



## R 60 OIML-CS rev.2

### Additional requirements from the United States

#### Marking requirements

Revision number	Date of the revision	Nature of the revision
Rev.0	29 September 2006	Initial document
Rev.1	04 March 2014	Update document
Rev.2	05 January 2018	1. Replace reference to OIMIL MAA with reference to OIML-CS. 2. Updated references from Handbook 44, 2014 edition to 2018 edition.

The National Conference On Weights and Measures (NCWM) and the National Type Evaluation Program (NTEP) identifies specific marking requirements for load cells. These additional marking requirements are defined in the following national Publications:

- NIST Handbook 44;
- NCWM Publication 14.

Abstracts of these above-mentioned Publications are given below. The information related to the additional requirements is highlighted in yellow.

#### A. From NIST Handbook 44 – 2018 Edition

##### G-S. Specifications

**G-S.1. Identification.** - All equipment, except weights and separate parts necessary to the measurement process but not having any metrological effect, shall be clearly and permanently marked for the purposes of identification with the following information:

- the name, initials, or trademark of the manufacturer or distributor;
- a model designation that positively identifies the pattern or design of the device;

*1. The model designation shall be prefaced by the term "Model," "Type," or "Pattern." These terms may be followed by the term "Number" or an abbreviation of that word. The abbreviation for the word "Number" shall, as a minimum, begin with the letter "N" (e.g., No or No.). The abbreviation for the word "Model" shall be "Mod" or "Mod." Prefix lettering may be initial capitals, all capitals or all lower case.*

[Nonretroactive as of January 1, 2003]

(Added 2000) (Amended 2001)

- (c) *a nonrepetitive serial number, except for equipment with no moving or electronic component parts and software;*

*[Nonretroactive as of January 1, 1968]*

*(Amended 2003 and 2016)*

- 1. The serial number shall be prefaced by words, and abbreviation, or a symbol, that clearly identifies the number as the required serial number.*

*[Nonretroactive as of January 1, 1986]*

- 2. Abbreviations for the word “Serial” shall, as a minimum, begin with the letter “S,” and abbreviations for the word “Number” shall, as a minimum, begin with the letter “N” (e.g., S/N, SN, Ser. No., and S. No.).*

*[Nonretroactive as of January 1, 2001]*

- (d) the current software version or revision identifier for not-built-for-purpose, software-based devices manufactured as of January 1 2004, and all software-based devices (or equipment) manufactured as of January 1, 2022;

*(Added 2003) (Amended 2016)*

*(1) The version or revision identifier shall be:*

- i. prefaced by words, an abbreviation, or a symbol, that clearly identifies the number as the required version or revision.*

*[Nonretroactive as of January 1, 2007]*

*(Added 2006)*

***Note:** If the equipment is capable of displaying the version or revision identifier, but is unable to meet the formatting requirements, through the NTEP type evaluation process, other options may be deemed acceptable and described in the CC.*

*(Added 2016)*

- ii. continuously displayed or be accessible via the display. Instructions for displaying the version or revision identifier shall be described in the CC. As an alternative, permanently marking the version or revision identifier shall be acceptable providing the device does not always have an integral interface to communicate the version or revision identifier.*

*[Nonretroactive as of January 1, 2022]*

*(Added 2016)*

- (2) Abbreviations for the word “Version” shall, as a minimum, begin with the letter “V” and may be followed by the word “Number.” Abbreviations for the word “Revision” shall, as a minimum, begin with the letter “R” and may be followed by the word “Number.” The abbreviation for the word “Number” shall, as a minimum, begin with the letter “N” (e.g., No or No.). Prefix lettering may be initial capitals, all capitals, or all lower case.*

*[Nonretroactive as of January 1, 2007]*

*(Added 2006) (Amended 2016)*

- (e) a National Type Evaluation Program (NTEP) Certificate of Conformance (CC) number or a corresponding CC Addendum Number for devices that have a CC.*

*(1) The CC Number or a corresponding CC Addendum Number shall be prefaced by the terms “NTEP CC,” “CC,” or “Approval.” These terms may be followed by the word “Number” or*

*an abbreviation of that word. The abbreviation for the word "Number" shall, as a minimum, begin with the letter "N" (e.g., No or No.).*

*[Nonretroactive as of January 1, 2003]*

The required information shall be so located that it is readily observable without the necessity of the disassembly of a part requiring the use of any means separate from the device.

(Amended 1985, 1991, 1999, 2000, 2001, 2003, 2006, and 2016)

**S.6.3. Scales, Main Elements, and Components of Scales or Weighing Systems.** - Scales, main elements of scales when not contained in a single enclosure for the entire scale, load cells for which Certificates of Conformance (CC) have been issued under the National Type Evaluation Program, and other equipment necessary to a weighing system, but having no metrological effect on the weighing system, shall be marked as specified in Table S.6.3.a. and explained in the accompanying notes (Table S.6.3.b.)

(Added 1990)

Table S.6.3.a. Marking Requirements					
To Be Marked With ↓	Weighing Equipment				
	Weighing, load-receiving, and indicating element in same housing or covered on the same CC <sup>1</sup>	Indicating element not permanently attached to weighing and load-receiving element or covered by a separate CC	Weighing and load-receiving element not permanently attached to indicating element or covered by a separate CC	Load cell with CC (11)	Other equipment or device (10)
Manufacturer's ID (1)	x	x	x	x	x
Model Designation and Prefix (1)	x	x	x	x	x
Serial Number and Prefix (2)	x	x	x	x	x (16)
Certificate of Conformance Number (CC) (23)	x	x	x	x	x (23)
Accuracy Class (17)	x	x (8)	x (19)	x	
Nominal Capacity (3)(18)(20)	x	x	x		
Value of Scale Division, "d" (3)	x	x			
Value of "e" (4)	x	x			
Temperature Limits (5)	x	x	x	x	
Concentrated Load Capacity (CLC) (12)(20)(22)		x	x (9)		
Special Application (13)	x	x	x		
Maximum Number of Scale Divisions ( $n_{max}$ )(6)		x (8)	x (19)	x	
Minimum Verification Scale Division ( $e_{min}$ )			x (19)		
"S" or "M" (7)				x	

Table S.6.3.a. Marking Requirements					
To Be Marked With ↓	Weighing Equipment				
	Weighing, load-receiving, and indicating element in same housing or covered on the same CC <sup>1</sup>	Indicating element not permanently attached to weighing and load-receiving element or covered by a separate CC	Weighing and load-receiving element not permanently attached to indicating element or covered by a separate CC	Load cell with CC (11)	Other equipment or device (10)
Direction of Loading (15)				X	
Minimum Dead Load				X	
Maximum Capacity				X	
Safe Load Limit				X	
Load Cell Verification Interval (v <sub>min</sub> ) (21)				X	
Section Capacity and Prefix (14)(20)(22)(24)		X	X		
<p><b>Note:</b> For applicable notes, see Table S.6.3.b.  <sup>1</sup>Weighing/load receiving elements and indicators which are in the same housing or which are permanently attached will generally appear on the same CC. If not in the same housing, elements shall be hard wired together or sealed with a physical seal or an electronic link. This requirement does not apply to peripheral equipment that has no input or effect on device calibrations or configurations.  (Added 2001)</p>					

(Added 1990) (Amended 1992, 1999, 2000, 2001, 2002, and 2004)

Table S.6.3.b. Notes For Table S.6.3.a.
<p>1. Manufacturer's identification and model designation and <i>model designation prefix</i>*.  [*Nonretroactive as of January 1, 2003]  (See also G-S.1.) [<i>Prefix lettering may be initial capitals, all capitals or all lower case</i>]  (Amended 2000)</p>
<p>2. <i>Serial number</i> [Nonretroactive as of January 1, 1968] and <i>prefix</i> [Nonretroactive as of January 1, 1986]. (See also G-S.1. Identification.)</p>
<p>3. The device shall be marked with the nominal capacity. <i>The nominal capacity shall be shown together with the value of the scale division (e.g., 15 x 0.005 kg, 30 x 0.01 lb, or capacity = 15 kg, d = 0.005 kg) in a clear and conspicuous manner and be readily apparent when viewing the reading face of the scale indicator unless already apparent by the design of the device. Each scale division value or weight unit shall be marked on multiple range or multi-interval scales.</i> [Nonretroactive as of January 1, 1983] (Amended 2005)</p>
<p>4. <i>Required only if different from "d."</i> [Nonretroactive as of January 1, 1986]</p>

**Table S.6.3.b. Notes For  
Table S.6.3.a.**

5. Required only on Class III, III L, and IIII devices if the temperature range on the NTEP CC is narrower than and within  $-10^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $104^{\circ}\text{F}$ ). [Nonretroactive as of January 1, 1986]
6. This value may be stated on load cells in units of 1000; e.g., n: 10 is 10 000 divisions. [Nonretroactive as of January 1, 1988]
7. Denotes compliance for single or multiple load cell applications. It is acceptable to use a load cell with the "S" or Single Cell designation in multiple load cell applications as long as all other parameters meet applicable requirements. A load cell with the "M" or Multiple Cell designation can be used only in multiple load cell applications. [Nonretroactive as of January 1, 1988] (Amended 1999)
8. An indicating element not permanently attached to a weighing element shall be clearly and permanently marked with the accuracy Class of I, II, III, III L, or IIII, as appropriate, and the maximum number of scale divisions,  $n_{\max}$ , for which the indicator complies with the applicable requirement. Indicating elements that qualify for use in both Class III and III L applications may be marked III/III L and shall be marked with the maximum number of scale divisions for which the device complies with the applicable requirements for each accuracy class. [Nonretroactive as of January 1, 1988]
9. For vehicle and axle-load scales only. The CLC shall be added to the load-receiving element of any such scale not previously marked at the time of modification. [Nonretroactive as of January 1, 1989] (Amended 2002)
10. Necessary to the weighing system but having no metrological effect, e.g., auxiliary remote display, keyboard, etc.
11. The markings may be either on the load cell or in an accompanying document; except that, if an accompanying document is provided, the serial number shall appear both on the load cell and in the document. [Nonretroactive as of January 1, 1988] The manufacturer's name or trademark, the model designation, and identifying symbols for the model and serial numbers as required by paragraph G-S.1. shall also be marked both on the load cell and in any accompanying document. [Nonretroactive as of January 1, 1991]
12. Required on the indicating element and the load-receiving element of vehicle and axle-load scales. Such marking shall be identified as "concentrated load capacity" or by the abbreviation "CLC."\* [\*Nonretroactive as of January 1, 1989] (Amended 2002)
13. A scale designed for a special application rather than general use shall be conspicuously marked with suitable words, visible to the operator and to the customer, restricting its use to that application, e.g., postal scale, prepack scale, weight classifier, etc.\* When a scale is installed with an operational counting feature, the scale shall be marked on both the operator and customer sides with the statement "The counting feature is not legal for trade," except when a Class I or Class II prescription scale complies with all Handbook 44 requirements applicable to counting features. [\*Nonretroactive as of 1986] (Amended 1994 and 2003)
14. Required on livestock\* and railway track scales. When marked on vehicle and axle-load scales manufactured before January 1, 1989, it may be used as the CLC. For livestock scales manufactured between January 1, 1989 and January 1, 2003, required markings may be either CLC or section capacity. [\*Nonretroactive as of January 1, 2003] (Amended 2002)

**Table S.6.3.b. Notes For  
Table S.6.3.a.**

15. *Required if the direction of loading the load cell is not obvious. [Nonretroactive as of January 1, 1988]*
16. *Serial number [Nonretroactive as of January 1, 1968] and prefix [Nonretroactive as of January 1, 1986]. (See also G-S.1.) Modules without "intelligence" on a modular system (e.g., printer, keyboard module, cash drawer, and secondary display in a point-of-sale system) are not required to have serial numbers.*
17. *The accuracy Class of a device shall be marked on the device with the appropriate designation as I, II, III, III L, or IIII. [Nonretroactive as of January 1, 1986]*
18. *The nominal capacity shall be conspicuously marked as follows:*  
 (a) *on any scale equipped with unit weights or weight ranges;*  
 (b) *on any scale with which counterpoise or equal-arm weights are intended to be used;*  
 (c) *on any automatic-indicating or recording scale so constructed that the capacity of the indicating or recording element, or elements, is not immediately apparent;*  
 (d) *on any scale with a nominal capacity less than the sum of the reading elements; and*  
 (e) *on the load-receiving element (weigh-bridge) of vehicle, axle-load, and livestock scales.\**  
*[\*Nonretroactive as of January 1, 1989]*  
 (Amended 1992)
19. *For weighing and load-receiving elements not permanently attached to indicating element or covered by a separate CC. [Nonretroactive as of January 1, 1988]*  
 (Amended 1992)
20. *Combination vehicle/railway track scales must be marked with both the nominal capacity and CLC for vehicle weighing and the nominal capacity and section capacity for railway weighing. All other requirements relating to these markings will apply. [Nonretroactive as of January 1, 2000]*  
 (Added 1999)
21. *The value of the load cell verification interval ( $v_{min}$ ) must be stated in mass units. In addition to this information, a device may be marked with supplemental representations of  $v_{min}$ . [Nonretroactive as of January 1, 2001]*  
 (Added 1999)
22. *Combination vehicle/livestock scales must be marked with both the CLC for vehicle weighing and the section capacity for livestock weighing. All other requirements relative to these markings will apply. [Nonretroactive as of January 1, 2003]*  
 (Added 2002) (Amended 2003)
- Note: The marked section capacity for livestock weighing may be less than the marked CLC for vehicle weighing.*  
 (Amended 2003)
23. *Required only if a CC has been issued for the device or equipment. [Nonretroactive as of January 1, 2003]*  
 (G-S.1. Identification (h) Added 2001)
24. *The section capacity shall be prefaced by the words "Section Capacity" or an abbreviation of that term. Abbreviations shall be "Sec Cap" or "Sec C." All capital letters and periods may be used.*

## B. From NCWM Publication 14, Weighing Devices, Force Transducers

### H. Marking Requirements

#### 1. Marking - General

The following is excerpted from NIST Handbook 44. The marking requirements from Table S.6.3.a. in Handbook 44 are stated as text to specify the marking requirements for load cells.

#### S.6.3. Scales, Main Elements, and Components of Scales or Weighing Systems

Scales, main elements of scales when not contained in a single enclosure for the entire scale, load cells for which CC's have been issued under the National Type Evaluation Program, and other equipment necessary to a weighing system, but having no metrological effect on the weighing system, shall be marked as specified in Table S.6.3.a. and explained in the accompanying notes (Table S.6.3.b.). (Added 1990)

(The following note is taken from Handbook 44 Table S.6.3.b.)

11. *The markings may be either on the load cell or in an accompanying document; except that, if an accompanying document is provided, the serial number shall appear both on the load cell and in the document. [Nonretroactive as of January 1, 1988] The manufacturer's name or trademark, the model designation, and identifying symbol for the serial number shall also be marked both on the force transducer (load cell) and in any accompanying document. [Nonretroactive as of January 1, 1991]*

(The following paraphrases the marking requirements for force transducers (load cells) tested separately for an NTEP CC.)

#### 2. Load Cell Marking

In addition to G-S.1. Identification, a load cell shall be marked with the following:

**Code References: Table S.6.3.a. Marking Requirements and Table S.6.3.b. Notes for Table S.6.3.a.**

- a. Accuracy class;
- b. Temperature limits if other than  $-10\text{ }^{\circ}\text{C}$  to  $40\text{ }^{\circ}\text{C}$ ;
- c. Maximum number of scale divisions,  $n_{\text{max}}$ ;
- d. Identification of "S" or "M" for single or multiple cell applications;
- e. Direction of loading if not obvious;
- f. Minimum dead load;
- g. Maximum force transducer (load cell) capacity;
- h. Safe load limit;
- i. load cell verification interval,  $v_{\text{min}}$ .

The manufacturer may market load cells with a smaller maximum number of scale divisions ( $n_{\text{max}}$ ) and with larger  $v_{\text{min}}$  values than those listed on the CC; however, the load cells must be marked with the appropriate  $n_{\text{max}}$  and  $v_{\text{min}}$  for which the load cell may be used.



### **3. Permanence of Marking**

#### **Code References: G-S.1. and G-S.7.: General Code Requirements, Identification**

Refer to Section K. "Checklist and Test Procedures" Item 1. "Marking" of NCWM Publication 14, "Digital Electronic Scales" for NTEP procedures to evaluate permanence of lettering and permanence of attachment of ID badge.

#### **C. From NCWM Publication 14 for Weighing Devices- Digital Electronic Scales**

##### **1. Marking - Applicable to Indicating, Weighing/Load-Receiving Elements and Complete Scales**

#### **Code References: G-S.1. and G-S.7.: General Code Requirements, Identification**

Virtually all weighing and measuring equipment (except separate parts necessary to the measurement process but not having any metrological effect) must be clearly and permanently marked with the manufacturer's name or trademark, model designation, and serial number. "Permanent" markings addresses two aspects: (1) the printed information will withstand wear and cleaning, and (2) if the markings are on a plate or badge, then the marking badge must be "permanently" attached to the device. Permanence of it must be obvious that the badge or plate containing this information has been removed. All markings must be clear and attachment of the badge means that the identification information required by G-S.1. is not easily removed, if it is removed, then easily readable. The following test procedure shall be used to determine the permanence of the identification markings.

#### **Permanence of Lettering**

The lettering for the markings is subjected to the following tests to simulated accelerated wear. The markings are then compared with a typical set of labels exhibiting various degrees of wear, graded from minimal effect (7) to excessive unacceptable wear (1).

Attempts are made to remove the marked information whether on a badge (plate) or on the device itself, using the following means.

1. Rub over one letter of the marking at least 20 times using an ink eraser in the same manner and force as one would normally exert while erasing an inscription written with a ball point pen.

*Note: For consistency of application, all NTEP labs use Eberhard Faber ink eraser type #110. The Eberhard #110 eraser is no longer commercially available. Alternatives being used are the Papermate Black Pearl and Papermate Union #110.*

2. Clean the marking or badge with the following cleaners presumed to be "readily available."

- a. Disinfecting cleaning liquid and a damp cloth.
- b. "Soft" household cleaning powder and a damp cloth.
- c. Window cleaning fluids and a damp cloth.

*Note: For consistency of application, NTEP labs use "409," Bon Ami, and Windex brands of products for tests in parts 2a., b., and c., respectively.)*

### **Permanence of Attachment of Badge**

Attempt to remove the badge by pulling it off or prying off a metal badge that is attached using only adhesive; removal must be "difficult" at all temperatures. If the badge can be removed, it must show obvious evidence that the badge was removed. Acceptable indications are destruction of the badge by tearing, permanent and extensive wrinkling, or repeated exposure of the word "VOID" upon removal of the badge.

As a practical matter, remote weight displays are not required to have serial numbers because they typically do not use any electronics to analyze the weight signal received from the weighing/load-receiving element. Similarly, the various "slave" modules in a modular point-of-sale system (e.g., printer, keyboard module and cash drawer) have not been required to have serial numbers because they do not have any "intelligence." Only the electronic modules that control the "slave" modules must be marked with a serial number.

If the required information is located on the back of a device, the same information must also appear on the side, front, or top. The bottom of a device is not an acceptable surface. This information may be located under, but separate from, the scale platform on a scale or weighing/load-receiving element installed at a checkout stand, provided the platter can be easily removed without the use of a tool. If required markings are behind a door or panel, the manufacturer is encouraged to put a label on the outside of the device that explains where the ID information is located. The identification marking must be permanent and attached with pop rivets or adhesive, or equivalent permanent means. Removable bolts or screws are not permitted. A foil badge that it is durable, difficult to remove, and exhibits obvious evidence of an attempt to remove the marking or badge may be provided.

Location of the information:

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### **Marking - Accuracy Class, Verification Scale Division, and Temperature Limits**

#### **Code References: S.6., Table S.6.3.a., and Table S.6.3.b.**

Scales manufactured after January 1, 1986, must be marked with an accuracy class based upon the accuracy of the device and the number of displayed divisions. The roman numerals I, II, III, III L or IIII are the markings required to indicate the accuracy class: the use of the word "class" with the roman numerals is optional. The accuracy class marking may appear within an ellipse or within a figure approximating an ellipse. The device must meet the parameters for the accuracy classes that appear in Table 3.

$$n = \frac{\text{Capacity}}{e}$$

If the scale has a verification scale division, e, that is different from the displayed scale division, d, then e must be conspicuously marked on the device. If a class III, III L or IIII device is intended to operate accurately over a temperature range that is narrower than 14 °F to 104 °F (-10 °C to 40 °C), then the operating temperature range must be marked on the device. In the case of class I and II scales, the operating temperature range must be specified in the operating instructions if different from 14 °F to 104 °F (-10 °C to 40 °C). If the temperature range is specified, a range must be at least 9 °F (5 °C) for Class I scales, 27 °F (15 °C) for Class II scales, and 54 °F (30 °C) for Class III, III L, and IIII scales. This information must appear on or adjacent to the information required by G-S.1. Identification or on the face of the indicating element.

Since all vehicle, axle-load, livestock, and railway track scales are considered to be Class III L, an indicator may be marked III/III L. When an indicator, so marked, is tested in the field, the tolerance (whether III or III L) will be applied according to the application.

### Marking Nominal Capacity, Value of the Scale Division, Special Applications

#### Code References: S.6., S.6.6., Table S.6.3.a., and Table S.6.3.b.

This requirement applies to digital indicating elements and to both the operator's and customer's indications on complete scales. The lettering must be permanent as described in Section 1, but the attachment of any badge or decal is slightly less stringent than for the G-S.1. information. In terms of attachment, any badge or decal must be "durable," that is, it must be difficult to remove (at all temperatures). Remote weight displays (except "scoreboard" displays), the customer's weight display provided for scales interfaced with electronic cash registers (ECRs), and weight displays which are built into ECRs must be marked with the scale capacity and scale division. The nominal capacity shall be shown together with the value of the scale division (e.g., 15 x 0.005 kg, 30 x 0.01 lb, or capacity = 15 kg, d = 0.005 kg) in a clear and conspicuous manner and be readily apparent when viewing the reading face of the scale indicator. The capacity by division statement may be part of the scale display or marked adjacent to the display. Large remote customer's ("scoreboard") displays have not been required to meet the marking requirements because the markings probably cannot be read from a customer's position. In those cases, the operator's weight display must be properly marked.

The marked nominal capacity on all vehicle, axle-load, and livestock scales shall not exceed the concentrated load capacity times the quantity of the number of sections in the scale minus 0.5. As a formula, this is stated as:

$$\text{Nominal Capacity} = \text{Concentrated Load Capacity} \times (\text{N} - 0.5)$$

where N = the number of sections in the scale.

Devices designed for special applications are to be so marked to prevent them from being used in an unsuitable application. Examples of special application scales are prepackaging scales, digital postal scales with simultaneous pound and ounce weight unit indications, weight classifying scales, and class III scales with a small number of scale divisions and a verification scale division. When a scale is installed with an operational counting feature, the scale shall be marked on both the operator and customer side with the statement, "The counting feature is not legal for trade." Exception: When a prescription scale complies with paragraphs S.1.2.3., S.2.5.3., and S.6.6., it shall be marked, "Counting Feature for Prescription Filling Only."

The system must be clearly and permanently marked on an exterior surface, visible after installation, as follows:

- |  |   |
|--|---|
| <b>1.1.</b> The name, initials, or trademark of the manufacturer or distributor.   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| <b>1.2.</b> A model identifier that positively identifies the pattern or design of the device. The model identifier shall be prefaced by the word "Model," "Type," or "Pattern." These terms may be followed by the word "Number" or an abbreviation of that word. The abbreviation for the word "Number" shall, as a minimum, begin with the letter "N" (e.g., No or No.) The abbreviation for the word "Model" shall be "Mod" or "Mod." Prefix lettering may be initial capitals, all capitals, or all lower case. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| <b>1.3.</b> Except for equipment with no moving or electronic component parts and not built for purpose, software-based devices, a non-repetitive serial   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |

number. The serial number shall be prefaced by the words "Serial Number" or an abbreviation, or a symbol, that clearly identifies the number as the required serial number. Abbreviations for the word "Serial" shall, as a minimum, begin with the letter "S," and abbreviations for the word "Number" shall, as a minimum, begin with the letter "N" (e.g., S/N, SN, Ser. No, and S No.)

- 1.4.** An NTEP Certificate of Conformance (CC) Number or a corresponding CC addendum number for devices that have (or will have) a CC. The number shall be prefaced by the terms "NTEP CC," "CC," or "Approval." These terms may be followed by the word "Number" or an abbreviation for the word "Number." The abbreviation for the word "Number" shall as a minimum begin with the letter "N" (e.g., No or No.)

Yes  No  N/A

The device must have an area, either on the identification plate or on the device itself, suitable for the application of the Certificate of Conformance Number. If the area for the CC number is not part of an identification plate, then note its intended location below and how it will be applied.

1.4.1. Location of CC Number if not located with the identification information:

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- 1.5.** If the information required by G-S.1. is placed on a badge or plate, the badge or plate must be permanently attached to the device. See criteria above for permanence of Attachment of Badge.

Yes  No  N/A

- 1.6.** Identifying information shall be so located that it is readily observable without the necessity of the disassembly of a part requiring the use of any means separate from the device.

Yes  No  N/A

- 1.7.** The scale is marked with an accuracy class.

Yes  No  N/A

1.7.1. Indicate class:

- 1.8.** The device meets all the parameters for the accuracy class.

Yes  No  N/A

- 1.9.** Does the scale verification scale division, e, equal the displayed scale division, d? If no, then the verification scale division, e, must be marked on the device.

Yes  No  N/A

- 1.10.** If the temperature range is other than -10 °C to 40 °C, then it must be marked on the device (Class III and III L) or in the operator's manual (Class I and II.)

Yes  No  N/A

NTEP Comment. This is for weighing instruments. See "From Publication 14 Weighing Devices – Force Transducers

- 1.11.** The nominal capacity by minimum division shall be marked in a clear and conspicuous manner and be readily apparent when viewing the reading face of the scale indicator unless already apparent by the design of the device.

Yes  No  N/A

This applies to mechanical scales, such as portable platform scales, with removable counterpoise weights marked since; 1) the markings on the weights are not readily apparent by viewing the reading face of the scale, 2) the additional weights are not a permanent part of the scale, and 3) additional weights can be added to the scales to incorrectly increase the capacity of the scale.

- 1.12.** The capacity by division size shall be marked for all weight units that can be displayed such as in both pounds and kilograms.

Yes  No  N/A

**1.13.** If equipped with variable resolution, the scale shall be marked with the weight ranges and corresponding scale division sizes.

Yes  No  N/A

Example: 0 – 3 kg (6 lb) x 1 g (0.002 lb)                      0 – 6 lb x 0.002 lb

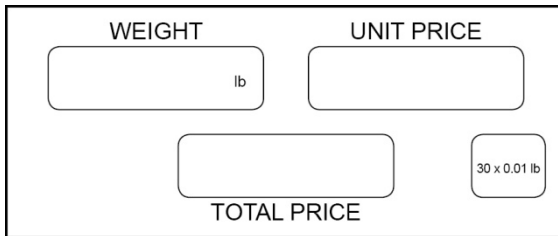
3 – 6 kg (15 lb) x 2 g (0.005 lb)    **OR**    6 – 15 lb x 0.005 lb

6 – 15 kg (33 lb) x 5 g (0.01 lb)                      15 – 33 lb x 0.01 lb

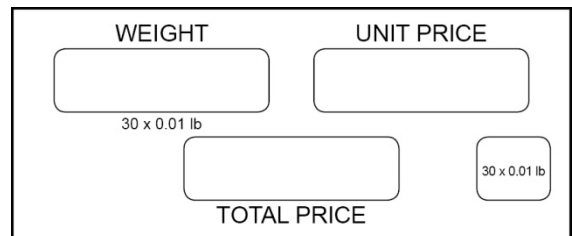
**1.14.** If the capacity by division statement is displayed as part of the scale display (e.g., displayed on a video terminal or in a liquid crystal display) with the weigh values, then the capacity by division statement must be indicated in a clear and conspicuous manner and be readily apparent when viewing the reading face of the scale indicator unless already apparent by the design of the device and displayed whenever the system is in the weighing mode.

Yes  No  N/A

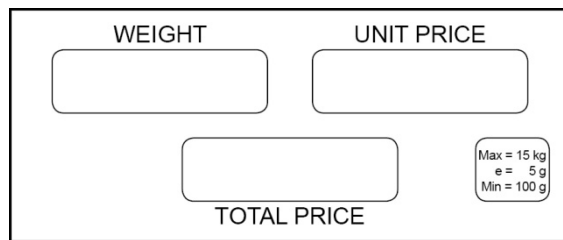
The following examples represent capacity and value markings that are conspicuous and readily apparent when viewing the reading face. Each scale division value or weight unit shall be marked on multiple range or multi-interval scales.



Example 1



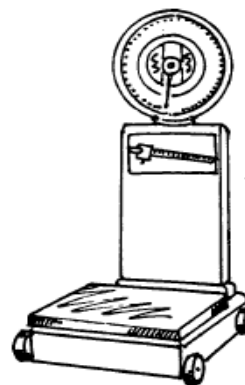
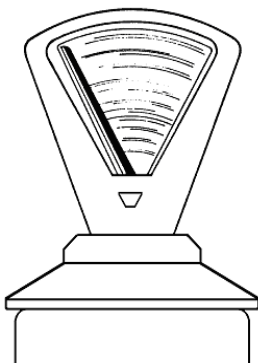
Example 2

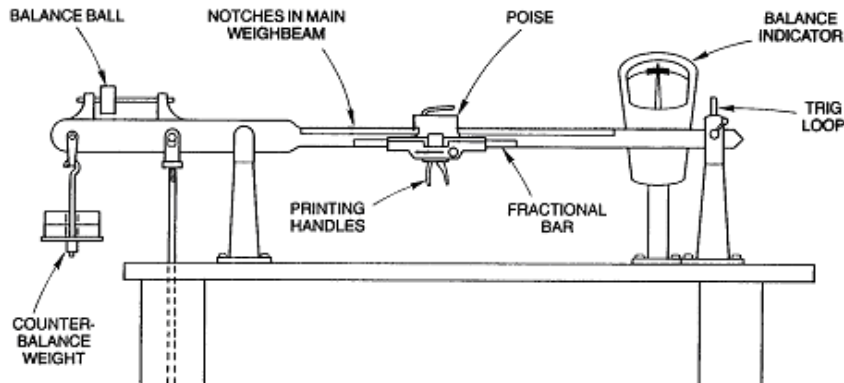


Example 3

The capacity by value markings are not required if they are already apparent by the design of the device such as the largest weight value that is defined on a single revolution scale, fan scale, and beam scales and balances.

The following examples are types of scales where the capacity by scale division is readily apparent since the graduations, and beam capacities are marked with their respective values.





Full Capacity Type Registering Beam

1.15. Scales designed for special applications must be conspicuously marked to limit their use.  Yes  No  N/A

1.15.1. Special marking used:

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1.16. If a scale has an operational counting feature, it must be marked on both the operator and customer side with the statement. "The counting feature is not legal for trade."  Yes  No  N/A

*Note: Not applicable to prescription scales meeting paragraph 1.17.*

1.17. If a Class I or Class II prescription scale complies with paragraphs S.1.2.3., S.2.5.3., and S.6.6. it shall be:

1.17.1. Marked "Counting Feature for Prescription Filling Only." *See test procedure in Section 58.*  Yes  No  N/A

1.17.2. Marked with the minimum piece weight and minimum number of pieces used to establish an individual piece count.  Yes  No  N/A

1.17.3. If the minimum piece weight and/or minimum number of pieces is displayed with the count values on the counting display, then the minimum piece weight and minimum number of pieces must be indicated in clear and conspicuous manner and be readily apparent when viewing the reading face of the counting indicator.  Yes  No  N/A

1.18. All markings must be clear and easily readable.  Yes  No  N/A

1.19. The lettering for all markings must be permanent.  Yes  No  N/A

1.19.1. Record the grade for the permanence of markings:

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1.20. If the markings for other than device identification required by G-S.1. is placed on badge or decal, then the badge or decal must be durable (difficult to remove at all temperatures.)  Yes  No  N/A

1.21. If the device submitted for evaluation has the primary indicating element separate from the weighing/load-receiving element (W/LRE), the indicating element shall be marked and evaluated as part of a complete scale provided that it complies with one of the following:

1.21.1. The indicator is hard wired to the W/LRE.  Yes  No  N/A

1.21.2. The indicator is physically sealed to the W/LRE.  Yes  No  N/A

1.21.3. The indicator is electronically linked to the W/LRE and cannot be replaced without calibration.  Yes  No  N/A