tape length measure combined with a sinker shall have the capacity according to (6) by starting from 5 meters and not exceeding 50 meters, and be resistant to a tension at least equal to the weight of the sinker.

(14) The length measures according to (7), (10), (11), (12) and (13) may have the permissible scale mark.

**Article 16.** The maximum permissible error for granting the initial verification shall be subject to the following stipulations.

(1) Maximum Permissible Error of Scale Interval

(a) As for the length measures according to Article 15 (7), (8), (12) and (13), the maximum permissible error shall have both positive and negative sides according to the following table.

Scale Interval	Maximum Permissible Error
not Exceeding 1 Millimeter	0.2 Millimeter
Greater than 1 Millimeter not Exceeding 1 Centimeter	0.4 Millimeter
Greater than 1 Centimeter	0.5 Millimeter

(b) As for the length measures according to Article 15 (9), (10) and (11), the maximum permissible error shall have both positive and negative sides according to the following table.

Scale Interval	Maximum Permissible Error
not Exceeding 1 Millimeter	0.3 Millimeter
Greater than 1 Millimeter not Exceeding 1 Centimeter	0.6 Millimeter
Greater than 1 Centimeter	1.0 Millimeter

(2) Any two consecutive scale intervals shall be different not exceeding the maximum permissible error as specified as follows.

(a) As for the length measures according to Article 15 (7), (8), (12) and (13), the maximum permissible error shall have both positive and negative sides according to the following table.

Scale Interval	Maximum Permissible Error
not Exceeding 1 Millimeter	0.2 Millimeter
Greater than 1 Millimeter not Exceeding 1 Centimeter	0.4 Millimeter
Greater than 1 Centimeter	0.5 Millimeter

(b) As for the length measures according to Article 15 (9), (10) and (11), the maximum permissible error shall have both positive and negative sides according to the following table.

Scale Interval	Maximum Permissible Error
not Exceeding 1 Millimeter	0.3 Millimeter
Greater than 1 Millimeter not Exceeding 1 Centimeter	0.6 Millimeter
Greater than 1 Centimeter	1.0 Millimeter

(3) Maximum Permissible Error for Granting Initial Verification between Two Non-Consecutive Scale Marks and between Zero Scale Mark and Highest Scale Mark

(a) As for the length measures according to Article 15 (7), (8), (12) and (13), the maximum permissible error shall have both positive and negative sides not exceeding the value resulting from the calculation under the formula  $0.3 + 0.2 L$  millimeter, whereby L is the value of the length between scale marks by being the value of a whole number of the unit of meter; in the case of a fraction of a whole number, to be rounded up to the nearest whole number.

(b) As for the length measures according to Article 15 (9), (10) and (11), the maximum permissible error shall have both positive and negative sides not exceeding the value resulting from the calculation under the formula  $0.6 + 0.4 L$  millimeter, whereby L is the value of the length between scale marks by being the value of a whole number of the unit of meter; in the case of a fraction of a whole number, to be rounded up to the nearest whole number.

(4) The maximum permissible error between scale marks on a sinker combined with metal tape and scale marks on metal tape with the distance not exceeding 1 meter shall have both positive and negative sides not exceeding 0.6 millimeter.

Given on the 26<sup>th</sup> Day of September B.E. 2561 (2018)

Sontirat Sontijirawong

Minister of Commerce