

The following tables contain lists of existing codes sections approaching their nonretroactive enforcement dates or recently adopted requirements that are enforceable as of January 1, 2007. These NIST Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices," requirements may require action by device manufacturers, owners/operators, or regulatory officials. This information is provided to alert interested parties to upcoming Handbook 44 requirements. Requirements in the tables are paraphrased; therefore, the latest edition of Handbook 44 should be consulted for the complete text. Codes that were amended to provide greater clarity or make other editorial changes are not included in this information. A complete report of changes to the handbook is published annually in the Report of the National Conference on Weights and Measures. Changes to requirements are also referenced in the amendments table in each edition of Handbook 44. It is recommended that you contact the statutory authority in your weights and measures jurisdiction for specific details on the enforcement of these code requirements.

Retroactive requirements apply to *all* equipment in commercial service prior to, and in use at any time on or after, the enforcement date. Nonretroactive requirements are enforceable for equipment: (1) manufactured, (2) new and used brought into a jurisdiction, and (3) previously in noncommercial use, then placed into commercial use *after* the effective date. Note: Paragraphs designated with a bracketed superscript number one [¹] include multiple requirements with various enforcement dates.

NIST Handbook 44 Codes (With a Nonretroactive Enforcement Date On or After January 1, 2007)			
Code Section	Paragraph	Requirement	Effective Date
1.10. General Code	G-S.1. Identification (d); Software Identifier [¹]	<p>For not built-for-purpose, software based devices, the current software version or revision identifier to be prefaced by words, an abbreviation, or a symbol, that clearly identifies the number as the required version or revision.</p> <p>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.).</p>	Nonretroactive as of January 1, 2007
2.20. Scales	S.2.1.3.1. Zero-Tracking for Scales Manufactured Between January 1, 1981 and January 1, 2007	<p>The maximum load that can be "rezeroed," when either placed on or removed from the platform all at once under normal operating conditions, shall be:</p> <ul style="list-style-type: none"> (a) for bench, counter, and livestock scales: 0.6 scale division; (b) for vehicle, axle-load, and railway track scales: 3.0 scale divisions; and (c) for all other scales: 1.0 scale division. 	Nonretroactive as of January 1, 1981 and enforceable through January 1, 2007

NIST Handbook 44 Codes
 (With a Nonretroactive Enforcement Date On or After January 1, 2007)

Code Section	Paragraph	Requirement	Effective Date
2.20.	S.2.1.3.2. Zero-Tracking for Scales Manufactured On or After January 1, 2007	<p>The maximum load that can be “rezeroed,” when either placed on or removed from the platform all at once under normal operating conditions, shall be:</p> <ul style="list-style-type: none"> (a) for vehicle, axle-load, and railway track scales: 3.0 scale divisions; and (b) for all other scales: 0.5 scale division. 	Applies to all equipment manufactured on or after January 1, 2007

**NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Applicable to All Equipment Effective January 1, 2007)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
2.20. Scales	T.N.4.5.1. Time Dependence; Class II, III, and IIII Non-automatic Weighing Instruments	Specifies the tolerances and a constant temperature, 20 °C ± 2 °C (68 °F ± 4 °F), at which the time dependence test shall be conducted during type evaluation on a non-automatic weighing instrument of Classes II, III, and IIII.	Modified paragraph	Applies to all equipment
2.20.	T.N.4.7. Creep Recovery for Load Cells During Type Evaluation	<p>The difference between the initial reading of the minimum load of the measuring range (D_{min}) and the reading after returning to minimum load subsequent to the maximum load (D_{max}) having been applied for 30 minutes shall not exceed:</p> <ul style="list-style-type: none"> (a) 0.5 times the value of the load cell verification interval (0.5 v) for Class I, II, III, and IIII load cells, or (b) 1.5 times the value of the load cell verification interval (1.5 v) for Class III L load cells. 	New paragraph	Applies to all equipment
2.20.	UR.3.7. Minimum Load on a Vehicle Scale	<p>A vehicle scale shall not be used to weigh net loads smaller than:</p> <ul style="list-style-type: none"> (a) 10 d when weighing scrap material for recycling or weighing refuse materials at landfills and transfer stations; (b) 50 d for all other weighing. <p>As used in this paragraph, scrap materials for recycling shall be limited to ferrous metals, paper (including cardboard), textiles, plastic, and glass.</p>	Modified paragraph	Applies to all equipment

**NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Applicable to All Equipment Effective January 1, 2007)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
2.21. Belt-Conveyor Scale Systems	N.1.1. Official Test	An official test of a belt-conveyor scale system shall include tests specified in N.3.1. Zero Load Tests, N.3.2. Material Tests, and, if applicable, N.3.3. Simulated Load Tests.	Modified paragraph	Applies to all equipment
3.30. Liquid-Measuring Devices	S.1.2. Units	A liquid-measuring device shall indicate, and record if the device is equipped to record, its deliveries in liters, gallons, quarts, pints, fluid ounces, or binary-submultiples or decimal subdivisions of the liter or gallon.	Modified paragraph	Applies to all equipment
3.30.	S.2.2. Provision for Sealing	<p>Provision shall be made for an approved means of security (e.g., data change audit trail) or physical seal that must be broken before an adjustment or interchange can be made of any (a) measuring element or indicating element, (b) adjustable element that controls the delivery rate that affects accuracy, and (c) metrological parameter that will affect the metrological integrity of the device or system.</p> <p>When applicable, the adjusting mechanism shall be readily accessible for affixing a security seal.</p>	Modified paragraph	Applies to all equipment

**NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Applicable to All Equipment Effective January 1, 2007)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
3.30.	S.2.2. Table S.2.2. Categories of Device and Methods of Sealing	Removes the January 1, 2005 sunset date and reinstates requirements for a Category 2 device and the corresponding acceptable method of sealing a Category 2 device. Table also specifies requirements for a Category 1 and Category 3 device and the corresponding method of sealing these devices.	Modified table	Applies to all equipment
3.31. Vehicle-Tank Meters	S.1.1.3. Value of Smallest Unit	<p>The value of the smallest unit of indicated delivery, and recorded delivery if the meter is equipped to record, shall not exceed the equivalent of:</p> <ul style="list-style-type: none"> (a) 0.5 L (0.1 gal) or 0.5 kg (1 lb) on milk-metering systems, (b) 0.5 L (0.1 gal) on meters with a rated maximum flow rate of 750 L/min (200 gal/min) or less, (c) 5 L (1 gal) on meters with a rated maximum flow of 375 L/min (100 gal/min) or more used for jet fuel aviation refueling systems, or (d) 5 L (1 gal) on other meters. 	Modified paragraph	Applies to all equipment

**NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Applicable to All Equipment Effective January 1, 2007)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
3.31.	S.2.2. Provision for Sealing	<p>Provision shall be made for an approved means of security (e.g., data change audit trail) or physical seal that must be broken before a change, adjustment, or interchange can be made of any (a) measuring element or indicating element, (b) adjustable element that controls the delivery rate that affects accuracy, and (c) metrological parameter that will affect the metrological integrity of the device or system.</p> <p>When applicable, the adjusting mechanism shall be readily accessible for affixing a security seal.</p>	Modified paragraph	Applies to all equipment
3.31.	Table S.2.2. Categories of Device and Methods of Sealing	Table S.2.2. specifies requirements for a Category 1, 2, and 3 device and the corresponding method of sealing those devices that apply to vehicle-tank meter applications.	New table	Applies to all equipment

**NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Applicable to All Equipment Effective January 1, 2007)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
3.32. Liquefied Petroleum Gas and Anhydrous Ammonia Liquid-Measuring Devices	S.2.2. Provision for Sealing	<p>Provision shall be made for an approved means of security (e.g., data change audit rail) or physical security seal must be broken before an adjustment or interchange can be made of any (a) measuring element or indicating element, (b) adjustable element that controls the delivery rate that affects accuracy, and (c) metrological parameter that will affect the metrological integrity of the device or system.</p> <p>When applicable, the adjusting mechanism shall be readily accessible for affixing a security seal.</p>	Modified paragraph	Applies to all equipment
3.32.	Table S.2.2. Categories of Device and Methods of Sealing	Table S.2.2. specifies requirements for a Category 1, 2, and 3 device and the corresponding method of sealing those devices that apply to liquefied petroleum gas and anhydrous ammonia liquid-measuring device applications.	New table	Applies to all equipment
3.34. Cryogenic Liquid-Measuring Devices	S.2.5. Provision for Sealing	<p>Provision shall be made for an approved means of security (e.g., data change audit trail) or physical security seal must be broken before an adjustment or interchange can be made of any (a) measuring element or indicating element, (b) adjustable element that controls the delivery rate that affects accuracy, (c) automatic temperature or density compensating systems, and (d) metrological parameter that will affect the metrological integrity of the device or system.</p> <p>When applicable, the adjusting mechanism shall be readily accessible for affixing a security seal.</p>	Modified paragraph	Applies to all equipment

**NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Applicable to All Equipment Effective January 1, 2007)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
3.34	Table S.2.5. Categories of Device and Methods of Sealing	Table S.2.5. specifies requirements for a Category 1, 2, and 3 device and the corresponding method of sealing those devices that apply to cryogenic liquid-measuring device applications.	New table	Applies to all equipment
3.35. Milk Meters	S.2.3. Provision for Sealing	<p>Provision shall be made for an approved means of security (e.g., data change audit trail) or physical security seal must be broken before an adjustment or interchange can be made of any (a) measuring element or indicating element, (b) adjustable element that controls the delivery rate that affects accuracy, and (c) metrological parameter that will affect the metrological integrity of the device or system.</p> <p>When applicable, the adjusting mechanism shall be readily accessible for affixing a security seal.</p>	Modified paragraph	Applies to all equipment
3.35.	Table S.2.3. Categories of Device and Methods of Sealing	Table S.2.3. specifies requirements for a Category 1, 2, and 3 device and the corresponding method of sealing those devices that apply to milk meter applications.	New table	Applies to all equipment
3.37 Mass Flow Meters	S.3.5. Provision for Sealing	<p>Provision shall be made for an approved means of security (e.g., data change audit trail) or physical seal so that no adjustment or interchange can be made of any (a) measuring element or indicating element, (b) adjustable element that controls the delivery rate that affects accuracy, (c) the zero adjustment mechanism, and (d) metrological parameter that will affect the metrological integrity of the device or system.</p> <p>When applicable, the adjusting mechanism shall be readily accessible for affixing a security seal.</p>	Modified paragraph	Applies to all equipment

**NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Applicable to All Equipment Effective January 1, 2007)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
3.37.	Table S.3.5. Categories of Device and Methods of Sealing	Removes the January 1, 2005 sunset date and reinstates requirements for a Category 2 device and the corresponding acceptable method of sealing a Category 2 device. Table also specifies requirements for a Category 1 and Category 3 device and the corresponding method of sealing these devices.	Modified table	Applies to all equipment
3.37.	S.4.1. Diversion of Measured Product	<p>No means shall be provided by which any measured product can be diverted from the measuring instrument. However, two or more delivery outlets may be permanently installed and operated simultaneously, provided that any diversion of flow to other than the intended receiving receptacle cannot be readily accomplished or is readily apparent. Such means include physical barriers, visible valves, or indications that make it clear which outlets are in operation, and explanatory signs if deemed necessary.</p> <p>An outlet that may be opened for purging or draining the measuring system, or for recirculating product if recirculation is required in order to maintain the product in a deliverable state shall be permitted. Effective automatic means shall be provided to prevent the passage of liquid through any such outlet during normal operation of the measuring system and to inhibit meter indications (or advancement of indications) and recorded representations while the outlet is in operation.</p>	Modified paragraph	Applies to all equipment
3.38. Carbon Dioxide Liquid-Measuring Devices	S.2.5. Provision for Sealing	<p>Provision shall be made for an approved means of security (e.g., data change audit trail) or physical security seal that must be broken before an adjustment or interchange can be made of any (a) measuring element or indicating element, (b) adjustable element that controls the delivery rate that affects accuracy, (c) automatic temperature or density compensating system, and (d) metrological parameter that will affect the metrological integrity of the device or system.</p> <p>When applicable, the adjusting mechanism shall be readily accessible for affixing a security seal.</p>	Modified paragraph	Applies to all equipment

**NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Applicable to All Equipment Effective January 1, 2007)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
3.38.	Table S.2.5. Categories of Device and Methods of Sealing	Table S.2.5. specifies requirements for a Category 1, 2, and 3 device and the corresponding method of sealing those devices that apply to carbon dioxide liquid-measuring device applications.	New table	Applies to all equipment
Definitions-Appendix D	D_{min} (minimum load of the measuring range)	The D_{min} or minimum load of the measuring range is the smallest value of a quantity (mass) which is applied to a load cell during test or use. This value shall not be less than E_{min}. [2.20]	New definition	Applies to all equipment in Section 2.20
Definitions-Appendix D	E_{min} (minimum dead load)	The E_{min} or minimum dead load is the smallest value of a quantity (mass) which may be applied to a load cell during test or use without exceeding the mpe. [2.20]	New definition	Applies to all equipment in Section 2.20

**NIST Handbook 44 Codes Newly Adopted
(With Other Enforcement Dates)**

Code Section	Paragraph	Requirement	New or Modified Requirement	Effective Date
3.32. Liquefied Petroleum Gas and Anhydrous Ammonia Liquid-Measuring Devices	S.4.3. Location of Marking Information; Retail Motor-Fuel Dispensers	<p>The marking information required in General Code, Paragraph G S.1. Identification shall appear as follows:</p> <ul style="list-style-type: none"> (a) within 60 cm (24 in) to 150 cm (60 in) from the base of the dispenser; (b) either internally and/or externally provided the information is permanent and easily read; and (c) on a portion of the device that cannot be readily removed or interchanged (i.e., not on a service access panel). <p>Note: The use of a dispenser key or tool to access internal marking information is permitted for retail motor-fuel dispensers. [Nonretroactive as of January 1, 2003]</p>	New paragraph	Applies to all equipment manufactured on or after January 1, 2003
3.37. Mass Flow Meters	S.5.1. Location of Marking Information; Retail Motor-Fuel Dispensers	<p>The marking information required in General Code, Paragraph G S.1. Identification shall appear as follows:</p> <ul style="list-style-type: none"> (a) within 60 cm (24 in) to 150 cm (60 in) from the base of the dispenser; (b) either internally and/or externally provided the information is permanent and easily read; and (c) on a portion of the device that cannot be readily removed or interchanged (i.e., not on a service access panel). <p>Note: The use of a dispenser key or tool to access internal marking information is permitted for retail motor-fuel dispensers. [Nonretroactive as of January 1, 2003]</p>	New paragraph	Applies to all equipment manufactured on or after January 1, 2003