



TEXAS DEPARTMENT OF AGRICULTURE COMMISSIONER SID MILLER

Texas Department of Agriculture Metrology Laboratory

Policy Statement

The Texas Department of Agriculture Metrology Laboratory is open for calibration of test equipment. To facilitate the appointment process and minimize any reason for us not accepting your equipment, we feel it is imperative that we point out certain guidelines for testing. We, therefore, offer an outline of requirements for laboratory calibrations.

The Texas Metrology Laboratory adopts all requirements of the NIST Handbook 105 series for commercially used standards. Owners of commercially used standards should familiarize themselves with these publications in order to be aware of any requirements not covered in detail in this policy. The NIST 105 series of standards can be found at <http://www.nist.gov/pml/wmd/pubs/handbooks.cfm>

1. **Scheduling Work – By Appointments Only.** Before sending any work to the Texas Metrology Laboratory, you must first submit your calibration appointment request using the RMT-001 Form <https://www.texasagriculture.gov/Forms.aspx>. All work will be scheduled as soon as possible after the initial request, depending on the schedule of the lab. After the lab has determined the amount of time needed to process your request, you will be provided a calibration date and a drop off date. If you need to ship any items to the lab, please make sure they arrive prior to your scheduled drop off date and includes a return shipping label. Legible serial numbers are important to the calibration process and inventory tracking, therefore, serial numbers must be provided to us prior to, or on the due date of, your calibration appointment. We suggest the customer utilize the Texas Department of Agriculture's RMT-002 Form that is available on the TDA Forms page. https://www.texasagriculture.gov/Portals/o/forms/REG/Metrology/RMT_002_Appointment_Inventory_Form.pdf

You can email the RMT-001 to metrology@texasagriculture.gov, fax to 877-204-7741 or mail to laboratory. *Please choose only one method to submit request.*

NOTE: Artifacts dropped off with no appointment scheduled will not be accepted.

2. **Rescheduling.** Scheduled appointments may have to be re-scheduled due to unforeseen circumstances. These may include, but not limited to illness, jury duty or an emergency. Each appointment is scheduled based on current metrological staffing. All efforts by laboratory staff will be made to keep the scheduled appointment on target with no disruptions and will notify customer of any unexpected problems.
3. **Fees.** The fees for calibrations can be found on our website: https://www.texasagriculture.gov/Portals/o/Publications/REG/Metrology/Metrology_Standard_Fee_Schedule.pdf. Fees must be paid by money order or check. Once payment is received and processed, the calibration certificate will be mailed out within 24 hours.
4. **Due Dates** It is not the responsibility of the Texas Metrology Laboratory to modify the schedule in order to accommodate artifacts that are near or past the calibration due date. The owner of the device is responsible to schedule the calibration appointment prior to the device's calibration expiration date. Appointments are generally scheduled on a first come first served basis and we are unable to shuffle appointments already booked. For urgent calibrations, you can contact us and inquire about any cancellations that may have opened a calibration time slot. We cannot guarantee you will get a cancelled appointment time slot if none

are available at the time of your call or if your calibration scheduling exceeds the time limit of the cancelled appointment.

5. **Calibration Intervals** Per Texas Administration Code, Title 4, Part 1, Chapter 12, Subchapter E, Rule §12.40 – licensed service companies must have **annually** certified test standards.

6. **Shipping Items to Lab** All items shall be properly packed and secured before shipment by your company. Any item ten pounds or larger shall be shipped in wooden boxes, crates, and or properly secured on pallets. Do not use cardboard boxes for items ten pounds or larger. Items shipped in cardboard boxes are acceptable for small items less than 10 pounds, however, larger items less than 10 pounds should be properly double boxed and secured. **Foam peanuts are not acceptable as a packing material.** The Texas Metrology Laboratory will not be responsible for items shipped improperly or for damage or loss during shipment. The customer is responsible to contact the delivery company of their choice to arrange pickup of their equipment and coordinate with the Texas Metrology Laboratory the pickup date and time. The customer is responsible to arrange pick up of their equipment for shipments that were improperly packaged or for shipments that are evaluated to be unsafe to ship. The Bill of Lading or delivery company's shipping label must be provided to the Texas Metrology Laboratory prior to the scheduled pick up date and time. If you have any questions about items that will be shipped to the Texas Metrology Laboratory, please contact us.

NOTE: Handheld weight kits shall be secured in the closed position with latches, rubber bands, tape, boxes, or bags. Small weights can be lost if the kit is not securely closed.

NOTE: Weights 25 kg (50 lb) and larger, whether shipped or delivered, should be stacked on full size pallets, whenever possible. A forklift is available at the laboratory for pallet or crate delivery.

NOTE: The laboratory **will not** accept items shipped freight collect or C.O.D.

7. **Return Shipping.** Return shipments will use the shipping company of the customer's choice and will be set up and paid for by the customer. The Texas Metrology Laboratory is not responsible for any damage received during shipping. We suggest including the return bill of lading / label with the artifacts to expedite the return shipment.

CONDITION OF ARTIFACTS

We believe the testing and repair work performed by your company in the weights and measures field is dependent on the equipment used. It is to the advantage of the individual or company to make certain their standards are kept in excellent condition at all times. NIST 105 series Handbooks, ASTM E617 Standard and policy outlined in this document are used by the Texas Department of Agriculture Metrology Laboratory as suitability criteria for test equipment. Equipment submitted to the laboratory in a good and clean condition and ready for immediate calibration. This requirement will allow us to provide your company rapid calibration services and minimum down times.

8. **Cleanliness.** Artifacts submitted must be cleaned of all foreign matter, such as but not limited to: dirt, rust, concrete, adhering debris, loose paint, grease, oil, fuel, marks, films or hydrocarbons. Foreign matter must be removed with water, mild detergent, mild solvent, or isopropyl alcohol before submission. Refer to the proper document for cleaning instructions.

9. **Temperature of Artifacts** The Texas Department of Agriculture Metrology Laboratory requires that all artifacts' structural mass is at a temperature that will not affect the accuracy of the calibration process. Artifacts will be held in the laboratory's environment overnight to obtain thermal equilibration.

VOLUME ARTIFACTS:

10. **Cleanliness.** Test measures and provers must be cleaned of all foreign matter and rinsed out until there are no strong odors or evidence of hydrocarbons. Any vessels with obvious residues will be refused by the Texas Department of Agriculture Metrology Laboratory. Volume standards must meet the cleanliness requirements found in paragraph 8 of this policy.
<https://www.nist.gov/system/files/documents/2019/05/14/gmp-6-cleaning-metal-volume-measures-20190507.pdf>
11. **Dents & Leaks.** Dents in the neck portion will require a neck calibration to be performed. Leaks must be repaired before submitting for calibration.
12. **Corrosion.** Vessels with badly corroded interiors will not be tested.
13. **Painting.** All test measures not made of stainless steel must have a dried fresh coat of paint of the exterior surface. Do not paint the interior of any volume measuring device.
14. **Condition.** Gauge tubes, valves, reading scales and other test measure and prover components must be in working order and in a reasonably good state of repair. No cracks can be present in gauge tubes. Gauge tubes should be cleaned of any residue that affect the ability to ready the meniscus.
15. **Levels.** The Texas Department of Agriculture Metrology Laboratory does not evaluate levels for accuracy and are not calibrated to determine accuracy. It is the responsibility of the device operator to determine a level working condition and maintain it. Refer to NIST HB 105-3 or NIST HB 105-4, as applicable, for level adjustment instructions.
16. **LPG Piping:** Remove piping, allowing the Texas Metrology Laboratory to properly plug the prover. When the gauge mounted on the prover is used for the measurement, it is assumed that errors in the prover pressure gauge will be present in field application. However, the prover must be recalibrated if the pressure gauge is changed or repaired in the field.
17. **Other NIST 105-X Requirements.** The Texas Metrology Laboratory adopts all requirements of the NIST Handbook 105 series for commercially used standards. Owners of commercially owned standards should familiarize themselves with these publications in order to be aware of any requirements not covered in detail in this policy. The NIST 105 series of standards can be found at
<http://www.nist.gov/pml/wmd/pubs/handbooks.cfm>
18. **Data Plate:** Data plate must be attached by weld, solder, or another means that is more permanent than adhesives.

MASS ARTIFACTS:

19. **Painting.** Cast iron test weights must be cleaned and freshly painted with a **light** coat of an approved paint, unless they are brand new, just prior to submission. Clean and paint all sides. A light coat of sprayed-on flat aluminum paint is recommended. Epoxy paint or plated surfaces are not acceptable. Cast iron metric and avoirdupois field standards shall be color coded (i.e., gold for metric and silver for avoirdupois) to differentiate the weights. The Texas Metrology Laboratory reserves the right to refuse weights that have not been properly cleaned prior to painting. Paint applied over dirt, grease, or any other adhering debris is not acceptable.
20. **Serial Numbers:** Individual weights not part of a handheld kit must be identified with a permanent serial number mechanically punched or etched into the surface of the weight. Serial numbers shall not be placed on the bottom of the weight. Identifying stickers are not allowed and will be removed from the surface of any weights submitted. Identification numbers or letters applied with paint or ink will not be accepted. Handheld weight kits may have one unique serial number to cover all contents of the kit. In the case that

duplicate weights of the same nominal value are contained within the kit, each weight of the same nominal value will require a permanent mark mechanically punched or etched into the surface of the weight to differentiate from other weights of the same nominal value in the kit. Serial numbers must be legible; this is especially important for cast iron weights that have been painted prior to submission.

21. **Cleanliness.** Interior of handheld weight kit cases should be wiped down or vacuumed to remove any foreign material. Foam material contained in a weight kit that is deteriorating, wet or moldy may be rejected if the weights are coated with foam particles. Weight kits with deteriorating foam that are accepted for calibration will be returned without the foam material. It is the customer's responsibility to replace the unacceptable foam. All weights shall meet the cleanliness requirements outlined in Paragraph 8 of this policy. A lint free cloth dampened with non-denatured ethyl alcohol works well for cleaning stainless steel weights. Weights with rust that have a discernible thickness or rust that is not tightly adherent may also be refused.

<https://www.nist.gov/system/files/documents/2017/05/09/gmp-no-5.pdf>

22. Items that require cleaning may be refused
23. **Precision Weights.** Precision weights must arrive at least 24 hours in advance to acclimate to the laboratory's environment prior to testing. Handle your precision weights carefully because of the smaller calibration tolerances. Dirt, abuse, or improper handling can cause out of tolerance conditions.
24. **Brass / Laminated Weights.** Brass or laminated weights will not be accepted for calibration.
25. **Weight Material.** Cast iron weights 5 kg / 10 lb and smaller are not permissible for use as commercial field standards. To meet the requirements, weights of these sizes must be constructed of materials such as steel or stainless steel, having a hardness of Rockwell B 80 or greater, and be resistant to abrasion, corrosion, denting and chipping. Please refer to OIML R111 and ASTM standard requirements for the material requirements based on the weight class of your artifacts.
26. **Future of NIST Class F.** The commercial weighing marketplace is changing, and increased use of Class I and Class II commercial weighing devices indicates that the NIST Class F tolerances originally identified in NIST Handbook 105-1 (approximately 0.01 % of nominal) are no longer adequate for the testing of all commercial weighing systems regulated by NIST HB 44. NIST Class F field standards should not be procured for legal metrology (Weights and Measures) use after January 1, 2020. The new specifications are not intended to make obsolete those field standards manufactured to comply with NIST Handbook 105-1 (1990). However, all new field standard weights placed in service after January 1, 2020, must meet the requirements of Handbook 105-1 (2019.) It is the customers' responsibility to inform and identify to the metrology laboratory the classification of the artifacts, specifically when not marked on the artifact(s) submitted. The laboratory will NOT reclassify weights.
27. **Other NIST 105-X Requirements.** The Texas Metrology Laboratory adopts all requirements of the NIST Handbook 105 series for commercially used standards. Owners of commercially owned standards should familiarize themselves with these publications in order to be aware of any requirements not covered in detail in this policy. The NIST 105 series of standards can be found at <http://www.nist.gov/pml/wmd/pubs/handbooks.cfm>

FIELD STANDARD WEIGHT CARTS:

28. **Fuel Level Error Weights (Correction Weights.)** Correction weight kits shall accompany any weight cart submitted for calibration.
29. **User Modifications.** User modifications of weight carts are discouraged. Any modifications must be permanent changes to the weight cart structure and will require recalibration prior to use. Any maintenance process performed between calibrations which alters the mass of the weight cart (e.g., changing the battery,

wheels, hydraulic pump, etc.) invalidates the previous calibration certificate and requires recalibration prior to use.

30. **Finish / Cleanliness.** Weight carts must be kept clean at all times. The nominal (empty weight) value must be clearly labeled on each side of the weight cart.
31. **Maintenance Log.** A maintenance log must be established and present with each weight cart. The maintenance log must contain a detailed record of all maintenance and calibrations performed on the weight cart. The Weight Cart Maintenance Log must be submitted to the laboratory along with the weight cart on the day the equipment is dropped of for calibration.
32. **Fuel and Fluids.** A proper fuel can/container with fuel and extra hydraulic oil shall be submitted with the Weight Cart at the time of calibration.
33. **Other NIST 105-X Requirements.** The Texas Metrology Laboratory adopts all requirements of the NIST Handbook 105 series for commercially used standards. Owners of commercially owned standards should familiarize themselves with these publications in order to be aware of any requirements not covered in detail in this policy. The NIST 105 series of standards can be found at <http://www.nist.gov/pml/wmd/pubs/handbooks.cfm>