

Weight Selection and the Troemner Advantage

Precision & Balance Matched Only By Nature.



Troemner is the world's leading supplier of precision weights and mass standards. Since 1838, Troemner has enhanced its reputation as being the premier precision weight company by having on staff industry recognized metrologists and highly trained calibrators. At Troemner the production of precision weights involves using the finest materials and equipment available in a state-of-the-art facility. For these important reasons, Troemner is capable of providing unmatched measurements and metrological analysis to provide our customers with the precision weights they need. Our advantages are:

People With Experience –

We have been manufacturing weights and making mass measurements for over 160 years! We have four full-time industry recognized metrologists on staff who track and control our measurement processes to assure superior quality. Being the largest private mass laboratory in the world, no one makes more mass measurements per day than Troemner. Like anything else, with

repetition comes learning, refinement and constant improvement.

World Class Laboratories –

Our mass laboratories were specifically constructed to create an environment of stable temperature and humidity, low vibrations, and low air velocity, which is suitable for making precise mass measurements. Troemner's Class I Laboratory is the largest private mass metrology laboratory in the world.

Equipment –

Troemner has the largest collection of mass comparators in the world, and we are constantly purchasing new comparators to keep our capabilities up to date to maintain the highest level of precision. We also use proprietary software to track the performance of our equipment and standards to assure that our calibration system is in control. Magnetic permeability testing and magnetic susceptibility testing are incorporated into our processes and utilize the most advanced susceptometer that is available today.

Material – Troemner selects only the finest raw materials in order to manufacture high quality weights. Troemner is the only supplier that has a special stainless steel blend called Troemner Alloy 8, which has high consistency, hardness, and very low magnetic properties.

Surface Finish and Appearance – We start with the best material so we can achieve excellent surface finishes on the finished product.

Low Reported Uncertainty – The true test of how well we perform calibrations is in the reported uncertainty, which not only provides a higher confidence to the user, but also allows a weight to drift more and still be considered in tolerance.



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Selection – There are several, shapes, designs and sizes available to meet your needs.

Selecting the proper weight for your application can be confusing given the number of weight classes, designs, and materials available. There is information below to help you as well as some additional information in the Mass Standards Handbook section of this desk reference. A Troemner sales representative can also assist you in selecting the correct weight for your application, or you can visit our website at www.troemner.com and click on the **Troemner Weight Selector**, which is a step by step process for helping you choose the proper weight for your application.

The following issues need to be considered when selecting weights:

Your Application Accuracy –

The correct weight for an application must be more accurate than the precision of the weighing device and must be more accurate than the required precision of your measurement result. It is recommended that a weight have an accuracy that is 1/3 of the measurement device readability and/or your measurement accuracy requirement.

Environment –

- Temperature and humidity can impact the stability of weights. We recommend stainless steel weights for applications in environments that have excess moisture, changes in temperature or humidity, or are in corrosive environments. Stainless steel is much less prone to physical change as compared to cast iron or brass.

- Cleanliness of the environment can impact how stable your weights will be over time. Areas with excessive airborne matter impact the stability of weights by having dust and other foreign matter get on weights. The smoother the surface of a weight, the easier it is to see foreign substances so they can be removed.

Special Design or Construction –

Troemner manufactures a variety of special application weights like weights with hooks, or weights that can be stacked on a hanger in order to build up the total weight. Keep in mind that if you do not see what you need in this desk reference, please contact a Troemner sales representative to discuss your special weight requirements.

- A weight with a hook is recommended for applications where a single load is required.
- Slotted weights and weight hangers are recommended for applications which require the build up of weight from a minimum weight to a higher weight. The slotted weight solution will be less expensive than purchasing a series of hook weights for each load to be tested and will not require the height that a series of hook weights hooked together would require.



Troemner's online Weight Selector takes the guess work out of choosing the correct weight for your application. Visit us at www.troemner.com and let us help you find exactly what you need.

Reported Uncertainty on Calibration –

The uncertainty reported on a calibration is just as important as the measured value itself. The uncertainty provides the statistical confidence that a laboratory has on its calibration process. The larger the uncertainty, the less confidence in the measured value. It is also important to realize that a measured value added to its associated uncertainty must be less than the tolerance for the weight to be considered within class tolerance.

Certification – Troemner offers a variety of calibration certificates that are described in detail in the Weight Calibration Certificate Options section of this desk reference in order to meet your specific needs.

